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1 Parameter description

1.1 4097 CiA402 Error register

1.1.1 4097.0 Error register
   Factory setting:
   Data type: Bit field
   Data length: 1
   Value range:
   • 0= Generic Error
   • 7= Manufacturer-specific

1.2 8299 Quality assurance

Quality assurance data

1.2.1 8299.1 Test data
   Factory setting: 0
   Unit:
   Data type: Uint8 (DataArray)
   Data length: 944
   Resolution: 1
   Value range: 0 to 255
   Test data

1.3 8300 Device Label

These parameters show the identification data of the device.

1.3.1 8300.1 Device identification
   Factory setting:
   Data type: String8Bit (fill level array)
   Data length: 32
   Resolution:
   Value range:
   Complete type designation of the device, e.g. MDA90A-0020-503-X-S00

1.3.2 8300.2 GUID
   Factory setting: 0
   Unit:
**Parameter description**

**8300 Device Label**

Data type: Uint8 (DataArray)
Data length: 16
Resolution: 1
Value range: 0 to 255

GUID = "Globally Unique Identifier"
Globally unique number with 128 bits (16 bytes) that is used in distributed computer systems.

1.3.3  **8300.6 Function status**

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Sequential number that represents a certain scope of functions (scope of parameters, implemented functions).

1.3.4  **8300.7 Technology activation**

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Default
- 1 = Positioning package
- 2 = ELSM® PLUS
Activated control engineering relevant functions

1.3.5  **8300.8 Application activation**

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 99
Currently present activation points for application modules

1.3.6  **8300.9 Device family**

Factory setting:
Data type: Enum
Data length: 1
Value range:
- **0** = None
- 16843009 = MOVITRAC® classic
- 16843265 = MOVITRAC® advanced
- 16909057 = MDA modular
- 16909059 = MDD modular
- 16909060 = MLA modular
- 16909061 = MDA modular CiA402
- 16909062 = MDD modular CiA402
- 16909313 = MDX system
- 16909314 = MDX technology
- 16909317 = MDX system CiA402

**1.3.7 8300.10 Device variant**

Factory setting:
Data type: Enum
Data length: 1
Value range:
- **0** = Reserved
- **1** = A
- **2** = B
- **3** = C
- **4** = D
- **5** = E

**1.3.8 8300.11 Recommended motor power**

Factory setting: 0
Unit: W
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Recommended power of the connected motor

**1.3.9 8300.12 Nominal device voltage**

Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Nominal device voltage

1.3.10 8300.13 Line phases
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1= 1-phase device
• 3= 3-phase device
Connection type of the device

1.3.11 8300.14 Radio interference suppression level
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= None
• 1= 0
• 2= A
• 3= B
• 4= C
• 5= D (C3)
• 6= E (C2)
• 7= F (C1)
Radio interference suppression level of the device according to EN 61800-3.
The following settings can be made:
– 0: No radio interference suppression
– D: Radio interference suppression level C3
– E: Radio interference suppression level C2
– F: Radio interference suppression level C1

1.3.12 8300.15 Standard bus system
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No bus
• 1= EtherCAT®/SBusPLUS
• 2= SBus
• 3= SBus and EtherCAT®/SBusPLUS
Communication interface of the device
1.3.13  8300.16 Standard encoder system

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No encoder evaluation
• 1= One encoder interface
• 2= Two encoder interfaces
• 3= Encoder evaluation via subcomponent

Number of available encoder interfaces

1.3.14  8300.17 Overview of implemented labels

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Reserved
• 1= Device label
• 2= Mobile data label
• 3= Assembly label
• 4= Communication label
• 5= Module label
• 6= Customer label
• 7= Production label
• 8= Scan label

Overview of implemented labels

1.3.15  8300.18 Nominal output current

Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647

Nominal output current. The resolution is 1 mA.

1.3.16  8300.20 Component status

Factory setting:
Data type: Bit field
Data length: 1
Parameter description
8300 Device Label

Value range:
- 0 = Invalid main component entries
- 1 = Invalid subcomponent 1 entry
- 2 = Invalid subcomponent 2 entry
- 3 = Invalid subcomponent 3 entry
- 4 = Invalid subcomponent 4 entry

Indicates whether the inputs of the device label are valid. Each entry that is not yet valid, sets its status bit to the value “1”. This means a label with value “0” is entirely valid.

1.3.17 8300.21 Power section configuration data set – part number
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Part number of the power section configuration data set

1.3.18 8300.22 Power section configuration data set – version
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number of the configuration data set of the power section

1.3.19 8300.23 Power section configuration data set – release
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Release number of the configuration data set of the power section

1.3.20 8300.25 Main component firmware 1 – part number
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Part number of the basic unit firmware

1.3.21 8300.26 Main component firmware 1 – version

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number of the basic unit firmware

1.3.22 8300.27 Main component firmware 1 – release

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Release number of the basic unit firmware

1.3.23 8300.28 Main component firmware 2 – part number

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Part number of the device update manager firmware

1.3.24 8300.29 Main component firmware 2 – version

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number of the device update manager firmware
1.3.25  8300.30 Main component firmware 2 – release
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Release number of the basic unit firmware

1.3.26  8300.31 Main component firmware 3 – part number
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Part number of the main FPGA firmware

1.3.27  8300.32 Main component firmware 3 – version
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number of the main FPGA firmware

1.3.28  8300.33 Main component firmware 3 – release
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Release number of the main FPGA firmware

1.3.29  8300.34 Main component firmware 4 – part number
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Part number of the basic unit firmware

1.3.30  8300.35 Main component firmware 4 – version
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number of the basic unit firmware

1.3.31  8300.36 Main component firmware 4 – release
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Release number of the basic unit firmware

1.3.32  8300.37 Main component hardware variant ID
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Hardware variant identification of the control electronics

1.3.33  8300.40 Device family subcomponent
Factory setting:
Data type: Enum (DataArray)
Data length: 5
Value range:
• -16056064= Power section
• -15990528= CES11A – external encoder card
• -15924992= CID11A (7 x DI)
• -15924736= CIA11A (1 x AI, 1 x AO)
• -15924480= CID21A (4 x DI or 4 x DO)
• -15924224= CIO21A (2 x AI, 2 x AO, 4 x DI, 4 x DO)
Parameter description

8300 Device Label

- 0 = None
- 1 = Unknown
- 84410624 = CFP11A – PROFIBUS
- 84410880 = CFN11A – PROFINET
- 84411136 = CFE11A – EtherNet/IP™ & Modbus TCP
- 84411392 = CFD11A – DeviceNet™
- 84411648 = CFT11A – EtherCAT®
- 84411904 = CFP21A – PROFIBUS
- 84412160 = CFN21A – PROFINET
- 84412416 = CFE21A – EtherNet/IP™ & Modbus/TCP
- 101318913 = CSB21A – safety card
- 101318914 = CSS21A – safety card
- 101318915 = CSB31A – safety card
- 101318916 = CSS31A – safety card

Name of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.34 8300.41 Subcomponent firmware 1 – part number

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295

Part number of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.35 8300.42 Subcomponent firmware 1 – version

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Version number of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.36 8300.43 Subcomponent firmware 1 – release
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Release number of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.37 8300.44 Subcomponent firmware 2 – part number
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Part number of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.38 8300.45 Subcomponent firmware 2 – version
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Parameter description

8300 Device Label

Version number of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.39 8300.46 Subcomponent firmware 2 – release
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Release number of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.40 8300.47 Subcomponent hardware variant ID
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Hardware variant identification of the subcomponent.
The following settings can be made:
– Offset 0: Power section
– Offset 1: Safety card/additional encoder
– Offset 2: Fieldbus card
– Offset 3: I/O card

1.3.41 8300.48 Subcomponent function status
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Function status of the subcomponent.
The following settings can be made:
- Offset 0: Power section
- Offset 1: Safety card/additional encoder
- Offset 2: Fieldbus card
- Offset 3: I/O card

### 1.3.42 8300.49 Subcomponent type

Factory setting:
Data type: Enum (DataArray)
Data length: 5
Value range:
- 0 = None
- 1 = Fieldbus card
- 2 = Encoder evaluation
- 4 = Safety card
- 5 = Power section
- 6 = I/O card

Type of subcomponent.
The following settings can be made:
- Offset 0: Power section
- Offset 1: Safety card/additional encoder
- Offset 2: Fieldbus card
- Offset 3: I/O card

### 1.3.43 8300.50 Subcomponent instance

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 255
Instance of the subcomponent for communication access.
The following settings can be made:
- Offset 0: Power section
- Offset 1: Safety card/additional encoder
- Offset 2: Fieldbus card
- Offset 3: I/O card

### 1.3.44 8300.51 Subcomponent backup/restore

Factory setting:
Data type: Bit field (DataArray)
Parameter description
8301 Mobile data label

Data length: 5
Value range:
- 0 = Backup service supported
- 1 = Restore service supported
- 2 = Cancel restore service supported
- 3 = Hash service supported

In the event of a backup/restore of the device, the subcomponents are to be backed up/restored with a separate backup/restore via subcomponent access.

The following settings can be made:
- Offset 0: Power section
- Offset 1: Safety card/additional encoder
- Offset 2: Fieldbus card
- Offset 3: I/O card

1.4  8301 Mobile data label

Mobile data label

1.4.1  8301.9 Device family

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Device family

1.4.2  8301.11 Device power

Factory setting: 0
Unit: W
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Device power

1.4.3  8301.12 Device voltage

Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Parameter description
8301 Mobile data label

Value range: 0 to 2147483647
Device voltage

1.4.4 8301.40 Device family subcomponent
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 5
Resolution: 1
Value range: 0 to 4294967295
Subcomponent device family

1.4.5 8301.70 Parameter set inconsistent
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
The parameter set is inconsistent. To rectify the fault, restore the delivery state or load a consistent parameter set.

1.4.6 8301.100 User unit position DT1 numerator
Factory setting: 65536
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.4.7 8301.101 User unit position DT1 denominator
Factory setting: 100
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.
### Parameter description

#### 8301 Mobile data label

#### 1.4.8 8301.102 User unit speed DT1 numerator
- Factory setting: 10000
- Unit:
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 1 to 2147483647
  
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

#### 1.4.9 8301.103 User unit speed DT1 denominator
- Factory setting: 1
- Unit:
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 1 to 2147483647
  
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

#### 1.4.10 8301.104 User unit acceleration DT1 numerator
- Factory setting: 100
- Unit:
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 1 to 2147483647
  
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

#### 1.4.11 8301.105 User unit acceleration DT1 denominator
- Factory setting: 1
- Unit:
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 1 to 2147483647
  
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.
1.5 8303 Customer label

These parameters contain customer-specific data.

1.5.1 8303.1 Device designation

Data type: String8Bit (fill level array)
Data length: 241
Resolution:
Value range:
If customers want to use their own device order numbers, then SEW-EURODRIVE can specify this number in this parameter according to the ordered device.

1.6 8304 Production data

Production data of the device. The data on the option card is only displayed, if the card was installed at the factory. If the customer installed the option card, no data is displayed.

1.6.1 8304.1 Production number

Data type: String8Bit (fill level array)
Data length: 32
Resolution:
Value range:
Internal production number of the device

1.6.2 8304.2 Device status

Data type: String8Bit (fill level array)
Data length: 37
Resolution:
Value range:
Device status. Fields 1 to 9 are the number in the status line on the nameplate or on the status label

1.6.3 8304.3 Device ID add-on

Data type: String8Bit (fill level array)
Data length: 11
Resolution:
Value range:
Information from production that cannot be derived from the configuration data of the output stage and the firmware, such as "Coated pcb" = "/L".

1.6.4 8304.10 Option 1 – designation

Data type: String8Bit (fill level array)
Parameter description

8304 Production data

Data length: 9
Resolution:
Value range:
Designation of option card 1

1.6.5 8304.11 Option 1 – status
Data type: String8Bit (fill level array)
Data length: 37
Resolution:
Value range:
Device status of option card 1

1.6.6 8304.20 Option 2 – designation
Data type: String8Bit (fill level array)
Data length: 9
Resolution:
Value range:
Designation of option card 2

1.6.7 8304.21 Option 2 – status
Data type: String8Bit (fill level array)
Data length: 37
Resolution:
Value range:
Device status of option card 2

1.6.8 8304.30 Option 3 – designation
Data type: String8Bit (fill level array)
Data length: 9
Resolution:
Value range:
Designation of option card 3

1.6.9 8304.31 Option 3 – status
Data type: String8Bit (fill level array)
Data length: 37
Resolution:
Value range:
Device status of option card 3
1.6.10 8304.40 Option 4 – designation
Data type: String8Bit (fill level array)
Data length: 9
Resolution:
Value range:
Designation of option card 4

1.6.11 8304.41 Option 4 – status
Data type: String8Bit (fill level array)
Data length: 37
Resolution:
Value range:
Device status of option card 4

1.6.12 8304.50 Option 5 – designation
Data type: String8Bit (fill level array)
Data length: 9
Resolution:
Value range:
Designation of option card 5

1.6.13 8304.51 Option 5 – status
Data type: String8Bit (fill level array)
Data length: 37
Resolution:
Value range:
Device status of option card 5

1.7 8305 Scan label
Scan label

1.7.1 8305.1 Device identification
Factory setting:
Data type: String8Bit (fill level array)
Data length: 32
Resolution:
Value range:
Device identification
1.7.2  8305.2 GUID

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 16
Resolution: 1
Value range: 0 to 255
GUID = “Globally Unique Identifier”
Globally unique number with 128 bits (16 bytes) that is used in distributed computer systems.

1.7.3  8305.3 Customer-specific device designation

Data type: String8Bit (fill level array)
Data length: 241
Resolution:
Value range:
Customer-specific device designation

1.7.4  8305.4 Production number

Data type: String8Bit (fill level array)
Data length: 32
Resolution:
Value range:
Production number

1.7.5  8305.5 Main component firmware 1 – part number

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Part number of the basic unit firmware

1.7.6  8305.6 Main component firmware 1 – version

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number of the basic unit firmware
1.7.7  8305.7 Main component firmware 1 – release

- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
- Release number of the basic unit firmware

1.8  8310 Build info

- Build info

1.8.1  8310.1 Changeset number

- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
- Changeset number

1.8.2  8310.2 Changeset state

- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
- Changeset state

1.8.3  8310.3 Release

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = No
  - 1 = Yes
- Release
Parameter description
8312 Actual values output stage monitoring

1.8.4 8310.4 Target name
Data type: String8Bit (fill level array)
Data length: 81
Resolution:
Value range:
Target name

1.8.5 8310.5 TFS build number
Data type: String8Bit (fill level array)
Data length: 81
Resolution:
Value range:
TFS build number

1.9 8312 Actual values output stage monitoring
Actual values output stage monitoring

1.9.1 8312.1 Chip temperature rise dynamic
Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Using the chip temperature rise for dynamic operations. When 100% is reached, the devices switches off with error message "Device utilization".

1.9.2 8312.2 Chip absolute dynamic
Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Using the chip temperature for dynamic operations. When 100% is reached, the devices switches off with error message "Device utilization".

1.9.3 8312.3 Electromechanical utilization
Factory setting: 0
Unit: 1E-03%
Data type: Uint32
1.9.4  8312.4 Heat sink utilization

- Factory setting: 0
- Unit: 1E-03%
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

Relative heat sink utilization with reference to the maximum temperature. When 100% is reached, the device switches off with error message "Device utilization".

1.9.5  8312.5 Heat sink temperature

- Factory setting: 0
- Unit: 1E-2 °C
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Absolute heat sink temperature

1.9.6  8312.6 Total utilization

- Factory setting: 0
- Unit: 1E-03%
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

Maximum value from absolute chip temperature rise, electromechanical utilization, and heat sink utilization.

1.9.7  8312.7 Thermal current limit

- Factory setting: 0
- Unit: 1E-03% nominal device current
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -1073741824 to 1073741823
Parameter description
8313 Determine inertia

Maximum possible current the inverter can provide before switching off due to overload. For response, see index 8362.4 and 8363.4.

1.9.8 8312.8 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Prewarning
• 1 = Heat sink temperature prewarning
• 2 = Electromechanical utilization prewarning

Status bits

1.10 8313 Determine inertia

These parameters are used to determine the inertia.

1.10.1 8313.4 Actual inertia

Factory setting: 0
Unit: 1E-07 kgm²
Data type: Int32
Data length: 1
Resolution: 1
Value range: -1 to 2147483647
Inertia value determined last

1.10.2 8313.8 Speed filter weighting

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1000 to 10000000
Weights the determined time constant for the actual value filter for speed.

1.11 8314 Limit switches

Limit switch processing makes sure that the travel range of a drive is observed. For this purpose, you can program the digital inputs to the functions "positive limit switch" and "negative limit switch". The limit switches are connected to these digital inputs.
The limit switches must be 0-active and continuously activated in the limit switch area (= hit).
1.11.1 8314.1 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = HW limit switch positive – hit
- 1 = HW limit switch negative – hit
- 2 = SW limit switch positive – monitored
- 3 = SW limit switch negative – monitored
- 4 = SW limit switch positive – hit
- 5 = SW limit switch negative – hit

State of the limit switches. Software limit switches are treated like hardware limit switches irrespective of the FCB. This means that if the position of the software limit switch is exceeded, the respective bit will be set.

The following settings can be made:
- Bit 1: Hardware limit switch positive. 0 = not hit, 1 = hit
- Bit 2: Hardware limit switch negative. 0 = not hit, 1 = hit
- Bit 3: Software limit switch positive monitored 0 = does not monitor, 1 = monitors
- Bit 4: Software limit switch negative monitored 0 = does not monitor, 1 = monitors
- Bit 5: Software limit switch positive. 0 = not hit, 1 = hit
- Bit 6: Software limit switch negative. 0 = not hit, 1 = hit

1.11.2 8314.2 Control bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = HW limit switch positive DT1
- 1 = HW limit switch negative DT1

Control bit that informs the device about the states of the hardware limit switch.

1.11.3 8314.4 SW limit switch negative

Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Software limit switch negative

1.11.4 8314.5 SW limit switch positive

Factory setting: 0
Parameter description
8316 Control mode process values control cycle

Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Software limit switch positive

1.12 8316 Control mode process values control cycle

Control mode process values control cycle

1.12.1 8316.7 Possible operating modes

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= Torque control
- 1= Speed control
- 2= Positioning
Possible operating modes

1.12.2 8316.11 Parameter measurement status asynchronous motor

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= Current thermally limited during stator measurement
- 1= Current thermally limited during rotor measurement
- 2= Bit 2
- 3= Bit 3
- 4= Bit 4
- 5= LSigDiffFitErr
- 6= LSigAbsFitErr
- 7= LSFitErr
- 8= Plausibility error
- 9= Motor rotation
- 10= Bit 10
- 11= Bit 11
- 12= Bit 12
- 13= Bit 13
- 14= Bit 14
Parameter description
8316 Control mode process values control cycle

- 15= Bit 15
- 16= Bit 16
- 17= Bit 17
- 18= Bit 18
- 19= Bit 19
- 20= Bit 20
- 21= Bit 21
- 22= Bit 22
- 23= Bit 23
- 24= Bit 24
- 25= Bit 25
- 26= Bit 26
- 27= Bit 27
- 28= Bit 28
- 29= Bit 29
- 30= Bit 30
- 31= Bit 31

Asynchronous motor parameter measurement status

1.12.3 8316.13 Limitation status flags

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= User defined current limit reached
- 1= Thermal current limit reached
- 2= Explosion protection current limit
- 3= Current limit reached by control mode
- 8= User defined torque limit reached
- 16= Speed monitoring motor mode – active
- 17= Speed monitoring generator mode – active
- 9= Torque limited by speed limit

Limitation status flags

1.12.4 8316.25 Actual position in system units

Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position in system units
1.12.5  8316.61 Stator frequency
Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Stator frequency

1.12.6  8316.117 Relative torque-generating current
Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, torque-generating component, instantaneous value, phase value in star connection, with reference to nominal inverter current.

1.12.7  8316.118 Absolute torque-generating current
Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current of the torque-generating component, absolute, instantaneous value, phase value in star connection.

1.12.8  8316.119 Relative field-generating current
Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, field-generating component, instantaneous value, phase value in star connection, with reference to nominal inverter current.

1.12.9  8316.120 Absolute field-generating current
Factory setting: 0
Unit: mA
Parameter description

8316 Control mode process values control cycle

Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current of field-generating component, absolute, instantaneous value, phase value in star connection.

1.12.10 8316.151 UqRefTr
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, q-component, absolute, instantaneous value of the phase in star connection

1.12.11 8316.152 UdRefTr
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, d-component, absolute, instantaneous value of the phase in star connection

1.12.12 8316.155 UaRefTr
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, a-component, absolute, instantaneous value of the phase in star connection

1.12.13 8316.156 UbRefTr
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, b-component, absolute, instantaneous value of the phase in star connection
Parameter description
8316 Control mode process values control cycle

Value range: -2147483648 to 2147483647
Setpoint voltage, b-component, absolute, instantaneous value of the phase in star connection

1.12.14  8316.157 UaTr
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual voltage, a-component, absolute, instantaneous value of the phase in star connection

1.12.15  8316.158 UbTr
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual voltage, b-component, absolute, instantaneous value of the phase in star connection

1.12.16  8316.159 Absolute value of the setpoint voltage – rms value
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, value, absolute, rms value

1.12.17  8316.160 DC link voltage instantaneous value
Factory setting: 0
Unit: mV
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Instantaneous value of the DC link voltage.
1.12.18 8316.181 PsiSRefTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint stator flux, value, instantaneous value

1.12.19 8316.182 PsiRRefTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint rotor flux, value, instantaneous value

1.12.20 8316.183 PsiSUmodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Stator flux U-model, value, instantaneous value

1.12.21 8316.184 PsiRUmodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotor flux U-model, value, instantaneous value

1.12.22 8316.185 PsiSaUmodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Parameter description
8316 Control mode process values control cycle

Resolution: 1
Value range: -2147483648 to 2147483647
Stator flux U-model, a-component

1.12.23  8316.186 PsiSbUmodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Stator flux U-model, b-component

1.12.24  8316.187 PsiRaUmodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotor flux U-model, a-component

1.12.25  8316.188 PsiRbUmodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotor flux U-model, b-component

1.12.26  8316.189 PsiRdImodTr
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotor flux I-model, d-component
1.12.27 8316.190 PsiRqImodTr
   Factory setting: 0
   Unit: µVs
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Rotor flux I-model, q-component

1.12.28 8316.211 Apparent motor power
   Factory setting: 0
   Unit: VA
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Apparent motor power

1.12.29 8316.212 Electrical effective motor power
   Factory setting: 0
   Unit: W
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Effective motor power (electrical)

1.12.30 8316.213 Reactive motor power
   Factory setting: 0
   Unit: VA
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Reactive motor power

1.12.31 8316.221 PWM frequency
   Factory setting:
   Data type: Enum
   Data length: 1
Parameter description
8321 Access rights

Value range:
- -4000 = 4 kHz noise
- 2500 = 2.5 kHz constant
- 4000 = 4 kHz constant
- **8000 = 8 kHz constant**
- 16000 = 16 kHz constant

PWM frequency

1.12.32 8316.231 Position encoder dead time

Factory setting: 0
Unit: ns
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

Position encoder dead time

1.12.33 8316.232 Motor encoder dead time

Factory setting: 0
Unit: ns
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

Motor encoder dead time

1.13 8321 Access rights

These parameters specify the access rights.

1.13.1 8321.1 Current permission level

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 10 = Observer
- **20 = Operator**
- 60 = OEM Service
- 70 = Firmware
- 80 = Nobody

Permission level active in the device. The permission level determines the write permission.
The following settings can be made:
- Observer: Most parameters are read only.
- Operator: Most parameters may also be written.
- OEM Service: All parameters than can be written may be written.

1.13.2 8321.2 Password
Factory setting: 707406378
Unit: 
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Password for activating the required permission level.

1.13.3 8321.3 Parameter lock
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= Default
• 2= MOVI-C® CONTROLLER
Locks write access to the parameters (except for the parameter lock itself).

1.14 8322 Drive train selection
These parameters specify the selection of and toggling between the two drive trains.

1.14.1 8322.1 Active drive train
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Drive train 1
Active drive train

1.14.2 8322.4 Number of drive trains
Factory setting: 1
Unit:
Data type: Int32
Data length: 1
1.15 8327 Limit signals

Limit signals

1.15.1 8327.1 Setpoint/profile value limited

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Application limit – speed
- 1 = Application limit – acceleration
- 2 = Application limit – deceleration
- 4 = Application limit – torque
- 5 = Drive train – maximum rotational speed
- 6 = Drive train – maximum torque
- 7 = Safety card – speed
- 8 = Safety card – acceleration
- 9 = Safety card – deceleration

One setpoint or profile values of values processed by the active FCB is not within the permitted limits. The value is limited to the associated limit value, and this limitation is signaled by the matching bit.

1.16 8328 Operating hours counter

Operating hours counter

1.16.1 8328.1 Power-applied hours

Factory setting: 0
Unit: min
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Total hours in which the inverter was supplied by DC 24 V voltage, independent from the source (internal power supply or external supply). The storage cycle is 1 minute.

1.16.2 8328.2 Drive running hours

Factory setting: 0
1.16.3 8328.3 Internal power-applied hours

Factory setting: 0
Unit: min
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Internal power-applied hours

1.16.4 8328.10 Reset operating hours counter

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes

Resets power-applied hours and drive running hours.

1.17 8329 kWh counter

kWh counter

1.17.1 8329.1 Active power of active drive

Factory setting: 0
Unit: W
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

Currently output active power with reference to the active drive train.

1.17.2 8329.2 Reset kWh counter

Factory setting:
Data type: Enum
Parameter description
8329 kWh counter

Data length: 1
Value range:
• 0 = No
• 1 = Yes
Resets the kWh counter.

1.17.3 8329.3 Active energy of active drive – motor mode
Factory setting: 0
Unit: 100 Wh
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Total of the active energy the motor has consumed. This depends on the active drive train.

1.17.4 8329.4 Active energy of active drive – generator mode
Factory setting: 0
Unit: 100 Wh
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Total of the active energy the motor has generated. This depends on the active drive train.

1.17.5 8329.5 Active energy drive train 1 – motor mode
Factory setting: 0
Unit: 100 Wh
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Total of the electric active energy the motor has consumed in drive train 1.

1.17.6 8329.6 Active energy drive train 1 – generator mode
Factory setting: 0
Unit: 100 Wh
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Total of the electric active energy the motor has delivered in drive train 1.

1.17.7 8329.7 Active energy drive train 2 – motor mode
   Factory setting: 0
   Unit: 100 Wh
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
   Total of the electric active energy the motor has consumed in drive train 2.

1.17.8 8329.8 Active energy drive train 2 – generator mode
   Factory setting: 0
   Unit: 100 Wh
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
   Total of the electric active energy the motor has delivered in drive train 2.

1.18 8330 Application heartbeat
   Application heartbeat

1.18.1 8330.10 User timeout activation
   Factory setting:
   Data type: Enum
   Data length: 1
   Value range:
   • 0= Off
   • 1= ON
   Monitoring of the user timeout is activated via parameter access.

1.18.2 8330.11 User timeout trigger
   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
   Triggers the user timeout function
Parameter description
8332 Device status

1.18.3 8330.12 User-timeout timeout
Factory setting: 2000
Unit: ms
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 1 to 10000
Timeout time of the user timeout function

1.19 8332 Device status

1.19.1 8332.1 Status bits
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Ready
• 1= Output stage enable
• 2= Setpoints active
• 3= Drive train 1 active
• 4= Drive train 2 active
• 5= Limits active
• 6= Active drive referenced
• 7= Safety card "RUN" active
• 8= Manual mode active
• 9= Configuration state
• 10= Power ON
• 11= Safety card controls inverter when safety card is activated
• 13= Manual mode/local mode active
State of the various device status bits

1.19.2 8332.2 Output stage state
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Not ready – output stage inhibited
• 1= Ready – output stage inhibited
• 2= Ready – output stage enabled
Status of the output stage of the device

1.19.3 8332.4 Control bits

- Factory setting:
- Data type: Bit field
- Data length: 1
- Value range:
  - 0 = External device not ready
- Control bits

1.19.4 8332.5 Activate startup state

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = No
  - 1 = Yes

- Specifies that the drive can be parameterized via user interface.
- The following settings can be made:
  - Yes: The drive stops at the application limit and disables the output stage. The state can only be quit when the setting is "No".
  - No: The preset parameters are adopted and the drive is enabled again.

1.19.5 8332.7 "Not ready" status bits

- Factory setting:
- Data type: Bit field
- Data length: 1
- Value range:
  - 0 = DC 24 V backup mode
  - 1 = Internal supply faulty
  - 2 = STO active
  - 3 = Power section not ready
  - 4 = Process data processing not ready
  - 5 = External device not ready
  - 6 = Data Flexibility not ready
  - 7 = Encoder system(s) not ready
  - 8 = Motor management not ready
  - 9 = Task system not synchronized
  - 10 = Standby mode active
  - 11 = Startup state
  - 12 = Basic initialization active
  - 13 = Delivery state active
Parameter description
8334 Digital inputs basic unit

- 14 = Parameter download active
- 15 = Module bus not ready
- 16 = Initializing parameters
- 17 = Digital Motor Integration

This bit field explains the reason why the drive is "not ready".

1.19.6 8332.8 HMI status

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Bootloader active
- 1 = Ready
- 2 = Application program loaded
- 3 = Application program started
- 4 = Application error
- 5 = Warning
- 6 = Configuration state
- 16 = Suberror bit 0
- 17 = Suberror bit 1
- 18 = Suberror bit 2
- 19 = Suberror bit 3
- 20 = Suberror bit 4
- 21 = Suberror bit 5
- 22 = Suberror bit 6
- 23 = Suberror bit 7
- 24 = Main error bit 0
- 25 = Main error bit 1
- 26 = Main error bit 2
- 27 = Main error bit 3
- 28 = Main error bit 4
- 29 = Main error bit 5
- 30 = Main error bit 6
- 31 = Main error bit 7
0 = Bootloader active (HMI status)

1.20 8334 Digital inputs basic unit

These parameters specify the assignment of the digital inputs of the basic unit.
1.20.1 8334.1 Actual value
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 00
• 1= DI 01
• 2= DI 02
• 3= DI 03
• 4= DI 04
• 5= DI 05
Actual value of the digital inputs:
Bit 0 – bit x: DI 00 – DI 0x

1.20.2 8334.2 Negation mask
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 00
• 1= DI 01
• 2= DI 02
• 3= DI 03
• 4= DI 04
• 5= DI 05
Indicates whether the programmed function of the digital input is "0-active".
Bit x = 1: Digital input DI 0x is "0-active".

1.20.3 8334.3 Function state
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 00
• 1= DI 01
• 2= DI 02
• 3= DI 03
• 4= DI 04
• 5= DI 05
Logic state of the function programmed using the digital input:
Bit 1 – bit x: DI 01 – DI 0x
1.20.4 8334.4 Control bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
Is used to connect special functions for digital inputs.

1.20.5 8334.6 Available inputs

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= DI 00
- 1= DI 01
- 2= DI 02
- 3= DI 03
- 4= DI 04
- 5= DI 05

Indicates the digital inputs that are actually present on the hardware.
This parameter is used to mask parameters that are not effective in the current hardware configuration.

1.20.6 8334.11 Function DI 01

Factory setting: 0.0 Bit 0 "No function"
Data type: Parameter bit pointer
Data length: 1
Value range:
- 0.0 Bit 0 "No function"
- 8314.2 Bit 0 "HW limit switch positive DT1"
- 8314.2 Bit 1 "HW limit switch negative DT1"
- 8332.4 Bit 0 "External device not ready"
- 8365.6 Bit 0 "Fault reset"
- 8365.6 Bit 1 "External fault – active"
- 8365.6 Bit 2 "External braking resistor fault"
- 8501.1 Bit 0 "Release brake/DynaStop® with inhibited output stage"
- 8511.1 Bit 2 "Home switch"
- 8586.1 Bit 1 "Activate standby mode using digital inputs"
- 8703.6 Bit 0 "Activate SBT"
Assignment of digital input DI 01 of the basic unit

1.20.7 8334.12 Function DI 02

Factory setting: 0.0 Bit 0 "No function"
Data type: Parameter bit pointer
Data length: 1
Value range:

- 0.0 Bit 0 "No function"
- 8314.2 Bit 0 "HW limit switch positive DT1"
- 8314.2 Bit 1 "HW limit switch negative DT1"
- 8332.4 Bit 0 "External device not ready"
- 8365.6 Bit 0 "Fault reset"
- 8365.6 Bit 1 "External fault – active"
- 8365.6 Bit 2 "External braking resistor fault"
- 8501.1 Bit 0 "Release brake/DynaStop® with inhibited output stage"
- 8511.1 Bit 2 "Home switch"
- 8586.1 Bit 1 "Activate standby mode using digital inputs"
- 8703.6 Bit 0 "Activate SBT"

Assignment of digital input DI 02 of the basic unit

### 1.20.8 8334.13 Function DI 03

Factory setting: 0.0 Bit 0 "No function"
Data type: Parameter bit pointer
Data length: 1
Value range:

- 0.0 Bit 0 "No function"
- 8314.2 Bit 0 "HW limit switch positive DT1"
- 8314.2 Bit 1 "HW limit switch negative DT1"
- 8332.4 Bit 0 "External device not ready"
- 8365.6 Bit 0 "Fault reset"
- 8365.6 Bit 1 "External fault – active"
- 8365.6 Bit 2 "External braking resistor fault"
- 8501.1 Bit 0 "Release brake/DynaStop® with inhibited output stage"
- 8511.1 Bit 2 "Home switch"
- 8586.1 Bit 1 "Activate standby mode using digital inputs"
- 8703.6 Bit 0 "Activate SBT"

Assignment of digital input DI 03 of the basic unit

### 1.20.9 8334.14 Function DI 04

Factory setting: 0.0 Bit 0 "No function"
Data type: Parameter bit pointer
Data length: 1
Value range:

- 0.0 Bit 0 "No function"
- 8314.2 Bit 0 "HW limit switch positive DT1"
- 8314.2 Bit 1 "HW limit switch negative DT1"
1. Parameter description

8335 Digital outputs basic unit

- 8332.4 Bit 0 "External device not ready"
- 8365.6 Bit 0 "Fault reset"
- 8365.6 Bit 1 "External fault – active"
- 8365.6 Bit 2 "External braking resistor fault"
- 8501.1 Bit 0 "Release brake/DynaStop® with inhibited output stage"
- 8511.1 Bit 2 "Home switch"
- 8586.1 Bit 1 "Activate standby mode using digital inputs"
- 8703.6 Bit 0 "Activate SBT"

Assignment of digital input DI 04 of the basic unit

1.20.10 8334.15 Function DI 05

Factory setting: 0.0 Bit 0 "No function"

Data type: Parameter bit pointer

Data length: 1

Value range:
- 0.0 Bit 0 "No function"
- 8314.2 Bit 0 "HW limit switch positive DT1"
- 8314.2 Bit 1 "HW limit switch negative DT1"
- 8332.4 Bit 0 "External device not ready"
- 8365.6 Bit 0 "Fault reset"
- 8365.6 Bit 1 "External fault – active"
- 8365.6 Bit 2 "External braking resistor fault"
- 8501.1 Bit 0 "Release brake/DynaStop® with inhibited output stage"
- 8511.1 Bit 2 "Home switch"
- 8586.1 Bit 1 "Activate standby mode using digital inputs"
- 8703.6 Bit 0 "Activate SBT"

Assignment of digital input DI 05 of the basic unit

1.21 8335 Digital outputs basic unit

These parameters specify the assignment of the digital outputs of the basic unit.

1.21.1 8335.1 Actual value

Factory setting:

Data type: Bit field

Data length: 1

Value range:
- 0= DB 00
- 1= DO 00
- 2= DO 01
1.21.2 8335.2 Negation mask

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DB 00
- 1 = DO 00
- 2 = DO 01
- 3 = DO 02
- 4 = DO 03

Indicates whether the programmed function of the digital output is "0-active".
Bit x = 1: Digital output DO 0x is "0-active."

1.21.3 8335.3 Function state

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DB 00
- 1 = DO 00
- 2 = DO 01
- 3 = DO 02
- 4 = DO 03

Logic state of the function programmed using the digital output:
- Bit 0: DB 00
- Bits 1 to 4: DO 00 – DO 03

1.21.4 8335.6 Available outputs

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DB 00
- 1 = DO 00
- 2 = DO 01
Parameter description
8335 Digital outputs basic unit

- 3= DO 02
- 4= DO 03

Indicates the digital outputs that are actually present on the hardware.
This parameter is used to mask parameters that are not effective in the current hardware configuration.

1.21.5 8335.10 Function DO 00

Factory setting: 8332.1 Bit 0 "Status bits"
Data type: Parameter bit pointer
Data length: 1
Value range:
- 0.0 Bit 0 "No function"
- 8312.8 Bit 1 "Heat sink temperature prewarning"
- 8312.8 Bit 2 "Electromechanical utilization prewarning"
- 8314.1 Bit 0 "HW limit switch positive – active"
- 8314.1 Bit 1 "HW limit switch negative – active"
- 8314.1 Bit 4 "SW limit switch positive – active"
- 8314.1 Bit 5 "SW limit switch negative – active"
- 8322.1 Bit 0 "Drive train 1 active"
- 8327.1 Bit 0 "Setpoint limitation application limit – speed"
- 8327.1 Bit 1 "Setpoint limitation application limit – acceleration"
- 8327.1 Bit 2 "Setpoint limitation application limit – deceleration"
- 8327.1 Bit 4 "Setpoint limitation application limit – torque"
- 8327.1 Bit 5 "Setpoint limitation drive train – maximum speed"
- 8327.1 Bit 6 "Setpoint limitation drive train – maximum torque"
- 8332.1 Bit 0 "Ready for operation"
- 8332.1 Bit 1 "Output stage enable"
- 8332.1 Bit 2 "Setpoints active"
- 8332.1 Bit 5 "Limits active"
- 8332.1 Bit 6 "Active drive referenced"
- 8332.1 Bit 7 "Safety card "RUN" active"
- 8332.1 Bit 8 "Manual mode active"
- 8332.1 Bit 9 "Configuration state"
- 8332.1 Bit 10 "Power ON"
- 8332.1 Bit 11 "Current FCB activated by safety card"
- 8332.1 Bit 13 "Manual mode/local mode active"
- 8332.7 Bit 0 "DC 24 V backup mode"
- 8332.7 Bit 1 "Internal supply faulty"
- 8332.7 Bit 2 "STO active"
- 8332.7 Bit 3 "Power section not ready"
- 8332.7 Bit 5 "External device not ready – active"
- 8332.7 Bit 6 "Data Flexibility not ready"
Parameter description
8335 Digital outputs basic unit

- 8332.7 Bit 7 "Encoder system(s) not ready"
- 8332.7 Bit 8 "Motor management not ready"
- 8332.7 Bit 9 "Task system not synchronized"
- 8332.7 Bit 11 "Startup state"
- 8332.7 Bit 15 "Module bus not ready"
- 8334.1 Bit 0 "DI 00"
- 8334.1 Bit 1 "DI 01"
- 8334.1 Bit 2 "DI 02"
- 8334.1 Bit 3 "DI 03"
- 8334.1 Bit 4 "DI 04"
- 8334.1 Bit 5 "DI 05"
- 8364.13 Bit 0 "User-defined current limit reached"
- 8364.13 Bit 8 "User-defined torque limit reached"
- 8365.7 Bit 0 "Warning"
- 8365.7 Bit 1 "Fault"
- 8365.7 Bit 2 "Fault with output stage inhibit"
- 8365.7 Bit 3 "Fault acknowledgement with CPU reset"
- 8381.130 Bit 7 "Encoder 1 referenced"
- 8382.130 Bit 7 "Encoder 2 referenced"
- 8439.3 Bit 0 "Current motor protection – prewarning"
- 8442.55 Bit 0 "Motor protection 1 – prewarning"
- 8450.1 Bit 0 "Current limit of Ex protection function category 2 – active"
- 8500.2 Bit 1 "FCB 01 Output stage inhibit – active"
- 8500.2 Bit 2 "FCB 02 Stop default – active"
- 8500.2 Bit 4 "FCB 04 Manual mode – active"
- 8500.2 Bit 13 "FCB 13 Stop at application limits – active"
- 8500.2 Bit 14 "FCB 14 Emergency stop – active"
- 8500.2 Bit 18 "FCB 18 Rotor position identification – active"
- 8500.2 Bit 19 "FCB 19 Position hold control – active"
- 8500.2 Bit 25 "FCB 25 Motor parameter measurement – active"
- 8518.59 Bit 0 "FCB 18 Rotor position identification – rotor position identified"
- 8569.1 Bit 1 "Motor at standstill – filtered"
- 8703.7 Bit 0 "SBT active"

Assignment of digital output DO 00 of the basic unit

1.21.6 8335.11 Function DO 01
Factory setting: 8332.1 Bit 1 "Status bits"
Data type: Parameter bit pointer
Data length: 1
Value range:
- 0.0 Bit 0 "No function"
- 8312.8 Bit 1 "Heat sink temperature prewarning"
- 8312.8 Bit 2 "Electromechanical utilization prewarning"
- 8314.1 Bit 0 "HW limit switch positive – active"
- 8314.1 Bit 1 "HW limit switch negative – active"
- 8314.1 Bit 4 "SW limit switch positive – active"
- 8314.1 Bit 5 "SW limit switch negative – active"
- 8322.1 Bit 0 "Drive train 1 active"
- 8327.1 Bit 0 "Setpoint limitation application limit – speed"
- 8327.1 Bit 1 "Setpoint limitation application limit – acceleration"
- 8327.1 Bit 2 "Setpoint limitation application limit – deceleration"
- 8327.1 Bit 4 "Setpoint limitation application limit – torque"
- 8327.1 Bit 5 "Setpoint limitation drive train – maximum speed"
- 8327.1 Bit 6 "Setpoint limitation drive train – maximum torque"
- 8332.1 Bit 0 "Ready for operation"
- 8332.1 Bit 1 "Output stage enable"
- 8332.1 Bit 2 "Setpoints active"
- 8332.1 Bit 5 "Limits active"
- 8332.1 Bit 6 "Active drive referenced"
- 8332.1 Bit 7 "Safety card “RUN” active"
- 8332.1 Bit 8 "Manual mode active"
- 8332.1 Bit 9 "Configuration state"
- 8332.1 Bit 10 "Power ON"
- 8332.1 Bit 11 "Current FCB activated by safety card"
- 8332.1 Bit 13 "Manual mode/local mode active"
- 8332.7 Bit 0 "DC 24 V backup mode"
- 8332.7 Bit 1 "Internal supply faulty"
- 8332.7 Bit 2 "STO active"
- 8332.7 Bit 3 "Power section not ready"
- 8332.7 Bit 5 "External device not ready – active"
- 8332.7 Bit 6 "Data Flexibility not ready"
- 8332.7 Bit 7 "Encoder system(s) not ready"
- 8332.7 Bit 8 "Motor management not ready"
- 8332.7 Bit 9 "Task system not synchronized"
- 8332.7 Bit 11 "Startup state"
- 8332.7 Bit 15 "Module bus not ready"
- 8334.1 Bit 0 "DI 00"
- 8334.1 Bit 1 "DI 01"
- 8334.1 Bit 2 "DI 02"
- 8334.1 Bit 3 "DI 03"
- 8334.1 Bit 4 "DI 04"
- 8334.1 Bit 5 "DI 05"
- 8364.13 Bit 0 "User-defined current limit reached"
- 8364.13 Bit 8 "User-defined torque limit reached"
• 8365.7 Bit 0 "Warning"
• 8365.7 Bit 1 "Fault"
• 8365.7 Bit 2 "Fault with output stage inhibit"
• 8365.7 Bit 3 "Fault acknowledgement with CPU reset"
• 8381.130 Bit 7 "Encoder 1 referenced"
• 8382.130 Bit 7 "Encoder 2 referenced"
• 8439.3 Bit 0 "Current motor protection – prewarning"
• 8442.55 Bit 0 "Motor protection 1 – prewarning"
• 8450.1 Bit 0 "Current limit of Ex protection function category 2 – active"
• 8500.2 Bit 1 "FCB 01 Output stage inhibit – active"
• 8500.2 Bit 2 "FCB 02 Stop default – active"
• 8500.2 Bit 4 "FCB 04 Manual mode – active"
• 8500.2 Bit 13 "FCB 13 Stop at application limits – active"
• 8500.2 Bit 14 "FCB 14 Emergency stop – active"
• 8500.2 Bit 18 "FCB 18 Rotor position identification – active"
• 8500.2 Bit 19 "FCB 19 Position hold control – active"
• 8500.2 Bit 25 "FCB 25 Motor parameter measurement – active"
• 8518.59 Bit 0 "FCB 18 Rotor position identification – rotor position identified"
• 8569.1 Bit 1 "Motor at standstill – filtered"
• 8703.7 Bit 0 "SBT active"

Assignment of digital output DO 01 of the basic unit

1.21.7 8335.12 Function DO 02

Factory setting: 8365.7 Bit 1 "Status bits"
Data type: Parameter bit pointer
Data length: 1
Value range:
• 0.0 Bit 0 "No function"
• 8312.8 Bit 1 "Heat sink temperature prewarning"
• 8312.8 Bit 2 "Electromechanical utilization prewarning"
• 8314.1 Bit 0 "HW limit switch positive – active"
• 8314.1 Bit 1 "HW limit switch negative – active"
• 8314.1 Bit 4 "SW limit switch positive – active"
• 8314.1 Bit 5 "SW limit switch negative – active"
• 8322.1 Bit 0 "Drive train 1 active"
• 8327.1 Bit 0 "Setpoint limitation application limit – speed"
• 8327.1 Bit 1 "Setpoint limitation application limit – acceleration"
• 8327.1 Bit 2 "Setpoint limitation application limit – deceleration"
• 8327.1 Bit 4 "Setpoint limitation application limit – torque"
• 8327.1 Bit 5 "Setpoint limitation drive train – maximum speed"
• 8327.1 Bit 6 "Setpoint limitation drive train – maximum torque"
• 8332.1 Bit 0 "Ready for operation"
8332.1 Bit 1 "Output stage enable"
8332.1 Bit 2 "Setpoints active"
8332.1 Bit 5 "Limits active"
8332.1 Bit 6 "Active drive referenced"
8332.1 Bit 7 "Safety card "RUN" active"
8332.1 Bit 8 "Manual mode active"
8332.1 Bit 9 "Configuration state"
8332.1 Bit 10 "Power ON"
8332.1 Bit 11 "Current FCB activated by safety card"
8332.1 Bit 13 "Manual mode/local mode active"
8332.7 Bit 0 "DC 24 V backup mode"
8332.7 Bit 1 "Internal supply faulty"
8332.7 Bit 2 "STO active"
8332.7 Bit 3 "Power section not ready"
8332.7 Bit 5 "External device not ready – active"
8332.7 Bit 6 "Data Flexibility not ready"
8332.7 Bit 7 "Encoder system(s) not ready"
8332.7 Bit 8 "Motor management not ready"
8332.7 Bit 9 "Task system not synchronized"
8332.7 Bit 11 "Startup state"
8332.7 Bit 15 "Module bus not ready"
8334.1 Bit 0 "DI 00"
8334.1 Bit 1 "DI 01"
8334.1 Bit 2 "DI 02"
8334.1 Bit 3 "DI 03"
8334.1 Bit 4 "DI 04"
8334.1 Bit 5 "DI 05"
8364.13 Bit 0 "User-defined current limit reached"
8364.13 Bit 8 "User-defined torque limit reached"
8365.7 Bit 0 "Warning"
8365.7 Bit 1 "Fault"
8365.7 Bit 2 "Fault with output stage inhibit"
8365.7 Bit 3 "Fault acknowledgement with CPU reset"
8381.130 Bit 7 "Encoder 1 referenced"
8382.130 Bit 7 "Encoder 2 referenced"
8439.3 Bit 0 "Current motor protection – prewarning"
8442.55 Bit 0 "Motor protection 1 – prewarning"
8450.1 Bit 0 "Current limit of Ex protection function category 2 – active"
8500.2 Bit 1 "FCB 01 Output stage inhibit – active"
8500.2 Bit 2 "FCB 02 Stop default – active"
8500.2 Bit 4 "FCB 04 Manual mode – active"
8500.2 Bit 13 "FCB 13 Stop at application limits – active"
• 8500.2 Bit 14 "FCB 14 Emergency stop – active"
• 8500.2 Bit 18 "FCB 18 Rotor position identification – active"
• 8500.2 Bit 19 "FCB 19 Position hold control – active"
• 8500.2 Bit 25 "FCB 25 Motor parameter measurement – active"
• 8518.59 Bit 0 "FCB 18 Rotor position identification – rotor position identified"
• 8569.1 Bit 1 "Motor at standstill – filtered"
• 8703.7 Bit 0 "SBT active"
Assignment of digital output DO 02 of the basic unit

1.21.8 8335.13 Function DO 03

Factory setting: 8332.7 Bit 2 "Not ready" status bits"
Data type: Parameter bit pointer
Data length: 1
Value range:
• 0.0 Bit 0 "No function"
• 8312.8 Bit 1 "Heat sink temperature prewarning"
• 8312.8 Bit 2 "Electromechanical utilization prewarning"
• 8314.1 Bit 0 "HW limit switch positive – active"
• 8314.1 Bit 1 "HW limit switch negative – active"
• 8314.1 Bit 4 "SW limit switch positive – active"
• 8314.1 Bit 5 "SW limit switch negative – active"
• 8322.1 Bit 0 "Drive train 1 active"
• 8327.1 Bit 0 "Setpoint limitation application limit – speed"
• 8327.1 Bit 1 "Setpoint limitation application limit – acceleration"
• 8327.1 Bit 2 "Setpoint limitation application limit – deceleration"
• 8327.1 Bit 4 "Setpoint limitation application limit – torque"
• 8327.1 Bit 5 "Setpoint limitation drive train – maximum speed"
• 8327.1 Bit 6 "Setpoint limitation drive train – maximum torque"
• 8332.1 Bit 0 "Ready for operation"
• 8332.1 Bit 1 "Output stage enable"
• 8332.1 Bit 2 "Setpoints active"
• 8332.1 Bit 5 "Limits active"
• 8332.1 Bit 6 "Active drive referenced"
• 8332.1 Bit 7 "Safety card "RUN" active"
• 8332.1 Bit 8 "Manual mode active"
• 8332.1 Bit 9 "Configuration state"
• 8332.1 Bit 10 "Power ON"
• 8332.1 Bit 11 "Current FCB activated by safety card"
• 8332.1 Bit 13 "Manual mode/local mode active"
• 8332.7 Bit 0 "DC 24 V backup mode"
• 8332.7 Bit 1 "Internal supply faulty"
• 8332.7 Bit 2 "STO active"
Parameter description
8336 Output stage monitoring

-  8332.7 Bit 3 "Power section not ready"
-  8332.7 Bit 5 "External device not ready – active"
-  8332.7 Bit 6 "Data Flexibility not ready"
-  8332.7 Bit 7 "Encoder system(s) not ready"
-  8332.7 Bit 8 "Motor management not ready"
-  8332.7 Bit 9 "Task system not synchronized"
-  8332.7 Bit 11 "Startup state"
-  8332.7 Bit 15 "Module bus not ready"
-  8334.1 Bit 0 "DI 00"
-  8334.1 Bit 1 "DI 01"
-  8334.1 Bit 2 "DI 02"
-  8334.1 Bit 3 "DI 03"
-  8334.1 Bit 4 "DI 04"
-  8334.1 Bit 5 "DI 05"
-  8364.13 Bit 0 "User-defined current limit reached"
-  8364.13 Bit 8 "User-defined torque limit reached"
-  8365.7 Bit 0 "Warning"
-  8365.7 Bit 1 "Fault"
-  8365.7 Bit 2 "Fault with output stage inhibit"
-  8365.7 Bit 3 "Fault acknowledgement with CPU reset"
-  8381.130 Bit 7 "Encoder 1 referenced"
-  8382.130 Bit 7 "Encoder 2 referenced"
-  8439.3 Bit 0 "Current motor protection – prewarning"
-  8442.55 Bit 0 "Motor protection 1 – prewarning"
-  8450.1 Bit 0 "Current limit of Ex protection function category 2 – active"
-  8500.2 Bit 1 "FCB 01 Output stage inhibit – active"
-  8500.2 Bit 2 "FCB 02 Stop default – active"
-  8500.2 Bit 4 "FCB 04 Manual mode – active"
-  8500.2 Bit 13 "FCB 13 Stop at application limits – active"
-  8500.2 Bit 14 "FCB 14 Emergency stop – active"
-  8500.2 Bit 18 "FCB 18 Rotor position identification – active"
-  8500.2 Bit 19 "FCB 19 Position hold control – active"
-  8500.2 Bit 25 "FCB 25 Motor parameter measurement – active"
-  8518.59 Bit 0 "FCB 18 Rotor position identification – rotor position identified"
-  8569.1 Bit 1 "Motor at standstill – filtered"
-  8703.7 Bit 0 "SBT active"

Assignment of digital output DO 03 of the basic unit

1.22  8336 Output stage monitoring
Parameters of output stage monitoring
1.22.1 8336.1 Prewarning threshold – heat sink utilization

- Factory setting: 95000
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 100000

Here you can set a utilization value at which the device shall trigger a prewarning.

1.22.2 8336.2 Prewarning threshold – electromechanical utilization

- Factory setting: 95000
- Unit: 1E-03%
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 100000

Here you can set a utilization value at which the device shall trigger a prewarning.

1.23 8340 Fault memory

Fault memory

1.23.1 8340.1 Clear fault history

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = No
  - 1 = Yes

Clears the fault memory and resets it automatically to "No".

1.23.2 8340.10 User parameter 1 – assignment

- Factory setting: 0.0 No function
- Data type: Parameter pointer
- Data length: 1
- Value range: 0.0 No function

Users can specify the device parameters they want to log additionally in the event of a fault. This parameter will then appear in the fault memory.

1.23.3 8340.11 User parameter 2 – assignment

- Factory setting: 0.0 No function
Parameter description
8341 Fault memory T0

Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Users can specify the device parameters they want to log additionally in the event of a fault. This parameter will then appear in the fault memory.

1.23.4  8340.20 Timestamp
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Timestamp for fault logging

1.24  8341 Fault memory T0
Fault memory T0 = most recent fault

1.24.1  8341.1 Fault code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the fault that has occurred. The fault code is structured as follows:
– Bits 8 to 15: Main fault
– Bits 0 to 7: Subfault

1.24.2  8341.2 Internal fault code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.24.3  8341.3 Subcomponent fault code
Factory setting: 0
Parameter description
8341 Fault memory T0

1.24.4 8341.4 Fault timestamp
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
If no system time is set, this parameter corresponds to the time in seconds that elapsed between the last time the device was started and the time when the fault occurred.
If the master sets a system time during booting, this parameter corresponds to the time in seconds based on Jan 1, 2000 (EtherCAT®/SBusPLUS time).

1.24.5 8341.5 Power-applied hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of power-applied hours at the time when the fault occurred

1.24.6 8341.6 Drive-running hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of drive-running hours at the time when the fault occurred

1.24.7 8341.7 Device status
Factory setting:
Data type: Bit field
Data length: 1
Parameter description
8341 Fault memory T0

Value range:
• 0 = Ready
• 1 = Output stage enable
• 2 = Setpoints active
• 3 = Drive train 1 active
• 4 = Drive train 2 active
• 5 = Limits active
• 6 = Active drive referenced
• 7 = Safety card "RUN" active
• 8 = Manual mode active
• 9 = Configuration state
• 10 = Power ON
• 11 = Safety card controls inverter when safety card is activated

Bit-coded device status at the time when the fault occurred

1.24.8 8341.8 Axis status

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Not ready – output stage inhibited
• 1 = Ready – output stage inhibited
• 2 = Ready – output stage enabled

Axis status at the time when the fault occurred

1.24.9 8341.9 FCB

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = FCB 00 Default (-> FCB 02)
• 1 = FCB 01 Output stage inhibit
• 2 = FCB 02 Stop default
• 3 = FCB 03 Profile velocity mode (pv)
• 4 = FCB 04 Manual mode
• 5 = FCB 05 Speed control
• 6 = FCB 06 Interpolated speed control
• 7 = FCB 07 Torque control
• 8 = FCB 08 Interpolated torque control
• 9 = FCB 09 Position control
• 10 = FCB 10 Interpolated position control
• 11 = FCB 11 Homing mode (hm)
Parameter description
8341 Fault memory T0

• 12= FCB 12 Reference travel
• 13= FCB 13 Stop at application limits
• 14= FCB 14 Emergency stop
• 15= FCB 15 Cyclic synchronous velocity mode (csv)
• 16= FCB 16 Cyclic synchronous position mode (csp)
• 17= FCB 17 Cyclic synchronous torque mode (cst)
• 18= FCB 18 Rotor position identification
• 19= FCB 19 Position hold control
• 20= FCB 20 Jog mode
• 21= FCB 21 Brake test
• 22= FCB 22 Output stage test
• 23= FCB 23 Brake test safety card
• 24= FCB 24 Profile position mode (pp)
• 25= FCB 25 Motor parameter measurement
• 26= FCB 26 Stop at user-defined limits

FCB that is active at the time when the fault occurred

1.24.10 8341.10 Digital inputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 00
• 1= DI 01
• 2= DI 02
• 3= DI 03
• 4= DI 04
• 5= DI 05

State of the digital inputs of the basic unit at the time when the fault occurred

1.24.11 8341.11 Digital outputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DB 00
• 1= DO 00
• 2= DO 01
• 3= DO 02
• 4= DO 03

State of the digital outputs of the basic unit at the time when the fault occurred
1.24.12 8341.12 Actual position in system units

Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position of the axis in system units at the time when the fault occurred

1.24.13 8341.13 Actual speed in system units

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotational speed of the axis in system units at the time when the fault occurred

1.24.14 8341.14 Actual frequency

Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Output frequency of the inverter at the time when the fault occurred

1.24.15 8341.15 Actual torque

Factory setting: 0
Unit: 1E-01% nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Torque of the motor at the time when the fault occurred

1.24.16 8341.16 Output voltage

Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Parameter description
8341 Fault memory T0

Resolution: 1
Value range: -2147483648 to 2147483647
Output voltage of the inverter at the time when the fault occurred

1.24.17 8341.17 DC link voltage
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
DC link voltage of the inverter at the time when the fault occurred

1.24.18 8341.18 Apparent output current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Apparent output current of the inverter at the time when the fault occurred

1.24.19 8341.19 Torque-generating current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Torque-generating current of the inverter at the time when the fault occurred

1.24.20 8341.20 Drive train
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2
Drive train that is active at the time when the fault occurred
1.24.21 8341.21 Internal fault code subcomponent

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.24.22 8341.32 Motor utilization KTY

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Thermal motor utilization at the time when the fault occurred
The following settings can be made:
- 0%: Measured temperature below 40 °C.
- 100%: Switch-off temperature reached.

1.24.23 8341.33 Motor temperature KTY

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Temperature of the motor at the time when the fault occurred

1.24.24 8341.34 Device utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Device utilization at the time when the fault occurred

1.24.25 8341.35 Heat sink utilization

Factory setting: 0
**8341 Fault memory T0**

Parameter description

Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Heat sink utilization at the time when the fault occurred

1.24.26  **8341.36 Heat sink temperature**

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Heat sink temperature at the time when the fault occurred

1.24.27  **8341.37 Dynamic utilization – chip temperature rise**

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Dynamic chip temperature rise at the time when the fault occurred

1.24.28  **8341.38 Dynamic utilization – chip absolute**

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Relative dynamic chip temperature rise at the time when the fault occurred

1.24.29  **8341.39 Electromechanical utilization**

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Electromechanical utilization at the time when the fault occurred
1.24.30 8341.50 Digital inputs I/O card – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 10
• 1= DI 11
• 2= DI 12
• 3= DI 13
• 4= DI 14
• 5= DI 15
• 6= DI 16
State of the digital inputs of the I/O card at the time when the fault occurred

1.24.31 8341.51 Digital outputs I/O card – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DO 10
• 1= DO 11
• 2= DO 12
• 3= DO 13
State of the digital outputs of the I/O card at the time when the fault occurred

1.24.32 8341.52 Internal power-applied hours

Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of internal power-applied hours at the time when the fault occurred. These power-applied hours cannot be reset.

1.24.33 8341.100 User parameter 1 – assignment

Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 1 selected for logging at the time when the fault occurred
1.24.34 8341.101 User parameter 1 – value

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 1 selected for logging at the time when the fault occurred

1.24.35 8341.102 User parameter 2 – assignment

Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 2 selected for logging at the time when the fault occurred

1.24.36 8341.103 User parameter 2 – value

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 2 selected for logging at the time when the fault occurred

1.25 8342 Fault memory T1

Fault memory T1

1.25.1 8342.1 Fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the fault that has occurred. The fault code is structured as follows:
  – Bits 8 to 15: Main fault
  – Bits 0 to 7: Subfault
## Parameter description

### 8342 Fault memory T1

#### 1.25.2 8342.2 Internal fault code
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

For information on this parameter, contact SEW-EURODRIVE Service.

#### 1.25.3 8342.3 Subcomponent fault code
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

Number of the subcomponent fault that has occurred

#### 1.25.4 8342.4 Fault timestamp
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

If no system time is set, this parameter corresponds to the time in seconds that elapsed between the last time the device was started and the time when the fault occurred.

If the master sets a system time during booting, this parameter corresponds to the time in seconds based on Jan 1, 2000 (EtherCAT®/SBusPLUS time).

#### 1.25.5 8342.5 Power-applied hours
- Factory setting: 0
- Unit: min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 2147483647

Number of power-applied hours at the time when the fault occurred

#### 1.25.6 8342.6 Drive-running hours
- Factory setting: 0
Parameter description
8342 Fault memory T1

Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of drive-running hours at the time when the fault occurred

1.25.7 8342.7 Device status
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= Ready
- 1= Output stage enable
- 2= Setpoints active
- 3= Drive train 1 active
- 4= Drive train 2 active
- 5= Limits active
- 6= Active drive referenced
- 7= Safety card “RUN” active
- 8= Manual mode active
- 9= Configuration state
- 10= Power ON
- 11= Safety card controls inverter when safety card is activated
Bit-coded device status at the time when the fault occurred

1.25.8 8342.8 Axis status
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= Not ready – output stage inhibited
- 1= Ready – output stage inhibited
- 2= Ready – output stage enabled
Axis status at the time when the fault occurred

1.25.9 8342.9 FCB
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= FCB 00 Default (-> FCB 02)
Parameter description

8342 Fault memory T1

- 1= FCB 01 Output stage inhibit
- 2= FCB 02 Stop default
- 3= FCB 03 Profile velocity mode (pv)
- 4= FCB 04 Manual mode
- 5= FCB 05 Speed control
- 6= FCB 06 Interpolated speed control
- 7= FCB 07 Torque control
- 8= FCB 08 Interpolated torque control
- 9= FCB 09 Position control
- 10= FCB 10 Interpolated position control
- 11= FCB 11 Homing mode (hm)
- 12= FCB 12 Reference travel
- 13= FCB 13 Stop at application limits
- 14= FCB 14 Emergency stop
- 16= FCB 16 Cyclic synchronous position mode (csp)
- 17= FCB 17 Cyclic synchronous torque mode (cst)
- 18= FCB 18 Rotor position identification
- 19= FCB 19 Position hold control
- 20= FCB 20 Jog mode
- 21= FCB 21 Brake test
- 22= FCB 22 Output stage test
- 23= FCB 23 Brake test safety card
- 24= FCB 24 Profile position mode (pp)
- 25= FCB 25 Motor parameter measurement
- 26= FCB 26 Stop at user-defined limits

FCB that is active at the time when the fault occurred

1.25.10 8342.10 Digital inputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= DI 00
- 1= DI 01
- 2= DI 02
- 3= DI 03
- 4= DI 04
- 5= DI 05

State of the digital inputs of the basic unit at the time when the fault occurred

1.25.11 8342.11 Digital outputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= DB 00
- 1= DO 00
- 2= DO 01
- 3= DO 02
- 4= DO 03
State of the digital outputs of the basic unit at the time when the fault occurred

1.25.12 8342.12 Actual position in system units
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position of the axis in system units at the time when the fault occurred

1.25.13 8342.13 Actual speed in system units
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotational speed of the axis in system units at the time when the fault occurred

1.25.14 8342.14 Actual frequency
Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Output frequency of the inverter at the time when the fault occurred

1.25.15 8342.15 Actual torque
Factory setting: 0
Unit: 1E-01% nominal motor torque
Data type: Int32
Data length: 1
Parameter description
8342 Fault memory T1

Resolution: 1
Value range: -2147483648 to 2147483647
Torque of the motor at the time when the fault occurred

1.25.16 8342.16 Output voltage
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Output voltage of the inverter at the time when the fault occurred

1.25.17 8342.17 DC link voltage
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
DC link voltage of the inverter at the time when the fault occurred

1.25.18 8342.18 Apparent output current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Apparent output current of the inverter at the time when the fault occurred

1.25.19 8342.19 Torque-generating current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Torque-generating current of the inverter at the time when the fault occurred
1.25.20 8342.20 Drive train

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2
Drive train that is active at the time when the fault occurred

1.25.21 8342.21 Internal fault code subcomponent

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.25.22 8342.32 Motor utilization KTY

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Thermal motor utilization at the time when the fault occurred
The following settings can be made:
– 0%: Measured temperature below 40 °C.
– 100%: Switch-off temperature reached.

1.25.23 8342.33 Motor temperature KTY

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Temperature of the motor at the time when the fault occurred

1.25.24 8342.34 Device utilization

Factory setting: 0
Parameter description
8342 Fault memory T1

Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Device utilization at the time when the fault occurred

1.25.25 8342.35 Heat sink utilization
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Heat sink utilization at the time when the fault occurred

1.25.26 8342.36 Heat sink temperature
Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Heat sink temperature at the time when the fault occurred

1.25.27 8342.37 Dynamic utilization – chip temperature rise
Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Dynamic chip temperature rise at the time when the fault occurred

1.25.28 8342.38 Dynamic utilization – chip absolute
Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Relative dynamic chip temperature rise at the time when the fault occurred
1.25.29 8342.39 Electromechanical utilization

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Electromechanical utilization at the time when the fault occurred

1.25.30 8342.50 Digital inputs I/O card – phy. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 10
• 1= DI 11
• 2= DI 12
• 3= DI 13
• 4= DI 14
• 5= DI 15
• 6= DI 16

State of the digital inputs of the I/O card at the time when the fault occurred

1.25.31 8342.51 Digital outputs I/O card – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DO 10
• 1= DO 11
• 2= DO 12
• 3= DO 13

State of the digital outputs of the I/O card at the time when the fault occurred

1.25.32 8342.52 Internal power-applied hours

Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Parameter description
8343 Fault memory T2

Number of internal power-applied hours at the time when the fault occurred. These power-applied hours cannot be reset.

1.25.33 8342.100 User parameter 1 – assignment
Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 1 selected for logging at the time when the fault occurred

1.25.34 8342.101 User parameter 1 – value
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 1 selected for logging at the time when the fault occurred

1.25.35 8342.102 User parameter 2 – assignment
Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 2 selected for logging at the time when the fault occurred

1.25.36 8342.103 User parameter 2 – value
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 2 selected for logging at the time when the fault occurred

1.26 8343 Fault memory T2
Fault memory T2
1.26.1 8343.1 Fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the fault that has occurred. The fault code is structured as follows:
– Bits 8 to 15: Main fault
– Bits 0 to 7: Subfault

1.26.2 8343.2 Internal fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.26.3 8343.3 Subcomponent fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the subcomponent fault that has occurred

1.26.4 8343.4 Fault timestamp

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
If no system time is set, this parameter corresponds to the time in seconds that elapsed between the last time the device was started and the time when the fault occurred.
If the master sets a system time during booting, this parameter corresponds to the time in seconds based on Jan 1, 2000 (EtherCAT®/SBusPLUS time).
1.26.5 8343.5 Power-applied hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of power-applied hours at the time when the fault occurred

1.26.6 8343.6 Drive-running hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of drive-running hours at the time when the fault occurred

1.26.7 8343.7 Device status
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Ready
• 1= Output stage enable
• 2= Setpoints active
• 3= Drive train 1 active
• 4= Drive train 2 active
• 5= Limits active
• 6= Active drive referenced
• 7= Safety card "RUN" active
• 8= Manual mode active
• 9= Configuration state
• 10= Power ON
• 11= Safety card controls inverter when safety card is activated
Bit-coded device status at the time when the fault occurred

1.26.8 8343.8 Axis status
Factory setting:
Data type: Enum
Data length: 1
Parameter description
8343 Fault memory T2

1.26.9 8343.9 FCB

Factory setting:
Data type: Enum
Data length: 1

Value range:
- 0= Not ready – output stage inhibited
- 1= Ready – output stage inhibited
- 2= Ready – output stage enabled

Axis status at the time when the fault occurred

1.26.10 8343.10 Digital inputs basic unit – phys. level

Factory setting:
Parameter description
8343 Fault memory T2

Data type: Bit field
Data length: 1
Value range:
- 0 = DI 00
- 1 = DI 01
- 2 = DI 02
- 3 = DI 03
- 4 = DI 04
- 5 = DI 05
State of the digital inputs of the basic unit at the time when the fault occurred

1.26.11 8343.11 Digital outputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DB 00
- 1 = DO 00
- 2 = DO 01
- 3 = DO 02
- 4 = DO 03
State of the digital outputs of the basic unit at the time when the fault occurred

1.26.12 8343.12 Actual position in system units

Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position of the axis in system units at the time when the fault occurred

1.26.13 8343.13 Actual speed in system units

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotational speed of the axis in system units at the time when the fault occurred
**Parameter description**  
8343 Fault memory T2

### 1.26.14 8343.14 Actual frequency

- **Factory setting:** 0
- **Unit:** mHz
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 2147483647

Output frequency of the inverter at the time when the fault occurred

### 1.26.15 8343.15 Actual torque

- **Factory setting:** 0
- **Unit:** 1E-01% nominal motor torque
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** -2147483648 to 2147483647

Torque of the motor at the time when the fault occurred

### 1.26.16 8343.16 Output voltage

- **Factory setting:** 0
- **Unit:** mV
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** -2147483648 to 2147483647

Output voltage of the inverter at the time when the fault occurred

### 1.26.17 8343.17 DC link voltage

- **Factory setting:** 0
- **Unit:** mV
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 2147483647

DC link voltage of the inverter at the time when the fault occurred

### 1.26.18 8343.18 Apparent output current

- **Factory setting:** 0
- **Unit:** 1E-03%
- **Data type:** Int32
- **Data length:** 1
Parameter description
8343 Fault memory T2

Resolution: 1
Value range: 0 to 2147483647
Apparent output current of the inverter at the time when the fault occurred

1.26.19 8343.19 Torque-generating current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Torque-generating current of the inverter at the time when the fault occurred

1.26.20 8343.20 Drive train
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2
Drive train that is active at the time when the fault occurred

1.26.21 8343.21 Internal fault code subcomponent
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.26.22 8343.32 Motor utilization KTY
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Thermal motor utilization at the time when the fault occurred
The following settings can be made:
– 0%: Measured temperature below 40 °C.
– 100%: Switch-off temperature reached.
1.26.23 8343.33 Motor temperature KTY

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Temperature of the motor at the time when the fault occurred

1.26.24 8343.34 Device utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Device utilization at the time when the fault occurred

1.26.25 8343.35 Heat sink utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Heat sink utilization at the time when the fault occurred

1.26.26 8343.36 Heat sink temperature

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Heat sink temperature at the time when the fault occurred

1.26.27 8343.37 Dynamic utilization – chip temperature rise

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
1.26.28  8343.38 Dynamic utilization – chip absolute

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Dynamic chip temperature rise at the time when the fault occurred

1.26.29  8343.39 Electromechanical utilization

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Electromechanical utilization at the time when the fault occurred

1.26.30  8343.50 Digital inputs I/O card – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 10
• 1= DI 11
• 2= DI 12
• 3= DI 13
• 4= DI 14
• 5= DI 15
• 6= DI 16
State of the digital inputs of the I/O card at the time when the fault occurred

1.26.31  8343.51 Digital outputs I/O card – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DO 10
• 1 = DO 11
• 2 = DO 12
• 3 = DO 13
State of the digital outputs of the I/O card at the time when the fault occurred

1.26.32 8343.52 Internal power-applied hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of internal power-applied hours at the time when the fault occurred. These power-applied hours cannot be reset.

1.26.33 8343.100 User parameter 1 – assignment
Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 1 selected for logging at the time when the fault occurred

1.26.34 8343.101 User parameter 1 – value
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 1 selected for logging at the time when the fault occurred

1.26.35 8343.102 User parameter 2 – assignment
Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 2 selected for logging at the time when the fault occurred

1.26.36 8343.103 User parameter 2 – value
Factory setting: 0
Parameter description
8344 Fault memory T3

Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 2 selected for logging at the time when the fault occurred

1.27 8344 Fault memory T3

Fault memory T3

1.27.1 8344.1 Fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the fault that has occurred. The fault code is structured as follows:
– Bits 8 to 15: Main fault
– Bits 0 to 7: Subfault

1.27.2 8344.2 Internal fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.27.3 8344.3 Subcomponent fault code

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the subcomponent fault that has occurred
1.27.4  **8344.4 Fault timestamp**

Factory setting: 0  
Unit:  
Data type: Uint32  
Data length: 1  
Resolution: 1  
Value range: 0 to 4294967295

If no system time is set, this parameter corresponds to the time in seconds that elapsed between the last time the device was started and the time when the fault occurred.  
If the master sets a system time during booting, this parameter corresponds to the time in seconds based on Jan 1, 2000 (EtherCAT®/SBusPLUS time).

1.27.5  **8344.5 Power-applied hours**

Factory setting: 0  
Unit: min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: 0 to 2147483647

Number of power-applied hours at the time when the fault occurred

1.27.6  **8344.6 Drive-running hours**

Factory setting: 0  
Unit: min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: 0 to 2147483647

Number of drive-running hours at the time when the fault occurred

1.27.7  **8344.7 Device status**

Factory setting:  
Data type: Bit field  
Data length: 1  
Value range:  
• 0= Ready  
• 1= Output stage enable  
• 2= Setpoints active  
• 3= Drive train 1 active  
• 4= Drive train 2 active  
• 5= Limits active
Parameter description
8344 Fault memory T3

- 6= Active drive referenced
- 7= Safety card "RUN" active
- 8= Manual mode active
- 9= Configuration state
- 10= Power ON
- 11= Safety card controls inverter when safety card is activated

1.27.8 8344.8 Axis status

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= Not ready – output stage inhibited
- 1= Ready – output stage inhibited
- 2= Ready – output stage enabled

Axis status at the time when the fault occurred

1.27.9 8344.9 FCB

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= FCB 00 Default (-> FCB 02)
- 1= FCB 01 Output stage inhibit
- 2= FCB 02 Stop default
- 3= FCB 03 Profile velocity mode (pv)
- 4= FCB 04 Manual mode
- 5= FCB 05 Speed control
- 6= FCB 06 Interpolated speed control
- 7= FCB 07 Torque control
- 8= FCB 08 Interpolated torque control
- 9= FCB 09 Position control
- 10= FCB 10 Interpolated position control
- 11= FCB 11 Homing mode (hm)
- 12= FCB 12 Reference travel
- 13= FCB 13 Stop at application limits
- 14= FCB 14 Emergency stop
- 15= FCB 15 Cyclic synchronous velocity mode (csv)
- 16= FCB 16 Cyclic synchronous position mode (csp)
- 17= FCB 17 Cyclic synchronous torque mode (cst)
- 18= FCB 18 Rotor position identification
Parameter description

8344 Fault memory T3

- 19= FCB 19 Position hold control
- 20= FCB 20 Jog mode
- 21= FCB 21 Brake test
- 22= FCB 22 Output stage test
- 23= FCB 23 Brake test safety card
- 24= FCB 24 Profile position mode (pp)
- 25= FCB 25 Motor parameter measurement
- 26= FCB 26 Stop at user-defined limits

FCB that is active at the time when the fault occurred

1.27.10 8344.10 Digital inputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= DI 00
- 1= DI 01
- 2= DI 02
- 3= DI 03
- 4= DI 04
- 5= DI 05

State of the digital inputs of the basic unit at the time when the fault occurred

1.27.11 8344.11 Digital outputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= DO 00
- 1= DO 01
- 2= DO 02
- 3= DO 03
- 4= DO 03

State of the digital outputs of the basic unit at the time when the fault occurred

1.27.12 8344.12 Actual position in system units

Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position of the axis in system units at the time when the fault occurred

1.27.13 8344.13 Actual speed in system units
- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647
  Rotational speed of the axis in system units at the time when the fault occurred

1.27.14 8344.14 Actual frequency
- Factory setting: 0
- Unit: mHz
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 2147483647
  Output frequency of the inverter at the time when the fault occurred

1.27.15 8344.15 Actual torque
- Factory setting: 0
- Unit: 1E-01% nominal motor torque
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647
  Torque of the motor at the time when the fault occurred

1.27.16 8344.16 Output voltage
- Factory setting: 0
- Unit: mV
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647
  Output voltage of the inverter at the time when the fault occurred

1.27.17 8344.17 DC link voltage
- Factory setting: 0
- Unit: mV
1.27.18 8344.18 Apparent output current

- Factory setting: 0
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 2147483647

Apparent output current of the inverter at the time when the fault occurred.

1.27.19 8344.19 Torque-generating current

- Factory setting: 0
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Torque-generating current of the inverter at the time when the fault occurred.

1.27.20 8344.20 Drive train

- Factory setting: 0
- Unit: Int32
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 2

Drive train that is active at the time when the fault occurred.

1.27.21 8344.21 Internal fault code subcomponent

- Factory setting: 0
- Unit: Uint32
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

For information on this parameter, contact SEW-EURODRIVE Service.
1.27.22 8344.32 Motor utilization KTY

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Thermal motor utilization at the time when the fault occurred
The following settings can be made:
– 0%: Measured temperature below 40 °C.
– 100%: Switch-off temperature reached.

1.27.23 8344.33 Motor temperature KTY

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Temperature of the motor at the time when the fault occurred

1.27.24 8344.34 Device utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Device utilization at the time when the fault occurred

1.27.25 8344.35 Heat sink utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Heat sink utilization at the time when the fault occurred

1.27.26 8344.36 Heat sink temperature

Factory setting: 0
### 1.27.27 8344.37 Dynamic utilization – chip temperature rise

- **Factory setting:** 0
- **Unit:** 1E-03%
- **Data type:** UInt32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 4294967295

Dynamic chip temperature rise at the time when the fault occurred

### 1.27.28 8344.38 Dynamic utilization – chip absolute

- **Factory setting:** 0
- **Unit:** 1E-03%
- **Data type:** UInt32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 4294967295

Relative dynamic chip temperature rise at the time when the fault occurred

### 1.27.29 8344.39 Electromechanical utilization

- **Factory setting:** 0
- **Unit:** 1E-03%
- **Data type:** UInt32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 4294967295

Electromechanical utilization at the time when the fault occurred

### 1.27.30 8344.50 Digital inputs I/O card – phys. level

- **Factory setting:**
- **Data type:** Bit field
- **Data length:** 1
- **Value range:**
  - 0 = DI 10
  - 1 = DI 11
  - 2 = DI 12
Parameter description
8344 Fault memory T3

- 3 = DI 13
- 4 = DI 14
- 5 = DI 15
- 6 = DI 16

State of the digital inputs of the I/O card at the time when the fault occurred

1.27.31 8344.51 Digital outputs I/O card – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DO 10
- 1 = DO 11
- 2 = DO 12
- 3 = DO 13

State of the digital outputs of the I/O card at the time when the fault occurred

1.27.32 8344.52 Internal power-applied hours

Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647

Number of internal power-applied hours at the time when the fault occurred. These power-applied hours cannot be reset.

1.27.33 8344.100 User parameter 1 – assignment

Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function

Index number of user parameter 1 selected for logging at the time when the fault occurred

1.27.34 8344.101 User parameter 1 – value

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
1.27.35 8344.102 User parameter 2 – assignment
   Factory setting: 0.0 No function
   Data type: Parameter pointer
   Data length: 1
   Value range: 0.0 No function
   Index number of user parameter 2 selected for logging at the time when the fault occurred

1.27.36 8344.103 User parameter 2 – value
   Factory setting: 0
   Unit:
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Value of user parameter 2 selected for logging at the time when the fault occurred

1.28 8345 Fault memory T4
   Fault memory T4

1.28.1 8345.1 Fault code
   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
   Number of the fault that has occurred. The fault code is structured as follows:
   – Bits 8 to 15: Main fault
   – Bits 0 to 7: Subfault

1.28.2 8345.2 Internal fault code
   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.28.3  8345.3 Subcomponent fault code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Number of the subcomponent fault that has occurred

1.28.4  8345.4 Fault timestamp
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
If no system time is set, this parameter corresponds to the time in seconds that elapsed between the last time the device was started and the time when the fault occurred.
If the master sets a system time during booting, this parameter corresponds to the time in seconds based on Jan 1, 2000 (EtherCAT®/SBusPLUS time).

1.28.5  8345.5 Power-applied hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of power-applied hours at the time when the fault occurred

1.28.6  8345.6 Drive-running hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of drive-running hours at the time when the fault occurred
1.28.7 8345.7 Device status

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Ready
• 1= Output stage enable
• 2= Setpoints active
• 3= Drive train 1 active
• 4= Drive train 2 active
• 5= Limits active
• 6= Active drive referenced
• 7= Safety card "RUN" active
• 8= Manual mode active
• 9= Configuration state
• 10= Power ON
• 11= Safety card controls inverter when safety card is activated

Bit-coded device status at the time when the fault occurred

1.28.8 8345.8 Axis status

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Not ready – output stage inhibited
• 1= Ready – output stage inhibited
• 2= Ready – output stage enabled

Axis status at the time when the fault occurred

1.28.9 8345.9 FCB

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= FCB 00 Default (-> FCB 02)
• 1= FCB 01 Output stage inhibit
• 2= FCB 02 Stop default
• 3= FCB 03 Profile velocity mode (pv)
• 4= FCB 04 Manual mode
• 5= FCB 05 Speed control
• 6= FCB 06 Interpolated speed control
• 7= FCB 07 Torque control
Parameter description
8345 Fault memory T4

- 8 = FCB 08 Interpolated torque control
- 9 = FCB 09 Position control
- 10 = FCB 10 Interpolated position control
- 11 = FCB 11 Homing mode (hm)
- 12 = FCB 12 Reference travel
- 13 = FCB 13 Stop at application limits
- 14 = FCB 14 Emergency stop
- 15 = FCB 15 Cyclic synchronous velocity mode (csv)
- 16 = FCB 16 Cyclic synchronous position mode (csp)
- 17 = FCB 17 Cyclic synchronous torque mode (cst)
- 18 = FCB 18 Rotor position identification
- 19 = FCB 19 Position hold control
- 20 = FCB 20 Jog mode
- 21 = FCB 21 Brake test
- 22 = FCB 22 Output stage test
- 23 = FCB 23 Brake test safety card
- 24 = FCB 24 Profile position mode (pp)
- 25 = FCB 25 Motor parameter measurement
- 26 = FCB 26 Stop at user-defined limits

FCB that is active at the time when the fault occurred

1.28.10 8345.10 Digital inputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DI 00
- 1 = DI 01
- 2 = DI 02
- 3 = DI 03
- 4 = DI 04
- 5 = DI 05

State of the digital inputs of the basic unit at the time when the fault occurred

1.28.11 8345.11 Digital outputs basic unit – phys. level

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = DO 00
- 1 = DO 01
1.28.12  8345.12  Actual position in system units
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position of the axis in system units at the time when the fault occurred

1.28.13  8345.13  Actual speed in system units
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotational speed of the axis in system units at the time when the fault occurred

1.28.14  8345.14  Actual frequency
Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Output frequency of the inverter at the time when the fault occurred

1.28.15  8345.15  Actual torque
Factory setting: 0
Unit: 1E-01% nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Torque of the motor at the time when the fault occurred
1.28.16  8345.16 Output voltage
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Output voltage of the inverter at the time when the fault occurred

1.28.17  8345.17 DC link voltage
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
DC link voltage of the inverter at the time when the fault occurred

1.28.18  8345.18 Apparent output current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Apparent output current of the inverter at the time when the fault occurred

1.28.19  8345.19 Torque-generating current
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Torque-generating current of the inverter at the time when the fault occurred

1.28.20  8345.20 Drive train
Factory setting: 0
Unit: 
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2
Drive train that is active at the time when the fault occurred

1.28.21 8345.21 Internal fault code subcomponent
厂設定: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
For information on this parameter, contact SEW-EURODRIVE Service.

1.28.22 8345.32 Motor utilization KTY
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Thermal motor utilization at the time when the fault occurred
The following settings can be made:
– 0%: Measured temperature below 40 °C.
– 100%: Switch-off temperature reached.

1.28.23 8345.33 Motor temperature KTY
Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Temperature of the motor at the time when the fault occurred

1.28.24 8345.34 Device utilization
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Device utilization at the time when the fault occurred
1.28.25 8345.35 Heat sink utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Heat sink utilization at the time when the fault occurred

1.28.26 8345.36 Heat sink temperature

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Heat sink temperature at the time when the fault occurred

1.28.27 8345.37 Dynamic utilization – chip temperature rise

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Dynamic chip temperature rise at the time when the fault occurred

1.28.28 8345.38 Dynamic utilization – chip absolute

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Relative dynamic chip temperature rise at the time when the fault occurred

1.28.29 8345.39 Electromechanical utilization

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Parameter description
8345 Fault memory T4

Resolution: 1
Value range: 0 to 4294967295
Electromechanical utilization at the time when the fault occurred

1.28.30 8345.50 Digital inputs I/O card – phys. level
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DI 10
• 1= DI 11
• 2= DI 12
• 3= DI 13
• 4= DI 14
• 5= DI 15
• 6= DI 16
State of the digital inputs of the I/O card at the time when the fault occurred

1.28.31 8345.51 Digital outputs I/O card – phys. level
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DO 10
• 1= DO 11
• 2= DO 12
• 3= DO 13
State of the digital outputs of the I/O card at the time when the fault occurred

1.28.32 8345.52 Internal power-applied hours
Factory setting: 0
Unit: min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Number of internal power-applied hours at the time when the fault occurred. These power-applied hours cannot be reset.

1.28.33 8345.100 User parameter 1 – assignment
Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 1 selected for logging at the time when the fault occurred

1.28.34 8345.101 User parameter 1 – value
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 1 selected for logging at the time when the fault occurred

1.28.35 8345.102 User parameter 2 – assignment
Factory setting: 0.0 No function
Data type: Parameter pointer
Data length: 1
Value range: 0.0 No function
Index number of user parameter 2 selected for logging at the time when the fault occurred

1.28.36 8345.103 User parameter 2 – value
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Value of user parameter 2 selected for logging at the time when the fault occurred

1.29 8346 Data Flexibility code
1.29.1 8346.1 Code
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 36
Resolution: 1
Value range: 0 to 4294967295
Code
1.30 8348 Data Flexibility setting values

1.30.1 8348.1 Ctrl

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Idle
• 1= Run
• 2= Stop
• 4= Reset
• 6= Init reset

1.30.2 8348.7 Auto start

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON

1.31 8349 Data Flexibility status

1.31.1 8349.1 Status

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Idle
• 1= Run
• 2= Stop
• 3= Error
• 4= Reset
• 5= Reset done
• 6= Init reset
• 7= Init reset done

State
Parameter description
8351 Fast power-off detection

1.31.2 8349.17 Version
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

1.32 8351 Fast power-off detection
Fast power-off detection

1.32.1 8351.1 Power off response
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No response
• 2= Application stop + output stage inhibit
• 3= Emergency stop + output stage inhibit
• 4= Output stage inhibit
Response of the drive when the level is undershot that has been set in the parameter "DC link level for fast power-off detection" (index 8351.5).

1.32.2 8351.4 Activate
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
By activating the "Fast power-off detection" function, an axis module, a network of MOVIDRIVE® system units or an individual unit can be stopped in a controlled manner by supplying the DC link with regenerative energy in the event of disconnection from the grid. For this purpose, the DC link voltage is compared with a parameterized DC link limit value. If the level is undershot, the programmed power-off response will be triggered.

1.32.3 8351.5 DC link level for fast power-off detection
Factory setting: 450000
Unit: mV
Data type: Int32
Parameter description
8355 Brake DT1

Data length: 1
Resolution: 1000
Value range: 0 to 2048000

Limit under which the DC link voltage is interpreted as power off. The power-off response is performed when the value drops below this value.

1.33 8355 Brake DT1

Brake of drive train DT1

1.33.1 8355.1 Brake ID

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Designation of the SEW-EURODRIVE brake installed on the motor.

1.33.2 8355.2 Connection type

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= None
• 1= With brake rectifier
• 2= Direct supply

Specifies how the brake is connected.
The following settings can be made:
– None: No brake connected.
– With brake rectifier: The brake is connected via brake rectifier, which is controlled using brake output DB 00 at X10.1 and X10.2.
– Direct supply: The brake is connected via DC 24 V brake output DB 00 at X10.1 and X10.2.

1.33.3 8355.3 Brake release time

Factory setting: 200
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2000
Parameter description
8357 Limit values DT1

Specifies how long the motor remains at standstill with speed "0" after enable until the brake releases.

1.33.4 8355.4 Brake application time

- Factory setting: 200
- Unit: ms
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 2000

Specifies how long the mechanical brake needs to apply. Setting this parameter correctly will prevent the drive from sagging.

1.33.5 8355.5 Holding torque

- Factory setting: 0
- Unit: Nm
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 10000

Holding torque of the brake

1.34 8357 Limit values DT1

Limit values of drive train 1

1.34.1 8357.17 Voltage limit

- Factory setting: 400000
- Unit: mV
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 1000000

Value to which the phase-to-phase output voltage of the inverter is limited.

1.35 8360 Motor data DT1

Motor data of drive train 1

1.35.1 8360.1 Calculate electrical startup

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No
- 1 = Yes
- 2 = Nameplate

[Factory setting]
[Unit]
[Resolution]
[Range of values]
Yes/no

[Description]
Calculate electrical startup.
This is necessary after changing motor data.

[Preliminary value description]
Yes: Calculation is performed.
No: Calculation is not performed.

1.35.2 8360.2 Number of identical motors
Factory setting: 1
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 1 to 100
Number of identical motors in parallel connection.

1.35.3 8360.3 Nominal voltage of connected motor
Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Nominal voltage of the connected motor.
The value is set before startup.

1.35.4 8360.4 Nominal frequency of connected motor
Factory setting: 0
Unit: Hz
Data type: Float32
Parameter description
8360 Motor data DT1

Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Nominal frequency of the connected motor.

### 1.35.5 8360.5 Version number

- Factory setting: 0
- Unit: 
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
Version number

### 1.35.6 8360.6 Motor type

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = Asynchronous motor
  - 1 = Synchronous motor
  - 2 = LSPM motor
  - 3 = Reluctance synchronous motor
  - 4 = IPM motor
Motor type

### 1.35.7 8360.7 Number of pole pairs

- Factory setting: 1
- Unit: 
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 500
Number of pole pairs

### 1.35.8 8360.8 Nominal speed

- Factory setting: 0
- Unit: 1/min
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 36000
Nominal speed

1.35.9 8360.9 Maximum speed at motor shaft
   Factory setting: 100
   Unit: 1/min
   Data type: Float32
   Data length: 1
   Resolution: –
   Value range: 0 to 36000
   Maximum speed of the motor; if applicable the maximum permitted speed at the motor shaft calculated at startup from motor and gear unit data.

1.35.10 8360.10 Nominal torque matching nominal current
   Factory setting: 0
   Unit: Nm
   Data type: Float32
   Data length: 1
   Resolution: –
   Value range: 0 to 50000
   Nominal torque matching nominal current

1.35.11 8360.11 Maximum torque at motor shaft
   Factory setting: 0
   Unit: Nm
   Data type: Float32
   Data length: 1
   Resolution: –
   Value range: 0 to 50000
   Maximum torque of the motor; if applicable the maximum permitted torque at the motor shaft calculated at startup from motor and gear unit data.

1.35.12 8360.12 Nominal current matching nominal torque
   Factory setting: 0
   Unit: A
   Data type: Float32
   Data length: 1
   Resolution: –
   Value range: 0 to 10000
   Nominal current matching the nominal torque (line current, rms)

1.35.13 8360.13 Maximum current
   Factory setting: 0
Parameter description
8360 Motor data DT1

Unit: A
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 10000
Maximum current (line current, rms)

1.35.14  8360.14 Nominal voltage
Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 2000
Nominal voltage (line voltage, rms)

1.35.15  8360.15 Nominal frequency
Factory setting: 0
Unit: Hz
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 20000
Nominal frequency

1.35.16  8360.16 Stator resistance at 20 °C
Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 1000
Stator resistance at 20 °C

1.35.17  8360.17 Rotor resistance at 20 °C
Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 1000
Rotor resistance at 20 °C
1.35.18 8360.18 Nominal stator temperature

Factory setting: 0
Unit: °C
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Stator temperature in stationary operation under nominal conditions

1.35.19 8360.46 Encoder offset

Factory setting: 0
Unit: °
Data type: Float32
Data length: 1
Resolution: –
Value range: -360 to 360
Encoder offset

1.35.20 8360.47 Inertia of motor and brake

Factory setting: 0
Unit: kgm²
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to Float32Max
Inertia of motor and brake

1.35.21 8360.48 Reference torque for relative information

Factory setting: 0
Unit: Nm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 50000
Reference torque for relative information

1.35.22 8360.62 Nominal power

Factory setting: 0
Unit: W
Data type: Float32
Data length: 1
Parameter description
8362 Control mode DT1

Resolution: –
Value range: 0 to 1000000
Nominal power

1.35.23 8360.64 Maximum field-weakening current synchronous machine
Factory setting: 0
Unit: A
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 10000
Maximum field-weakening current synchronous machine

1.36 8362 Control mode DT1
Control mode for drive train 1

1.36.1 8362.1 Control mode
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = VFCPLUS
- 1 = CFC
- 2 = V/f
- 4 = ELSM®
Control mode

1.36.2 8362.2 Direction of rotation reversal
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON
Direction of rotation reversal

1.36.3 8362.3 PWM frequency
Factory setting:
Data type: Enum
Data length: 1
Value range:
- -4000 = 4 kHz noise
- 2500 = 2.5 kHz constant
- **4000 = 4 kHz constant**
- 8000 = 8 kHz constant
- 16000 = 16 kHz constant

PWM frequency

### 1.36.4 8362.4 Limitation strategy

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = PWM fixed – no current limiting
- 1 = PWM fixed – dynamic current limiting
- **2 = PWM variable – no current limiting**
- 3 = PWM variable – dynamic current limiting

Strategy for reducing the output current automatically in the event of an overload of the output stage.

### 1.37 8364 Control mode process values

Control mode process values

#### 1.37.1 8364.7 Possible operating modes

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Torque control
- 1 = Speed control
- 2 = Positioning

Possible operating modes

#### 1.37.2 8364.13 Limitation status flags

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = User defined current limit reached
- 1 = Thermal current limit reached
- 2 = Explosion protection current limit
Parameter description
8364 Control mode process values

- 3 = Current limit reached by control mode
- 8 = User defined torque limit reached
- 16 = Speed monitoring motor mode – active
- 17 = Speed monitoring generator mode – active
- 9 = Torque limited by speed limit

Limitation status flags

1.37.3 8364.21 Position setpoints in system units
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint of the position in system units

1.37.4 8364.22 Position setpoint in user units
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint of the position in user units

1.37.5 8364.25 Actual position in system units
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position in system units

1.37.6 8364.26 Actual position in user units
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position in user units
1.37.7  8364.27 Actual position in user unit – modulo
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Current position in user units taking account of modulo scaling.

1.37.8  8364.28 Lag error in system units
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Lag error in system units

1.37.9  8364.29 Lag error in user units
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Lag error in user units

1.37.10 8364.31 Motor position in system units
Factory setting: 0
Unit: 1/(2^32) rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Motor position in system units

1.37.11 8364.43 Speed controller setpoint speed in system units
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Parameter description
8364 Control mode process values

Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint speed of the speed controller in system units

1.37.12 8364.44 Speed controller setpoint speed in user units

Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint speed of the speed controller in user units

1.37.13 8364.45 Actual speed in system units

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual rotational speed in system units

1.37.14 8364.46 Actual speed in user units

Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual rotational speed in user units

1.37.15 8364.47 Filtered actual speed in system units

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Filtered actual speed in system units
1.37.16 8364.48 Filtered actual speed in user units

- Factory setting: 0
- Unit: 1E-4/min user unit
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Filtered actual speed in user units

1.37.17 8364.61 Stator frequency

- Factory setting: 0
- Unit: mHz
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Stator frequency

1.37.18 8364.78 Total acceleration in user units

- Factory setting: 0
- Unit: 1E-02/(min*s) user unit
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Total acceleration in user units

1.37.19 8364.90 Relative limited setpoint torque in system units

- Factory setting: 0
- Unit: 1E-03 % nominal motor torque
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Relative, limited setpoint torque in system units

1.37.20 8364.90 Relative actual torque in system units

- Factory setting: 0
- Unit: 1E-03 % nominal motor torque
- Data type: Int32
- Data length: 1
Parameter description
8364 Control mode process values

Resolution: 1
Value range: -2147483648 to 2147483647
Relative actual torque in system units

1.37.21 8364.95 Actual torque in communication units
Factory setting: 0
Unit: 1E-01% nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual torque in communication units

1.37.22 8364.96 Relative minimum torque in system units
Factory setting: 0
Unit: 1E-03 % nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Relative minimum torque in system units

1.37.23 8364.97 Relative maximum torque in system units
Factory setting: 0
Unit: 1E-03 % nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Relative maximum torque in system units

1.37.24 8364.117 Relative torque-generating current
Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Instantaneous value of the actual current of the torque-generating component, phase value in star connection, with reference to the nominal inverter current.
1.37.25 8364.118 Absolute torque-generating current

Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, torque-generating component, absolute, instantaneous value, phase value in star connection.

1.37.26 8364.119 Relative field-generating current

Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Instantaneous value of the actual current of the field-generating component. Phase value in star connection with reference to the nominal inverter current.

1.37.27 8364.120 Absolute field-generating current

Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, field-generating component, absolute, instantaneous value, phase value in star connection

1.37.28 8364.127 Relative apparent current

Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Relative apparent current

1.37.29 8364.128 Absolute apparent current – rms value

Factory setting: 0
Unit: mA
Parameter description
8364 Control mode process values

Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Apparent current, absolute, rms value

1.37.30 8364.151 UqRef
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, q-component, absolute, instantaneous value of the phase in star connection

1.37.31 8364.152 UdRef
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, d-component, absolute, instantaneous value of the phase in star connection

1.37.32 8364.155 UaRef
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, a-component, absolute, instantaneous value of the phase in star connection

1.37.33 8364.156 UbRef
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Parameter description

8364 Control mode process values

Value range: -2147483648 to 2147483647
Setpoint voltage, b-component, absolute, instantaneous value of the phase in star connection

1.37.34 8364.157 Ua

Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual voltage, a-component, absolute, instantaneous value of the phase in star connection

1.37.35 8364.158 Ub

Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual voltage, b-component, absolute, instantaneous value of the phase in star connection

1.37.36 8364.159 Absolute value of the setpoint voltage – rms value

Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, value, absolute, rms value

1.37.37 8364.160 DC link voltage instantaneous value

Factory setting: 0
Unit: mV
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Instantaneous value of the DC link voltage
Parameter description
8364 Control mode process values

1.37.38 8364.181 PsiSRef
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint stator flux, value, instantaneous value

1.37.39 8364.182 PsiRRef
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint rotor flux, value, instantaneous value

1.37.40 8364.183 PsiSUmod
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Stator flux U-model, value, instantaneous value

1.37.41 8364.184 PsiRUmod
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotor flux U-model, value, instantaneous value

1.37.42 8364.185 PsiSaUmod
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
### Parameter description

8364 Control mode process values

<table>
<thead>
<tr>
<th>Resolution: 1</th>
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<tbody>
<tr>
<td>Value range: -2147483648 to 2147483647</td>
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**Stator flux U-model, a-component**

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<th>1.37.43</th>
<th>8364.186 PsiSbUmod</th>
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**Rotor flux U-model, a-component**

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<th>1.37.45</th>
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**Rotor flux U-model, b-component**

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<tr>
<th>1.37.46</th>
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**Stator flux U-model, b-component**

<table>
<thead>
<tr>
<th>1.37.44</th>
<th>8364.187 PsiRaUmod</th>
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<tbody>
<tr>
<td>Factory setting: 0</td>
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1.37.47  8364.190 PsiRqlmod
   Factory setting: 0
   Unit: µVs
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Rotor flux I-model, q-component

1.37.48  8364.211 Apparent motor power
   Factory setting: 0
   Unit: VA
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Apparent motor power

1.37.49  8364.212 Electrical effective motor power
   Factory setting: 0
   Unit: W
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Effective motor power (electrical)

1.37.50  8364.213 Reactive motor power
   Factory setting: 0
   Unit: VA
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Reactive motor power

1.37.51  8364.221 PWM frequency
   Factory setting:
   Data type: Enum
   Data length: 1
Value range:
- -4000 = 4 kHz noise
- 2500 = 2.5 kHz constant
- 4000 = 4 kHz constant
- 8000 = 8 kHz constant
- 16000 = 16 kHz constant

PWM frequency

1.37.52 8364.231 Position encoder dead time
Factory setting: 0
Unit: ns
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Position encoder dead time

1.37.53 8364.232 Motor encoder dead time
Factory setting: 0
Unit: ns
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Motor encoder dead time

1.38 8365 Fault manager
Fault manager

1.38.1 8365.1 Fault code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Currently pending fault: The fault code is structured as follows:
- Bits 8 to 15: Main fault
- Bits 0 to 7: Subfault
1.38.2  8365.2 Internal fault code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Internal fault number. If this fault occurs, contact SEW-EURODRIVE Service.

1.38.3  8365.3 Subcomponent fault code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Currently pending subcomponent fault. The fault code is structured as follows:
– Bits 8 to 15: Main fault
– Bits 0 to 7: Subfault
– Bits 16 to 31: Always 0
This means the fault code can be sent in a 16-bit process data word.

1.38.4  8365.4 Internal fault code subcomponent
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Developer code of the subcomponent

1.38.5  8365.5 Manual fault reset
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = None
• 1 = Default
• 2 = With parameter set acceptance
The following settings can be made:
– None: No reset is performed.
– Default: The fault is acknowledged.
– With parameter acceptance: The device can be acknowledged and continued to be operated when the hardware device configuration has changed, for example because option cards have been removed. Option cards that can no longer be accessed are ignored.

1.38.6 8365.6 Control bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Fault reset
• 1 = External fault – active
• 2 = External braking resistor fault

Control bits

1.38.7 8365.7 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Warning
• 1 = Fault
• 2 = Fault with output stage inhibit
• 3 = Fault acknowledgement with CPU reset

Status bits of the active fault

1.39 8366 Process data

Process data

1.39.1 8366.7 Period duration of the sync signal

Factory setting: 0
Unit: µs
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Determined period duration of the synchronization signal.
1.40 8367 PO data

The process output data are the input data for the inverter.

1.40.1 8367.5 Received packets

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Number of received packets

1.40.2 8367.51 CiA402 Length [bytes]

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 255
Total length in bytes of the mapping of the dynamic PDO under index 0x1600.

1.40.3 8367.52 CiA402 Configured elements

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 255
Number of elements configured in the mapping of the dynamic PDO under index 0x1600/0x1620.

1.40.4 8367.55 CiA402 Element index

Factory setting: 0.0 No function
Data type: Parameter pointer (DataArray)
Data length: 8
Value range: 0.0 No function
Target index of the elements in the mapping of the dynamic PDO under index 0x1600

1.40.5 8367.56 CiA402 Element length [bytes]

Factory setting: 0
Unit:
Parameter description

8368 PI data

Data type: Uint8 (DataArray)
Data length: 8
Resolution: 1
Value range: 0 to 255
Length in bytes of the elements in the mapping of the dynamic PDO under index 0x1600

1.40.6 8367.57 CiA402 Element offset [bytes]

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 8
Resolution: 1
Value range: 0 to 255
Offset in bytes of the elements (for Powerlink) in the mapping of the dynamic PDO under index 0x1600

1.41 8368 PI data

PI data

1.41.1 8368.51 CiA402 Length [bytes]

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 255
Total length in bytes of the mapping of the dynamic PDO under index 0x1A00.

1.41.2 8368.52 CiA402 Configured elements

Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 255
Number of elements configured in the mapping of the dynamic PDO under index 0x1A00/0x1A20.

1.41.3 8368.55 CiA402 Element index

Factory setting: 0.0 No function
**Parameter description**

**8381 Encoder 1**

Data type: Parameter pointer (DataArray)
Data length: 8
Value range: 0.0 No function
Target index of the elements in the mapping of the dynamic PDO under index 0x1A00

1.41.4 **8368.56 CiA402 Element length [bytes]**

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 8
Resolution: 1
Value range: 0 to 255
Length in bytes of the elements in the mapping of the dynamic PDO under index 0x1A00

1.41.5 **8368.57 CiA402 Element offset [bytes]**

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 8
Resolution: 1
Value range: 0 to 255
Offset in bytes of the elements (for Powerlink) in the mapping of the dynamic PDO under index 0x1A00

1.42 **8381 Encoder 1**

These parameters describe the encoder at input 1.

1.42.1 **8381.1 Type**

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= No encoder
- 1= RS422
- 2= HTL
- 3= sin/cos
- 4= HIPOWERFACE®/RS485
- 5= Resolver
Encoder connected to the basic unit
1.42.2  8381.2 Numerator factor
  Factory setting: 1024
  Unit:
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: 0 to 2147483647

1.42.3  8381.3 Denominator factor
  Factory setting: 1
  Unit:
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: 1 to 2147483647

1.42.4  8381.4 Numerator resolution factor
  Factory setting: 0
  Unit:
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: 0 to 2147483647

1.42.5  8381.5 Denominator resolution factor
  Factory setting: 1
  Unit:
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: 1 to 2147483647

1.42.6  8381.6 Counting direction
  Factory setting:
  Data type: Enum
  Data length: 1
Parameter description
8381 Encoder 1

Value range:
- 0 = Normal
- 1 = Inverted

Counting direction of the encoder.
The following settings can be made:
- Normal: The encoder rotates in the same direction as the motor (increments when the motor rotates in clockwise direction).
- Inverted: The encoder rotates in the opposite direction of the motor (decrements when the motor rotates in clockwise direction).

1.42.7 8381.7 Transition functions
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Minimum amplitude value
- 1 = Amplitude overdrive
- 2 = Comparison of digital and incremental positions
- 3 = Track angle
- 4 = SSI error bit
- 5 = Position
- 6 = Internal encoder faults
- 7 = Evaluate internal encoder warnings
- 8 = Maximum amplitude value

Monitoring functions

1.42.8 8381.8 Configuration
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Track input resistors disabled
- 1 = C track threshold
- 2 = Disable absolute position monitoring

Configuration

1.42.9 8381.10 Position mode
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Without overflow counter
Parameter description

8381 Encoder 1

- 1= With overflow counter
- 3= Single-turn absolute position
- 4= Linear mode

These parameters are only relevant for absolute encoders.

Setting of the encoder connected to the basic unit.

The following settings can be made:

- Without overflow counter: Overflow is not logged. Next time the firmware boots, position 0 is signaled.
- With overflow counter: If the encoder is operated beyond its range, the inverter remembers the overflow and fills the position up to 32 bits. The position is maintained next time the device is switched on.
- Single-turn absolute position: The raw position of the encoder is displayed. This setting is only useful for systems that are operated within one motor revolution.
- Linear mode: Settings for the linear encoder.

1.42.10 8381.12 Relative position of reference point

Factory setting: 50000
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 100000

Relative position of the reference point

1.42.11 8381.13 Startup active

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= No
- 1= Yes

Specifies whether startup is running.

1.42.12 8381.60 Manufacturer ID – HIPERFACE®

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= Stegmann
- 1= Heidenhain
- 2= Hübner

Manufacturer ID – HIPERFACE®
1.42.13 8381.73 Incremental encoder
   Factory setting:
   Data type: Enum
   Data length: 1
   Value range:
   • 0= Off
   • 1= ON
   Incremental encoder

1.42.14 8381.120 Actual position in system units
   Factory setting: 0
   Unit: 1/65536 rev
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Current actual position in system units.

1.42.15 8381.121 Actual position in user units
   Factory setting: 0
   Unit: 1/65536 rev user unit
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Actual position in user units.
   User units are defined when taking the drive train into operation.

1.42.16 8381.122 Actual position in user unit – modulo
   Factory setting: 0
   Unit: 1/65536 rev user unit
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Current position in user units taking account of modulo scaling.
   User units are defined when taking the drive train into operation.

1.42.17 8381.130 Encoder status
   Factory setting:
   Data type: Bit field
Data length: 1
Value range:
- 0 = Ready
- 1 = Fault
- 2 = Encoder system present
- 3 = Nameplate-capable
- 4 = Absolute encoder
- 5 = Multi-turn rotary encoder
- 6 = C track found
- 7 = Referenced
- 8 = New track angle offset detected
- 15 = Restart required
- 16 = Position valid
- 17 = Speed valid
- 18 = Speed sensing disabled
- 20 = Initialized
- 25 = Delete referencing

Bit-coded encoder status

1.42.18 8381.133 Motor data status

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Data available
- 1 = Search in progress
- 2 = Reading in progress
- 3 = Deleting in progress
- 4 = Writing in progress
- 5 = Fault
- 6 = Reading finished

Motor data status

1.42.19 8381.134 Encoder ID – HIPERFACE®

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Encoder ID – HIPERFACE®
1.42.20  8381.141 Firmware data
Data type: String8Bit (fill level array)
Data length: 16
Resolution:
Value range:
Data of the firmware of the encoder

1.42.21  8381.170 - 8381.189 Array size 20 diagnostics
Factory setting: 0
Unit:
Data type: Int32 (array)
Data length: 20
Resolution: 1
Value range: -2147483648 to 2147483647
Diagnostics

1.42.22  8381.192 Motor data memory
Factory setting: 0
Unit:
Data type: Uint8 (fill level array)
Data length: 2048
Resolution: 1
Value range: 0 to 255
Memory for motor data

1.42.23  8381.201 Zero offset correction
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Zero offset correction

1.42.24  8381.222 Position offset
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Position offset

1.43  8382 Encoder 2

These parameters describe the encoder at input 2.

1.43.1  8382.1 Type

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No encoder
- 1 = RS422
- 2 = HTL
- 3 = sin/cos
- 4 = HIPERFACE®/RS485
- 6 = SSI
- 7 = EnDat
- 8 = SSI combi encoder
- 10 = CANopen

Type

1.43.2  8382.2 Numerator factor

Factory setting: 1024
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Numerator factor

1.43.3  8382.3 Denominator factor

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Denominator factor
1.43.4 8382.4 Numerator resolution factor
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Resolution factor numerator

1.43.5 8382.5 Denominator resolution factor
Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Resolution factor denominator

1.43.6 8382.6 Counting direction
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Normal
• 1 = Inverted
Counting direction of the encoder.
The following settings can be made:
– Normal: The encoder rotates in the same direction as the motor (increments when the motor rotates in clockwise direction).
– Inverted: The encoder rotates in the opposite direction of the motor (decrements when the motor rotates in clockwise direction).

1.43.7 8382.7 Transition functions
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Minimum amplitude value
• 1 = Amplitude overdrive
• 2 = Comparison of digital and incremental positions
• 3 = Track angle
• 4 = SSI error bit
• 5= Position
• 6= Internal encoder faults
• 7= Evaluate internal encoder warnings
• 8= Maximum amplitude value

Monitoring functions

1.43.8 8382.8 Configuration

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Track input resistors disabled
• 1= C track threshold
• 2= Disable absolute position monitoring

Configuration

1.43.9 8382.10 Position mode

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Without overflow counter
• 1= With overflow counter
• 3= Single-turn absolute position
• 4= Linear mode

These parameters are only relevant for absolute encoders.

Setting of the encoder connected to the basic unit.
The following settings can be made:
– Without overflow counter: Overflow is not logged. Next time the firmware boots, position 0 is signaled.
– With overflow counter: If the encoder is operated beyond its range, the inverter remembers the overflow and fills the position up to 32 bits. The position is maintained next time the device is switched on.
– Single-turn absolute position: The raw position of the encoder is displayed. This setting is only useful for systems that are operated within one motor revolution.
– Linear mode: Settings for the linear encoder.

1.43.10 8382.12 Relative position of reference point

Factory setting: 50000
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Parameter description
8382 Encoder 2

Value range: 0 to 100000
Relative position of the reference point

1.43.11 8382.13 Startup active
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = No
• 1 = Yes
Startup active

1.43.12 8382.20 Number of position bits
Factory setting: 24
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 32
Number of position bits (SSI/SSI combi/CANopen).

1.43.13 8382.21 Number of multi-turn bits
Factory setting: 12
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 32
Number of multi-turn bits (SSI/SSI combi/CANopen)

1.43.14 8382.22 Start position bit
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 30
Start of position bit (SSI/SSI combi/CANopen)

1.43.15 8382.23 Pulses per revolution
Factory setting: 11
Parameter description
8382 Encoder 2

Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 63
Pulses per revolution (SSI/SSI combi/CANopen)

1.43.16 8382.24 Static tolerance band
Factory setting: 1024
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Static tolerance range (SSI/CANopen)

1.43.17 8382.25 Dynamic tolerance band
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Dynamic tolerance band (SSI/CANopen)

1.43.18 8382.26 User-defined fault mask
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
User-defined fault mask (SSI/SSI combi/CANopen)

1.43.19 8382.27 User-defined warning mask
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
User-defined warning mask (SSI/SSI combi/CANopen)
1.43.20 8382.28 Motor feedback

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON
Motor feedback (SSI/CANopen)

1.43.21 8382.29 Refresh time

Factory setting: 0
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Refresh time

1.43.22 8382.30 Initialization time

Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Time until the encoder is ready for operation.

1.43.23 8382.31 Pause interval – SSI

Factory setting: 32
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 20 to 200
SSI pause interval (SSI/SSI combi encoder)

1.43.24 8382.32 Clock frequency – SSI

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1 = 125 kHz
• 2 = 250 kHz
• 3 = 500 kHz
• 4 = 1000 kHz
• 5 = 2000 kHz

Clock frequency – SSI

1.43.25  8382.33 Number of clocks per frame – SSI

Factory setting: 25
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 48
SSI number of clocks per frame (SSI/SSI combi encoder)

1.43.26  8382.34 Power failure evaluation – SSI

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON
Power failure evaluation – SSI

1.43.27  8382.35 Configuration – SSI

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Gray-to-binary decoder inactive
Configuration – SSI

1.43.28  8382.40 Baud rate – CAN

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = 125 kBd
• 1 = 250 kBd
Parameter description
8382 Encoder 2

- 2 = 500 kBd
- 3 = 1 MBd

Baud rate – CAN

1.43.29 8382.41 Number of SDO data – CANopen
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 8
Number of SDO data – CANopen

1.43.30 8382.42 - 8382.49 Array size 8 SDO service – CANopen
Factory setting: 0
Unit:
Data type: Uint32 (array)
Data length: 8
Resolution: 1
Value range: 0 to 4294967295
SDO service – CANopen

1.43.31 8382.50 - 8382.57 Array size 8 SDO data – CANopen
Factory setting: 0
Unit:
Data type: Uint32 (array)
Data length: 8
Resolution: 1
Value range: 0 to 4294967295
SDO data – CANopen

1.43.32 8382.60 Manufacturer ID – HIPERFACE®
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Stegmann
- 1 = Heidenhain
- 2 = Hübner
Manufacturer ID – HIPERFACE®
1.43.33 8382.73 Incremental encoder

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0= Off
  - 1= ON

Incremental encoder

1.43.34 8382.120 Actual position in system units

- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Current actual position in system units.

1.43.35 8382.121 Actual position in user units

- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Actual position in user units.

User units are defined when taking the drive train into operation.

1.43.36 8382.122 Actual position in user unit – modulo

- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Current position in user units taking account of modulo scaling.

User units are defined when taking the drive train into operation.

1.43.37 8382.130 Encoder status

- Factory setting:
- Data type: Bit field
Data length: 1
Value range:
- 0 = Ready
- 1 = Fault
- 2 = Encoder system present
- 3 = Nameplate-capable
- 4 = Absolute encoder
- 5 = Multi-turn rotary encoder
- 6 = C track found
- 7 = Referenced
- 8 = New track angle offset detected
- 15 = Restart required
- 16 = Position valid
- 17 = Speed valid
- 18 = Speed sensing disabled
- 20 = Initialized
- 25 = Delete referencing

Bit-coded encoder status

### 1.43.38 8382.133 Motor data status
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Data available
- 1 = Search in progress
- 2 = Reading in progress
- 3 = Deleting in progress
- 4 = Writing in progress
- 5 = Fault
- 6 = Reading finished
Motor data status

### 1.43.39 8382.134 Encoder ID – HIPERFACE®
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Encoder ID – HIPERFACE®
1.43.40 8382.141 Firmware data
   Data type: String8Bit (fill level array)
   Data length: 16
   Resolution:
   Value range:
   Data of the firmware of the encoder

1.43.41 8382.170 - 8382.189 Array size 20 diagnostics
   Factory setting: 0
   Unit:
   Data type: Int32 (array)
   Data length: 20
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Diagnostics

1.43.42 8382.192 Motor data memory
   Factory setting: 0
   Unit:
   Data type: Uint8 (fill level array)
   Data length: 2048
   Resolution: 1
   Value range: 0 to 255
   Memory for motor data

1.43.43 8382.201 Zero offset correction
   Factory setting: 0
   Unit:
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Zero offset correction

1.43.44 8382.222 Position offset
   Factory setting: 0
   Unit:
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
Parameter description
8383 Output stage process values filtered for display

Position offset

1.44 8383 Output stage process values filtered for display
Control mode process values filtered for display.

1.44.1 8383.61 Stator frequency
Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Stator frequency

1.44.2 8383.117 Relative torque-generating current
Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual value of the current controller, torque-generating component, instantaneous torque, phase value in star connection, with reference to the nominal inverter current.

1.44.3 8383.118 Absolute torque-generating current
Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, torque-generating component, absolute, instantaneous value, phase value in star connection.

1.44.4 8383.119 Relative field-generating current
Factory setting: 0
Unit: 1E-03% nominal device current
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, field-generating component, instantaneous value, phase value in star connection, with reference to the nominal inverter current.

1.44.5  8383.120 Absolute field-generating current
Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual current, field-generating component, absolute, instantaneous value, phase value in star connection

1.44.6  8383.159 Absolute setpoint voltage
Factory setting: 0
Unit: mV
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Setpoint voltage, absolute value

1.44.7  8383.160 DC link voltage
Factory setting: 0
Unit: mV
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
DC link voltage

1.45  8385 CFC diagnostics
CFC diagnostics

1.45.1  8385.2 Unlimited rotor flux setpoint – system units absolute
Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Unlimited setpoint of the rotor flux in absolute system units

1.45.2 8385.3 Rotor flux model – system units absolute
   Factory setting: 0
   Unit: µVs
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Model of the rotor flux in absolute system units

1.45.3 8385.4 Standstill flux – system units absolute
   Factory setting: 0
   Unit: µVs
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Standstill flux in absolute system units

1.46 8386 V/f diagnostics

1.46.1 8386.15 Inverse value of the V/f characteristic
   Factory setting: 0
   Unit:
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Inverse value of the V/f characteristic

1.47 8387 Parameter measurement diagnostics

1.47.1 8387.5 Measurement status
   Factory setting:
   Data type: Enum
   Data length: 1
Value range:

- **1= Initialize**
- 2= Initialize waiting
- 3= Rotor adjustment 1
- 4= Stator resistance measurement
- 16= Stator inductance measurement
- 17= Stator inductance calculation 1
- 18= Stator inductance calculation 2
- 19= Rotor resistance measurement
- 20= DC brake
- 21= LSigma measurement
- 22= LSigma calculation 1
- 23= LSigma calculation 2
- 24= LSigma calculation 3
- 64= Zero current 1
- 65= Measuring positive d-axis 1
- 66= Measuring q-axis 1
- 67= Rotor adjustment 2
- 68= Zero current 2
- 69= Measuring q-axis 2
- 70= Rotor adjustment 3
- 71= Zero current 3
- 72= Measuring md-axis
- 73= Measuring positive d-axis 2
- 74= Rotor adjustment 4
- 75= Zero current 4
- 76= Rotor adjustment 5
- 77= Zero current 5
- 78= Measuring negative d-axis 1
- 79= Measuring q-axis 3
- 80= Rotor adjustment 6
- 81= Zero current 6
- 82= Rotor adjustment 7
- 83= Zero current 7
- 84= Measuring negative d-axis 2
- 85= Rotor adjustment 8
- 86= Zero current 8
- 87= Measuring positive dq angle bisector
- 88= Rotor adjustment 8
- 89= Zero current 9
- 90= Measuring negative dq angle bisector
- 128= Checking
1.48 8391 Fan control

Fan control

1.48.1 8391.100 Actual speed

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 100
Value range: 0 to 100000
Actual speed

1.48.2 8391.104 Fan availability

Factory setting: 0
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 100
Value range: 0 to 100000
Display value for fan availability of fan window

1.49 8392 VFCPLUS DT1

These parameters contain data of VFCPLUS control mode for drive train 1.

1.49.1 8392.1 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= 2Q operation ON
• 1= DC braking ON
• 2= Flying start ON
• 3= Stator resistance measurement ON
• 4= Standstill current ON
• 5= Standby mode ON
• 6= Premagnetization current monitoring ON
• 7= Bit 7
• 8= Output filter ON
• 9= Bit 9
• 10= Multiply DC link ripple squared with Mtarget
• 11= Torque controller initial value NOT changed at voltage limit
• 12= Rotor frequency via model in torque controller
• 13= Speed via model in speed controller
• **14= Output voltage measurement OFF**
• 15= Premagnetization – no waiting time
• 16= Current model for operation without encoder
• 17= Do NOT control q-axis current model to 0
• 18= Do NOT limit d-axis current model
• 19= q-axis inverse transformation NOT 0
• 20= Bit 20
• 21= Bit 21
• 22= Bit 22
• 23= Bit 23
• 24= Stator inductance adaption OFF
• 25= Lsigma adaption OFF
• 26= Adapt stator resistance
• 27= Current limiting for Lsigma adaption
• 28= Bit 28
• 29= Bit 29
• 30= DC link damping ON
• 31= Bit 31

Control word

### 1.49.2 8392.3 Measure stator resistance

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• **1= ON**

Activates stator resistance measurement.

### 1.49.3 8392.4 Brake operation

Factory setting:
Data type: Enum
Data length: 1
Parameter description
8392 VFCPLUS DT1

Value range:
• 0 = 4Q (motor and generator mode)
• 1 = 2Q (only motor mode)

The following settings can be made:
– 4Q (motor and generator mode)
– 2Q (only motor mode)

1.49.4 8392.5 Premagnetization time – setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 200000
Relative premagnetization time with reference to the rated premagnetization time of the motor

1.49.5 8392.6 Premagnetization time – display value
Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000
Valid premagnetization time: Rated premagnetization time x relative premagnetization time (index 8392.5)

1.49.6 8392.7 Boost
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000
Adjusts the output voltage in the small speed range. Changes to be made by experts only.

1.49.7 8392.8 Flying start
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON

Activates the flying start function.

1.49.8 8392.9 Activate standstill current

Factory setting:
Data type: Enum
Data length: 1

Value range:
- 0 = Off
- 1 = ON

Risk of condensation when a motor is operated at low ambient temperatures. The motor might be damaged. This can be prevented by energizing, and consequently by heating the motor also at standstill. Standstill current can also be used to eliminate the time for premagnetizing an asynchronous motor. The motor remains energized at standstill, and is magnetized accordingly depending on the selected amount of standstill current.

1.49.9 8392.10 Standstill current value

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1

Value range: 25000 to 200000
Amount of the standstill current with reference to the rated magnetizing current of the motor. Immediate start only if values >= 100%.

1.49.10 8392.11 Flux optimization

Factory setting:
Data type: Enum
Data length: 1

Value range:
- 0 = Off
- 1 = ON

Activates the flux-optimized operation of the asynchronous motor.

1.49.11 8392.13 Output filter

Factory setting:
Data type: Enum
Data length: 1
Parameter description
8392 VFCPLUS DT1

Value range:
- 0 = Off
- 1 = ON
The control mode takes account of an output filter.

1.49.12 8392.15 DC braking
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON
Activates DC braking for brake ramps with FCB 02, FCB 13, and FCB 14.

1.49.13 8392.18 Current monitoring during premagnetization
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON
Activates monitoring of premagnetization current.

1.49.14 8392.50 Factor – Kp flux controller
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 25000 to 200000
Specifies the gain of the flux controller.

1.49.15 8392.51 Factor – Kp torque controller
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 25000 to 200000
Specifies the gain of the torque controller.
1.49.16 8392.52 Factor – Tn torque controller

- Factory setting: 100000
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 25000 to 200000

Specifies the integral time of the torque controller.

1.49.17 8392.53 Factor – flying start current controller

- Factory setting: 100000
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 25000 to 200000

Specifies the gain of the current controller for the flying start function.

1.49.18 8392.54 Factor – stall limiting

- Factory setting: 100000
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 25000 to 200000

Specifies stall limitation.

1.49.19 8392.70 Activate DC link damping

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = Off
  - 1 = ON

Activates DC link damping.

1.49.20 8392.71 DC link damping gain factor

- Factory setting: 100000
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
Resolution: 1
Value range: 0 to 1000000
Specifies the gain of DC link damping.

1.50  8394 CFC DT1

These parameters contain data of CFC control mode for drive train 1.

1.50.1  8394.1 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Bit 0
• 1 = Bit 1
• 2 = Bit 2
• 3 = Bit 3
• 4 = Standstill current ON
• 5 = Bit 5
• 6 = Premagnetization current monitoring ON
• 7 = Bit 7
• 8 = Bit 8
• 9 = Bit 9
• 10 = Bit 10
• 11 = Bit 11
• 12 = Bit 12
• 13 = Bit 13
• 14 = Bit 14
• 15 = Bit 15
• 16 = Bit 16
• 17 = Bit 17
• 18 = Bit 18
• 19 = Bit 19
• 20 = Bit 20
• 21 = Bit 21
• 22 = Bit 22
• 23 = Bit 23
• 24 = Bit 24
• 25 = Bit 25
• 26 = Bit 26
• 27 = Bit 27
• 28 = Bit 28
• 29 = Bit 29
• 30 = DC link damping ON
• 31 = Bit 31

Control word

1.50.2 8394.5 Premagnetization time – setting

- Factory setting: 100000
- Unit: 1E-03%
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 200000

Relative premagnetization time with reference to the rated premagnetization time of the motor

1.50.3 8394.6 Premagnetization time – display value

- Factory setting: 0
- Unit: ms
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 100000

Valid premagnetization time: Rated premagnetization time x relative premagnetization time (index 8394.5)

1.50.4 8394.9 Activate standstill current

- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  • 0 = Off
  • 1 = ON

Risk of condensation when a motor is operated at low ambient temperatures. The motor might be damaged. This can be prevented by energizing, and consequently by heating the motor also at standstill. Standstill current can also be used to eliminate the time for premagnetizing an asynchronous motor. The motor remains energized at standstill, and is magnetized accordingly depending on the selected amount of standstill current.

1.50.5 8394.10 Standstill current value

- Factory setting: 100000
- Unit: 1E-03%
Parameter description
8394 CFC DT1

Data type: Int32
Data length: 1
Resolution: 1
Value range: 25000 to 200000

Asynchronous motor: The 100% value corresponds to the magnetizing current at zero speed. This setting allows for starting the motor immediately without premagnetization time.

Synchronous motor: The 100% value corresponds to 50% nominal motor current.

1.50.6 8394.18 Current monitoring during premagnetization
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Activates monitoring of premagnetization current.

1.50.7 8394.19 Rotor resistance temperature adaptation
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 25000 to 400000
For adjusting the rotor resistance to the operating temperature of the motor.
The following settings can be made:
– Motor temperature measurement OFF: 100% = R at 70 °C.
– Motor temperature measurement ON: 100% = R at motor temperature.

1.50.8 8394.20 Adaptation of field weakening characteristic for asynchronous motors
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 50000 to 200000
Adjustment of the rotor flux in field weakening. 100% corresponds to the nominal characteristic.

1.50.9 8394.55 Current for optimized torque in base speed range
Factory setting: 100000
Magnetization in the base speed range is chosen in such a way that the greatest possible torque is achieved with this relative nominal device current. This parameter must be set to "Maximum device current/nominal device current" to achieve the maximum possible torque.

1.50.10 8394.70 Activate DC link damping

Factory setting: 
Data type: Enum 
Data length: 1 
Value range:
• 0= Off 
• 1= ON 
Activates DC link damping.

1.50.11 8394.71 DC link damping gain factor

Factory setting: 100000 
Unit: 1E-03% 
Data type: Int32 
Data length: 1 
Resolution: 1 
Value range: 0 to 1000000 
Specifies the gain of DC link damping.

1.51 8396 V/f DT1

These parameters contain data of V/f control mode for drive train 1.

1.51.1 8396.1 Control word

Factory setting: 
Data type: Bit field 
Data length: 1 
Value range:
• 0= 2Q operation ON 
• 1= DC braking ON 
• 2= Flying start ON 
• 3= Stator resistance measurement ON 
• 4= Bit 4
Parameter description
8396 V/f DT1

- 5 = Bit 5
- 6 = Bit 6
- 7 = Stall limiting ON
- 8 = Output filter ON
- 9 = Bit 9
- 10 = Bit 10
- 11 = Bit 11
- 12 = Bit 12
- 13 = Bit 13
- 14 = Bit 14
- 15 = Bit 15
- 16 = Bit 16
- 17 = Bit 17
- 18 = Bit 18
- 19 = Bit 19
- 20 = Bit 20
- 21 = Bit 21
- 22 = Bit 22
- 23 = Bit 23
- 24 = Bit 24
- 25 = Bit 25
- 26 = Bit 26
- 27 = Bit 27
- 28 = Bit 28
- 29 = Disable constant compensation of Rs*IsyNom
- 30 = Disable premagnetization
- 31 = Disable current limiting

Control word

1.51.2 8396.2 Voltage characteristic slope
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 200000
Specifies the slope of the voltage characteristic.

1.51.3 8396.3 Measure stator resistance
Factory setting:
Data type: Enum
Data length: 1
Parameter description
8396 V/f DT1

Value range:
• 0 = Off
• 1 = ON

Activates stator resistance measurement.

1.51.4 8396.4 Brake operation

Factory setting:
Data type: Enum
Data length: 1

Value range:
• 0 = 4Q (motor and generator mode)
• 1 = 2Q (only motor mode)

The following settings can be made:
– 4Q (motor and generator mode)
– 2Q (only motor mode)

1.51.5 8396.5 Premagnetization time – setting

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1

Value range: 0 to 200000

Relative premagnetization time with reference to the rated premagnetization time of the motor

1.51.6 8396.6 Premagnetization time – display value

Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1

Value range: 0 to 10000

Valid premagnetization time: Rated premagnetization time x relative premagnetization time (index 8396.5)

1.51.7 8396.7 Boost

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000
Adjusts the output voltage in the small speed range. Changes to be made by experts only.

1.51.8  8396.8 Flying start
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON
Activates the flying start function.

1.51.9  8396.9 Slip compensation
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 200000
Sets slip compensation with reference to nominal slip.

1.51.10  8396.12 Stall limiting
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON
Activates stall protection.

1.51.11  8396.13 Output filter
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON
The control mode takes account of an output filter.

1.51.12  8396.14 IxR compensation
Factory setting: 100000
Parameter description
8399 ELSM® PLUS DT1

Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 200000
Compensation of the stator resistor voltage drop

1.51.13 8396.15 DC braking

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Activates DC braking for brake ramps with FCB 02, FCB 13, and FCB 14.

1.52 8399 ELSM® PLUS DT1

These parameters contain data of ELSM® PLUS control mode for drive train 1.

1.52.1 8399.1 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Bit 0
• 1= Bit 1
• 2= Bit 2
• 3= Bit 3
• 4= Bit 4
• 5= Bit 5
• 6= Bit 6
• 7= Bit 7
• 8= Bit 8
• 9= Bit 9
• 10= Use process values of encoder from "Actual speed source"
• 11= Bit 11
• 12= Bit 12
• 13= Bit 13
• 14= Output voltage measurement OFF
• 15= Bit 15
Parameter description
8401 ELSM® diagnostics

- 16 = Bit 16
- 17 = Bit 17
- 18 = Bit 18
- 19 = Bit 19
- 20 = Bit 20
- 21 = Bit 21
- 22 = Bit 22
- 23 = Bit 23
- 24 = Bit 24
- 25 = Bit 25
- 26 = Bit 26
- 27 = Bit 27
- 28 = Bit 28
- 29 = Bit 29
- 30 = Bit 30
- 31 = Bit 31

Control word

1.53 8401 ELSM® diagnostics

ELSM® diagnostics

1.53.1 8401.25 Stator resistance adaptation – base frequency setting

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 50000 to 200000
Stator resistance adaptation – base frequency setting

1.53.2 8401.26 Stator resistance adaptation – base frequency display value

Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Stator resistance adaptation – display value of the base frequency
1.53.3 8401.27 Stator resistance adaptation – gain factor
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 100000
Stator resistance adaptation – gain factor

1.53.4 8401.28 Permanent flux adaptation – base frequency display value
Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Permanent flux adaptation – display value of the base frequency

1.53.5 8401.29 Speed controller boost – gain factor
Factory setting: 30
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 100
Speed controller boost – gain factor

1.53.6 8401.31 Speed controller boost – base frequency setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 100000
Speed controller boost – base frequency setting

1.53.7 8401.32 Flux model – Kp setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Parameter description
8402 Current controller DT1

Resolution: 1
Value range: 10000 to 100000
Flux model – Kp setting

1.54 8402 Current controller DT1

Current controller for drive train 1

1.54.1 8402.3 Kp factor

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 20000 to 200000
Kp factor

1.54.2 8402.51 Balance controller

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Enables or disables the balance controller.

1.55 8404 Speed controller DT1

The settings in this area are based on the entries made when defining drive train 1 (mass moment of inertia, stiffness, zero clearance).

1.55.1 8404.1 Speed/position controller sampling cycle

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 2= 0.25 ms
• 1= 0.5 ms
• 0= 1.0 ms
• 3= 2.0 ms
This parameter specified the sampling cycle for speed and position controllers. Small values improve the speed control for dynamic drives with low intrinsic inertia. This value is selected when setting the drive train (startup).

### 1.55.2 8404.2 Speed setpoint filter
- Factory setting: 0
- Unit: µs
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 10000000
- Time constant of the speed setpoint filter.

### 1.55.3 8404.3 Actual speed value filter
- Factory setting: 1000
- Unit: µs
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 10000000
- Time constant of the actual speed value filter

### 1.55.4 8404.4 P gain
- Factory setting: 100000
- Unit: 1E-03/s
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 10000000
- Gain factor of the speed controller.

### 1.55.5 8404.5 Time constant
- Factory setting: 40000
- Unit: µs
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 10000000
- Integration time constant of the speed controller. The I-component behaves inversely proportional to the time constant. This means a large value results in a small I-component but 0 = no I-component.
1.55.6 8404.6 Speed precontrol gain
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Speed precontrol gain with reference to the nominal value.

1.55.7 8404.7 Acceleration precontrol filter
Factory setting: 5000
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Acceleration precontrol filter

1.55.8 P8404.8 Acceleration precontrol gain
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Acceleration precontrol gain

1.55.9 8404.9 Integrator mode
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Hold
- 1 = Clear
- 2 = Initialize

When the speed control loop is closed and has settled, the state variable of the integrator represents the load torque applied to the motor. The user can now choose the integrator value for closing the speed control range. The following 3 values are possible:
- Hold: The value is maintained as present at the time of opening the speed control loop. If the load torque has not changed, no adjustment is necessary when closing the speed control loop.
- Clear: The integrator always starts with the value "0". Adjustment is made to an existing load torque.
1.55.10 8404.10 Local initialization of integrator

Factory setting: 0
Unit: 1E-01% nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -10000 to 10000

If parameter "Integrator mode" (index 8404.9) is set to "Initialize", then this parameter specifies the initialization value for the integrator.

1.55.11 8404.12 Switched integrator

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Switched
• 1 = Not switched
Switched integrator

1.55.12 8404.13 Inertia of the load

Factory setting: 0
Unit: 1E-07 kgm²
Data type: Int32
Data length: 1
Resolution: 1
Value range: -1 to 2147483647

Maximum inertia at the motor shaft. This value is specified when starting up the drive train.

1.55.13 8404.14 Source of integrator initialization

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 Local value
• 663727= PO data – word 1
Parameter description
8404 Speed controller DT1

- 729263 = PO data – word 2
- 794799 = PO data – word 3
- 860335 = PO data – word 4
- 925871 = PO data – word 5
- 991407 = PO data – word 6
- 1056943 = PO data – word 7
- 1122479 = PO data – word 8
- 1188015 = PO data – word 9
- 1253551 = PO data – word 10
- 1319087 = PO data – word 11
- 1384623 = PO data – word 12
- 1450159 = PO data – word 13
- 1515627 = PO data – word 14
- 1581231 = PO data – word 15
- 1646767 = PO data – word 16

Source of integrator initialization

1.55.14 8404.15 Adapt time constant of closed-loop system
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON
Adapt time constant of closed-loop system

1.55.15 8404.51 Active resonance suppression – gain
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
Active resonance suppression – gain

1.55.16 8404.52 Active resonance suppression – base frequency
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
1.55.17 8404.100 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Bit 0
• 1 = Bit 1
• 2 = Bit 2
• 3 = Bit 3
• 4 = Bit 4
• 5 = Bit 5
• 6 = Bit 6
• 7 = Bit 7
• 8 = Bit 8
• 9 = Bit 9
• 10 = Bit 10
• 11 = Bit 11
• 12 = Bit 12
• 13 = Bit 13
• 14 = Bit 14
• 15 = Bit 15

1.55.18 8404.200 HMI stiffness

Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Stiffness specified when starting up the drive train (slider).

1.55.19 8404.201 HMI zero clearance

Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Clearance specified when starting up the drive train (slider). 100% means rigid coupling.

### 1.56 8406 Position controller DT1

Position controller for drive train 1

#### 1.56.1 8406.1 P gain

Factory setting: 50000
Unit: 1E-03/s
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 1000000

P gain for the position controller. The value results from the specifications made during drive train startup.

#### 1.56.2 8406.3 Correcting value limit

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON

If the drive leaves the position setpoint beyond the torque limit, the drive moves back and forth several times at the actual target position until the new setpoint takes effect.

The following settings can be made:
- Off: Movement beyond the target.
- On: No movement beyond the target.

### 1.57 8408 ELSM® DT1

These parameters contain data of ELSM® control mode for drive train 1.

#### 1.57.1 8408.1 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Bit 0
- 1 = Bit 1
- 2 = Activate flying start function
3= Activate stator resistance measurement
4= Disable torque limiting via frequency
5= Bit 5
6= Activate 2Q operation
7= Enable "positioning" mode
8= Bit 8
9= Bit 9
10= Bit 10
11= Bit 11
12= Bit 12
13= Bit 13
14= Deactivate output voltage measurement
15= Activate standstill current
16= Activate rotor stall monitoring
17= Torque detection during transition from open-loop to closed-loop mode
18= Modify I, open-loop as for initial startup
19= Activate permanent flux adaption
20= Disable speed controller boost
21= Bit 21
22= Disable DC link prediction
23= Rotor adjustment – activate time condition
24= Disable thermal motor protection
25= Deactivate minimum current
26= Adapt stator resistance
27= Measure rotor position – default (4 x pulses)
28= Bit 28
29= Measure rotor position – fast (2 x pulses)
30= Activate DC link damping
31= Use encoder speed

1.57.2 8408.2 Status word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
0= Rotor position measurement possible via characteristic curve method
1= Rotor position measurement possible via inductance search
2= Bit 2
3= Bit 3
4= Bit 4
5= Bit 5
Parameter description
8408 ELSM® DT1

- 6= Bit 6
- 7= Bit 7
- 8= Bit 8
- 9= Bit 9
- 10= Bit 10
- 11= Bit 11
- 12= Bit 12
- 13= Bit 13
- 14= Bit 14
- 15= Bit 15
- 16= Bit 16
- 17= Bit 17
- 18= Bit 18
- 19= Bit 19
- 20= Bit 20
- 21= Bit 21
- 22= Bit 22
- 23= Bit 23
- 24= Bit 24
- 25= Bit 25
- 26= Bit 26
- 27= Bit 27
- 28= Bit 28
- 29= Bit 29
- 30= Bit 30
- 31= Bit 31

Status word

1.57.3 8408.3 Measure stator resistance
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Activates resistance measurement at enable.

1.57.4 8408.4 Brake operation
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= 4Q (motor and generator mode)
• 1= 2Q (only motor mode)

The following settings can be made:
– 4Q (motor and generator mode)
– 2Q (only motor mode)

1.57.5 8408.5 Torque detection

Factory setting:
Data type: Enum
Data length: 1

Value range:
• 0= Off
• 1= ON

Determines the torque that is present during the transition from open-loop control to closed-loop control.

1.57.6 8408.6 Rotor stall monitoring

Factory setting:
Data type: Enum
Data length: 1

Value range:
• 0= Off
• 1= ON

Monitors the motor for stalling in open-loop control.

1.57.7 8408.7 Rotor position measurement

Factory setting:
Data type: Enum
Data length: 1

Value range:
• 0= Off
• 1= ON

At standstill, the rotor position is determined by means of test signals.

1.57.8 8408.8 Flying start

Factory setting:
Data type: Enum
Data length: 1

Value range:
• 0= Off
• 1= ON
Activates the flying start function.

The following settings can be made:

- On: Upon enable, the internal voltage is determined. When a voltage is measured, the rotating field is synchronized to the determined speed.
- Off: Enable always begins with an adjustment process.

### 1.57.9 8408.9 Activate standstill current

Factory setting: 
Data type: Enum 
Data length: 1 
Value range: 
• 0 = Off 
• 1 = ON 

Risk of condensation when a motor is operated at low ambient temperatures. The motor might be damaged. This can be prevented by energizing, and consequently by heating the motor also at standstill. Standstill current can also be used to eliminate the time for premagnetizing an asynchronous motor. The motor remains energized at standstill, and is magnetized accordingly depending on the selected amount of standstill current.

### 1.57.10 8408.10 Standstill current value

Factory setting: 100000 
Unit: 1E-03% 
Data type: Int32 
Data length: 1 
Resolution: 1 
Value range: 25000 to 200000 
Synchronous motor: The 100% value corresponds to 50% nominal motor current.

### 1.57.11 8408.20 Transition speed – setting

Factory setting: 100000 
Unit: 1E-03% 
Data type: Int32 
Data length: 1 
Resolution: 1 
Value range: 1 to 1000000 
Transition speed from open-loop to closed-loop control with reference to the value calculated at motor startup.

### 1.57.12 8408.21 Transition speed – display value

Factory setting: 0 
Unit: 1E-4/min 
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Display of the speed value weighted with index 8408.20 for the transition from open-loop to closed-loop control.

1.57.13 8408.22 Overload factor – closed-loop control

Factory setting: 150000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 150000 to 2147483647
Sets the maximum torque in closed-loop control with reference to the nominal motor torque.

1.57.14 8408.23 Overload factor – speed – setting

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 100000 to 1000000
Overload factor – speed – setting

1.57.15 8408.24 Overload factor – speed – display value

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Display of the speed value for the overload factor for speed weighted with index 8408.23.

1.57.16 8408.25 Overload factor – attenuation – M-n characteristic

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 100000 to 1000000
Parameter description
8408 ELSM® DT1

Overload factor – attenuation – M-n characteristic

1.57.17 8408.30 Overload factor – open-loop control
Factory setting: 150000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 150000 to 2147483647
Maximum torque in open-loop control with reference to the nominal motor torque.

1.57.18 8408.31 Current amplitude display value – open-loop control
Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Current amplitude display value – open-loop control

1.57.19 8408.32 Rotor stall monitoring – setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
Specifies the voltage difference between stationary setpoint voltage and actual voltage.

1.57.20 8408.33 Open-loop continuous current
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 100000 to 1000000
Amount of the open-loop continuous current with reference to 90% motor standstill current (I0) of the motor.

1.57.21 8408.40 Rotor adjustment – current amplitude setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 1000000
Current setpoint of the adjustment process based on the value calculated at motor startup.

1.57.22 8408.41 Rotor adjustment – current amplitude display value

Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Current amplitude of the adjustment process weighted with the current setpoint (index 8408.40)

1.57.23 8408.42 Rotor adjustment – setpoint current ramp duration

Factory setting: 100
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10 to 10000
Rotor adjustment – setpoint current ramp duration

1.57.24 8408.43 Rotor adjustment – min. evaluation duration

Factory setting: 100
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 100 to 100000
Rotor adjustment – min. evaluation duration

1.57.25 8408.44 Rotor adjustment – max. evaluation duration

Factory setting: 10000
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Parameter description
8408 ELSM® DT1

Value range: 100 to 100000
Rotor adjustment – max. evaluation duration

1.57.26  8408.45  Rotor adjustment – rotational frequency
Factory setting: 0
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1000
Value range: -3000 to 3000
Rotor adjustment – rotational frequency

1.57.27  8408.46  Rotor adjustment – setting duration
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 1000000
Rotor adjustment – setting duration

1.57.28  8408.47  Rotor adjustment – display value duration
Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000
Rotor adjustment – display value duration

1.57.29  8408.48  Rotor adjustment – Kp
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 100000
Rotor adjustment – Kp

1.57.30  8408.49  Rotor adjustment – Ki
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 100000
Rotor adjustment – Ki

1.57.31 8408.60 Thermal motor protection – setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 100000
Thermal motor protection – setting

1.57.32 8408.61 Thermal motor protection – display value
Factory setting: 1
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 1000000
Thermal motor protection – display value

1.57.33 8408.70 Activate DC link damping
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Activates DC link damping.

1.57.34 8408.71 DC link damping gain factor
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 1000000
Specifies the gain of DC link damping.
1.58  8410 Power section – configuration data

Power section – configuration data

1.58.1  8410.41 DC link detection level – ON

Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to Float32Max
Level from which the DC link is considered as being loaded and the inverter signals "Ready".

1.58.2  8410.42 DC link detection level – OFF

Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to Float32Max
Below this level, the inverter revokes the "Ready" signal.

1.59  8411 Motor configuration data

Configuration data of the standard motor.

1.59.1  8411.5 Version number

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Version number

1.59.2  8411.6 Motor type

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Motor type

1.59.3 8411.7 Number of pole pairs
Factory setting: 1
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 1 to 500
Number of pole pairs

1.59.4 8411.8 Nominal speed
Factory setting: 0
Unit: 1/min
Data type: Float32
Data length: 1
Resolution: -
Value range: 0 to 36000
Nominal speed

1.59.5 8411.9 Maximum speed at motor shaft
Factory setting: 100
Unit: 1/min
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 36000
Maximum permitted torque at the motor shaft.

1.59.6 8411.10 Nominal torque matching nominal current
Factory setting: 0
Unit: Nm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 50000
Nominal torque matching nominal current

1.59.7 8411.11 Maximum torque at motor shaft
Factory setting: 0
Unit: Nm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 50000
Maximum permitted torque at the motor shaft.

1.59.8  8411.12 Nominal current matching nominal torque
Factory setting: 0
Unit: A
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 10000
Nominal current, matching the nominal torque (line current, rms)

1.59.9  8411.13 Maximum current
Factory setting: 0
Unit: A
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 10000
Maximum current (line current, rms)

1.59.10  8411.14 Nominal voltage
Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 2000
Nominal voltage (line voltage, rms)

1.59.11  8411.15 Nominal frequency
Factory setting: 0
Unit: Hz
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 20000
Nominal frequency
1.59.12 8411.16 Stator resistance at 20 °C

Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 1000
Stator resistance at 20 °C

1.59.13 8411.17 Rotor resistance at 20 °C

Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 1000
Rotor resistance at 20 °C

1.59.14 8411.18 Nominal stator temperature

Factory setting: 0
Unit: °C
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Nominal stator temperature

1.59.15 8411.19 Temperature coefficient – stator resistance

Factory setting: 0
Unit: K
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Stator resistance temperature coefficient

1.59.16 8411.20 Temperature coefficient – rotor resistance

Factory setting: 0
Unit: K
Data type: Float32
Data length: 1
Parameter description
8411 Motor configuration data

Resolution: –
Value range: -3.402823E+38 to Float32Max
Rotor resistance temperature coefficient

1.59.17 8411.21 Characteristic curve I (Psi_SigmaAbs) – L_Ref
Factory setting: 0
Unit: H
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaAbs): L_Ref

1.59.18 8411.22 Characteristic curve I (Psi_SigmaAbs_d) – p0
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaAbs_d): p0

1.59.19 8411.23 Characteristic curve I (Psi_SigmaAbs_d) – p1
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaAbs_d): p1

1.59.20 8411.24 Characteristic curve I (Psi_SigmaAbs_d) – p2
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaAbs_d): p2
1.59.21  8411.25 Characteristic curve I (Psi_SigmaAbs_q) – p0
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_SigmaAbs_q): p0

1.59.22  8411.26 Characteristic curve I (Psi_SigmaAbs_q) – p1
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_SigmaAbs_q): p1

1.59.23  8411.27 Characteristic curve I (Psi_SigmaAbs_q) – p2
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_SigmaAbs_q): p2

1.59.24  8411.28 Characteristic curve I (Psi_SigmaDiff) – L_Ref
  Factory setting: 0
  Unit: H
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_SigmaDiff): L_Ref

1.59.25  8411.29 Characteristic curve I (Psi_SigmaDiff_d) – p0
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
Parameter description
8411 Motor configuration data

Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaDiff_d): p0

1.59.26 8411.30 Characteristic curve I (Psi_SigmaDiff_d) – p1
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaDiff_d): p1

1.59.27 8411.31 Characteristic curve I (Psi_SigmaDiff_d) – p2
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaDiff_d): p2

1.59.28 8411.32 Characteristic curve I (Psi_SigmaDiff_q) – p0
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaDiff_q): p0

1.59.29 8411.33 Characteristic curve I (Psi_SigmaDiff_q) – p1
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_SigmaDiff_q): p1
1.59.30  8411.34 Characteristic curve I (Psi_SigmaDiff_q) – p2
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_SigmaDiff_q): p2

1.59.31  8411.35 Characteristic curve I (Psi_S) – I_Ref
  Factory setting: 0
  Unit: A
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_S): I_Ref

1.59.32  8411.36 Characteristic curve I (Psi_S) – L_Ref
  Factory setting: 0
  Unit: H
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_S): L_Ref

1.59.33  8411.37 Characteristic curve I (Psi_S) – p0
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
  Resolution: –
  Value range: -3.402823E+38 to Float32Max
  Characteristic curve I (Psi_S): p0

1.59.34  8411.38 Characteristic curve I (Psi_S) – p1
  Factory setting: 0
  Unit:
  Data type: Float32
  Data length: 1
 Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_S): p1

1.59.35  8411.39 Characteristic curve I (Psi_S) – p2

Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve I (Psi_S): p2

1.59.36  8411.40 Characteristic curve M(I) – a1

Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve M(I): a1

1.59.37  8411.41 Characteristic curve M(I) – a2

Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve M(I): a2

1.59.38  8411.42 Characteristic curve M(I) – a3

Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve M(I): a3
1.59.39 8411.43 Characteristic curve M(I) – a4

Factory setting: 0
Unit: 
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve M(I): a4

1.59.40 8411.44 Characteristic curve M(I) – a5

Factory setting: 0
Unit: 
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Characteristic curve M(I): a5

1.59.41 8411.45 Internal voltage at 1000 1/min

Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
U_p0 at 1000 1/min

1.59.42 8411.46 Encoder offset

Factory setting: 0
Unit: °
Data type: Float32
Data length: 1
Resolution: –
Value range: -360 to 360
Encoder offset

1.59.43 8411.47 Inertia of motor and brake

Factory setting: 0
Unit: kgm²
Data type: Float32
Data length: 1
Parameter description
8412 Speed controller configuration data

Resolution: –
Value range: 0 to Float32Max
Inertia of motor and brake

1.59.44 8411.200 HMI motor identification

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
HMI motor ID

1.60 8412 Speed controller configuration data

Speed controller configuration data

1.60.1 8412.2 Speed setpoint filter

Factory setting: 0
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Speed setpoint filter

1.60.2 8412.3 Actual speed value filter

Factory setting: 1000
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Actual speed value filter of the drive train

1.60.3 8412.4 P gain

Factory setting: 100000
Unit: 1E-03/s
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000

P gain

1.60.4 8412.5 Time constant
Factory setting: 40000
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Time constant

1.60.5 8412.6 Gain – speed precontrol
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Speed precontrol gain

1.60.6 8412.7 Filter – acceleration precontrol
Factory setting: 5000
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000000
Acceleration precontrol filter

1.60.7 8412.8 Gain – acceleration precontrol
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
Acceleration precontrol gain

1.60.8 8412.13 Inertia of the load
Factory setting: 0
1.60.9  8412.200 HMI stiffness
Factory setting: 0
Unit: 
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
HMI stiffness

1.60.10  8412.201 HMI zero clearance
Factory setting: 0
Unit: 
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
HMI zero clearance

1.61  8413 Position controller configuration data
Position controller configuration data

1.61.1  8413.1 P gain
Factory setting: 50000
Unit: 1E-03/s
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000000
P gain

1.62  8415 Power section – determine calibration data
Power section – determine calibration data
### 1.62.1 8415.1 Determined gain factor – motor current measurement path U

- **Factory setting:** 0
- **Unit:**
- **Data type:** Float32
- **Data length:** 1
- **Resolution:** –
- **Value range:** -3.402823E+38 to Float32Max

Determined gain factor – motor current measurement path U

### 1.62.2 8415.2 Determined gain factor – motor current measurement path V

- **Factory setting:** 0
- **Unit:**
- **Data type:** Float32
- **Data length:** 1
- **Resolution:** –
- **Value range:** -3.402823E+38 to Float32Max

Determined gain factor – motor current measurement path V

### 1.62.3 8415.3 Determined gain factor – motor current measurement path W

- **Factory setting:** 0
- **Unit:**
- **Data type:** Float32
- **Data length:** 1
- **Resolution:** –
- **Value range:** -3.402823E+38 to Float32Max

Determined gain factor – motor current measurement path W

### 1.62.4 8415.4 Determined offset – DC link voltage measurement

- **Factory setting:** 0
- **Unit:** V
- **Data type:** Float32
- **Data length:** 1
- **Resolution:** –
- **Value range:** -3.402823E+38 to Float32Max

Determined offset – DC link voltage measurement

### 1.62.5 8415.5 Determined offset – output voltage measurement path UV

- **Factory setting:** 0
- **Unit:** V
- **Data type:** Float32
- **Data length:** 1
Parameter description
8415 Power section – determine calibration data

Resolution: –
Value range: -3.402823E+38 to Float32Max
Determined offset – output voltage measurement path UV

1.62.6 8415.6 Determined offset – output voltage measurement path VW

Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Determined offset – output voltage measurement path VW

1.62.7 8415.10 Activation

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Activation

1.62.8 8415.11 Status word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Ready
• 1= Measurement in progress
• 2= DC link offset determined
• 3= Output voltage offsets determined
• 4= Gain factors determined
• 5= Fault
• 8= DC link offset measured
• 9= Output voltage offset measured
• 10= Current U -> V measured
• 11= Current V -> U measured
• 12= Current V -> W measured
• 13= Current W -> V measured
• 14= Current W -> U measured
• 15= Current U -> W measured
• 16= Fault code bit 0
- 17= Fault code bit 1
- 18= Fault code bit 2
- 19= Fault code bit 3
- 20= Fault code bit 4
- 21= Fault code bit 5
- 22= Fault code bit 6
- 23= Fault code bit 7

### Status word

#### 1.62.9 8415.12 Start measurement

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= **None**
- 1= DC link offset
- 2= Output voltage offset
- 3= Current U -> V
- 4= Current V -> U
- 5= Current V -> W
- 6= Current W -> V
- 7= Current W -> U
- 8= Current U -> W

Start measurement

### 1.63 8417 Determine resolver calibration data

Determine resolver calibration data

#### 1.63.1 8417.1 Determined gain factor

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Determined resolver gain factor

#### 1.63.2 8417.2 Determined calibration details

Factory setting:
Data type: Bit field
Parameter description
8417 Determine resolver calibration data

Data length: 1
Value range:
• 0= Sine greater than cosine
Determined calibration details

1.63.3 8417.10 Activation

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON
Activation

1.63.4 8417.11 Status word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Ready
• 1= Measurement in progress
• 2 = Data determined
• 5= Fault
• 8= Measurement finished
• 16= Fault code bit 0
• 17= Fault code bit 1
• 18= Fault code bit 2
• 19= Fault code bit 3
• 20= Fault code bit 4
• 21= Fault code bit 5
• 22= Fault code bit 6
• 23= Fault code bit 7
Status word

1.63.5 8417.12 Start measurement

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= None
• 1= Gain factor
Start measurement
1.64 8418 Calibrate encoder – rotating DT1

Encoder calibration – rotating drive train 1

1.64.1 8418.1 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Activate rotation by one electrical cycle
• 1= Bit 1
• 2= Bit 2
• 3= Bit 3
• 4= Bit 4
• 5= Bit 5
• 6= Bit 6
• 7= Bit 7
• 8= Bit 8
• 9= Bit 9
• 10= Bit 10
• 11= Bit 11
• 12= Bit 12
• 13= Bit 13
• 14= Bit 14
• 15= Bit 15
• 16= Bit 16
• 17= Bit 17
• 18= Bit 18
• 19= Bit 19
• 20= Bit 20
• 21= Bit 21
• 22= Bit 22
• 23= Bit 23
• 24= Bit 24
• 25= Bit 25
• 26= Bit 26
• 27= Bit 27
• 28= Bit 28
• 29= Bit 29
• 30= Bit 30
• 31= Bit 31

Control word
1.65 8420 Calibrate encoder – standstill DT1

Encoder calibration – standstill drive train 1

1.65.1 8420.1 Voltage time area setpoint

Factory setting: 0
Unit: µVs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 1000000
Voltage time area setpoint

1.65.2 8420.2 Ks

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 20000
KS

1.65.3 8420.3 AlphaS

Factory setting: 0
Unit: 1/(2^32) rev
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
AlphaS

1.65.4 8420.4 Amplitude of the 4th harmonic

Factory setting: 0
Unit: 1/(2^32) rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 95443718
Amplitude of the 4th harmonic

1.65.5 8420.5 Phase position of the 4th harmonic

Factory setting: 0
Parameter description

Parameter 8420 Calibrate encoder – standstill DT1

1.65.6 8420.6 Amplitude of the 6th harmonic

- Factory setting: 0
- Unit: 1/(2^32) rev
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 95443718
- Amplitude of the 6th harmonic

1.65.7 8420.7 Phase position of the 6th harmonic

- Factory setting: 0
- Unit: 1/(2^32) rev
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
- Phase position of the 6th harmonic

1.65.8 8420.9 Time constant angle monitor

- Factory setting: 500000
- Unit: µs
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 10000000
- Time constant angle monitor

1.65.9 8420.10 Control word

- Factory setting:
- Data type: Bit field
- Data length: 1
- Value range:
  - 0 = Bit 0
  - 1 = Bit 1
  - 2 = Bit 2
Parameter description
8422 Net torque DT1

- 3= Bit 3
- 4= Bit 4
- 5= Bit 5
- 6= Bit 6
- 7= Bit 7
- 8= Bit 8
- 9= Bit 9
- 10= Bit 10
- 11= Bit 11
- 12= Bit 12
- 13= Bit 13
- 14= Bit 14
- 15= Bit 15
- 16= Bit 16
- 17= Bit 17
- 18= Bit 18
- 19= Bit 19
- 20= Bit 20
- 21= Bit 21
- 22= Bit 22
- 23= Bit 23
- 24= Bit 24
- 25= Bit 25
- 26= Bit 26
- 27= Bit 27
- 28= Bit 28
- 29= Bit 29
- 30= Bit 30
- 31= Bit 31

Control word

1.66  8422 Net torque DT1

Net torque of drive train 1

1.66.1  8422.1 Inertia

Factory setting: 0
Unit: 1E-07 kgm²
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Inertia

1.66.2 8422.2 Filter time
Factory setting: 1000
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 1000000
Filter time

1.67 8425 Startup

1.67.1 8425.1 Perform smart motor setup
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
Starts simple startup for the power-adjusted motor.

1.67.2 8425.2 Country-specific combination of nominal motor voltage and nominal motor frequency
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= EU – 400 V/50 Hz
• 1= USA/CAN – 460 V/60 Hz
• 2= BRA/KOR – 380 V/60 Hz
• 3= BRA/KOR – 440 V/60 Hz
Country-specific combination of nominal motor voltage and nominal motor frequency

1.67.3 8425.3 Country-specific combination of nominal motor voltage and nominal motor frequency
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 4= EU – 230 V/50 Hz
- 5= USA/CAN – 230 V/60 Hz
- 6= BRA/KOR – 220 V/60 Hz
Country-specific combination of nominal motor voltage and nominal motor frequency

1.67.4 8425.5 Perform auto startup

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= No
- 1= Yes
Starts automatic startup based on the "digital motor integration" label.

1.67.5 8425.14 Detected connection type

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= Unknown
- 1= Delta
- 2= Star
- 3= Double delta
- 4= Double star
Connection type detected by the frequency inverter system

1.68 8430 Internal data backup

Internal data backup

1.68.1 8430.1 Status 1

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Status 1
1.68.2  8430.2 Command 1

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Inactive
• 1 = Create restore point
• 2 = Recover data from restore point
• 3 = Delete restore point
• 4 = Protect restore point
• 5 = Unprotect restore point

Command 1

1.68.3  8430.3 Description 1

Data type: String8Bit (fill level array)
Data length: 21
Resolution:
Value range:
Description 1

1.68.4  8430.4 Memory status 1

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Free
• 1 = Assigned
• 2 = Protected
• 3 = Invalid
• 4 = Inconsistent
• 5 = Not free
Memory status of restore point 1

1.68.5  8430.8 Operating hours counter 1

Factory setting: 0
Unit: min
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Operating hours counter 1
1.68.6 8430.9 Date and time 1
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Date and time 1

1.68.7 8430.10 Parameter layout 1
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Parameter layout 1 (attritab version)

1.69 8431 Parameter setup
Parameters of the parameter setup function block

1.69.1 8431.1 Basic initialization
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
Performs basic initialization in the device.

1.69.2 8431.2 Delivery state
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
Resets all device settings to their default values. The parameter is reset automatically.
1.69.3 8431.13 Scope of parameters in the event of a download error

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535

If downloading a (partial) parameter set or parameter group is aborted, then the parameter value is set to the partial parameter set ID (values 2 to 8191) or to the main index of the parameter group (values from 8192).

The total parameter set has the value 1.

1.69.4 8431.100 CRC device parameter set

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

CRC device parameter set

1.69.5 8431.101 Hash value of device parameter set

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 3
Resolution: 1
Value range: 0 to 4294967295

Value triple consisting of hash value, attribute version, and version of the default settings of the device parameter set

1.69.6 8431.102 Algorithm for hash value

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295

Identification of the algorithm for the hash value ("default value changed numerator")
1.70 8432 Non-volatile memory – direct access

NV direct access

1.70.1 8432.6 Content as data array

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 32768
Resolution: 1
Value range: 0 to 255
Content as data array

1.71 8433 Scope control

Scope control

1.71.1 8433.1 Control word

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Scope control word

1.71.2 8433.2 Status word

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Scope status word

1.71.3 8433.3 Reference time

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 8
Resolution: 1
Value range: 0 to 255
Reference time of the scope measurement (64 bits)

### 1.71.4 8433.5 Trigger time
- **Factory setting:** 0
- **Unit:**
- **Data type:** Uint8 (DataArray)
- **Data length:** 8
- **Resolution:** 1
- **Value range:** 0 to 255
- Trigger time of the scope measurement.

### 1.71.5 8433.7 Maximum number of sampling points
- **Factory setting:** 0
- **Unit:**
- **Data type:** Uint32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 4294967295
- Indicates the maximum number of sampling points per channel.

### 1.72 8434 Scope configuration
- **Scope configuration**

#### 1.72.1 8434.1 Configuration ID
- **Factory setting:** 6470
- **Unit:**
- **Data type:** Uint32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 4294967295
- Scope configuration ID

#### 1.72.2 8434.2 Maximum number of recording channels
- **Factory setting:** 10
- **Unit:**
- **Data type:** Uint32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** 0 to 65535
- Max. number of recording channels
1.72.3  **8434.3 Maximum number of trigger channels**
Factory setting: 3
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Max. number of trigger channels

1.72.4  **8434.10 Minimum configurable sampling cycle**
Factory setting: 500
Unit: µs
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Min. configurable sampling cycle

1.72.5  **8434.11 Maximum configurable sampling cycle**
Factory setting: 2199023255
Unit: µs
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Max. configurable sampling cycle

1.72.6  **8434.12 System time resolution**
Factory setting: 1
Unit: ns
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
System time resolution

1.72.7  **8434.13 Scope time resolution**
Factory setting: 1024
Unit: ns
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Scope time resolution

1.72.8 8434.30 Scope memory size

Factory setting: 90112
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Size of the scope memory in bytes (for diagnostics and test).

1.73 8435 Scope setting values

Scope setting values

1.73.1 8435.1 Recording mode

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1= Trace mode
• 2= Streaming mode
• 3= Streaming prefilter mode
• 4= Trace data logger
Recording mode

1.73.2 8435.2 Sampling cycle

Factory setting: 1000
Unit: µs
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Scope sampling cycle

1.73.3 8435.3 Post-trigger recording

Factory setting: 50
Unit: %
Data type: Uint32
Parameter description
8435 Scope setting values

Data length: 1
Resolution: 1
Value range: 0 to 100
Post-trigger recording

1.73.4 8435.8 Memory optimization

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON
Memory optimization

1.73.5 8435.9 Application index

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Default
• 1 = Control technology
• 2 = Data logger
• 3 = ASMOS
Application index

1.73.6 8435.10 Recording channel – index

Factory setting:
• 8364.46 Actual speed in user units
• 8364.44 Speed controller setpoint speed in user units
• 8364.26 Actual position in user units
• 8364.22 Position setpoint in user units
• 8364.29 Lag error in user units
• 8364.160 DC link voltage instantaneous value
• 8334.1 Actual value
• 8335.1 Actual value
• 8332.1 Status bits
• 8365.1 Fault code
Data type: Parameter pointer (DataArray)
Data length: 10
Value range:
• 0.0 No function
• 8332.1 Device status bits
- 8334.1 Digital inputs basic unit
- 8335.1 Digital outputs basic unit
- 8364.22 Position setpoint in user units
- 8364.26 Actual position in user units
- 8364.29 Lag error in user units
- 8364.44 Speed controller setpoint speed in user units
- 8364.46 Actual speed in user units
- 8364.78 Total acceleration in user units
- 8364.90 Relative limited setpoint torque in system units
- 8364.90 Relative actual torque in system units
- 8364.127 Relative apparent current
- 8364.159 Absolute value of the setpoint voltage – rms value
- 8364.160 DC link voltage – instantaneous value
- 8365.1 Fault code
- 8500.2 Current FCB bits

Array index of the recording channel (array index -> recording channel number)

1.73.7  **8435.20 Recording channel – offset array**

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 10
Resolution: 1
Value range: 0 to 4294967295
Value of the respective recording channel.

1.73.8  **8435.30 Recording channel – debug address**

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 10
Resolution: 1
Value range: 0 to 4294967295
Debug address of the recording channel, array (array index -> recording channel number).

1.73.9  **8435.40 Recording channel – data type**

Factory setting:
Data type: Enum (DataArray)
Data length: 10
Value range:
- 1= Uint8
Parameter description
8435 Scope setting values

- 2 = Uint16
- 4 = Uint32
- 260 = Float
- 32769 = Int8
- 32770 = Int16
- 32772 = Int32

Data type of the respective recording channel.

1.73.10 8435.50 Recording channel – description
Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 120
Resolution: 1
Value range: 0 to 255
Descriptions of the recording channel: 12 ASCII characters

1.73.11 8435.100 Trigger connection
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Trigger connection (AND/OR operation of several triggers)

1.73.12 8435.105 Trigger – delay mode
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = Dead time element
- 2 = Pulse width
- 3 = Pulse stretching
Trigger – delay mode

1.73.13 8435.106 Trigger – delay time
Factory setting: 0
Unit: µs
Data type: Uint32
Data length: 1
Parameter description
8435 Scope setting values

Resolution: 1
Value range: 0 to 4294967295
Trigger – delay time

1.73.14 8435.110 Trigger type
   Factory setting:
   • 514
   • 0
   Unit:
   Data type: Uint16 (DataArray)
   Data length: 3
   Resolution: 1
   Value range: 0 to 65535
   Trigger type

1.73.15 8435.120 Trigger source
   Factory setting:
   • 10
   • 0
   Unit:
   Data type: Uint16 (DataArray)
   Data length: 3
   Resolution: 1
   Value range: 0 to 10
   Trigger source

1.73.16 8435.130 Trigger – additional description parameter 1
   Factory setting:
   • 65535
   • 0
   Unit:
   Data type: Uint32 (DataArray)
   Data length: 3
   Resolution: 1
   Value range: 0 to 4294967295
   Trigger – additional description parameter 1

1.73.17 8435.140 Trigger – additional description parameter 2
   Factory setting: 0
   Unit:
   Data type: Uint32 (DataArray)
   Data length: 3
Parameter description

8436 System time

Resolution: 1
Value range: 0 to 4294967295
Trigger – additional description parameter 2

1.74 8436 System time

System time

1.74.1 8436.1 System time

Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 2
Resolution: 1
Value range: 0 to 4294967295
System time EtherCAT®/SBusPLUS format.
The low part is located at offset 0 of the fill level array, the high part at offset 1 as UINT32. Both parts are read out consistently using the array service.

1.74.2 8436.2 System time low part

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Low part of the system time to allow for scope recording.

1.74.3 8436.3 Time resolution

Factory setting: 1
Unit: ns
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Time resolution of the system time

1.74.4 8436.4 Time resolution in system time

Factory setting: 1
Unit: ns
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Time resolution tick

1.75 8437 Braking device diagnostics

These parameters inform about the state of the active braking device (brake or DynaStop®).

1.75.1 8437.2 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Brake/DynaStop® applied
• 1= Brake/DynaStop® released
• 2= Brake/DynaStop® motor not blocked
Status bits of the braking device in use (brake/DynaStop®)

1.75.2 8437.3 Braking device used

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= None
• 1= DynaStop®
• 2= Brake
Device used for stopping the drive mechanically.

1.75.3 8437.4 Available braking devices

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DynaStop®
• 1= HV brake
• 2= DC brake
Available devices that can be used to stop the drive mechanically.
1.76 8438 Function activation

Function activation

1.76.1 8438.1 TAN

Factory setting: 00000000.00.
Data type: String8Bit (fill level array)
Data length: 14
Resolution:
Value range:
TAN

1.77 8439 Thermal motor protection

Thermal motor protection of the active drive.

1.77.1 8439.1 Motor temperature – active drive train

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Motor temperature in the active drive train (temperature sensor)

1.77.2 8439.2 Motor utilization – active drive train

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Motor utilization in percent in the active drive train.
If no model is active, this value is set to "0". The error threshold is 100%.

1.77.3 8439.3 Status bits – active drive train

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Prewarning
• 1 = Prewarning – sensor
• 2 = Prewarning – model
Status bits of the active drive train (copy of index 8442.55 or 8443.55)

1.77.4 8439.50 Thermal motor protection initialized
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = No
• 1 = Yes
Thermal motor protection initialized

1.78 8440 Thermal motor protection DT1
1.78.1 8440.1 Thermal motor monitoring used
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = No monitoring
• 1 = Monitoring 1
• 2 = Monitoring 2
Thermal motor monitoring used (TMU)

1.79 8442 General data – thermal motor protection 1
1.79.1 8442.1 Temperature sensor type
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = No sensor
• 1 = TF
• 2 = TH
• 3 = KTY
• 4 = PK
Type of temperature sensor of the motor.
**Parameter description**

8442 General data – thermal motor protection 1

---

### 1.79.2 8442.2 Connection

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No connection
- 1 = Connector
- 2 = Terminal
- 3 = Connector option

---

### 1.79.3 8442.3 Sensor temperature error threshold

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 30000
A fault is triggered when this temperature is exceeded.
If this value is "0", no utilization is calculated from the sensor temperature.

---

### 1.79.4 8442.4 Prewarning threshold

Factory setting: 95000
Unit: 1E-03%
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 101000
If a valid utilization exceeds the prewarning threshold, then "Prewarning threshold response" is triggered. The prewarning response refers to the relative utilization of temperature sensor and motor model.

---

### 1.79.5 8442.5 Prewarning threshold response

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No response
- 1 = Warning
- 2 = Application stop + output stage inhibit
- 3 = Emergency stop + output stage inhibit
- 4 = Output stage inhibit
Programs the response of the drive to an exceeded prewarning threshold.

### 1.79.6 8442.6 Evaluation sequence control

Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = OK
  - 1 = Start of evaluation
  - 11 = Signal – KTY sensor not connected
  - 12 = Signal – motor overtemperature or TF/TH sensor not connected
  - 13 = Signal – PK sensor not connected

Evaluation sequence control

### 1.79.7 8442.7 Enable sensor evaluation

Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0 = No
  - 1 = Yes

Sensor evaluation enable

### 1.79.8 8442.51 Temperature sensor temperature

Factory setting: 0
- Unit: 1E-2 °C
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Measured temperature of the temperature sensor of the motor.

### 1.79.9 8442.52 Motor model temperature

Factory setting: 0
- Unit: 1E-2 °C
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Calculated motor temperature depending on the motor model.
1.79.10 8442.53 Temperature sensor evaluation

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Utilization of the motor temperature sensor in percent.
The following settings can be made:
– 0%: Temperature sensor of the motor is under 40 °C.
– 101%: Switch-off temperature reached.

1.79.11 8442.54 Motor model utilization

Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Utilization of the motor in percent.
If no model is active, this value is set to "0". The error threshold is 100%.

1.79.12 8442.55 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Prewarning
• 1= Prewarning – sensor
• 2= Prewarning – model
Status bits

1.79.13 8442.100 - 8442.103 Array size 4 Backup due to device reset

Factory setting: 0
Unit:
Data type: Uint32 (array)
Data length: 4
Resolution: 1
Value range: 0 to 4294967295
Backup due to device reset
1.80 8444 TMU model 1 for synchronous motor

1.80.1 8444.1 Version

- Factory setting: 0
- Unit: 
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
- Version of the model

1.80.2 8444.2 Model temperature error threshold

- Factory setting: 4100
- Unit: 1E-2 °C
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: 0 to 30000
- Motor-dependent switch-off temperature of the model.

1.80.3 8444.3 Stator resistance

- Factory setting: -1
- Unit: Ohm
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: -1 to 1000
- Stator resistance (phase value in star connection at 20 °C)

1.80.4 8444.4 Heat transfer resistance winding/iron – R_thWE

- Factory setting: 0
- Unit: K/W
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: -3.402823E+38 to Float32Max
- R_thWE (heat transfer resistance winding, iron)

1.80.5 8444.5 Heat transfer resistance iron/ambient – R_thEU

- Factory setting: 0
- Unit: K/W
- Data type: Float32
Parameter description
8444 TMU model 1 for synchronous motor

1.80.6 8444.6 Heat transfer resistance windings U and V to KTY – R_thuK
Factory setting: 0
Unit: K/W
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
R_thuK (heat transfer resistance winding U to KTY, also applies to winding V to KTY)

1.80.7 8444.7 Heat transfer resistance KTY/iron – R_thKE
Factory setting: 0
Unit: K/W
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
R_thKE (heat transfer resistance KTY, iron)

1.80.8 8444.8 Thermal capacity windings U, V, W – C_thW
Factory setting: 0
Unit: J/K
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
C_thW (thermal capacitance winding u, v, w)

1.80.9 8444.8 Thermal capacity iron – C_thE
Factory setting: 0
Unit: J/K
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
C_thE (thermal capacity iron)
1.80.10 **8444.9 Thermal capacity KTY – C\_thK**

- Factory setting: 0
- Unit: J/K
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: -3.402823E+38 to Float32Max

*C\_thK* (thermal capacity KTY)

1.80.11 **8444.10 Power loss depending on speed – p\_vfe0**

- Factory setting: 0
- Unit: J
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: -3.402823E+38 to Float32Max

*p\_vfe0* (power loss depending on speed)

1.80.12 **8444.12 Power loss depending on square speed – p\_vfeq**

- Factory setting: 0
- Unit:
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: -3.402823E+38 to Float32Max

*p\_vfeq* (power loss depending on square speed)

1.80.13 **8444.13 Luenberger coefficient L1**

- Factory setting: 0
- Unit:
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: -3.402823E+38 to Float32Max

Luenberger coefficient L1

1.80.14 **8444.14 Luenberger coefficient L2 = L3**

- Factory setting: 0
- Unit:
- Data type: Float32
- Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Luenberger coefficient L2 = L3

1.80.15 8444.15 Luenberger coefficient L4
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Luenberger coefficient L4

1.80.16 8444.16 Luenberger coefficient L5
Factory setting: 0
Unit:
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Luenberger coefficient L5

1.81 8446 I2t model for TMU 1

1.81.1 8446.1 Nominal current
Factory setting: 0
Unit: A
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 10000
Nominal current (rms)

1.81.2 8446.2 Time constant
Factory setting: 0
Unit: s
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Time constant
1.81.3 8446.10 - 8446.17 Array size 8 Relative current characteristic

Factory setting: 0
Unit:
Data type: Float32 (Array)
Data length: 8
Resolution: –
Value range: -3.402823E+38 to Float32Max
Relative current characteristic

1.81.4 8446.20 - 8446.27 Array size 8 Stator frequency characteristic

Factory setting: 0
Unit: Hz
Data type: Float32 (Array)
Data length: 8
Resolution: –
Value range: -3.402823E+38 to Float32Max
Stator frequency characteristic

1.82 8448 Ex protection function category 2 – data DT1

The inverter allows for implementing monitoring for category 2.
This function can be activated in any operating mode with a motor (no group opera-
tion).
Five frequency points are defined for monitoring. A maximum current is assigned to
each frequency point. The current must be permanently below the characteristic
defined by the points. The range can be left for short periods (Ixt monitoring).
The inverter monitors the combination of motor and inverter for IN_inverter ≤ 2 x IN-
motor. If the threshold is exceeded, fault 52.3 = "Error messages of the Ex protection
function category 2"."Inverter too large" will be issued.
For SEW-EURODRIVE motors, the frequency points are loaded at startup. For third-
party motors, these points must be entered manually.
The following conditions must be met:
– Frequency A smaller than frequency B smaller than frequency C smaller than fre-
quency D smaller than frequency E
– Current limit A smaller than current limit B smaller than current limit C
Else fault 52.4 = "Error messages of the Ex protection function category 2"."Paramet-
erization of the current limit characteristic" will be issued.

1.82.1 8448.1 Activation

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
Activates frequency-dependent current monitoring.

### 1.8.2 8448.2 Frequency point A
Factory setting: 5000
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1000
Value range: 5000 to 60000
Minimum operating frequency fA. The duration of operation with operating frequency A is 60 seconds regardless of the current value. After expiry of this time, the inverter switches off and issues fault 52.5 "Error messages of Ex protection function category 2. Violation of time duration f < 5 Hz".

### 1.8.3 8448.3 Current point A
Factory setting: 50000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1000
Value range: 0 to 150000
Current limitation that is permitted with operating frequency fA. There is a linear gradient between current limits A and B.

### 1.8.4 8448.4 Frequency point B
Factory setting: 10000
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1000
Value range: 5000 to 104000
Operating frequency fB

### 1.8.5 8448.5 Current point B
Factory setting: 80000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1000
Value range: 0 to 150000
Current limitation that is permitted with operating frequency $f_B$. There is a linear gradient between current limits $B$ and $C$.

### 1.82.6 8448.6 Frequency point C

- **Factory setting:** 25000
- **Unit:** mHz
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1000
- **Value range:** 5000 to 104000

Operating frequency $f_C$

### 1.82.7 8448.7 Current point C

- **Factory setting:** 100000
- **Unit:** 1E-03%
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1000
- **Value range:** 0 to 150000

Current limitation that is permitted with operating frequency $f_C$. There is a linear gradient between current limits $C$ and $D$.

### 1.82.8 8448.8 Frequency point D

- **Factory setting:** 50000
- **Unit:** mHz
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1000
- **Value range:** 5000 to 104000

Operating frequency $f_D$

### 1.82.9 8448.9 Current point D

- **Factory setting:** 100000
- **Unit:** 1E-03%
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1000
- **Value range:** 0 to 150000

Current limitation that is permitted with operating frequency $f_D$. There is a linear gradient between current limits $D$ and $E$. 
1.82.10 8448.10 Frequency point E

Factory setting: 87000
Unit: mHz
Data type: Int32
Data length: 1
Resolution: 1000
Value range: 5000 to 104000
Operating frequency \( f_E \)

1.82.11 8448.11 Current point E

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1000
Value range: 0 to 150000
Current limitation that is permitted with operating frequency \( f_E \).

1.82.12 8448.15 Motor assignment

Factory setting:
Data type: Enum
Data length: 1
Value range:
  - 0 = Motor 1
  - 1 = Motor 2
Specifies which motor model is calculated in drive train 1.
The following settings can be made:
  - Motor 1: The motor of drive train 1 is monitored using the settings made in parameter group "Ex protection function category 2" (index 8848).
  - Motor 2: The motor of drive train 1 is monitored using the settings made in parameter group "Ex protection function category 2" (index 8848).

1.82.13 8448.16 Motor started up

Factory setting:
Data type: Enum
Data length: 1
Value range:
  - 0 = No
  - 1 = Yes
Motor started up
1.82.14 8448.20 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:

- 0= Current limit of Ex protection function category 2 – active

If the motor is operated too long outside the operating range permitted for continuous operation, the current will be limited to the permitted value. Bit 0 indicates this limitation.

1.83 8450 Ex protection function category 2

Ex protection function category 2

1.83.1 8450.1 Status bits – current drive train

Factory setting:
Data type: Bit field
Data length: 1
Value range:

- 0= Current limit of Ex protection function category 2 – active

Status bits of the current drive train

1.84 8455 EtherCAT®/SBusPLUS

EtherCAT®/SBusPLUS

1.84.1 8455.1 Baud rate

Factory setting: 0
Unit: Bd
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Current EtherCAT®/SBusPLUS baud rate

1.84.2 8455.2 Address

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Parameter description
8456 EtherCAT®/SBusPLUS diagnostics

Value range: 0 to 4294967295
Current EtherCAT®/SBusPLUS address

1.84.3 8455.3 Timeout
Factory setting: 500
Unit: ms
Data type: Int32
Data length: 1
Resolution: 10
Value range: 0 to 650000
EtherCAT®/SBusPLUS timeout time

1.84.4 8455.4 Device identification
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Device identification can be set using rotary switches S1 and S2 on the front of the device

1.84.5 8455.5 Status
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Startup
• 1= Not connected
• 2= Connected
• 3= Timeout
Status

1.85 8456 EtherCAT®/SBusPLUS diagnostics
EtherCAT®/SBusPLUS diagnostics

1.85.1 8456.1 Port A – Invalid frame counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 255
Port A – Invalid frame counter

1.85.2 8456.2 Port A – Rx error counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 255
Port A – Rx error counter

1.85.3 8456.3 Port B – Invalid frame counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 255
Port B – Invalid frame counter

1.85.4 8456.4 Port B – Rx error counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 255
Port B – Rx error counter

1.85.5 8456.5 Port A – Forwarded error counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 255
Port A – Forwarded error counter
Parameter description
8456 EtherCAT®/SBusPLUS diagnostics

1.85.6 8456.6 Port B – Forwarded error counter
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 255
- Port B – Forwarded error counter

1.85.7 8456.7 Processing unit error counter
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 255
- Processing unit error counter

1.85.8 8456.8 Port A – Lost link count
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 255
- Port A – Lost link count

1.85.9 8456.9 Port B – Lost link count
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 255
- Port B – Lost link count

1.85.10 8456.10 Slave controller revision
- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
Parameter description
8456 EtherCAT®/SBusPLUS diagnostics

Resolution: 1
Value range: 0 to 255
Slave controller revision

1.85.11  8456.11 Slave controller build
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Slave controller build

1.85.12  8456.12 Al control
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Al control

1.85.13  8456.13 Al status
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Al status

1.85.14  8456.14 Al status code
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Al status code
1.85.15 8456.18 EEPROM status

- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

EEPROM status

1.85.16 8456.19 "RUN" status LED

- Factory setting: 0
- Unit:
- Data type: Uint32 (fill level array)
- Data length: 20
- Resolution: 1
- Value range: 0 to 4294967295

Reads the "RUN" status LED.

1.85.17 8456.20 "ERROR" status LED

- Factory setting: 0
- Unit:
- Data type: Uint32 (fill level array)
- Data length: 20
- Resolution: 1
- Value range: 0 to 4294967295

Reads the "ERROR" status LED.

1.85.18 8456.21 1 ms task counter

- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295

1 ms task counter

1.85.19 8456.22 Current cycle time of main task

- Factory setting: 0
- Unit:
- Data type: Uint32
- Data length: 1
1.85.20 8456.23 Maximum cycle time of main task

   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 65535
   Maximum cycle time of main task

1.85.21 8456.24 PDI error counter

   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 255
   PDI error counter

1.85.22 8456.26 EEPROM vendor ID

   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
   EEPROM vendor ID

1.85.23 8456.27 EEPROM product code

   Factory setting: 0
   Unit:
   Data type: Uint32
   Data length: 1
   Resolution: 1
   Value range: 0 to 4294967295
   EEPROM product code
Parameter description
8480 FPGA registers

1.85.24 8456.28 EEPROM revision number
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
EEPROM revision number

1.85.25 8456.29 EEPROM station alias
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 65535
EEPROM station alias

1.86 8480 FPGA registers
FPGA register

1.86.1 8480.54 Power supply module – FPGA part number
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
FPGA part number of the power supply module

1.86.2 8480.57 Power supply module – FPGA compatibility ID
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Compatibility ID of the FPGA of the power supply module
1.87  8495 Test module standby mode

Test module standby mode.

1.87.1 8495.1 Standby mode test flags

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= DIn 24 V
• 1= DOut 24 V
• 2= EncDriveSafety12 V
• 3= EncResolverOne 24 V
• 4= EncResolverTwo 24 V
• 5= STOManCtrlDev 24 V
• 6= NvSnt
• 7= HvSnt

Standby mode test flags

1.88  8500 FCB selection

FCB selection

1.88.1 8500.1 Current FCB

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= FCB 00 Default (-> FCB 02)
• 1= FCB 01 Output stage inhibit
• 2= FCB 02 Stop default
• 3= FCB 03 Profile velocity mode (pv)
• 4= FCB 04 Manual mode
• 11= FCB 11 Homing mode (hm)
• 13= FCB 13 Stop at application limits
• 14= FCB 14 Emergency stop
• 15= FCB 15 Cyclic synchronous velocity mode (csv)
• 16= FCB 16 Cyclic synchronous position mode (csp)
• 17= FCB 17 Cyclic synchronous torque mode (cst)
• 18= FCB 18 Rotor position identification
• 19= FCB 19 Position hold control
• 22= FCB 22 Output stage test
Parameter description
8500 FCB selection

- 23 = FCB 23 Brake test safety card
- 24 = FCB 24 Profile position mode (pp)
- 25 = FCB 25 Motor parameter measurement

Currently active FCB (Function Control Block)

1.88.2 8500.2 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = FCB 00 Default
- 1 = FCB 01 Output stage inhibit
- 2 = FCB 02 Stop default
- 4 = FCB 04 Manual mode
- 11 = FCB 11 Homing mode (hm)
- 13 = FCB 13 Stop at application limits
- 14 = FCB 14 Emergency stop
- 15 = FCB 15 Cyclic synchronous velocity mode (csv)
- 16 = FCB 16 Cyclic synchronous position mode (csp)
- 17 = FCB 17 Cyclic synchronous torque mode (cst)
- 18 = FCB 18 Rotor position identification
- 19 = FCB 19 Position hold control
- 23 = FCB 23 Brake test safety card
- 25 = FCB 25 Motor parameter measurement
- 3 = FCB 03 Profile velocity mode (pv)
- 24 = FCB 24 Profile position mode (pp)

Status bits

1.88.3 8500.3 Activate FCB

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = FCB 00 Default (-> FCB 02)
- 18 = FCB 18 Rotor position identification
- 25 = FCB 25 Motor parameter measurement

Activate FCB.

1.88.4 8500.4 Control bits

Factory setting:
Data type: Bit field
Data length: 1
1.88.5  8500.5 Active FCB source

Factory setting:
Data type: Enum
Data length: 1
Value range:
  • 0 = DI 00
  • 1 = Default FCB
  • 2 = Control words or DI 01 – DI 0x
  • 3 = Activation via parameter
  • 4 = Manual mode
  • 5 = Drive train changeover
  • 6 = Fixed setpoint processing
  • 7 = Fault response
  • 8 = Power supply monitoring
  • 9 = Safety card
  • 10 = Prepare restart
  • 11 = State control
  • 12 = Test manager

Function unit of the firmware that requested the current FCB.

1.89  8501 FCB 01 output stage inhibit

Activating FCB 01 immediately interrupts the power supply of the motor and applies the brake. If no brake is installed, the motor coasts to a stop.

1.89.1  8501.1 Control bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
  • 0 = Release brake/DynaStop® with inhibited output stage

Control bits

1.89.2  8501.2 Release brake/DynaStop® with FCB 01 – enable

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= No
- 1= Yes

The following settings can be made:
- Yes: The control bit is evaluated. If FCB 01 is active, an edge from 0 to 1 releases the brake/DynaStop®. An edge from 1 to 0 applies the brake.
- No: The control bit is not evaluated. If the parameter is set to "No" when the output stage is inhibited, the brake/DynaStop® relay will apply.

1.89.3 8501.3 Apply brake/DynaStop® in STO state

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= Off
- 1= ON

The following settings can be made:
- Off: The state of the brake/DynaStop® relay is not changed in STO state (default setting).
- On: The brake/DynaStop® relay is applied in STO state. If the parameter is set to "On" when STO is active, the brake/DynaStop® relay will apply.

1.90 8504 FCB 04 manual mode

FCB 04 cannot be selected and activated directly using control words.
FCB 04 is selected and activated at startup using the "manual mode" function of the MOVISUITE® engineering software. Manual mode is used at startup or in setup mode without higher-level controller.

1.90.1 8504.1 Function status

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Function status

1.90.2 8504.2 Supported functions

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Speed controlled manual mode
- 1 = Position controlled manual mode
- 2 = Load cycling
- 3 = Cycle mode
- 4 = Emergency mode with defective external encoder
- 16 = Inhibit output stage
- 17 = Brake activation
- 18 = Reference travel

Bit coding of the supported manual mode functions

1.90.3  8504.3 Timeout response
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 2 = Application stop + output stage inhibit
- 3 = Emergency stop + output stage inhibit
- 4 = Output stage inhibit

Response to a bus timeout in manual mode.

1.90.4  8504.4 Evaluation of digital inputs
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON

Specifies whether the programmable functions of digital inputs is taken account of in manual mode.

The following settings can be made:
- On: All programmable digital inputs (such as limit switches) are taken into account except for FCB activation.
- Off: All programmable digital inputs are ignored. The non-programmable digital input DI 00 must be set.

1.90.5  8504.5 Evaluation of control words
Factory setting:
Data type: Enum
Data length: 1
Parameter description
8504 FCB 04 manual mode

Value range:
- 0 = Off
- 1 = ON
Specifies whether the programmable functions of control words is taken account of in manual mode.
The following settings can be made:
- On: All control word functions (such as limit switches) are taken into account except for FCB activation.
- Off: All control word functions are ignored.

1.90.6 8504.6 Jerk limitation
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Off
- 1 = ON
Activates jerk limitation in manual mode. The jerk time application limit (index 8367.14) is used.

1.90.7 8504.7 Control word
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Speed controlled manual mode
- 1 = Position controlled manual mode
- 2 = Load cycling
- 3 = Cycle mode
- 4 = Emergency mode with defective external encoder
- 16 = Inhibit output stage
- 17 = Brake activation
- 18 = Reference travel
Activates the manual mode functions selected in the user interface. If no function is selected, the drive is at standstill in FCB 02 "Stop".
Each time the control word is sent, the timeout counter of the manual mode session is reset in the server (actuator).

1.90.8 8504.8 Setpoint speed DT1
Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Specifies the setpoint speed in user units in drive train 1.
This parameter is used in all manual mode functions.
Unlike the other manual mode functions positioning, load cycling, and cycle mode, the setpoint is signed in speed-controlled manual mode. If a negative value is set in speed-controlled manual mode, and then manual mode with positioning is selected, then the setpoint speed is overwritten with the value at the time when manual mode with positioning is initialized.

1.90.9 8504.9 Setpoint acceleration DT1
Factory setting: 300000
Unit: 1E-02/(min*s) user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Specifies the setpoint acceleration in user units in drive train 1.
This parameter is used in all manual mode functions.

1.90.10 8504.10 Setpoint position DT1
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Specifies the setpoint position in user units in drive train 1.
This parameter is used in the "positioning" manual mode function.

1.90.11 8504.11 Load cycling – position 1 DT1
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Specifies load cycling position 1 in user units in drive train 1.
This parameter is used in the "load cycling" manual mode function. This setting is only relevant when the actuator supports load cycling.

1.90.12 8504.12 Load cycling – position 2 DT1
Factory setting: 0
Parameter description
8504 FCB 04 manual mode

1.90.13 8504.13 Cycle function – travel distance DT1

Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Specifies the travel distance in user units in drive train 1.
This parameter is used in the "cycle mode" manual mode function.

1.90.14 8504.14 Cycle idle time

Factory setting: 1000
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 500 to 3000
Idle time once a target position has been reached in active load cycling or active cycle function.
The following settings can be made:
– For the load cycling function: Idle time at positions 1 and 2 before moving to the respective other position.
– For the cycle function: Idle time between two cycles.

1.90.15 8504.59 Transparent mode control words – data source

Factory setting:
Data type: Enum (DataArray)
Data length: 3
Value range:
• -1= None
• 663727= PO data – word 1
• 729263= PO data – word 2
• 794799= PO data – word 3
• 860335 = PO data – word 4
• 925871 = PO data – word 5
• 991407 = PO data – word 6
• 1056943 = PO data – word 7
• 1122479 = PO data – word 8
• 1188015 = PO data – word 9
• 1253551 = PO data – word 10
• 1319087 = PO data – word 11
• 1384623 = PO data – word 12
• 1450159 = PO data – word 13
• 1515695 = PO data – word 14
• 1581231 = PO data – word 15
• 1646767 = PO data – word 16
• 598171 = Data Flexibility output data 1
• 663707 = Data Flexibility output data 2
• 729243 = Data Flexibility output data 3
• 794779 = Data Flexibility output data 4
• 860315 = Data Flexibility output data 5
• 925851 = Data Flexibility output data 6
• 991387 = Data Flexibility output data 7
• 1056923 = Data Flexibility output data 8
• 1122459 = Data Flexibility output data 9
• 1187995 = Data Flexibility output data 10
• 1253531 = Data Flexibility output data 11
• 1319067 = Data Flexibility output data 12
• 1384603 = Data Flexibility output data 13
• 1450139 = Data Flexibility output data 14
• 1515675 = Data Flexibility output data 15
• 1581211 = Data Flexibility output data 16
• 1646747 = Data Flexibility output data 17
• 1712283 = Data Flexibility output data 18
• 1777819 = Data Flexibility output data 19
• 1843355 = Data Flexibility output data 20
• 1908891 = Data Flexibility output data 21
• 1974427 = Data Flexibility output data 22
• 2039963 = Data Flexibility output data 23
• 2105499 = Data Flexibility output data 24
• 2171035 = Data Flexibility output data 25
• 2236571 = Data Flexibility output data 26
• 2302107 = Data Flexibility output data 27
• 2367643 = Data Flexibility output data 28
• 2433179 = Data Flexibility output data 29
Parameter description

8511 FCB 11 Homing mode (hm)

- 2498715= Data Flexibility output data 30
- 2564251= Data Flexibility output data 31
- 2629787= Data Flexibility output data 32

Data sources of the control word of transparent mode

1.90.16 8504.60 - 8504.62 Array size 3 Transparent mode control words – actual value

Factory setting: 0
Unit:
Data type: Uint32 (array)
Data length: 3
Resolution: 1
Value range: 0 to 65535
Current value of the control words of transparent mode

1.90.17 8504.70 - 8504.71 Array size 2 Transparent mode status words – actual value

Factory setting: 0
Unit:
Data type: Uint32 (array)
Data length: 2
Resolution: 1
Value range: 0 to 65535
Current value of the status words of transparent mode

1.91 8511 FCB 11 Homing mode (hm)

FCB 11 Homing mode (hm)

1.91.1 8511.1 Control bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 2= Home switch

Control bits

1.92 8512 FCB 12 Reference travel

To perform positioning operations, a drive has to be referenced to a defined start or reference position within the permitted travel distance.
From this reference position, positions such as the machine zero can be specified and approached. When using position encoders without absolute position detection, referencing is mandatory with each restart of the drive. When using absolute encoders, the absolute position is immediately known when starting the system. An absolute encoder must be referenced nevertheless to compare the indicated position with the reference system of the machinery. Several reference travel types are available for referencing and for finding the reference point.

1.92 8512 Status

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Requested
• 1= Search reference point
• 2= Go to home position
• 3= Referencing finished
• 4= Deactivated/not started
• 5= Fault
Status

1.93 8518 FCB 18 Rotor position identification

For an optimum operation of synchronous AC motors, the exact position information of the rotor is required for closed-loop control. The inverter uses this position information to generate the maximum motor torque.

FCB 18 is required for the commutation detection of rotary and linear synchronous motors.

The drive must be disconnected from the load, which means also from the gear unit. If this is not possible, or only with considerable effort, FCB 25 "Motor parameter measurement" must be used.

1.93.1 8518.1 Procedure

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No method
• 1= With rotating motor
• 2= With stopped motor
Specifies the method used for rotor position identification.

The following settings can be made:
– No method: – FCB without function.
– With rotating motor: The rotor position is determined while the motor is rotating. This method can be used for all motors.
Parameter description
8518 FCB 18 Rotor position identification

– With stopped motor: The rotor position is determined while the motor is at standstill. This method can only be used for certain motors from SEW-EURODRIVE.

1.93.2 8518.2 Operating mode
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Deactivated
• 1= Manual
• 2= Automatic
Mode

1.93.3 8518.3 Storage location
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No storage
• 1= Inverter
• 2= Encoder
Specifies where the determined offset between rotor position and encoder is saved.
The following settings can be made:
– No storage: The value is not stored.
– Inverter: The value is stored in the inverter (index 8518.52).
– Encoder: The value is written to the encoder. This setting can only be used for encoders with memory.

1.93.4 8518.4 Use fixed offset memory
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
Use fixed offset memory

1.93.5 8518.5 Fixed offset
Factory setting: 0
Unit: 1/(2^32) rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Fixed offset

1.93.6 8518.6 Injected measurement current (with reference to nominal motor current)
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 1000000
Injected measurement current with reference to nominal motor current

1.93.7 8518.7 Motor settling time
Factory setting: 5000000
Unit: µs
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1000 to 60000000
Wait time, until the angle monitor has settled.

1.93.8 8518.40 Write control
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Inactive
• 1 = Write
Write control

1.93.9 8518.50 Write status
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Not ready
• 1 = Ready
• 2 = Saving in progress
• 3 = Saving finished
Write status
1.93.10  8518.51 Encoder adjustment status

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = Inactive
- 1 = Current build-up
- 2 = Wait 1
- 3 = Rotate forward
- 4 = Wait 2
- 5 = Rotate reverse
- 6 = Wait 3
- 7 = Finished
- 8 = HW limit switch positive
- 9 = HW limit switch negative
- 10 = Fault
- 11 = Fault – encoder movement in wrong direction
- 12 = Fault – encoder movement too large
- 13 = Fault – encoder movement too small
- 14 = Fault – no encoder movement
- 15 = Fault – HW limit switch too close
- 16 = Fault 1 – HW limit switch
- 17 = Fault 2 – HW limit switch
- 18 = Fault 3 – HW limit switch

Status of encoder adjustment

1.93.11  8518.52 Measured encoder offset

Factory setting: 0
Unit: 1/(2^32) rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -1073741824 to 1073741823

Measured encoder offset

1.93.12  8518.53 Write position absolute encoder

Factory setting: 0
Unit: 1/65536 rev
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Write position for absolute encoder

1.93.13  8518.54 Delta Y/Y0
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000
Rotor position dependent part of the inverse complex inductance of the motor model

1.93.14  8518.55 Ldq
Factory setting: 0
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 200000
Ratio of series inductance and shunt inductance of the motor model

1.93.15  8518.56 Y0
Factory setting: 0
Unit: 1E-03 A/Vs
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Rotor position dependent part of the inverse complex inductance of the motor model

1.93.16  8518.57 Measurement current
Factory setting: 0
Unit: mA
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Measurement current

1.93.17  8518.58 Measurement current (with reference to nominal motor current)
Factory setting: 0
Unit: 1E-03%
Parameter description
8523 FCB 23 Brake test safety card

Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 1000000
Measurement current with reference to nominal motor current

1.93.18 8518.59 Status bits
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Incremental encoder calibrated

Status bits

1.94 8523 FCB 23 Brake test safety card
FCB 23 Brake test safety card

1.94.1 8523.1 Request test step
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1 = Hold
• 2 = Position
• 3 = Test
Request test step

1.94.2 8523.2 Test duration
Factory setting: 1000
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 500 to 10000
Setting of the duration of the test torque used for the test step.

1.94.3 8523.3 Test torque
Factory setting: 0
Unit: 1E-03 Nm
Data type: Int32
Data length: 1
Resolution: 1
Value range: -10000000 to 10000000

The test torque is the torque the inverter builds up during the test at the applied brake. Ideally, the brake holds this torque without slipping.

1.94.4 8523.4 Relative position change
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Relative change of position when activating the "positioning" test step.

1.94.5 8523.5 Maximum positioning speed
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 360000000
Maximum speed value used in the "Positioning" test step.

1.94.6 8523.6 Maximum positioning acceleration
Factory setting: 0
Unit: 1E-02/(min*s)
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 100000000
Maximum acceleration/deceleration value used in the "Positioning" test step.

1.94.7 8523.7 Jerk time
Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2000
Jerk time
1.94.8 8523.8 Positioning lag error window

Factory setting: 65536
Unit: 1/65536 rev
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Permitted lag error window during the "Positioning" test step.

1.94.9 8523.9 Active test step

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Inactive
• 1= Hold
• 2= Position
• 3= Test
• 4= Fault
Active test step

1.95 8525 FCB 25 motor parameter measurement

FCB 25 is used for determining the necessary motor values from the electric equivalent wiring diagram during startup.
The nameplate data of the connected motor is required for the motor parameter measurement.
After the motor parameter measurement has been completed, the motor is completely started up electrically. Values that are not yet final at this stage, such as maximum speed and maximum torque, are estimated. The values have to be corrected at a later time to reach the full performance of the motor.

1.95.1 8525.1 Control word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 3= Also measure beta direction
• 4= In steps of 30 °C
• 6= Measurement with 4000 Hz
• 14= No output voltage measurement
• 18= Use encoder info
• 19= q-axis is not measured
Control word

1.95.2 8525.2 Perform only balance measurement
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
The following settings can be made:
– Yes: Only the winding resistances are measured and compared with one another. This measurement can be used to rule out an interruption in the line. The duration of the measurement is significantly shorter than a complete measurement.
– No: All motor parameters are measured.

1.95.3 8525.3 Motor temperature
Factory setting: 2000
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -5000 to 15000
Temperature of the motor. The more precise the entered value, the more accurate will be the parameter measurement.

1.95.4 8525.4 Record raw data
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
"Record raw data" = "Yes" disables standard scope.

1.95.5 8525.5 Use motor encoder
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No
• 1= Yes
Motor parameter measurement for synchronous machines evaluates the position of the motor encoder.
Parameter description
8525 FCB 25 motor parameter measurement

The motor encoder must have been commutated.
The motor can be braked fix.

1.95.6 8525.49 Active control word
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Only stator resistance measurement
• 2 = Motor braked
• 3 = Also measure beta direction
• 4 = In steps of 30 °C
• 5 = Measurement with 2500 Hz
• 6 = Measurement with 4000 Hz
• 14 = No output voltage measurement
• 18 = Use encoder info
• 19 = q-axis is not measured
Control word that is applied when starting the measurement. The measurement is made with these settings.

1.95.7 8525.50 Measurement status
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1 = Inactive
• 2 = Active
• 4 = Completed successfully
• 8 = Completed unsuccessfully
• 9 = Measurement aborted (motor rotating)
• 16 = Measurement aborted
• 17 = Measurement is repeated
• 18 = Repetition aborted
• 512 = Completed successfully (motor rotating)
Indicates the parameter measurement status.

1.95.8 8525.51 Time remaining
Factory setting: 0
Unit: s
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Time remaining until end of measurement.

1.95.9  8525.52 Stator resistance phase U

Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Resistance measured in phase U. If the motor is wired in star connection, the value will correspond to the physical winding resistance of phase U. If wired in delta connection, the value will correspond to one third of the resistance value.

1.95.10 8525.53 Stator resistance phase V

Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Resistance measured in phase V. If the motor is wired in star connection, the value will correspond to the physical winding resistance of phase V. If wired in delta connection, the value will correspond to one third of the resistance value.

1.95.11 8525.54 Stator resistance phase W

Factory setting: 0
Unit: Ohm
Data type: Float32
Data length: 1
Resolution: –
Value range: -3.402823E+38 to Float32Max
Resistance measured in phase W. If the motor is wired in star connection, the value will correspond to the physical winding resistance of phase W. If wired in delta connection, the value will correspond to one third of the resistance value.

1.95.12 8525.130 Rotor adjustment Kp

Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
Parameter description
8525 FCB 25 motor parameter measurement

Rotor adjustment Kp

1.95.13 8525.131 Rotor adjustment Ki
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
Rotor adjustment Ki

1.95.14 8525.132 Rotor adjustment – current amplitude setting
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
Rotor adjustment – current amplitude setting

1.95.15 8525.133 Rotor adjustment – current amplitude display value
Factory setting: 0
Unit: mA
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Rotor adjustment – current amplitude display value

1.95.16 8525.134 Flux measurement Kp
Factory setting: 100000
Unit: 1E-03%
Data type: Int32
Data length: 1
Resolution: 1
Value range: 10000 to 1000000
Flux measurement Kp
1.96 8550 Speed monitoring DT1

The speed specified by the setpoint can only be achieved if there is sufficient torque available to meet the load requirements. When the torque limit is reached, the application inverter assumes that the desired speed cannot be reached. Speed monitoring responds if this condition persists for the duration specified in parameter "Delay time 1" (index 8550.2) or "Delay time 2" (index 8551.2). In V/f mode, slip is the value that is monitored.

Activate speed monitoring for hoists and set the delay time to a small value. Speed monitoring is not safety-relevant because an incorrect movement of the hoist does not necessarily mean operation in torque limitation.

1.96.1 8550.1 Activation

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= Motor mode
• 2= Regenerator mode
• 3= Motor/regenerator mode

The following settings can be made:
– Off: No monitoring,
– Motor mode: Monitoring in motor operation.
– Regenerative operation: Monitoring in regenerative operation.
– Motor/generator mode: Monitoring is always active.

Information: In 2Q operation, braking is always performed at the torque limit. If you want to suppress speed monitoring, either activate the function only for motor mode, or set the monitoring time longer than the empirically determined braking time.

1.96.2 8550.2 Delay time

Factory setting: 50
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10000

The set current limit can be reached briefly during acceleration, deceleration, or load peaks. You can prevent speed monitoring from responding too sensitively by setting the delay time accordingly. The current limit must be reached permanently for the duration of the delay time before the monitoring function trips.

1.96.3 8550.3 Reset time factor

Factory setting: 1
Unit:
1 Parameter description
8554 User unit position DT1

Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 10000

When the setting limit of the speed controller is reached, a counter for the delay time is incremented each millisecond. If the speed controller leaves its setting limit before the delay time expires, the counter is decremented until "0" is reached. This parameter specifies how fast the counter decrements when leaving the setting limit compared to how fast it increments. This factor is usually set to "1", which means the counter is decremented every millisecond. If the factor is set to "2", the counter is decremented by 2 every millisecond, etc.

1.97 8554 User unit position DT1

These parameters specify the properties of the user unit for the position of drive train 1.

1.97.1 8554.1 Numerator

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647

Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.97.2 8554.2 Denominator

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647

Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.97.3 8554.3 Number of decimal places

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = 0
- 1 = 1
1.97.4  8554.4 Unit

Factory setting: in
Data type: String8Bit (fill level array)
Data length: 17
Resolution:
Value range:
Arbitrary unit defined by the user. This unit is also available under "PO configuration" and under "Process values".

1.98  8556 User unit position active

These parameters specify the properties of the user unit for the position of the active drive train.

1.98.1  8556.1 Numerator

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.98.2  8556.2 Denominator

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.98.3  8556.3 Number of decimal places

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = 0
- 1 = 1
- 2 = 2
- 3 = 3
- 4 = 4
- 5 = 5
- 6 = 6
- 7 = 7
- 8 = 8
- 9 = 9

Number of decimal positions

1.98.4  8556.4 Unit

Data type: String8Bit (fill level array)
Data length: 17
Resolution:
Value range:
Arbitrary unit defined by the user. This unit is also displayed in the PO configuration and under the process values.

1.99  8557 User unit speed DT1

These parameters specify the properties of the user unit for the speed of drive train 1.

1.99.1  8557.1 Numerator

Factory setting: 9375
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647

Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.
1.99.2 8557.2 Denominator
Factory setting: 1024
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.99.3 8557.3 Number of decimal places
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = 0
- 1 = 1
- 2 = 2
- 3 = 3
- 4 = 4
- 5 = 5
- 6 = 6
- 7 = 7
- 8 = 8
- 9 = 9
Number of decimal positions

1.99.4 8557.4 Unit
Factory setting: inc/
Data type: String8Bit (fill level array)
Data length: 17
Resolution:
Value range:
Arbitrary unit defined by the user. This unit is also available under "PO configuration" and under "Process values".

1.100 8559 User unit speed active
These parameters specify the properties of the user unit for the speed of the active drive train.
1.100.1 8559.1 Numerator

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647

Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.100.2 8559.2 Denominator

Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647

Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.100.3 8559.3 Number of decimal places

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = 0
- 1 = 1
- 2 = 2
- 3 = 3
- 4 = 4
- 5 = 5
- 6 = 6
- 7 = 7
- 8 = 8
- 9 = 9

Number of decimal positions

1.100.4 8559.4 Unit

Data type: String8Bit (fill level array)
Data length: 17
Resolution:
Value range:
Arbitrary unit defined by the user. This unit is also displayed in the PO configuration and under the process values.

1.101 8560 User unit acceleration DT1

These parameters specify the properties of the user unit for the acceleration of drive train 1.

1.101.1 8560.1 Numerator

Factory setting: 375
Unit: Int32
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.101.2 8560.2 Denominator

Factory setting: 4096
Unit: Int32
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.101.3 8560.3 Number of decimal places

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = 0
• 1 = 1
• 2 = 2
• 3 = 3
• 4 = 4
• 5 = 5
• 6 = 6
• 7 = 7
Parameter description
8562 User unit acceleration active

- 8= 8
- 9= 9

Number of decimal positions

1.101.4 8560.4 Unit
Factory setting: inc/s^2
Data type: String8Bit (fill level array)
Data length: 17
Resolution:
Value range:
Arbitrary unit defined by the user. This unit is also available under "PO configuration" and under "Process values".

1.102 8562 User unit acceleration active
These parameters specify the properties of the user unit for the acceleration of the active drive train.

1.102.1 8562.1 Numerator
Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.102.2 8562.2 Denominator
Factory setting: 1
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Numerator and denominator can be used to determine the ratio of physical SI unit and user unit.

1.102.3 8562.3 Number of decimal places
Factory setting:
Data type: Enum
Data length: 1
1.102.4 8562.4 Unit

Data type: String8Bit (fill level array)
Data length: 17
Resolution:
Value range:
Arbitrary unit defined by the user. This unit is also displayed in the PO configuration and under the process values.

1.103 8563 Brake function DT1

This parameter enables or disables the brake function of drive train 1.

1.103.1 8563.1 Activation

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Off
• 1= ON

When the brake function is disabled, the brake will not be applied when motor standstill is detected with stop FCB = FCB 00, FCB 02, FCB 13, FCB 14. The output stage remains enabled. The drive maintains the speed "0" (no position hold control) with released brake until another FCB is activated.

The following settings can be made:
– Yes: Brake function is active.
– No

This function can only be used in operating modes with encoder. For operating modes without encoder, this setting is ignored, which means the brake function is always active. This function determines whether the brake is to be applied or not when enable is revoked (enable = "0").
1.104 8565 Encoder assignment DT1

Encoder assignment for drive train 1

1.104.1 8565.1 Connected encoders

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Encoder 1
• 1= Encoder 2
Specifies the encoders connected to the inverter. Startup sets the parameter to the correct value.

1.104.2 8565.2 Source actual speed

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No encoder
• 1= Encoder 1
• 2= Encoder 2
Specifies the encoder that acts as the source for generating the actual speed. Startup sets the parameter to the correct value.

1.104.3 8565.3 Actual position source

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No encoder
• 1= Encoder 1
• 2= Encoder 2
Specifies the encoder that acts as the source for generating the actual position. Startup sets the parameter to the correct value.

1.105 8567 "Motor at standstill" signal data DT1

"Motor at standstill" signal data drive train 1

1.105.1 8567.1 Speed threshold

Factory setting: 100000
1.105.2 8567.2 Filter time

Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 25

A filter time can be defined to suppress interference. The filter acts like a delay time. During this time, the speed must be kept over or under the threshold to effect a change of the signal.

1.106 8569 "Motor at standstill" signal

1.106.1 8569.1 Status bits

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Motor at standstill – unfiltered
• 1 = Motor at standstill – filtered

This parameter provides the state "Motor at standstill" as bits for output on digital outputs and status word.

1.107 8572 Limit switch data DT1

MOVI-C® allows for monitoring hardware limit switches depending on the drive train. When a hardware limit switch is hit, a programmable response is triggered. To move clear of the limit switch, movement is only permitted in opposite direction.

1.107.1 8572.1 HW limit switch hit response

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No response
- 3 = Emergency stop + output stage inhibit
- 53 = Emergency stop + output stage inhibit with self reset

Response to a hit hardware limit switch.
The following settings can be made:
- No response
- Emergency stop + output stage inhibit: The drive is decelerated at the emergency stop ramp, then the output stage is inhibited.
- Emergency stop + output stage inhibit with self reset: The drive is decelerated at the emergency stop ramp, then the output stage is inhibited. When a setpoint is applied in the opposite direction, the fault is acknowledged automatically and the drive moves clear of the hardware limit switch.

1.107.2 8572.2 SW limit switch hit response

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No response
- 3 = Emergency stop + output stage inhibit
- 53 = Emergency stop + output stage inhibit with self reset

Response to a hit software limit switch.
The following settings can be made:
- No response
- Emergency stop + output stage inhibit: The drive is decelerated at the emergency stop ramp, then the output stage is inhibited.
- Emergency stop + output stage inhibit with self reset: The drive is decelerated at the emergency stop ramp, then the output stage is inhibited. When a setpoint is applied in the opposite direction, the fault is acknowledged automatically and the drive moves clear of the software limit switch.

1.108 8584 Hardware diagnostics

Hardware diagnostics

1.108.1 8584.41 Heat sink temperature unfiltered

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
1.109  **8586 Standby mode**

By activating standby mode, all the following energy consumers are switched off in the following sequence. This condition is maintained as long as standby mode is active:

1. High-voltage switched-mode power supply in the power section of control unit devices
2. Supply voltage for local bus consumers of control unit devices
3. When using an inverter with 7-segment display: all segments except for the decimal point at the bottom right
4. When using compact units: voltage supply for a plugged-in keypad
5. Encoder supplies enabled by the user

1.109.1  **8586.1 Activate standby mode**

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = Control word
- 1 = Digital inputs basic unit
- 2 = Digital inputs I/O card
- 3 = Fieldbus

Specifies the channels used to enable and disable standby mode.

1.109.2  **8586.2 Request disconnection of encoder/safety card supply**

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No
- 1 = Yes

Specifies whether the encoder or safety card is to be disabled when activating standby mode.

1.109.3  **8586.3 Disconnection of encoder/safety card supply effective**

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No
- 1 = Yes
The requested disconnection of the encoder/safety card supply is effective. With double-axis modules, this request takes effect as soon as it is requested on one of the two axis instances.

1.110 8587 Scope data channels

Scope data channels

1.110.1 8587.1 Data channel 1

Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 1

1.110.2 8587.2 Data channel 2

Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 2

1.110.3 8587.3 Data channel 3

Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 3

1.110.4 8587.4 Data channel 4

Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 4

**1.110.5 8587.5 Data channel 5**
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 5

**1.110.6 8587.6 Data channel 6**
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 6

**1.110.7 8587.7 Data channel 7**
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 7

**1.110.8 8587.8 Data channel 8**
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 8

**1.110.9 8587.9 Data channel 9**
Factory setting: 0
Parameter description
8603 General engineering data

Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 9

1.110.10 8587.10 Data channel 10
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope data channel 10

1.110.11 8587.100 Timestamp channel
Factory setting: 0
Unit:
Data type: Uint32 (fill level array)
Data length: 65534
Resolution: 1
Value range: 0 to 4294967295
Scope timestamp channel

1.110.12 8587.101 Data status
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 255
The data status informs about the validity and fill level of the scope data buffer.

1.111 8603 General engineering data
These parameters specify the general engineering data.

1.111.1 8603.1 General DT1
Factory setting: 0
Unit:
**1.112  8610 EU 400 V/50 Hz**

These parameters specify country-specific configuration data for EU 400 V/50 Hz.

1.112.1  **8610.1 Nominal motor voltage**

- Factory setting: 0
- Unit: V
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 2000

Nominal motor voltage

1.112.2  **8610.2 Nominal motor frequency**

- Factory setting: 0
- Unit: Hz
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 20000

Nominal motor frequency

1.112.3  **8610.3 Maximum rotational speed**

- Factory setting: 0
- Unit: min\(^{-1}\)
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 36000

Maximum rotational speed

1.112.4  **8610.4 Fixed setpoint 1**

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
Parameter description
8610 EU 400 V/50 Hz

Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 1

1.112.5 8610.5 Fixed setpoint 2
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 2

1.112.6 8610.6 Fixed setpoint 3
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 3

1.112.7 8610.7 Fixed setpoint 4
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 4

1.112.8 8610.8 Fixed setpoint 5
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 5
1.112.9  8610.9 Fixed setpoint 6

Factory setting: 0  
Unit: 1E-4/min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: -360000000 to 360000000  
Fixed speed setpoint 6

1.113  8611 USA/CAN 460 V/60 Hz

These parameters specify country-specific configuration data for USA/CAN 460 V/60 Hz.

1.113.1  8611.1 Nominal motor voltage

Factory setting: 0  
Unit: V  
Data type: Float32  
Data length: 1  
Resolution: –  
Value range: 0 to 2000  
Nominal motor voltage

1.113.2  8611.2 Nominal motor frequency

Factory setting: 0  
Unit: Hz  
Data type: Float32  
Data length: 1  
Resolution: –  
Value range: 0 to 20000  
Nominal motor frequency

1.113.3  8611.3 Maximum rotational speed

Factory setting: 0  
Unit: 1/min  
Data type: Float32  
Data length: 1  
Resolution: –  
Value range: 0 to 36000  
Maximum rotational speed
1.113.4  **8611.4 Fixed setpoint 1**  
Factory setting: 0  
Unit: 1E-4/min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: -360000000 to 360000000  
Fixed speed setpoint 1

1.113.5  **8611.5 Fixed setpoint 2**  
Factory setting: 0  
Unit: 1E-4/min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: -360000000 to 360000000  
Fixed speed setpoint 2

1.113.6  **8611.6 Fixed setpoint 3**  
Factory setting: 0  
Unit: 1E-4/min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: -360000000 to 360000000  
Fixed speed setpoint 3

1.113.7  **8611.7 Fixed setpoint 4**  
Factory setting: 0  
Unit: 1E-4/min  
Data type: Int32  
Data length: 1  
Resolution: 1  
Value range: -360000000 to 360000000  
Fixed speed setpoint 4

1.113.8  **8611.8 Fixed setpoint 5**  
Factory setting: 0  
Unit: 1E-4/min  
Data type: Int32  
Data length: 1
Parameter description
8612 Configuration data BR/KR 380 V/60 Hz

Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 5

1.113.9  8611.9 Fixed setpoint 6
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 6

1.114  8612 Configuration data BR/KR 380 V/60 Hz
These parameters specify country-specific configuration data for Brazil/Korea for 380 V/60 Hz.

1.114.1  8612.1 Nominal motor voltage
Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 2000
Nominal motor voltage

1.114.2  8612.2 Nominal motor frequency
Factory setting: 0
Unit: Hz
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 20000
Nominal motor frequency

1.114.3  8612.3 Maximum rotational speed
Factory setting: 0
Unit: 1/min
Data type: Float32
Data length: 1
Parameter description
8612 Configuration data BR/KR 380 V/60 Hz

Resolution: –
Value range: 0 to 36000
Maximum permitted rotational speed

1.114.4  8612.4 Fixed setpoint 1
  Factory setting: 0
  Unit: 1E-4/min
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: -360000000 to 360000000
  Fixed speed setpoint 1

1.114.5  8612.5 Fixed setpoint 2
  Factory setting: 0
  Unit: 1E-4/min
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: -360000000 to 360000000
  Fixed speed setpoint 2

1.114.6  8612.6 Fixed setpoint 3
  Factory setting: 0
  Unit: 1E-4/min
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: -360000000 to 360000000
  Fixed speed setpoint 3

1.114.7  8612.7 Fixed setpoint 4
  Factory setting: 0
  Unit: 1E-4/min
  Data type: Int32
  Data length: 1
  Resolution: 1
  Value range: -360000000 to 360000000
  Fixed speed setpoint 4
1.114.8 **8612.8 Fixed setpoint 5**

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000

**Fixed speed setpoint 5**

1.114.9 **8612.9 Fixed setpoint 6**

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000

**Fixed speed setpoint 6**

1.115 **8613 Configuration data BR/KR 440 V/60 Hz**

These parameters specify country-specific configuration data for Brazil/Korea for 440V/60 Hz.

1.115.1 **8613.1 Nominal motor voltage**

- Factory setting: 0
- Unit: V
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 2000

**Nominal motor voltage**

1.115.2 **8613.2 Nominal motor frequency**

- Factory setting: 0
- Unit: Hz
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 20000

**Nominal motor frequency**
1.115.3 8613.3 Maximum rotational speed
   Factory setting: 0
   Unit: 1/min
   Data type: Float32
   Data length: 1
   Resolution: –
   Value range: 0 to 36000
   Maximum permitted rotational speed

1.115.4 8613.4 Fixed setpoint 1
   Factory setting: 0
   Unit: 1E-4/min
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -360000000 to 360000000
   Fixed speed setpoint 1

1.115.5 8613.5 Fixed setpoint 2
   Factory setting: 0
   Unit: 1E-4/min
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -360000000 to 360000000
   Fixed speed setpoint 2

1.115.6 8613.6 Fixed setpoint 3
   Factory setting: 0
   Unit: 1E-4/min
   Data type: Int32
   Data length: 1
   Resolution: 1
   Value range: -360000000 to 360000000
   Fixed speed setpoint 3

1.115.7 8613.7 Fixed setpoint 4
   Factory setting: 0
   Unit: 1E-4/min
   Data type: Int32
   Data length: 1
Parameter description
8614 EU 230 V/50 Hz

Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 4

1.115.8 8613.8 Fixed setpoint 5

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 5

1.115.9 8613.9 Fixed setpoint 6

Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 6

1.116 8614 EU 230 V/50 Hz

These parameters specify country-specific configuration data for EU 230 V/50 Hz.

1.116.1 8614.1 Nominal motor voltage

Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 2000
Nominal motor voltage

1.116.2 8614.2 Nominal motor frequency

Factory setting: 0
Unit: Hz
Data type: Float32
Data length: 1
Resolution: –
Parameter description
8614 EU 230 V/50 Hz

Value range: 0 to 20000
Nominal motor frequency

1.116.3 8614.3 Maximum rotational speed
Factory setting: 0
Unit: 1/min
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 36000
Maximum rotational speed

1.116.4 8614.4 Fixed setpoint 1
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 1

1.116.5 8614.5 Fixed setpoint 2
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 2

1.116.6 8614.6 Fixed setpoint 3
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 3

1.116.7 8614.7 Fixed setpoint 4
Factory setting: 0
Parameter description
8615 USA/CAN 230 V/60 Hz

Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 4

1.116.8 8614.8 Fixed setpoint 5
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 5

1.116.9 8614.9 Fixed setpoint 6
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 6

1.117 8615 USA/CAN 230 V/60 Hz
These parameters specify country-specific configuration data for USA/CAN 230 V/60 Hz.

1.117.1 8615.1 Nominal motor voltage
Factory setting: 0
Unit: V
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 2000
Nominal motor voltage

1.117.2 8615.2 Nominal motor frequency
Factory setting: 0
Parameter description
8615 USA/CAN 230 V/60 Hz

Unit: Hz
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 20000
Nominal motor frequency

1.117.3 8615.3 Maximum rotational speed
Factory setting: 0
Unit: 1/min
Data type: Float32
Data length: 1
Resolution: –
Value range: 0 to 36000
Maximum rotational speed

1.117.4 8615.4 Fixed setpoint 1
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 1

1.117.5 8615.5 Fixed setpoint 2
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 2

1.117.6 8615.6 Fixed setpoint 3
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 3
1.117.7 8615.7 Fixed setpoint 4

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000
- Fixed speed setpoint 4

1.117.8 8615.8 Fixed setpoint 5

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000
- Fixed speed setpoint 5

1.117.9 8615.9 Fixed setpoint 6

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000
- Fixed speed setpoint 6

1.118 8616 Configuration data BR/KR 220 V/60 Hz

These parameters specify country-specific configuration data for Brazil/Korea for 220 V/60 Hz.

1.118.1 8616.1 Nominal motor voltage

- Factory setting: 0
- Unit: V
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 2000
- Nominal motor voltage
Parameter description
8616 Configuration data BR/KR 220 V/60 Hz

1.118.2 8616.2 Nominal motor frequency
- Factory setting: 0
- Unit: Hz
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 20000
Nominal motor frequency

1.118.3 8616.3 Maximum rotational speed
- Factory setting: 0
- Unit: 1/min
- Data type: Float32
- Data length: 1
- Resolution: –
- Value range: 0 to 36000
Maximum permitted rotational speed

1.118.4 8616.4 Fixed setpoint 1
- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000
Fixed speed setpoint 1

1.118.5 8616.5 Fixed setpoint 2
- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -360000000 to 360000000
Fixed speed setpoint 2

1.118.6 8616.6 Fixed setpoint 3
- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
Parameter description
8622 Programmable fault response

Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 3

1.118.7 8616.7 Fixed setpoint 4
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 4

1.118.8 8616.8 Fixed setpoint 5
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 5

1.118.9 8616.9 Fixed setpoint 6
Factory setting: 0
Unit: 1E-4/min
Data type: Int32
Data length: 1
Resolution: 1
Value range: -360000000 to 360000000
Fixed speed setpoint 6

1.119 8622 Programmable fault response

These parameters can be used to set parameterizable fault responses.

1.119.1 8622.2 Response to heat sink utilization – prewarning
Factory setting:
Data type: Enum
Data length: 1
Value range:

- **0**: No response
- **1**: Warning

Specifies how the device responds to an exceeded prewarning threshold of heat sink utilization.

### 1.119.2 8622.3 Positioning lag error response

Factory setting:
Data type: Enum
Data length: 1

Value range:

- **0**: No response
- **1**: Warning
- **2**: Application stop + output stage inhibit
- **3**: Emergency stop + output stage inhibit
- **4**: Output stage inhibit

Specifies how the device responds to a lag error (lag error window exceeded).

### 1.119.3 8622.4 Line phase failure response

Factory setting:
Data type: Enum
Data length: 1

Value range:

- **0**: No response
- **1**: Warning
- **2**: Application stop + output stage inhibit
- **3**: Emergency stop + output stage inhibit
- **4**: Output stage inhibit

 Specifies how the device responds to line phase failure (threshold specified by the user is exceeded).

### 1.119.4 8622.5 Response to external fault

Factory setting:
Data type: Enum
Data length: 1

Value range:

- **0**: No response
- **1**: Warning
- **2**: Application stop + output stage inhibit
- **3**: Emergency stop + output stage inhibit
- **4**: Output stage inhibit
Parameter description
8622 Programmable fault response

Specifies how the device responds to an external fault (triggered by digital inputs or control word, for example).

1.119.5 8622.6 Response to process data timeout

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1 = Warning
• 2 = Application stop + output stage inhibit
• 3 = Emergency stop + output stage inhibit
• 4 = Output stage inhibit
• 51 = Warning with self reset
• **52** = Application stop + output stage inhibit with self reset
• 53 = Emergency stop + output stage inhibit with self reset
• 54 = Output stage inhibit with self-reset

Specifies how the device responds to a process data timeout on the bus system (timeout time).

1.119.6 8622.7 Response to external synchronization

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = No response
• 1 = Warning
• 2 = Application stop + output stage inhibit
• 3 = Emergency stop + output stage inhibit
• 4 = Output stage inhibit
• **51** = Warning with self reset
• 52 = Application stop + output stage inhibit with self reset
• 53 = Emergency stop + output stage inhibit with self reset
• 54 = Output stage inhibit with self-reset

Specifies how the device responds to a loss of external synchronization.

1.119.7 8622.10 Response to electromechanical utilization – prewarning

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = No response
• 1 = Warning
Parameter description
8622 Programmable fault response

- 2 = Application stop + output stage inhibit
- 3 = Emergency stop + output stage inhibit
- 4 = Output stage inhibit

Specifies how the device responds to an exceeded prewarning threshold of electromechanical utilization.

1.119.8 8622.13 Response to encoder warning

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 1 = Warning
- 2 = Application stop + output stage inhibit
- 3 = Emergency stop + output stage inhibit
- 4 = Output stage inhibit

Specifies how the device responds to an encoder warning.

1.119.9 8622.14 Response to encoder fault

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 2 = Application stop + output stage inhibit
- 3 = Emergency stop + output stage inhibit
- 4 = Output stage inhibit

Specifies how the device responds to an encoder fault.

1.119.10 8622.15 Response to additional encoder

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 1 = Warning
- 2 = Application stop + output stage inhibit
- 3 = Emergency stop + output stage inhibit
- 4 = Output stage inhibit

Specifies how the device responds to a fault of an encoder that is neither used for speed control nor for position control.

1.119.11 8622.16 Response to encoder 1 latest fault

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No response
• 216= Encoder – fault
• 217= Additional encoder
Specifies how the device responds to the current standard fault of encoder 1.

1.119.12 8622.17 Response to encoder 2 latest fault
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No response
• 216= Encoder – fault
• 217= Additional encoder
Specifies how the device responds to the current standard fault of encoder 2.

1.119.13 8622.18 Response to encoder 1 latest critical fault
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No response
• 4= Output stage inhibit
• 216= Encoder – fault
• 217= Additional encoder
Specifies how the device responds to the current critical fault of encoder 1.

1.119.14 8622.19 Response to encoder 2 latest critical fault
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= No response
• 4= Output stage inhibit
• 216= Encoder – fault
• 217= Additional encoder
Specifies how the device responds to the current critical fault of encoder 2.

1.119.15 8622.20 Response to external braking resistor fault
Factory setting:
Data type: Enum
Parameter description
8627 Module bus

Data length: 1
Value range:
• 0 = No response
• 1 = Warning
• 2 = Application stop + output stage inhibit
• 3 = Emergency stop + output stage inhibit
• 4 = Output stage inhibit

Specifies how the device responds to a fault of the external braking resistor.

1.119.16 8622.22 Response to user timeout

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1 = Warning
• 2 = Application stop + output stage inhibit
• 3 = Emergency stop + output stage inhibit
• 4 = Output stage inhibit
• 51 = Warning with self reset
• 52 = Application stop + output stage inhibit with self reset
• 53 = Emergency stop + output stage inhibit with self reset
• 54 = Output stage inhibit with self-reset

Specifies how the device responds to a timeout of the user timeout function.

1.120 8627 Module bus

Module bus

1.120.1 8627.1 Activation

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0 = Off
• 1 = ON

Specifies whether the module bus is evaluated in the "ready" signal of the device.

1.121 8700 Safety card – status values

These parameters specify the general status values of the safety card that can be recorded with the Scope function.
1.121.1 8700.1 SDI drive safety function – status

Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
• 0= Instance 1 activated
• 1= Instance 2 activated
• 2= Instance 3 activated
• 3= Instance 4 activated
• 4= Instance 5 activated
• 5= Instance 6 activated
• 6= Instance 7 activated
• 7= Instance 8 activated
• 8= Instance 9 activated
• 9= Instance 10 activated
• 10= Instance 11 activated
• 11= Instance 12 activated
• 12= Instance 13 activated
• 13= Instance 14 activated
• 14= Instance 15 activated
• 15= Instance 16 activated
• 16= Status instance 1
• 17= Status instance 2
• 18= Status instance 3
• 19= Status instance 4
• 20= Status instance 5
• 21= Status instance 6
• 22= Status instance 7
• 23= Status instance 8
• 24= Status instance 9
• 25= Status instance 10
• 26= Status instance 11
• 27= Status instance 12
• 28= Status instance 13
• 29= Status instance 14
• 30= Status instance 15
• 31= Status instance 16

The activation bits indicate that the SDI drive safety function has been activated via safe digital input F-DI or safe process output data F-PO.
The status bits indicate that the SDI drive safety function is active and that limit values have not been violated.
1.121.2 8700.2 SLA drive safety function – status

Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0 = Instance 1 activated
- 1 = Instance 2 activated
- 2 = Instance 3 activated
- 3 = Instance 4 activated
- 4 = Instance 5 activated
- 5 = Instance 6 activated
- 6 = Instance 7 activated
- 7 = Instance 8 activated
- 8 = Instance 9 activated
- 9 = Instance 10 activated
- 10 = Instance 11 activated
- 11 = Instance 12 activated
- 12 = Instance 13 activated
- 13 = Instance 14 activated
- 14 = Instance 15 activated
- 15 = Instance 16 activated
- 16 = Status instance 1
- 17 = Status instance 2
- 18 = Status instance 3
- 19 = Status instance 4
- 20 = Status instance 5
- 21 = Status instance 6
- 22 = Status instance 7
- 23 = Status instance 8
- 24 = Status instance 9
- 25 = Status instance 10
- 26 = Status instance 11
- 27 = Status instance 12
- 28 = Status instance 13
- 29 = Status instance 14
- 30 = Status instance 15
- 31 = Status instance 16

The activation bits indicate that the SLA drive safety function has been activated via safe digital input F-DI or safe process output data F-PO.

The status bits indicate that the SLA drive safety function is active and that limit values have not been violated.
1.121.3 8700.3 SLI drive safety function – status

Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0 = Instance 1 activated
- 1 = Instance 2 activated
- 2 = Instance 3 activated
- 3 = Instance 4 activated
- 4 = Instance 5 activated
- 5 = Instance 6 activated
- 6 = Instance 7 activated
- 7 = Instance 8 activated
- 8 = Instance 9 activated
- 9 = Instance 10 activated
- 10 = Status instance 1
- 11 = Status instance 2
- 12 = Status instance 3
- 13 = Status instance 4
- 14 = Status instance 5
- 15 = Status instance 6
- 16 = Status instance 7
- 17 = Status instance 8
- 18 = Status instance 9
- 19 = Status instance 10
- 20 = Increment enable instance 1
- 21 = Increment enable instance 2
- 22 = Increment enable instance 3
- 23 = Increment enable instance 4
- 24 = Increment enable instance 5
- 25 = Increment enable instance 6
- 26 = Increment enable instance 7
- 27 = Increment enable instance 8
- 28 = Increment enable instance 9
- 29 = Increment enable instance 10

The activation bits indicate that the SLI drive safety function has been activated via F-DI or F-PO.

The status bits indicate that the SLI drive safety function is active and that limit values have not been violated.

1.121.4 8700.4 SLS drive safety function – status

Factory setting:
Parameter description
8700 Safety card – status values

Data type: Bit field (DataArray)
Data length: 1

Value range:
• 0= Instance 1 activated
• 1= Instance 2 activated
• 2= Instance 3 activated
• 3= Instance 4 activated
• 4= Instance 5 activated
• 5= Instance 6 activated
• 6= Instance 7 activated
• 7= Instance 8 activated
• 8= Instance 9 activated
• 9= Instance 10 activated
• 10= Instance 11 activated
• 11= Instance 12 activated
• 12= Instance 13 activated
• 13= Instance 14 activated
• 14= Instance 15 activated
• 15= Instance 16 activated
• 16= Status instance 1
• 17= Status instance 2
• 18= Status instance 3
• 19= Status instance 4
• 20= Status instance 5
• 21= Status instance 6
• 22= Status instance 7
• 23= Status instance 8
• 24= Status instance 9
• 25= Status instance 10
• 26= Status instance 11
• 27= Status instance 12
• 28= Status instance 13
• 29= Status instance 14
• 30= Status instance 15
• 31= Status instance 16

SLS drive safety function – status

1.121.5 8700.5 SOS drive safety function – status
Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0 = Instance 1 activated
- 1 = Instance 2 activated
- 2 = Instance 3 activated
- 3 = Instance 4 activated
- 4 = Instance 5 activated
- 5 = Instance 6 activated
- 6 = Instance 7 activated
- 7 = Instance 8 activated
- 8 = Instance 9 activated
- 9 = Instance 10 activated
- 10 = Instance 11 activated
- 11 = Instance 12 activated
- 12 = Instance 13 activated
- 13 = Instance 14 activated
- 14 = Instance 1 activated 15
- 15 = Instance 16 activated
- 16 = Status instance 1
- 17 = Status instance 2
- 18 = Status instance 3
- 19 = Status instance 4
- 20 = Status instance 5
- 21 = Status instance 6
- 22 = Status instance 7
- 23 = Status instance 8
- 24 = Status instance 9
- 25 = Status instance 10
- 26 = Status instance 11
- 27 = Status instance 12
- 28 = Status instance 13
- 29 = Status instance 14
- 30 = Status instance 15
- 31 = Status instance 16

SOS drive safety function – status

1.121.6 8700.6 SSM drive safety function – status

Factory setting:
Data type: Bit field (DataArray)
Data length: 1

Value range:
- 0 = Instance 1 activated
- 1 = Instance 2 activated
Parameter description
8700 Safety card – status values

- 2= Instance 3 activated
- 3= Instance 4 activated
- 4= Instance 5 activated
- 5= Instance 6 activated
- 6= Instance 7 activated
- 7= Instance 8 activated
- 8= Instance 9 activated
- 9= Instance 10 activated
- 10= Instance 11 activated
- 11= Instance 12 activated
- 12= Instance 13 activated
- 13= Instance 14 activated
- 14= Instance 15 activated
- 15= Instance 16 activated
- 16= Status instance 1
- 17= Status instance 2
- 18= Status instance 3
- 19= Status instance 4
- 20= Status instance 5
- 21= Status instance 6
- 22= Status instance 7
- 23= Status instance 8
- 24= Status instance 9
- 25= Status instance 10
- 26= Status instance 11
- 27= Status instance 12
- 28= Status instance 13
- 29= Status instance 14
- 30= Status instance 15
- 31= Status instance 16

SSM drive safety function – status

1.121.7 8700.7 SSR drive safety function – status
Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0= Instance 1 activated
- 1= Instance 2 activated
- 2= Instance 3 activated
- 3= Instance 4 activated
- 4= Instance 5 activated
Parameter description
8700 Safety card – status values

- 5= Instance 6 activated
- 6= Instance 7 activated
- 7= Instance 8 activated
- 8= Instance 9 activated
- 9= Instance 10 activated
- 10= Instance 11 activated
- 11= Instance 12 activated
- 12= Instance 13 activated
- 13= Instance 14 activated
- 14= Instance 15 activated
- 15= Instance 16 activated
- 16= Status instance 1
- 17= Status instance 2
- 18= Status instance 3
- 19= Status instance 4
- 20= Status instance 5
- 21= Status instance 6
- 22= Status instance 7
- 23= Status instance 8
- 24= Status instance 9
- 25= Status instance 10
- 26= Status instance 11
- 27= Status instance 12
- 28= Status instance 13
- 29= Status instance 14
- 30= Status instance 15
- 31= Status instance 16

SSR drive safety function – status

1.121.8 8700.8 STOP drive safety function – status

Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0= Instance 1 activated
- 1= Instance 2 activated
- 2= Instance 3 activated
- 3= Instance 4 activated
- 4= Instance 5 activated
- 5= Instance 6 activated
- 6= Instance 7 activated
- 7= Instance 8 activated
Parameter description
8700 Safety card – status values

- 8 = Instance 9 activated
- 9 = Instance 10 activated
- 10 = Instance 11 activated
- 11 = Instance 12 activated
- 12 = Instance 13 activated
- 13 = Instance 14 activated
- 14 = Instance 15 activated
- 15 = Instance 16 activated
- 16 = Status instance 1
- 17 = Status instance 2
- 18 = Status instance 3
- 19 = Status instance 4
- 20 = Status instance 5
- 21 = Status instance 6
- 22 = Status instance 7
- 23 = Status instance 8
- 24 = Status instance 9
- 25 = Status instance 10
- 26 = Status instance 11
- 27 = Status instance 12
- 28 = Status instance 13
- 29 = Status instance 14
- 30 = Status instance 15
- 31 = Status instance 16

STOP drive safety function – status

1.121.9 8700.9 STO drive safety function – status

Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0 = Instance 1 activated
- 1 = Instance 2 activated
- 2 = Instance 3 activated
- 3 = Instance 4 activated
- 4 = Instance 5 activated
- 5 = Instance 6 activated
- 6 = Instance 7 activated
- 7 = Instance 8 activated
- 8 = Instance 9 activated
- 9 = Instance 10 activated
- 10 = Instance 11 activated
11= Instance 12 activated
12= Instance 13 activated
13= Instance 14 activated
14= Instance 15 activated
15= Instance 16 activated
16= Status instance 1
17= Status instance 2
18= Status instance 3
19= Status instance 4
20= Status instance 5
21= Status instance 6
22= Status instance 7
23= Status instance 8
24= Status instance 9
25= Status instance 10
26= Status instance 11
27= Status instance 12
28= Status instance 13
29= Status instance 14
30= Status instance 15
31= Status instance 16

STO drive safety function – status

1.121.10 8700.10 Limit speed in positive direction of movement of all drive safety functions

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Limit speed in positive direction of movement of all drive safety functions

1.121.11 8700.11 Limit speed in negative direction of movement of all drive safety functions

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Limit speed in negative direction of movement of all drive safety functions
### 1.121.12 8700.12 Limit acceleration in positive direction of movement of all drive safety functions

- **Factory setting:** 0
- **Unit:** 1E-02/(min*s)
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** -2147483648 to 2147483647

#### Description
Limit acceleration in positive direction of movement of all drive safety functions

### 1.121.13 8700.13 Limit acceleration in negative direction of movement of all drive safety functions

- **Factory setting:** 0
- **Unit:** 1E-02/(min*s)
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** -2147483648 to 2147483647

#### Description
Limit acceleration in negative direction of movement of all drive safety functions

### 1.121.14 8700.14 Limit speed in positive direction of movement of all drive safety functions in user units

- **Factory setting:** 0
- **Unit:** 1E-4/min user unit
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** -2147483648 to 2147483647

#### Description
Limit speed in positive direction of movement of all drive safety functions in user units

### 1.121.15 8700.15 Limit speed in negative direction of movement of all drive safety functions in user units

- **Factory setting:** 0
- **Unit:** 1E-4/min user unit
- **Data type:** Int32
- **Data length:** 1
- **Resolution:** 1
- **Value range:** -2147483648 to 2147483647

#### Description
Limit speed in negative direction of movement of all drive safety functions in user units

### 1.121.16 8700.16 Limit acceleration in positive direction of movement of all drive safety functions in user units

- **Factory setting:** 0
- **Unit:** 1E-02/(min*s) user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Limit acceleration in positive direction of movement of all drive safety functions in user units

1.121.17 8700.17 Limit acceleration in negative direction of movement of all drive safety functions in user units

Factory setting: 0
Unit: 1E-02/(min*s) user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Limit acceleration in negative direction of movement of all drive safety functions in user units

1.121.18 8700.18 Limit position SDI drive safety function – blocked direction of movement in user units

Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SDI drive safety function blocked direction of movement in user units

1.121.19 8700.19 Limit acceleration SLA drive safety function – positive direction of movement in user units

Factory setting: 0
Unit: 1E-02/(min*s) user unit
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit acceleration SLA drive safety function positive direction of movement in user units

1.121.20 8700.20 Limit acceleration SLA drive safety function – negative direction of movement in user units

Factory setting: 0
Unit: 1E-02/(min*s) user unit
1 Parameter description
8700 Safety card – status values

Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit acceleration SLA drive safety function negative direction of movement in user units

1.121.21 8700.21 Limit position SLI drive safety function – positive direction of movement in user units
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SLI drive safety function positive direction of movement in user units

1.121.22 8700.22 Limit position SLI drive safety function – negative direction of movement in user units
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SLI drive safety function negative direction of movement in user units

1.121.23 8700.25 Limit speed SLS drive safety function – positive direction of movement in user units
Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SLS drive safety function positive direction of movement in user units

1.121.24 8700.26 Limit speed SLS drive safety function – negative direction of movement in user units
Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32 (DataArray)
Data length: 4

Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SLS drive safety function negative direction of movement in user units

1.121.25 8700.27 Limit position SOS drive safety function – positive direction of movement in user units

Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SOS drive safety function positive direction of movement in user units

1.121.26 8700.28 Limit position SOS safety function – negative direction of movement in user units

Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SOS safety function negative direction of movement in user units

1.121.27 8700.29 Limit speed SSM drive safety function – positive direction of movement in user units

Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SSM drive safety function positive direction of movement in user units

1.121.28 8700.30 Limit speed SSM drive safety function – negative direction of movement in user units

Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SSM drive safety function negative direction of movement in user units
1.121.29 8700.31 Upper limit speed SSR drive safety function in user units
   Factory setting: 0
   Unit: 1E-4/min user unit
   Data type: Int32 (DataArray)
   Data length: 2
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Upper limit speed SSR drive safety function in user units

1.121.30 8700.32 Lower limit speed SSR drive safety function in user units
   Factory setting: 0
   Unit: 1E-4/min user unit
   Data type: Int32 (DataArray)
   Data length: 2
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Lower limit speed SSR drive safety function in user units

1.121.31 8700.33 Limit speed STOP drive safety function – positive direction of movement in user units
   Factory setting: 0
   Unit: 1E-4/min user unit
   Data type: Int32 (DataArray)
   Data length: 2
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Limit speed STOP drive safety function positive direction of movement in user units

1.121.32 8700.34 Limit speed STOP drive safety function – negative direction of movement in user units
   Factory setting: 0
   Unit: 1E-4/min user unit
   Data type: Int32 (DataArray)
   Data length: 2
   Resolution: 1
   Value range: -2147483648 to 2147483647
   Limit speed STOP drive safety function negative direction of movement in user units

1.121.33 8700.35 Limit position SDI drive safety function – blocked direction of movement
   Factory setting: 0
   Unit: 1/65536 rev
   Data type: Int32 (DataArray)
1.121.34 8700.36 Limit acceleration SLA drive safety function – positive direction of movement

- Factory setting: 0
- Unit: 1E-02/(min*s)
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Limit acceleration SLA drive safety function positive direction of movement

1.121.35 8700.37 Limit acceleration SLA drive safety function – negative direction of movement

- Factory setting: 0
- Unit: 1E-02/(min*s)
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Limit acceleration SLA drive safety function negative direction of movement

1.121.36 8700.38 Limit position SLI drive safety function – positive direction of movement

- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Limit position SLI drive safety function positive direction of movement

1.121.37 8700.39 Limit position SLI drive safety function – negative direction of movement

- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Limit position SLI drive safety function negative direction of movement
1.121.38 8700.42 Limit speed SLS drive safety function – positive direction of movement
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SLS drive safety function positive direction of movement

1.121.39 8700.43 Limit speed SLS drive safety function – negative direction of movement
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SLS drive safety function negative direction of movement

1.121.40 8700.44 Limit position SOS drive safety function – positive direction of movement
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SOS drive safety function – positive direction of movement

1.121.41 8700.45 Limit position SOS drive safety function – negative direction of movement
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Limit position SOS drive safety function – negative direction of movement

1.121.42 8700.46 Limit speed SSM drive safety function – positive direction of movement
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SSM drive safety function positive direction of movement

1.121.43 8700.47 Limit speed SSM drive safety function – negative direction of movement
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SSM drive safety function negative direction of movement

1.121.44 8700.48 Upper limit speed SSR drive safety function
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Upper limit speed SSR drive safety function

1.121.45 8700.49 Upper limit speed SSR drive safety function
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Lower limit speed SSR drive safety function

1.121.46 8700.50 Limit speed STOP drive safety function – positive direction of movement
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed STOP drive safety function – positive direction of movement
1.121.47 8700.51 Limit speed STOP drive safety function – negative direction of movement

- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647

Limit speed STOP drive safety function in negative direction of movement

1.121.48 8700.52 Speed filter SLS drive safety function

- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32 (DataArray)
- Data length: 4
- Resolution: 1
- Value range: -2147483648 to 2147483647

Speed filter SLS drive safety function

1.121.49 8700.53 Speed filter SLS drive safety function in user units

- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32 (DataArray)
- Data length: 4
- Resolution: 1
- Value range: -2147483648 to 2147483647

Speed filter SLS drive safety function in user units

1.121.50 8700.54 Speed filter SSM drive safety function

- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32 (DataArray)
- Data length: 4
- Resolution: 1
- Value range: -2147483648 to 2147483647

Speed filter SSM drive safety function

1.121.51 8700.55 Speed filter SSM drive safety function in user units

- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32 (DataArray)
- Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Speed filter SSM drive safety function in user units

### 1.121.52 8700.56 Speed filter SSR drive safety function – upper limit speed
- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Speed filter SSR drive safety function upper limit speed

### 1.121.53 8700.57 Speed filter SSR drive safety function – upper limit speed in user units
- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Speed filter SSR drive safety function upper limit speed in user units

### 1.121.54 8700.58 Speed filter SSR drive safety function – lower limit speed
- Factory setting: 0
- Unit: 1/65536 rev
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Speed filter SSR drive safety function lower limit speed

### 1.121.55 8700.59 Speed filter SSR drive safety function – lower limit speed in user units
- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: -2147483648 to 2147483647
- Speed filter SSR drive safety function lower limit speed in user units
1.121.56 8700.60 Current braking distance SLI drive safety function
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Current braking distance SLI drive safety function

1.121.57 8700.61 Limit speed SLI drive safety function
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SLI drive safety function

1.121.58 8700.62 Limit speed SLI drive safety function in user units
Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32 (DataArray)
Data length: 2
Resolution: 1
Value range: -2147483648 to 2147483647
Limit speed SLI drive safety function in user units

1.121.59 8700.63 Actual speed in system units
Factory setting: 0
Unit: 1E-4/min
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual speed in system units

1.121.60 8700.64 Actual position in system units
Factory setting: 0
Unit: 1/65536 rev
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position in system units

1.121.61 8700.65 Actual acceleration in system units
Factory setting: 2147483647
Unit: 1E-02/(min*s)
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual acceleration in system units

1.121.62 8700.70 Active fault class
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Critical fault
• 1= System error
• 2= Input fault
• 3= Encoder fault
• 4= Output fault
• 5= Warning
Active fault class

1.121.63 8700.72 Safety card state
Factory setting:
Data type: Enum
Data length: 1
Value range:
• 0= Initialization
• 38913= Parameterization
• 43010= Operation
• 12291= Critical fault
• 45060= Firmware update
Safety card state

1.121.64 8700.73 F-PO user data
Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Parameter description
8700 Safety card – status values

Data length: 12
Resolution: 1
Value range: 0 to 255
Safe process output data (controller to safety card)

1.121.65 8700.74 F-PL user data
Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 12
Resolution: 1
Value range: 0 to 255
Safe process input data (safety card to controller)

1.121.66 8700.75 PI data fast channel
Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 2
Resolution: 1
Value range: 0 to 255
Process input data of the non-safety relevant fast channel

1.121.67 8700.76 Standard PI data
Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 4
Resolution: 1
Value range: 0 to 255
Non-safety related process input data

1.121.68 8700.77 Standard PO data
Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 2
Resolution: 1
Value range: 0 to 255
Non safety-related process output data
1.121.69 8700.78 Muting status information

Factory setting:
Data type: Bit field (DataArray)
Data length: 1
Value range:
- 0 = Encoder fault muting status
- 1 = F-PO muting status
- 8 = Encoder fault
- 9 = Substitute values
- 10 = Muting timeout
- 11 = Muting fault canceled
- 16 = Muting status source F-DI
- 17 = Muting status source F-PO
- 18 = Emergency mode status source

Muting status information

1.121.70 8700.79 Actual speed in user units

Factory setting: 2147483647
Unit: 1E-4/min user unit
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual speed in user units

1.121.71 8700.80 Actual position in user units

Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual position in user units

1.121.72 8700.81 Actual acceleration value in user units

Factory setting: 2147483647
Unit: 1E-02/(min*s) user unit
Data type: Int32 (DataArray)
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Actual value of the acceleration in user units.

1.121.73 8700.82 F-DI logic state

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Level inst. 0
• 1= Level inst. 1
• 2= Level inst. 2
• 3= Level inst. 3
• 16= Fault inst. 0
• 17= Fault inst. 1
• 18= Fault inst. 2
• 19= Fault inst. 3

F-DI state of logic processing in the subcomponent

1.121.74 8700.84 F-DI physical state filtered

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Level inst. 0
• 1= Level inst. 1
• 2= Level inst. 2
• 3= Level inst. 3

F-DI terminal state filtered

1.121.75 8700.85 Reasons for STO

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= System error
• 1= Critical fault
• 2= Input fault
• 3= Output fault
• 4= Encoder fault
• 5= Parameterization state
• 6= Brake test
• 7= F-DI
• 16= SSx final state
• 17= SLI stop state
• 18= SSx limit value violation
• 19= SDI limit value violation
• 20= SLI limit value violation
• 21= SOS limit value violation
• 22= SLS limit value violation
• 23= SSR limit value violation
• 24= SLA limit value violation
• 8= F-PO
• 9= F-PO substitute values

Reasons for STO

1.121.76 8700.87 F-DO STO/x logic state

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= F-DO STO inst. 0
• 1= F-DO inst. 0
• 2= F-DO inst. 1
State of F-DOx and F-DO STO instances in output processing

1.121.77 8700.88 Chip temperature channel A

Factory setting: 0
Unit: 1E-2 °C
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Chip temperature channel A

1.121.78 8700.89 Encoder data status

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Data valid
• 1= Diagnostics without errors
Encoder data status

1.121.79 8700.91 F-DO fault status on channel A

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0 = F-DO STO inst. 0
- 1 = F-DO inst. 0
- 2 = F-DO inst. 1
Bit-coded outputs – fault status of F-DO outputs on channel A for all instances

1.121.80 8700.92 EI7C encoder – moving minimum level of track signal
Factory setting: 0
Unit: mV
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
The minimum is generated via the level values that have been detected last for the track signal.

1.121.81 8700.93 EI7C encoder – moving maximum level of track signal
Factory setting: 0
Unit: mV
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
The maximum is generated via the level values that have been detected last for the track signal.

1.121.82 8700.94 DC 24 V supply voltage channel A
Factory setting: 0
Unit: mV
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
DC 24 V supply voltage channel A

1.121.83 8700.95 DC 12 V supply voltage channel A
Factory setting: 0
Unit: mV
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Voltage of the encoder supply. Only available with parameterized encoder.

1.121.84 8700.97 F-DO test duration diagnostics 1
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 2
Resolution: 1
Value range: 0 to 4294967295
F-DO test duration diagnostics 1

1.121.85 8700.98 F-DO test duration diagnostics 5
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 2
Resolution: 1
Value range: 0 to 4294967295
F-DO test duration diagnostics 5

1.121.86 8700.99 Sin/cos encoder – moving minimum vector length of track signal
Factory setting: 0
Unit: mV
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
The minimum is generated via the vector length values that have been detected last for the track signal.

1.121.87 8700.100 Sin/cos-encoder – moving maximum vector length of track signal
Factory setting: 0
Unit: mV
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
The maximum is generated via the vector length values that have been detected last for the track signal.
1.121.88 8700.101 Drive safety function test mode

Factory setting:
Data type: Enum (DataArray)
Data length: 1
Value range:
  • 0 = No
  • 1 = Yes
Test mode suppresses inverter control.

1.121.89 8700.102 Drive safety function limit value violation

Factory setting:
Data type: Enum
Data length: 1
Value range:
  • 0 = No
  • 1 = Yes
Limit violation drive safety function

1.121.90 8700.110 Safe communication – diagnostics information

Factory setting:
Data type: Enum (DataArray)
Data length: 1
Value range:
  • 0 = Driver never started
  • 224 = Parameter setting error
  • 1 = Waiting for connection
  • 2 = Establishing connection initiated
  • 3 = Error while establishing connection
  • 225 = Different connection ID of communication partners
  • 226 = Different format of communication partners
  • 227 = Different profile of communication partners
  • 228 = Faulty parameter settings/disturbances on transmission channel
  • 229 = Different protocol version of communication partners
  • 230 = Communication partners not compatible
  • 231 = Faulty configuration signature
  • 232 = Configuration does not match application
  • 5 = Safe data exchange
  • 6 = Safe data exchange stopped
  • 7 = Safe data exchange with substitute values
  • 8 = Data exchange error
  • 238 = Timeout
  • 15 = Connection closed
Safe communication – diagnostics information

1.121.91 8700.111 Safe communication – sequence number of sent safety telegram

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Sequence number of the sent safety telegram. Is used to analyze which telegram has been sent at which time.

1.121.92 8700.112 Safe communication – send safety telegram

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 28
Resolution: 1
Value range: 0 to 255
Raw data of the sent safety telegram. The offset of the data for a slot is calculated as follows: Slot * 32. The slots are counted from 0 in ascending order.

1.121.93 8700.113 Safe communication – sequence number of received safety telegram

Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Sequence number of the received safety telegram. Is used to analyze which telegram has been received at which time.

1.121.94 8700.114 Safe communication – received safety telegram

Factory setting: 0
Unit:
Data type: Uint8 (DataArray)
Data length: 28
Resolution: 1
Value range: 0 to 255
Raw data of the received safety telegram. The offset of the data for a slot is calculated as follows: Slot * 32. The slots are counted from 0 in ascending order.
**1.121.95 8700.116 SBT measured load torque mean value**
- Factory setting: 0
- Unit: 1E-03 Nm
- Data type: Int32 (DataArray)
- Data length: 1
- Resolution: 1
- Value range: 0 to 4294967295
  
**1.121.96 8700.117 SBT measured test torque mean value**
- Factory setting: 0
- Unit: 1E-03 Nm
- Data type: Int32 (DataArray)
- Data length: 2
- Resolution: 1
- Value range: 0 to 4294967295
  
**1.121.97 8700.118 Limitation through safety card active**
- Factory setting:
- Data type: Enum
- Data length: 1
- Value range:
  - 0= No
  - 1= Yes
  
**1.121.98 8700.119 Limitation of max. positive speed through safety card**
- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647
  
**1.121.99 8700.120 Limitation of max. negative speed through safety card**
- Factory setting: 0
- Unit: 1E-4/min
- Data type: Int32
- Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Maximum permitted speed in negative direction of movement when MOVISAFE® limitation is active

1.121.10 8700.121 Limitation of max. acceleration through safety card

Factory setting: 0
Unit: 1E-02/(min*s)
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Maximum permitted acceleration when MOVISAFE® limitation is active

1.121.10 8700.122 Limitation of min. deceleration through safety card

Factory setting: 0
Unit: 1E-02/(min*s)
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Minimum permitted deceleration when MOVISAFE® limitation is active

1.121.10 8700.123 Limitation of max. jerk time through safety card

Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 2000
Maximum permitted jerk time when MOVISAFE® limitation is active

1.121.10 8700.247 Timestamp of Scope data set

Factory setting: 0
Unit: µs
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 4294967295
Parameter description
8701 Safety card – Scope configuration

Timestamp created on the subcomponent with the Scope data.

1.121.10 8700.248 Address scope data A
4

Factory setting: 0
Unit:
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Data content of addresses that were configured via address scope on channel A.

1.121.10 8700.249 Address scope data B
5

Factory setting: 0
Unit:
Data type: Int32 (DataArray)
Data length: 4
Resolution: 1
Value range: -2147483648 to 2147483647
Data content of addresses that were configured via address scope on channel B.

1.122 8701 Safety card – Scope configuration

Safety card – Scope configuration

1.122.1 8701.1 Parameter index

Factory setting: 0.0 No function
Data type: Parameter pointer (DataArray)
Data length: 8
Value range:
• 0.0 No function
• 8700.1 CS..A – SDI drive safety function status
• 8700.2 CS..A – SLA drive safety function status
• 8700.3 CS..A – SLI drive safety function status
• 8700.4 CS..A – SLS drive safety function status
• 8700.5 CS..A – SOS drive safety function status
• 8700.6 CS..A – SSM drive safety function status
• 8700.7 CS..A – SSR drive safety function status
• 8700.8 CS..A – STOP drive safety function status
• 8700.9 CS..A – STO drive safety function status
Parameter description
8701 Safety card – Scope configuration

- 8700.10 CS..A – Limit speed in positive direction of movement of all drive safety functions
- 8700.11 CS..A – Limit speed in negative direction of movement of all drive safety functions
- 8700.12 CS..A – Limit acceleration in positive direction of movement of all drive safety functions
- 8700.13 CS..A – Limit acceleration in negative direction of movement of all drive safety functions
- 8700.14 CS..A – Limit speed in positive direction of movement of all drive safety functions in user units
- 8700.15 CS..A – Limit speed in negative direction of movement of all drive safety functions in user units
- 8700.16 CS..A – Limit acceleration in positive direction of movement of all drive safety functions in user units
- 8700.17 CS..A – Limit acceleration in negative direction of movement of all drive safety functions in user units
- 8700.18 CS..A – Limit position SDI drive safety function in blocked direction of movement in user units
- 8700.19 CS..A – Limit acceleration SLA drive safety function in positive direction of movement in user units
- 8700.20 CS..A – Limit acceleration SLA drive safety function in negative direction of movement in user units
- 8700.21 CS..A – Limit position SLI drive safety function in positive direction of movement in user units
- 8700.22 CS..A – Limit position SLI drive safety function in negative direction of movement in user units
- 8700.23 CS..A – Limit speed SLS drive safety function in positive direction of movement in user units
- 8700.24 CS..A – Limit speed SLS drive safety function in negative direction of movement in user units
- 8700.25 CS..A – Limit position SOS drive safety function in positive direction of movement in user units
- 8700.26 CS..A – Limit position SOS drive safety function in negative direction of movement in user units
- 8700.27 CS..A – Limit speed SSM drive safety function in positive direction of movement in user units
- 8700.28 CS..A – Limit speed SSM drive safety function in negative direction of movement in user units
- 8700.29 CS..A – Upper limit speed SSR drive safety function in user units
- 8700.30 CS..A – Lower limit speed SSR drive safety function in user units
- 8700.31 CS..A – Limit speed STOP drive safety function in positive direction of movement in user units
- 8700.32 CS..A – Limit speed STOP drive safety function in negative direction of movement in user units
- 8700.33 CS..A – Limit position SDI drive safety function in blocked direction of movement
- 8700.34 CS..A – Limit acceleration SLA drive safety function in positive direction of movement
Parameter description
8701 Safety card – Scope configuration

- 8700.37 CS..A – Limit acceleration SLA drive safety function in negative direction of movement
- 8700.38 CS..A – Limit position SLI drive safety function in positive direction of movement
- 8700.39 CS..A – Limit position SLI drive safety function in negative direction of movement
- 8700.42 CS..A – Limit speed SLS drive safety function in positive direction of movement
- 8700.43 CS..A – Limit speed SLS drive safety function in negative direction of movement
- 8700.44 CS..A – Limit position SOS drive safety function in positive direction of movement
- 8700.45 CS..A – Limit position SOS drive safety function in negative direction of movement
- 8700.46 CS..A – Limit speed SSM drive safety function in positive direction of movement
- 8700.47 CS..A – Limit speed SSM drive safety function in negative direction of movement
- 8700.48 CS..A – Upper limit speed SSR drive safety function
- 8700.49 CS..A – Lower limit speed SSR drive safety function
- 8700.50 CS..A – Limit speed STOP drive safety function in positive direction of movement
- 8700.51 CS..A – Limit speed STOP drive safety function in negative direction of movement
- 8700.52 CS..A – Integral filter SLS drive safety function
- 8700.53 CS..A – Integral filter SLS drive safety function in user units
- 8700.54 CS..A – Integral filter SSM drive safety function
- 8700.55 CS..A – Integral filter SSM drive safety function in user units
- 8700.56 CS..A – Integral filter SSR drive safety function upper limit speed
- 8700.57 CS..A – Integral filter SSR drive safety function upper limit speed in user units
- 8700.58 CS..A – Integral filter SSR drive safety function lower limit speed
- 8700.59 CS..A – Integral filter SSR drive safety function lower limit speed in user units
- 8700.60 CS..A – Current braking distance SLI drive safety function
- 8700.61 CS..A – Limit speed SLI drive safety function
- 8700.62 CS..A – Limit speed SLI drive safety function in user units
- 8700.63 CS..A – Actual speed in system units
- 8700.64 CS..A – Actual position in system units
- 8700.65 CS..A – Acceleration in system units
- 8700.70 CS..A – Active fault class
- 8700.72 CS..A – Safety card state
- 8700.73 CS..A – F-PO user data
- 8700.74 CS..A – F-PI user data
- 8700.75 CS..A – PI data fast channel
• 8700.76 CS..A – Standard PI data
• 8700.77 CS..A – Standard PO data
• 8700.78 CS..A – Muting status information
• 8700.79 CS..A – Actual speed in user units
• 8700.80 CS..A – Actual position in user units
• 8700.81 CS..A – Actual acceleration in user units
• 8700.82 CS..A – F-DI logic state
• 8700.84 CS..A – F-DI physical state filtered
• 8700.85 CS..A – Source for F-DO STO control
• 8700.87 CS..A – F-DO STO/x physical state
• 8700.88 CS..A – Chip temperature channel A
• 8700.89 CS..A – Encoder data status
• 8700.91 CS..A – F-DO fault status on channel A
• 8700.92 CS..A – E17C encoder minimum track signal level
• 8700.93 CS..A – E17C encoder maximum track signal level
• 8700.94 CS..A – DC 24 V voltage supply channel A
• 8700.95 CS..A – DC 12 V encoder supply channel A
• 8700.97 CS..A – F-DO test duration diagnostics 1
• 8700.98 CS..A – F-DO test duration diagnostics 5
• 8700.99 CS..A – Sin/cos encoder minimum vector length
• 8700.100 CS..A – Sin/cos encoder maximum vector length
• 8700.101 CS..A – Drive safety function test mode
• 8700.102 CS..A – Drive safety function limit value violation
• 8700.110 CS..A – Diagnostics information about safe communication (safe bus systems)
• 8700.111 CS..A – Sequence number of sent safety telegram
• 8700.112 CS..A – Send safety telegram
• 8700.113 CS..A – Sequence number of received safety telegram
• 8700.114 CS..A – Received safety telegram
• 8700.116 CS..A – SBT measured load torque mean value
• 8700.117 CS..A – SBT measured test torque mean value
• 8700.118 CS..A – Limitation through safety card active
• 8700.119 CS..A – Limitation of max. positive speed through safety card
• 8700.120 CS..A – Limitation of max. negative speed through safety card
• 8700.121 CS..A – Limitation of max. acceleration through safety card
• 8700.122 CS..A – Limitation of min. deceleration through safety card
• 8700.123 CS..A – Limitation of max. jerk time through safety card
• 8700.247 CS..A – Timestamp of Scope data set
• 8700.248 CS..A – Address scope data A
• 8700.249 CS..A – Address scope data B
1.122 8701.2 Array offset
Factory setting: 0
Unit:
Data type: Uint32 (DataArray)
Data length: 8
Resolution: 1
Value range: 0 to 4294967295
Array offset

1.123 8703 Safety card

1.123.1 8703.2 - 8703.4 Array size 3 F-status words
Factory setting: 0
Unit:
Data type: Int32 (array)
Data length: 3
Resolution: 1
Value range: 0 to 65535
F status words (safety card to F controller) for passing on to the non-safe controller

1.123.2 8703.6 Control bits
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = Activate SBT
Non-safe control bits that are sent from the inverter to the safety card. The control bits can be programmed on input terminals or control words of the inverter to pass on the data to the standard PLC.

1.123.3 8703.7 Status bits
Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0 = SBT active
Non-safe status bits that are sent from the safety card to the inverter. The status bits can be programmed on output terminals or status words of the inverter to pass on the data to the standard PLC.
1.124  **24639 CiA402 Error code**

1.124.1  **24639.0 Error code**

   Factory setting: 0
   
   Unit:
   
   Data type: Int32
   
   Data length: 1
   
   Resolution: 1
   
   Value range: 0 to 65535
   
   Error code

1.125  **24640 CiA402 Control word**

   CiA402 Control word

1.125.1  **24640.0 Control word**

   Factory setting:
   
   Data type: Bit field
   
   Data length: 1
   
   Value range:
   
   • 0= Switch on
   
   • 1= Enable voltage
   
   • 2= Quick stop
   
   • 3= Enable operation
   
   • 4= hm: Homing operation start
   
   • 5= Operation mode specific
   
   • 6= Operation mode specific
   
   • 7= Fault reset
   
   • 8= Halt
   
   • 9= Operation mode specific
   
   • 10= Reserved
   
   • 11= Manufacturer specific
   
   • 12= Manufacturer specific
   
   • 13= Manufacturer specific
   
   • 14= Manufacturer specific
   
   • 15= Manufacturer specific

   Control word
1.126 24641 CiA402 Status word

1.126.1 24641.0 Status word

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 0= Ready to switch on
• 1= Switched on
• 2= Operation enabled
• 3= Fault
• 4= Voltage enabled
• 5= Quick stop
• 6= Switch on disabled
• 7= Warning
• 8= Manufacturer specific
• 9= Remote
• 10= Target reached /csp,csv,cst: Status toggle
• 11= Internal limit active
• 12= csp,csv,cst: Drive follows the command value / hm: homing attained
• 13= hm: homing error
• 14= Manufacturer specific
• 15= Manufacturer specific

Status word

1.127 24669 CiA402 Halt option code

1.127.1 24669.0 Halt option code

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1= Slow down ramp

Halt option code

1.128 24672 CiA402 Mode of operation

1.128.1 24672.0 Mode of operation

Factory setting:
Data type: Enum
Data length: 1
Parameter description

1.129 24673 CiA402 Mode of operation display

1.129.1 24673.0 Mode of operation display

Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0 = No mode assigned
- 1 = Profile position mode (pp)
- 3 = Profile velocity mode (pv)
- 6 = Homing mode (hm)
- 8 = Cyclic synchronous position mode (csp)
- 9 = Cyclic synchronous velocity mode (csv)
- 10 = Cyclic synchronous torque mode (cst)
- -1 = FCB 01 Output stage inhibit
- -4 = FCB 04 Manual mode
- -13 = FCB 13 Stop at application limits
- -18 = FCB 18 Rotor position identification
- -19 = FCB 19 Position hold control
- -22 = FCB 22 Output stage test
- -23 = FCB 23 Brake test safety card
- -25 = FCB 25 Motor parameter measurement

Mode of operation display

1.130 24676 CiA402 Position actual value

1.130.1 24676.0 Position actual value

Factory setting: 0

Value range:
- 0 = No mode assigned
- 1 = Profile position mode (pp)
- 3 = Profile velocity mode (pv)
- 6 = Homing mode (hm)
- 8 = Cyclic synchronous position mode (csp)
- 9 = Cyclic synchronous velocity mode (csv)
- 10 = Cyclic synchronous torque mode (cst)
- -1 = FCB 01 Output stage inhibit
- -4 = FCB 04 Manual mode
- -13 = FCB 13 Stop at application limits
- -18 = FCB 18 Rotor position identification
- -19 = FCB 19 Position hold control
- -22 = FCB 22 Output stage test
- -23 = FCB 23 Brake test safety card
- -25 = FCB 25 Motor parameter measurement

Mode of operation display
Parameter description

24677 CiA402 Following error window

Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Position actual value

1.131 24677 CiA402 Following error window

1.131.1 24677.0 Following error window
Factory setting: -1
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -1 to 2147483647
Following error window

1.132 24678 CiA402 Following error timeout

1.132.1 24678.0 Following error timeout
Factory setting: 0
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Following error timeout

1.133 24684 CiA402 Velocity actual value

1.133.1 24684.0 Velocity actual value
Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Velocity actual value
1.134 24689 CiA402 Target torque

1.134.1 24689.0 Target torque

- Factory setting: 0
- Unit: 1E-01% nominal motor torque
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -32768 to 32767

Target torque

1.135 24695 CiA402 Velocity actual value

1.135.1 24695.0 Torque actual value

- Factory setting: 0
- Unit: 1E-01% nominal motor torque
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -32768 to 32767

Torque actual value

1.136 24698 CiA402 Target position

1.136.1 24698.0 Target position

- Factory setting: 0
- Unit: 1/65536 rev user unit
- Data type: Int32
- Data length: 1
- Resolution: 1
- Value range: -2147483648 to 2147483647

Target position

1.137 24699 CiA402 Position range limit

1.137.1 24699.0 Highest subindex supported

- Factory setting: 2
- Unit:
- Data type: Int32
- Data length: 1
Parameter description
24700 CiA402 Home offset

Resolution: 1
Value range: 0 to 2
Highest subindex supported

1.137.2 24699.1 Min. position range limit
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -1073741824 to 1073741823
Min. position range limit

1.137.3 24699.2 Max. position range limit
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -1073741824 to 1073741823
Max. position range limit

1.138 24700 CiA402 Home offset

1.138.1 24700.0 Home offset
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Home offset

1.139 24701 CiA402 Software position limit

1.139.1 24701.0 Highest subindex supported
Factory setting: 2
Unit:
Data type: Int32
Data length: 1
Resolution: 1
1.139.2 24701.1 Min. position limit
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Min. position limit

1.139.3 24701.2 Max. position limit
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Max. position limit

1.140 24705 CiA402 Profile velocity
1.140.1 24705.0 Profile velocity
Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Profile velocity

1.141 24707 CiA402 Profile acceleration
1.141.1 24707.0 Profile acceleration
Factory setting: 0
Unit: 1E-02/(min*s) user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
1.142 24708 CiA402 Profile deceleration

1.142.1 24708.0 Profile deceleration

Factory setting: 0
Unit: 1E-02/(min*s) user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

1.143 24728 CiA402 Homing method

1.143.1 24728.0 Homing method

Factory setting:
Data type: Enum
Data length: 1
Value range:
• 1 = Homing on negative limit switch and index pulse
• 2 = Homing on positive limit switch and index pulse
• 10 = Homing on positive cam end and index pulse
• 14 = Homing on negative cam end and index pulse
• 17 = Homing on negative limit switch without index pulse
• 18 = Homing on positive limit switch without index pulse
• 26 = Homing on positive cam end without index pulse
• 30 = Homing on negative cam end without index pulse
• 33 = Homing on negative index pulse
• 37 = Homing on current position

1.144 24729 CiA402 Homing speeds

1.144.1 24729.0 Highest subindex supported

Factory setting: 2
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Parameter description
24730 CiA402 Homing acceleration

Value range: 0 to 2
Highest subindex supported

1.144.2 24729.1 Speed during search for switch
Factory setting: 2000000
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Speed during search for switch

1.144.3 24729.2 Speed during search for zero
Factory setting: 500000
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2147483647
Speed during search for zero

1.145 24730 CiA402 Homing acceleration

1.145.1 24730.0 Homing acceleration
Factory setting: 300000
Unit: 1E-02/(min*s) user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 2147483647
Homing acceleration

1.146 24752 CiA402 Position offset

1.146.1 24752.0 Position offset
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Position offset

1.147 24753 CiA402 Velocity offset

1.147.1 24753.0 Velocity offset

Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Velocity offset

1.148 24754 CiA402 Torque offset

1.148.1 24754.0 Torque offset

Factory setting: 0
Unit: 1E-01% nominal motor torque
Data type: Int32
Data length: 1
Resolution: 1
Value range: -32768 to 32767
Torque offset

1.149 24760 CiA402 Touch probe function

1.149.1 24760.0 Touch probe function

Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= Touch probe 1 enable
- 1= Touch probe 1 continuous
- 2= Touch probe 1 trigger source: 0= tp input 1 / 1= zero pulse
- 3= Touch probe 1 trigger source from 0x60D0.01
- 4= Touch probe 1 enable positive edge
- 5= Touch probe 1 enable negative edge
- 6= Touch probe 1 user-defined bit 0
- 7= Touch probe 1 user-defined bit 1
- 8= Touch probe 2 enable
Parameter description
24761 CiA402 Touch probe status

- 9= Touch probe 2 continuous
- 10= Touch probe 2 trigger source: 0= tp input 2 / 1= zero pulse
- 11= Touch probe 2 trigger source from 0x60D0.02
- 12= Touch probe 2 enable positive edge
- 13= Touch probe 2 enable negative edge
- 14= Touch probe 2 user-defined bit 0
- 15= Touch probe 2 user-defined bit 1

Touch probe function

1.150 24761 CiA402 Touch probe status

1.150.1 24761.0 Touch probe status
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= Touch probe 1 enabled
- 1= Touch probe 1 positive edge position stored
- 2= Touch probe 1 negative edge position stored
- 8= Touch probe 2 enabled
- 9= Touch probe 2 positive edge position stored
- 10= Touch probe 2 negative edge position stored

Touch probe status

1.151 24762 CiA402 Touch probe 1 positive edge

1.151.1 24762.0 Touch probe 1 positive edge
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

Touch probe 1 positive edge

1.152 24763 CiA402 Touch probe 1 negative edge

1.152.1 24763.0 Touch probe 1 negative edge
Factory setting: 0
Unit:
Parameter description
24764 CiA402 Touch probe 2 positive edge

Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

1.153 24764 CiA402 Touch probe 2 positive edge

1.153.1 24764.0 Touch probe 2 positive edge
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

1.154 24765 CiA402 Touch probe 2 negative edge

1.154.1 24765.0 Touch probe 2 negative edge
Factory setting: 0
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647

1.155 24770 CiA402 Interpolation time period

1.155.1 24770.0 Highest subindex supported
Factory setting: 2
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2
Highest subindex supported
1.155.2  **24770.1 Interpolation time period value**

Factory setting: 1
Unit: ms
Data type: Int32
Data length: 1
Resolution: 1
Value range: 1 to 255
The value is scaled in $10^{\text{interpolation time index}}$ s: $\text{Value} = 1 + \text{index} = -3 \rightarrow$ the interpolation time is $10^{-3}$ s = 1 ms

1.155.3  **24770.2 Interpolation time index**

Factory setting: -3
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: -3 to 0
The value is scaled in $10^{\text{interpolation time index}}$ s: $\text{Value} = 1 + \text{index} = -3 \rightarrow$ the interpolation time is $10^{-3}$ s = 1 ms

1.156  **24784 CiA402 Touch probe source**

1.156.1  **24784.0 Highest subindex supported**

Factory setting: 2
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 2
Highest subindex supported

1.156.2  **24784.1 - 24784.2 Array size 2 Touch probe source**

Factory setting:
Data type: Enum (array)
Data length: 2
Value range:
- **0= Reserved**
- 1= Digital input 1
- 2= Digital input 2
- 3= Digital input 3
- 4= Digital input 4
- 5= Hardware zero impulse
Parameter description
24789 CiA402 Touch probe 1 positive edge counter

Touch probe source

1.157 24789 CiA402 Touch probe 1 positive edge counter

1.157.1 24789.0 Touch probe 1 positive edge counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Touch probe 1 positive edge counter

1.158 24790 CiA402 Touch probe 1 negative edge counter

1.158.1 24790.0 Touch probe 1 negative edge counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Touch probe 1 negative edge counter

1.159 24791 CiA402 Touch probe 2 positive edge counter

1.159.1 24791.0 Touch probe 2 positive edge counter
Factory setting: 0
Unit:
Data type: Uint32
Data length: 1
Resolution: 1
Value range: 0 to 65535
Touch probe 2 positive edge counter

1.160 24792 CiA402 Touch probe 2 negative edge counter

1.160.1 24792.0 Touch probe 2 negative edge counter
Factory setting: 0
Unit:
Parameter description

1.161 24803 CiA402 Supported homing methods

1.161.1 24803.0 Highest subindex supported
Factory setting: 10
Unit:
Data type: Int32
Data length: 1
Resolution: 1
Value range: 0 to 10
Highest subindex supported

1.161.2 24803.1 - 24803.10 Array size 10 Supported homing methods
Factory setting:
• Homing on current position
• Homing on negative limit switch and index pulse
• Homing on positive limit switch and index pulse
• Homing on positive cam end and index pulse
• Homing on negative cam end and index pulse
• Homing on negative limit switch without index pulse
• Homing on positive limit switch without index pulse
• Homing on positive cam end without index pulse
• Homing on negative cam end without index pulse
• Homing on negative index pulse
Data type: Enum (array)
Data length: 10
Value range:
• 1= Homing on negative limit switch and index pulse
• 2= Homing on positive limit switch and index pulse
• 10= Homing on positive cam end and index pulse
• 14= Homing on negative cam end and index pulse
• 17= Homing on negative limit switch without index pulse
• 18= Homing on positive limit switch without index pulse
• 26= Homing on positive cam end without index pulse
• 30= Homing on negative cam end without index pulse
Parameter description
24818 CiA402 Positioning option code

- 33= Homing on negative index pulse
- 37= Homing on current position
Supported homing methods

1.162 24818 CiA402 Positioning option code

1.162.1 24818.0 Positioning option code
Factory setting:
Data type: Enum
Data length: 1
Value range:
- 0= Normal positioning
- 64= Only in negative direction
- 128= Only in positive direction
- 192= Shortest way
Positioning option code

1.163 24820 CiA402 Following error actual value

1.163.1 24820.0 Following error actual value
Factory setting: 0
Unit: 1/65536 rev user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Following error actual value

1.164 24829 CiA402 Digital inputs

1.164.1 24829.0 Digital inputs
Factory setting:
Data type: Bit field
Data length: 1
Value range:
- 0= Negative limit switch
- 1= Positive limit switch
- 2= Home switch
- 3= Interlock
Standard digital input according to CiA402 profile. Always the logic states of the defined functions are shown here.
To activate the functions in the firmware, set the "Digital input basic unit.Function DI 0x" under 8334.10-.x to the respective functions.

1.165 24831 CiA402 Target velocity

1.165.1 24831.0 Target velocity

Factory setting: 0
Unit: 1E-4/min user unit
Data type: Int32
Data length: 1
Resolution: 1
Value range: -2147483648 to 2147483647
Target velocity

1.166 25858 CiA402 Supported drive modes

1.166.1 25858.0 Supported drive modes

Factory setting:
Data type: Bit field
Data length: 1
Value range:
• 5= Homing mode (hm)
• 7= Cyclic synchronous position mode (csp)
• 8= Cyclic synchronous velocity mode (csv)
• 9= Cyclic synchronous torque mode (cst)
• 0= Profile position mode (pp)
• 2= Profile velocity mode (pv)
Supported drive modes