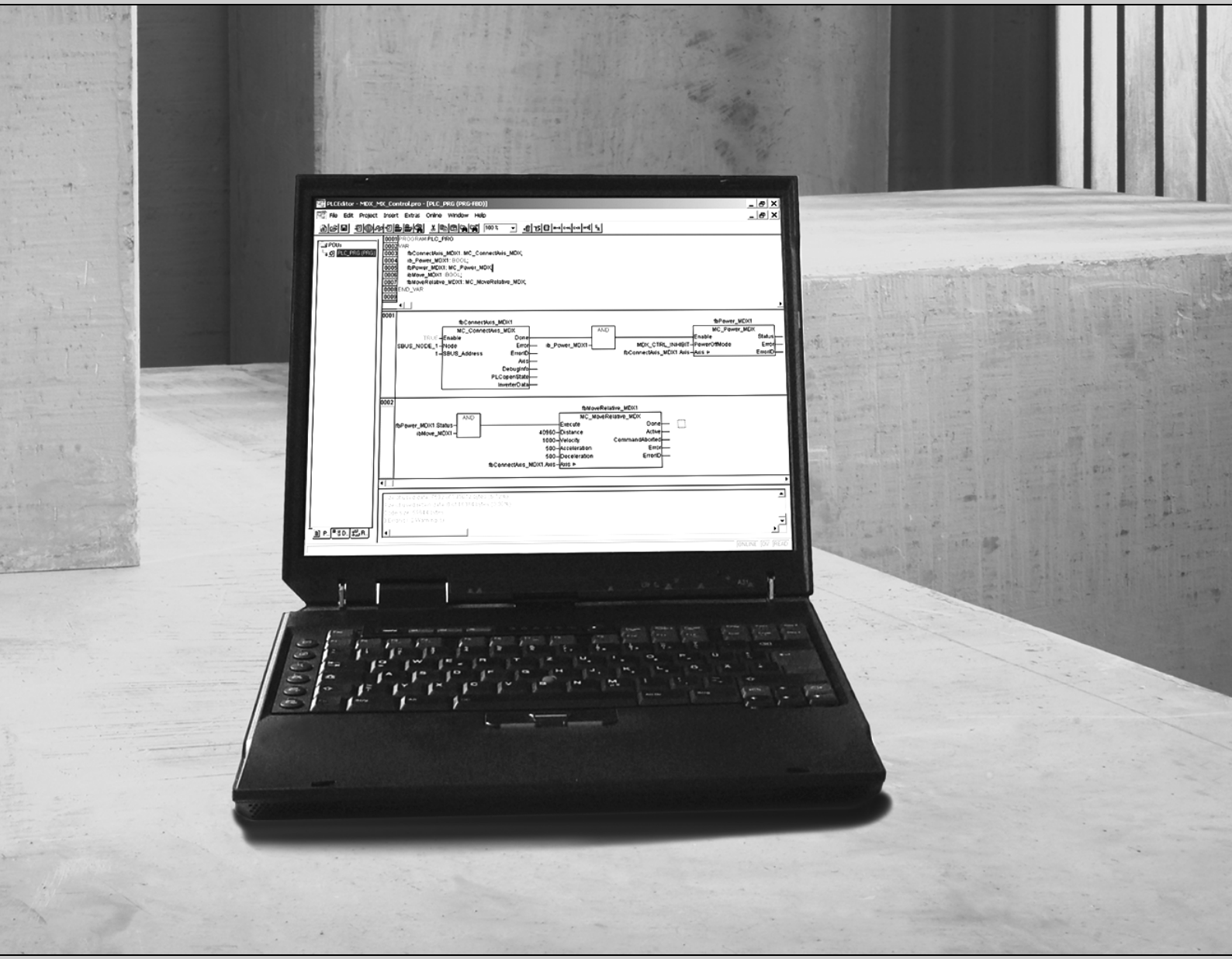
SEW EURODRIVE

Manual



CCU

"Rapid/Creep Positioning" Application Module

Edition 01/2011

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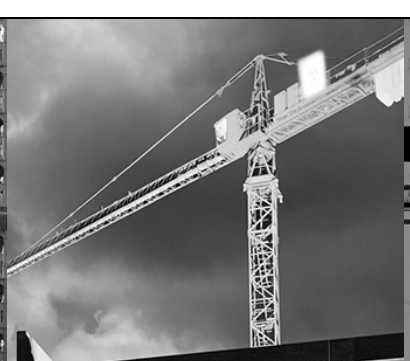


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Contents

1 General Information

1.1 How to use this documentation

The documentation is part of the product and contains important information. The documentation is for everyone who works with this product.

The documentation must be accessible and legible. Make sure that persons responsible for the system and its operation, as well as persons who work independently with the software and the connected units from SEW-EURODRIVE, have read through the documentation carefully and understood it. If you are unclear about any of the information in this documentation, or if you require further information, contact SEW-EURODRIVE.

1.2 Structure of the safety notes

1.2.1 Meaning of the signal words

The following table shows the grading and meaning of the signal words for safety notes, notes on potential risks of damage to property, and other notes.

Signal word	Meaning	Consequences if disregarded
⚠ **DANGER**	Imminent danger	Severe or fatal injuries
⚠ **WARNING**	Possible dangerous situation	Severe or fatal injuries
⚠ **CAUTION**	Possible dangerous situation	Minor injuries
NOTICE	Possible damage to property	Damage to the drive system or its environment
INFORMATION	Useful information or tip: Simplifies the handling of the drive system.	

1.2.2 Structure of the section-related safety notes

Section safety notes do not apply to a specific action, but to several actions pertaining to one subject. The used symbols indicate either a general or a specific hazard.

This is the formal structure of a section safety note:

⚠ SIGNAL WORD

Type and source of danger.

Possible consequence(s) if disregarded.

- Measure(s) to prevent the danger.

1.2.3 Structure of the embedded safety notes

Embedded safety notes are directly integrated in the instructions just before the description of the dangerous action.

This is the formal structure of an embedded safety note:

- ⚠ **SIGNAL WORD** Nature and source of hazard.

  Possible consequence(s) if disregarded.

  – Measure(s) to prevent the danger.

1.3 Right to claim under warranty

A requirement of fault-free operation and fulfillment of any rights to claim under limited warranty is that you adhere to the information in the documentation at hand. Therefore, read the documentation before you start working with the software and the connected units from SEW-EURODRIVE.

Make sure that the documentation is available to persons responsible for the machinery and its operation as well as to persons who work independently on the devices. Also ensure that the documentation is legible.

1.4 Exclusion of liability

You must adhere to this documentation and the documentation of the connected devices from SEW-EURODRIVE to ensure safe operation and to achieve the specified product characteristics and performance features.

SEW-EURODRIVE assumes no liability for injury to persons or damage to equipment or property resulting from non-observance of the documentation. In such cases, any liability for defects is excluded.

1.5 Copyright

1.6 Product names and trademarks

All brands and product names in this documentation are trademarks or registered trademarks of their respective titleholders.

1.7 Applicable documentation

The "applicable documentation" is listed in the documentation for the configuration software "Application Configurator for CCU".

2 Safety Notes

2.1 General information

The following basic safety notes must be read carefully to prevent injury to persons and damage to property. The operator must ensure that the basic safety notes are read and adhered to.

Ensure that persons responsible for the machinery and its operation as well as persons who work independently have read through the documentation carefully and understood it. If you are unclear about any of the information in this documentation or if you require further information, please contact SEW-EURODRIVE.

The following safety notes refer to the use of the software. Also adhere to the supplementary safety notes in this document and in the documentation of the connected devices from SEW-EURODRIVE.

This document does not replace the detailed documentation of the connected devices. This documentation assumes that the user has access to and is familiar with the documentation for all connected units from SEW-EURODRIVE.

Never install or start up damaged products. Submit a complaint to the shipping company immediately in the event of damage.

During operation, the devices may have live, uninsulated, and sometimes moving or rotating parts as well as hot surfaces depending on their degree of protection.

Removing covers without authorization, improper use as well as incorrect installation or operation may result in severe injuries to persons or damage to property. Refer to the documentation for additional information.

2.2 Target group

Any work with the software may only be performed by adequately qualified personnel. Qualified personnel in this context are persons who have the following qualifications:

- Appropriate instruction.
- Knowledge of this documentation and other applicable documentation.
- SEW-EURODRIVE recommends additional product training for products that are operated using this software.

Any mechanical work on connected units may only be performed by adequately qualified personnel. Qualified staff in the context of this documentation are persons familiar with the design, mechanical installation, troubleshooting and servicing of the product who possess the following qualifications:

- Training in mechanical engineering, e.g. as a mechanic or mechatronics technician (final examinations must have been passed).
- Knowledge of this documentation and other applicable documentation.

Any electrical work on connected units may only be performed by adequately qualified electricians. Qualified electricians in the context of this documentation are persons familiar with electrical installation, startup, troubleshooting and servicing of the product who possess the following qualifications:

- Training in electrical engineering, e.g. as an electrician or mechatronics technician (final examinations must have been passed).
- Knowledge of this documentation and other applicable documentation.
- Knowledge of the relevant safety regulations and laws.
- Knowledge of the other standards, guidelines, and laws mentioned in this documentation.

The above mentioned persons must have the authorization expressly issued by the company to operate, program, configure, label and ground units, systems and circuits in accordance with the standards of safety technology.

All work in further areas of transportation, storage, operation and waste disposal must only be carried out by persons who are trained appropriately.

2.3 Designated use

SEW-EURODRIVE offers various standardized control programs, so-called application modules.

The "Rapid/creep positioning" application module is a single-axis application used for simple positioning tasks in materials handling technology (e.g. roller conveyor or rotary table).

You can use the unit-independent "Application Configurator" software to startup and configure the axes for the application module and to download the complete configuration to the controller.

2.4 Bus systems

A bus system makes it possible to adapt frequency inverters and/or motor starters to the particulars of the machinery within wide limits. This results in the risk that a change of parameters that cannot be detected externally can result in unexpected, though not uncontrolled, system behavior.

3 System Description

3.1 Area of application

The "Rapid/creep positioning" application module is used for simple positioning tasks in materials handling technology.

This includes the following typical applications:

- Roller and chain conveyors
- Lifting table applications
- Rotary table applications

The positioning is carried out via 2 initiators with 2 speeds. The first initiator determines the switching point from rapid to creep speed, and the second one determines the stop position.

Application that are to position in two directions require 4 initiators.

The following operating modes are supported:

- Jog
- Inward conveyance (positioning)
- Outward conveyance
- Lifting/rotating

3.2 Profiles

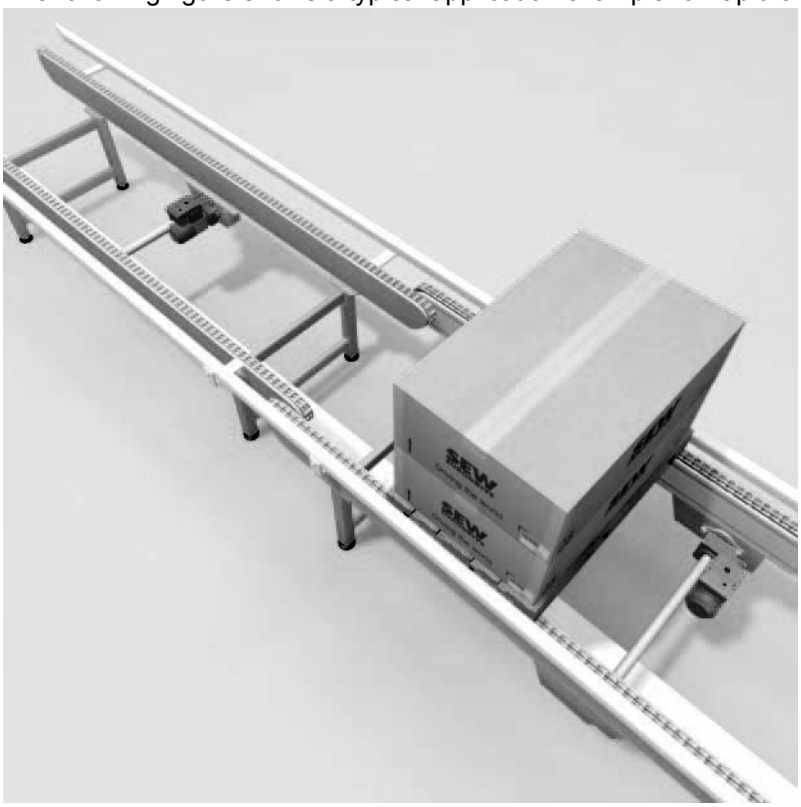
The "Rapid/creep positioning" application module has the following profiles:

Profile	Scope of functions
1 PD	1 process data word, control via a control word. All speeds and ramps are determined via the configuration interface. This profile is recommended if you do not have to adjust speed and ramp to the product.
3 PD	3 process data words, required for conveying goods with varying weight at medium positioning accuracy. The rapid speed and the ramp can be specified via the bus. The digital inputs of the device can be evaluated via the process data.
6 PD	6 process data words, required for conveying products with varying weight, where the rapid speed as well as the creep speed can be set via the bus in order to achieve a high positioning accuracy. As opposed to 3 PD, the ramp for acceleration and deceleration, as well as the stop ramp can be specified independently. The digital inputs of the device can be evaluated via the process data.

3.3 Operating modes

3.3.1 Inward conveyance (positioning) / outward conveyance

The following figure shows a typical application example for rapid/creep positioning:



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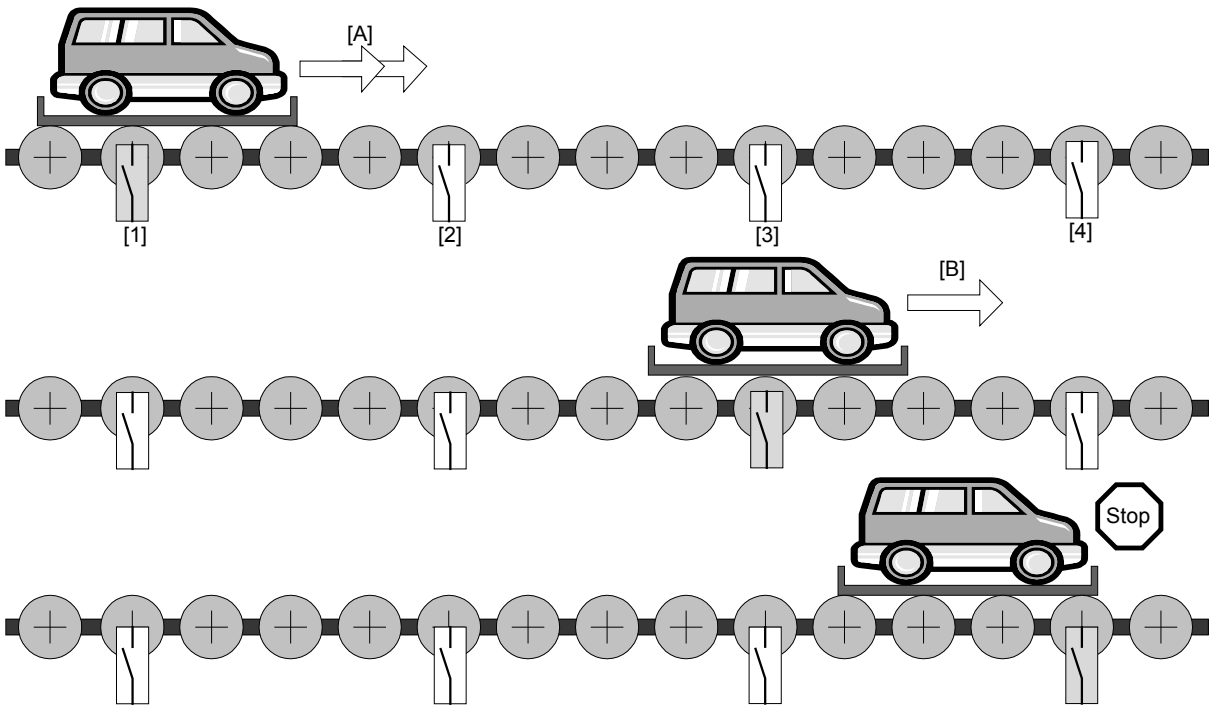
In this roller conveyor, longer track sections are subdivided into segments.

Decentralization of positioning takes load of the central controller. The independence of bus run times enables a high degree of positioning accuracy. This ensures a quick, segmented transfer of the conveyed material.



[1] Stop switch left
[2] Rapid/creep switch left
[3] Rapid/creep switch right
[4] Stop switch right

[A] Rapid movement
[B] Slow movement

Inward conveyance operating mode (positioning)

Mode selection: Mode 2

Requirement: Drive enabled

Functional description: After setting the start bit, the drive accelerates along the acceleration ramp until it reaches rapid speed.

Upon contacting the rapid/creep switch, the drive brakes along the deceleration ramp until it reaches creep speed.

After contacting the stop switch, the drive brakes along the stop ramp to a standstill.

The following table shows the correlation between setpoints and their sources.

Setpoint selection	Setpoint source		
Rapid speed:	• Fieldbus 1 PD	Startup:	Rapid speed
	• Fieldbus 3 PD	I2 rapid speed	
	• Fieldbus 6 PD	I2 rapid speed	
Creep speed:	• Fieldbus 1 PD	Startup:	Creep speed
	• Fieldbus 3 PD	Startup:	Creep speed
	• Fieldbus 6 PD	I3 creep speed	
Acceleration ramp:	• Fieldbus 1 PD	Startup:	Ramp up
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I4 ramp up	
Deceleration ramp:	• Fieldbus 1 PD	Startup:	Ramp down
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I5 ramp down	
Stop ramp:	• Fieldbus 1 PD	Startup:	Stop ramp
	• Fieldbus 3 PD	Startup	Stop ramp
	• Fieldbus 6 PD	I6 ramp stop	

Outward conveyance operating mode

Mode selection: Mode 3

Requirement: Drive enabled

Functional description: After setting the start bit, the drive accelerates along the set acceleration ramp until it reaches rapid speed.

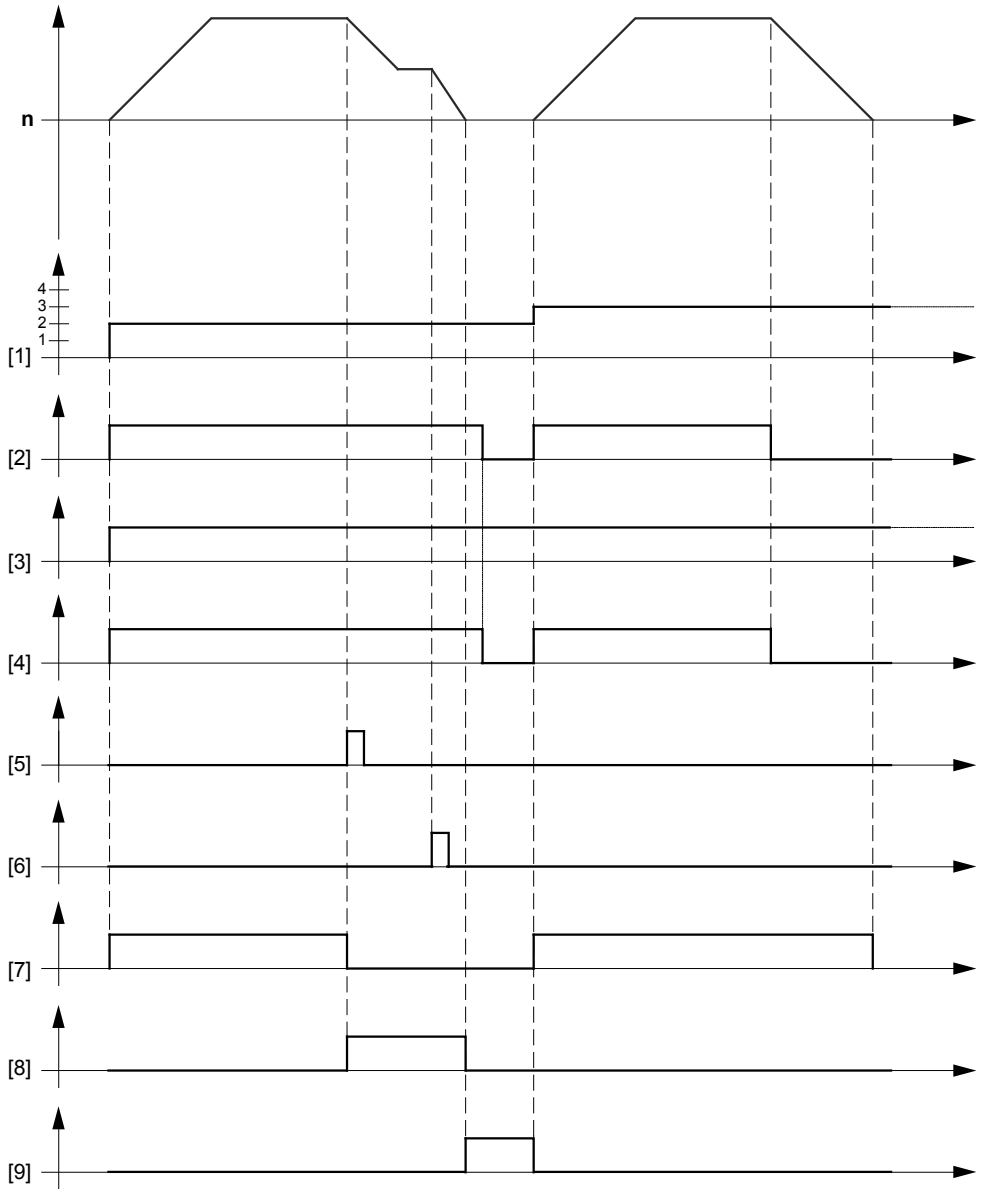
After the start bit is reset, the drive brakes along the deceleration ramp to a standstill.

The following table shows the correlation between setpoints and their sources.

Setpoint selection	Setpoint source		
Speed:	• Terminals:	Startup:	Rapid speed
	• Terminals, limited:	Startup:	Rapid speed
	• Fieldbus 1 PD	Startup:	Rapid speed
	• Fieldbus 3 PD	I2 rapid speed	
	• Fieldbus 6 PD	I2 rapid speed	
Acceleration ramp:	• Terminals:	Startup:	Ramp up
	• Terminals, limited:	Startup:	Ramp up
	• Fieldbus 1 PD	Startup:	Ramp up
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I4 ramp up	
Deceleration ramp:	• Terminals:	Startup:	Ramp down
	• Terminals, limited:	Startup:	Ramp down
	• Fieldbus 1 PD	Startup:	Ramp down
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I5 ramp down	

Flow diagram for inward conveyance (positioning) / outward conveyance

The following figure shows the actual speed of the drive against the status of the input and output signals during inward and outward conveying:



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n "Actual speed" input signal
[1] "Mode" input signal
[2] "Start" input signal
[3] "Positive" input signal
[4] "Start detected" output signal
[5] "Rapid/creep switch right" input signal
[6] "Stop switch right" input signal
[7] "Rapid speed active" output signal
[8] "Creep speed active" output signal
[9] "In position right" output signal/top

3.3.2 Lifting / rotating

The following figure shows a typical application example of a hoist station:

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For rotating and lifting, positioning is performed according to the same principle as for inward conveyance.

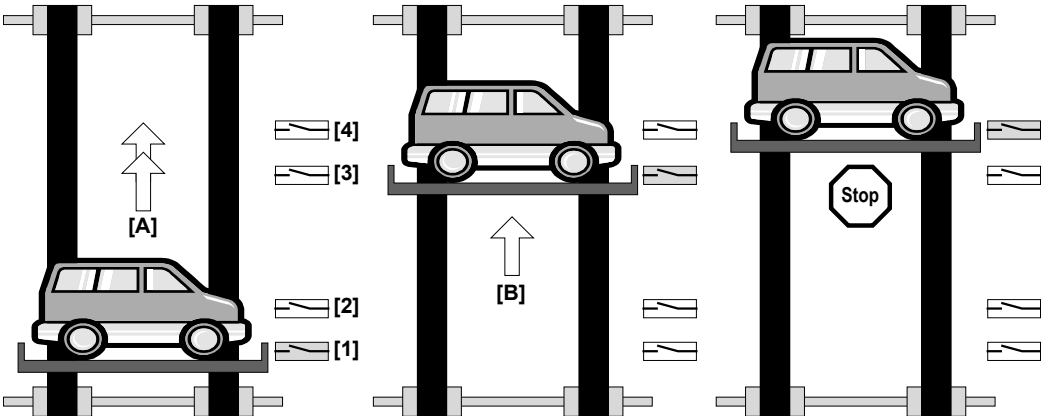
Once positioning in one direction has been performed, however, the drive cannot be started in the same direction again. Starting in the same direction is inhibited by the "In position" message. This prevents unintentional travel against the mechanical stop.

⚠ DANGER

Risk of fatal injury if the hoist falls.

Severe or fatal injuries.

- Observe the notes on startup and operation of hoist applications.



[1] Stop switch left
[2] Rapid/creep switch left
[3] Rapid/creep switch right
[4] Stop switch right

[A] Rapid movement
[B] Slow movement

Lifting / rotating operating mode

Mode selection: Mode 4

Requirement: Drive enabled

Functional description: After setting the start bit, the drive accelerates along the set acceleration ramp until it reaches rapid speed.

Upon contacting the rapid/creep switch, the drive brakes along the set deceleration ramp until it reaches creep speed.

After contacting the stop switch, the drive brakes along the set stop ramp to a standstill.

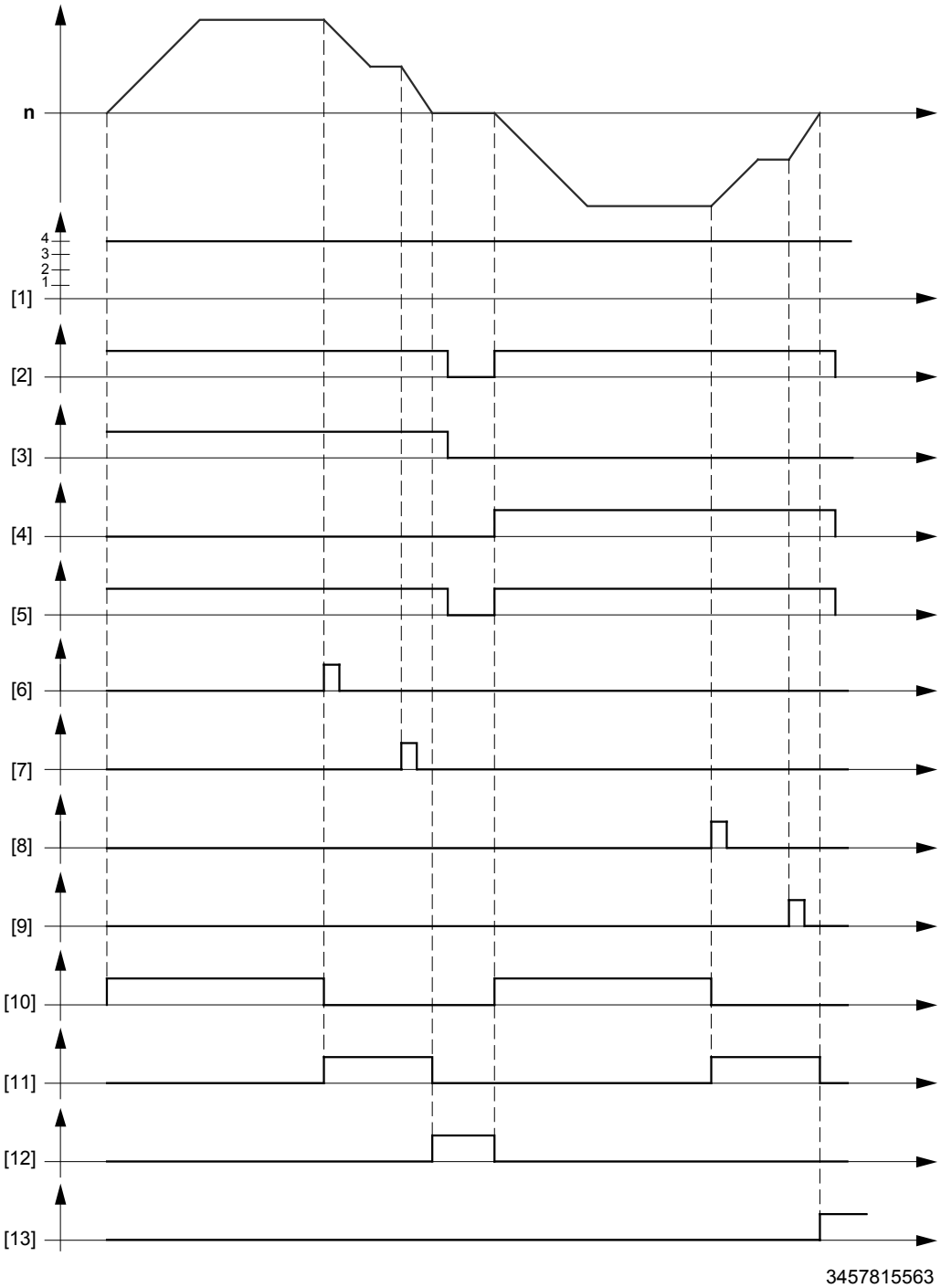
Re-start in the same direction is blocked.

The following table shows the correlation between setpoints and their sources.

Setpoint selection	Setpoint source		
Rapid speed:	• Fieldbus 1 PD	Startup:	Rapid speed
	• Fieldbus 3 PD	I2 rapid speed	
	• Fieldbus 6 PD	I2 rapid speed	
Creep speed:	• Fieldbus 1 PD	Startup:	Creep speed
	• Fieldbus 3 PD	Startup:	Creep speed
	• Fieldbus 6 PD	I3 creep speed	
Acceleration ramp:	• Fieldbus 1 PD	Startup:	Ramp up
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I4 ramp up	
Deceleration ramp:	• Fieldbus 1 PD	Startup:	Ramp down
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I5 ramp down	
Stop ramp:	• Fieldbus 1 PD	Startup:	Stop ramp
	• Fieldbus 3 PD	Startup	Stop ramp
	• Fieldbus 6 PD	I6 ramp stop	

Lifting / rotating flow diagram

The following figure shows the actual speed of the drive against the status of the input and output signals during lifting and rotating:



n	"Actual speed" input signal	[7]	"Stop switch right" input signal
[1]	"Mode" input signal	[8]	"Rapid/creep switch left" input signal
[2]	"Start" input signal	[9]	"Stop switch left" input signal
[3]	"Positive" input signal	[10]	"Rapid speed active" output signal
[4]	"Negative" input signal	[11]	"Creep speed active" output signal
[5]	"Start detected" output signal	[12]	"In position right" output signal/top
[6]	"Rapid/creep switch right" input signal	[13]	"In position left" output signal/bottom

3.3.3 Jog mode

Mode selection: Mode 1

Requirement: Drive enabled

Functional description: As long as the "Positive" signal is set, the drive rotates clockwise.

As long as the "negative" signal is set, the drive rotates counterclockwise.

If no signal or both "positive" and "negative" signals are set, the drive stops.

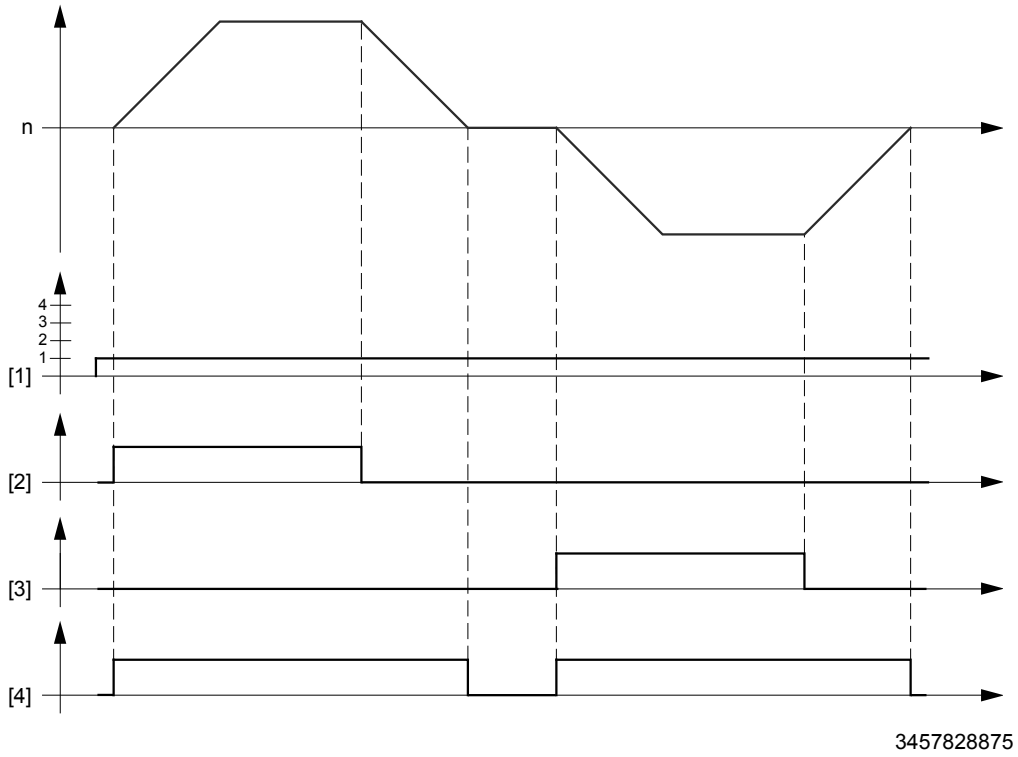
Acceleration and deceleration depend on the set acceleration and deceleration ramp time.

The following table shows the correlation between setpoints and their sources.

Setpoint selection	Setpoint source		
Speed:	• Fieldbus 1 PD	Startup:	Rapid speed
	• Fieldbus 3 PD	I2 rapid speed	
	• Fieldbus 6 PD	I2 rapid speed	
Acceleration ramp:	• Fieldbus 1 PD	Startup:	Ramp up
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I4 ramp up	
Deceleration ramp:	• Fieldbus 1 PD	Startup:	Ramp down
	• Fieldbus 3 PD	I3 ramp	
	• Fieldbus 6 PD	I5 ramp down	

Jog mode flow diagram

The following figure shows the actual speed of the drive against the status of the input and output signals in jog mode:



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n "Actual speed" input signal
[1] "Mode" input signal
[2] "Positive" input signal
[3] "Negative" input signal
[4] "Rapid speed active" output signal

4 Project Planning

4.1 Prerequisites

4.1.1 PC and software

The application module is part of the configuration software "Application Configurator".

For this reason, the system requirements of the Application Configurator apply. They are listed in the documentation "Configuration Software Application Configurator for CCU".

4.1.2 Approved unit combination

The assignment of inverters to the respective CCU (standard or advanced) is listed in the documentation for the configuration software "Application Configurator for CCU".

4.1.3 Correctly configured units

Correct project planning and flawless installation of the units are the prerequisites for successful startup and operation of the application modules with the Application Configurator.

For detailed project planning information, refer to the documentation of the respective unit (see chapter "Other applicable documentation").

4.2 Process data assignment

4.2.1 Overview

The following table lists the process data assignment depending on the selected profile:

Profile	Process data assignment	
	Fieldbus input data	Fieldbus output data
1 PD	I1 = control word	O1 = status word
3 PD	I1 = control word I2 = rapid speed I3 = ramp	O1 = status word O2 = actual speed O3 = binary inputs
6 PD	I1 = control word I2 = rapid speed I3 = creep speed I4 = ramp up I5 = ramp down I6 = ramp stop	O1 = status word O2 = actual speed O3 = binary inputs O4 = output current O5 = reserved O6 = reserved

4.2.2 Rapid/creep positioning 1 PD

Fieldbus input data (1 PD)

The following table describes the fieldbus input data from the PLC to the inverter for control via fieldbus with 1 process data word.

Word		Bit	Function	
I1	Control word	0	/Controller inhibit	0 = Enable 1 = Controller inhibit
		1	Enable/rapid stop	0 = Rapid stop 1 = Enable
		2	Enable/stop	0 = Stop 1 = Enable
		3	Reserved	
		4	Reserved	
		5	Reserved	
		6	Error malfunction	
		7	Reserved	
		8	Start	
		9	Positive (CW operation)	
		10	Negative (CCW operation)	
		11	Mode 2^0	000 = Operating mode 0: Reserved 001 = Operating mode 1: Jog mode 010 = Operating mode 2: Inward conveyance 011 = Operating mode 3: Outward conveyance 100 = operating mode 4: Lifting/rotating
		12	Mode 2^1	
		13	Mode 2^2	
		14	Reserved	
		15	Reserved	

Fieldbus output data (1 PD)

The following table describes the fieldbus output data from the inverter to the PLC for control via fieldbus with 1 process data word.

Word		Bit	Function
O1	Status word	0	Ready for operation
		1	Start detected
		2	Rapid speed active
		3	Creep speed active
		4	Sequence fault
		5	Inverter fault
		6	In position right (top)
		7	In position left (bottom)
		8-15	Inverter/error state

4.2.3 Rapid/creep positioning 3 PD

Fieldbus input data (3 PD)

The following table describes the fieldbus input data from the PLC to the inverter for control via fieldbus with 3 process data words.

Word		Bit	Function	
I1	Control word	0	/Controller inhibit	0 = Enable 1 = Controller inhibit
		1	Enable/rapid stop	0 = Rapid stop 1 = Enable
		2	Enable/stop	0 = Stop 1 = Enable
		3	Reserved	
		4	Reserved	
		5	Reserved	
		6	Reset fault	
		7	Reserved	
		8	Start	
		9	Positive (CW operation)	
		10	Negative (CCW operation)	
		11	Mode 2^0	000 = Operating mode 0: Reserved 001 = Operating mode 1: Jog mode 010 = Operating mode 2: Inward conveyance 011 = Operating mode 3: Outward conveyance 100 = operating mode 4: Lifting/rotating
		12	Mode 2^1	
		13	Mode 2^2	
		14	Reserved	
		15	Reserved	
I2	Rapid speed	0-15	[rpm]	
I3	Ramp	15	Acceleration and deceleration ramp [ms]	

Fieldbus output data (3 PD)

The following table describes the fieldbus output data from the inverter to the PLC for control via fieldbus with 3 process data words.

Word		Bit	Function
O1	Status word	0	Ready for operation
		1	Start detected
		2	Rapid speed active
		3	Creep speed active
		4	Sequence fault
		5	Inverter fault
		6	In position right (top)
		7	In position left (bottom)
		8-15	Inverter/error state
O2	Actual speed	0-15	[rpm]
O3	Binary inputs	0	Rapid/creep switch right
		1	Stop switch right
		2	Rapid/creep switch left
		3	Stop switch left
		4-15	Reserved

4.2.4 Rapid/creep positioning 6 PD

Fieldbus input data (6 PD)

The following table describes the fieldbus input data from the PLC to the inverter for control via fieldbus with 6 process data words.

Word		Bit	Function	
I1	Control word	0	/Controller inhibit	0 = Enable 1 = Controller inhibit
		1	Enable/rapid stop	0 = Rapid stop 1 = Enable
		2	Enable/stop	0 = Stop 1 = Enable
		3	Reserved	
		4	Reserved	
		5	Reserved	
		6	Reset fault	
		7	Reserved	
		8	Start	
		9	Positive (CW operation)	
		10	Negative (CCW operation)	
		11	Mode 2^0	000 = Operating mode 0: Reserved 001 = Operating mode 1: Jog mode 010 = Operating mode 2: Inward conveyance 011 = Operating mode 3: Outward conveyance 100 = operating mode 4: Lifting/rotating
		12	Mode 2^1	
		13	Mode 2^2	
		14	Reserved	
		15	Reserved	
I2	Rapid speed	0-15	[rpm]	
I3	Creep speed	0-15	[rpm]	

Word		Bit	Function
I4	Ramp up	0-15	Acceleration ramp [ms]
I5	Ramp down	0-15	Deceleration ramp [ms]
I6	Ramp stop	0-15	Deceleration ramp to a standstill [ms]

Fieldbus output data (6 PD)

The following table describes the fieldbus output data from the inverter to the PLC for control via fieldbus with 6 process data words.

Word		Bit	Function
O1	Status word	0	Ready for operation
		1	Start detected
		2	Rapid speed active
		3	Creep speed active
		4	Sequence fault
		5	Inverter fault
		6	In position right (top)
		7	In position left (bottom)
		8-15	Inverter/error state
O2	Actual speed	0-15	[rpm]
O3	Binary inputs	0	Rapid/creep switch right
		1	Stop switch right
		2	Rapid/creep switch left
		3	Stop switch left
		4-15	Reserved
O4	Output current	0-15	[%]
O5-6	Reserved	0-15	Reserved

5 Startup

5.1 Prerequisites

Check the installation of the inverters, the connection of the encoders, and the installation of the controller.

For installation notes, refer to the documentation of the respective units (see "applicable documentation") and the appendix of the documentation of the "Application Configuration for CCU" configuration software.

Required software tools

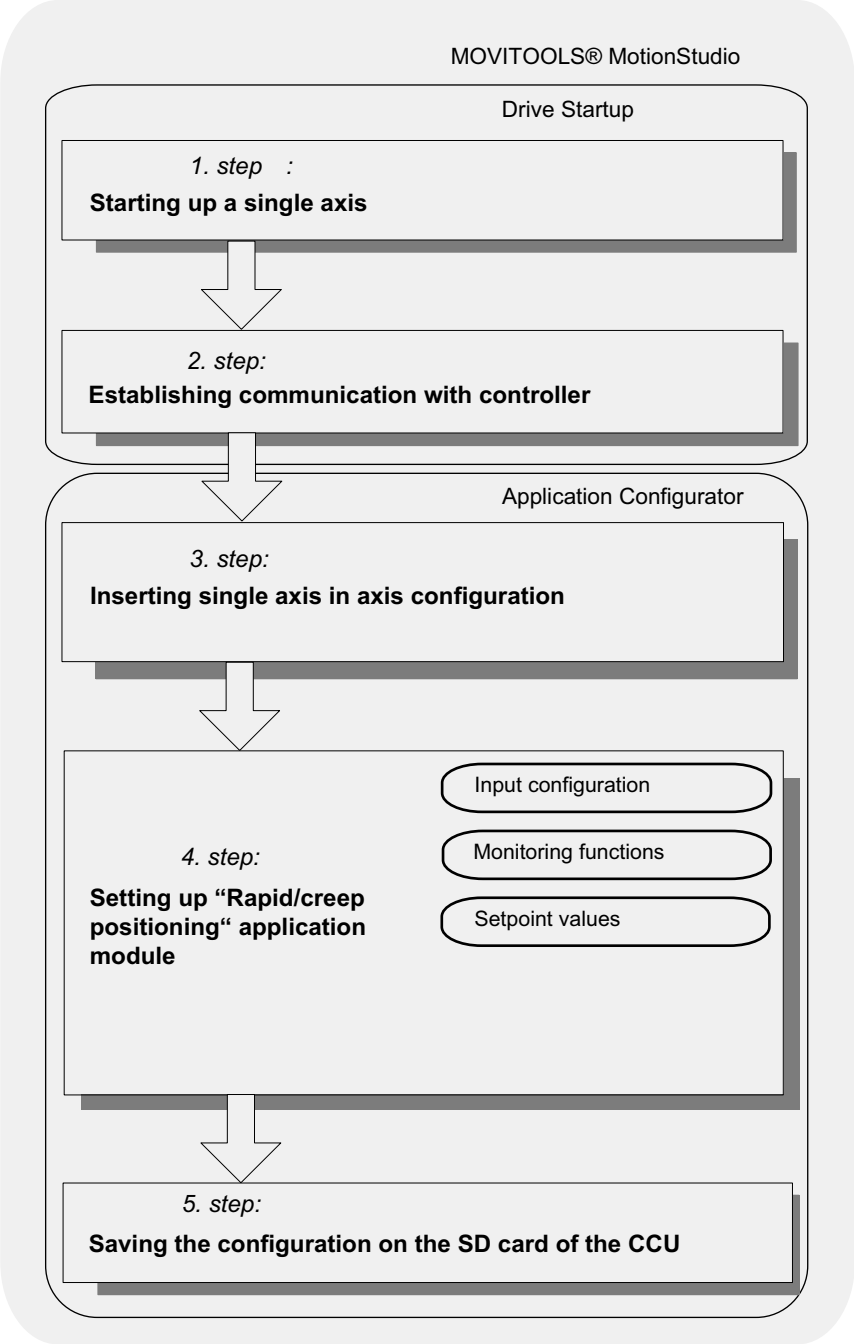
You need the MOVITOOLS® MotionStudio engineering software for startup. The scope of delivery comprises the technology editor "**Drive Startup for MOVI-PLC®**" and the **Application Configurator**.

You need the "**Drive Startup for MOVI-PLC®**" technology editor to set up the inverters (motor startup) and to establish communication with the controller.

You need the **Application Configurator** to integrate the axes for the application module and to set the application module.

The following figure shows the entire procedure step-by-step.

5.2 Startup procedure



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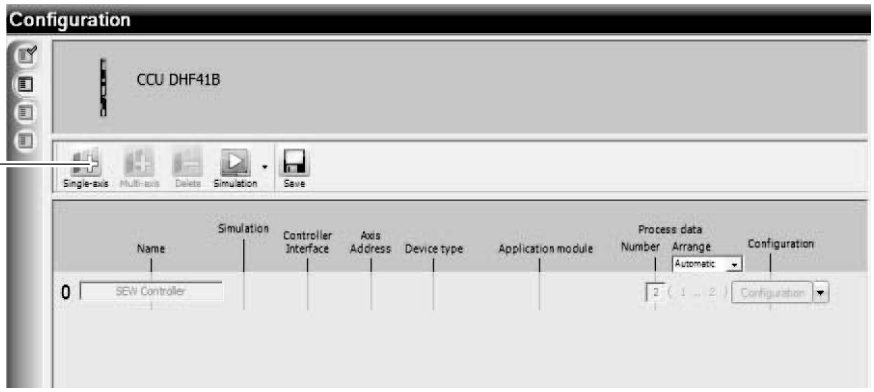
Steps 3 to 5 are described in detail below.

5.3 Integrating a single-axis module into the axis configuration

Proceed as follows to integrate the single-axis module into the axis configuration:

1. Start MOVITOOLS® MotionStudio and the Application Configurator as described in the relevant manual or online help (see chapter "applicable documentation").
2. Click the "Single axis" [1] symbol in the configuration interface of the Application Configurator.



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A new line appears in the axis section.

3. Configure the axis according to your requirements:
   - Name of the axis
   - Simulation mode (on or off)
   - Controller interface (SBus 1 or 2)
   - Address
   - Unit type
4. Select the "Rapid/creep positioning" application module with the required profile.
5. Click [Configuration].

   A software wizard for setting the application module appears.
6. Follow the instructions of the wizard according to the following chapter "Setting the "Rapid/creep positioning" application module".

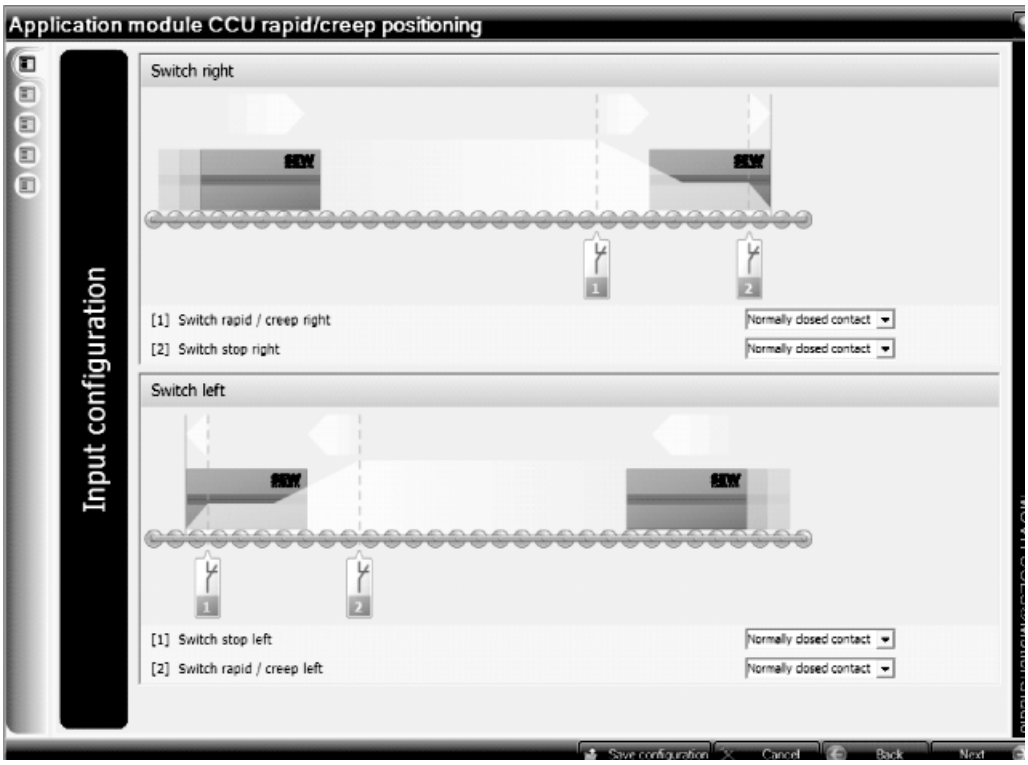
   Once you have completed the instructions of the software wizard, the yellow warning symbol turns into a green check.
7. Click [Next].

   The "Download" interface is displayed.

5.4 Setting the "Rapid/creep positioning" application module

5.4.1 Input configuration

The "Input configuration" provides the following functions:



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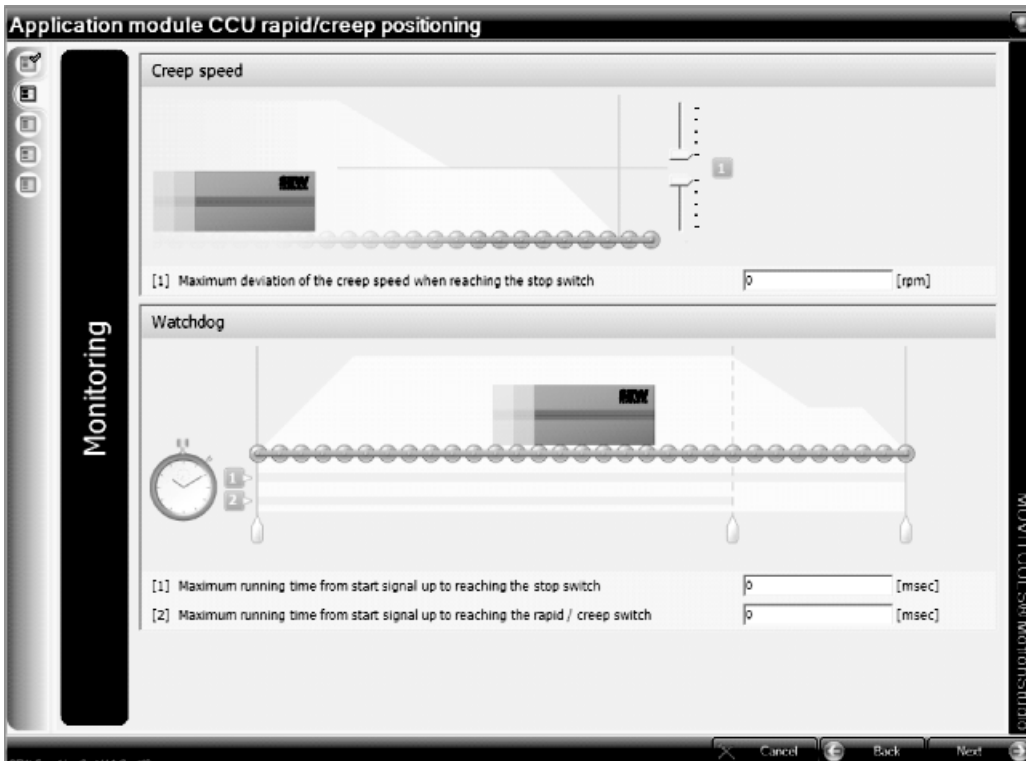
Section	Function
Group "Switch right"	• Set the function of the switches (NC or NO contact). Click the corresponding switch icon or choose the function from the selection list.
Group "Switch left"	

5.4.2 Monitoring functions

The "Monitoring functions" tab displays the following functions:

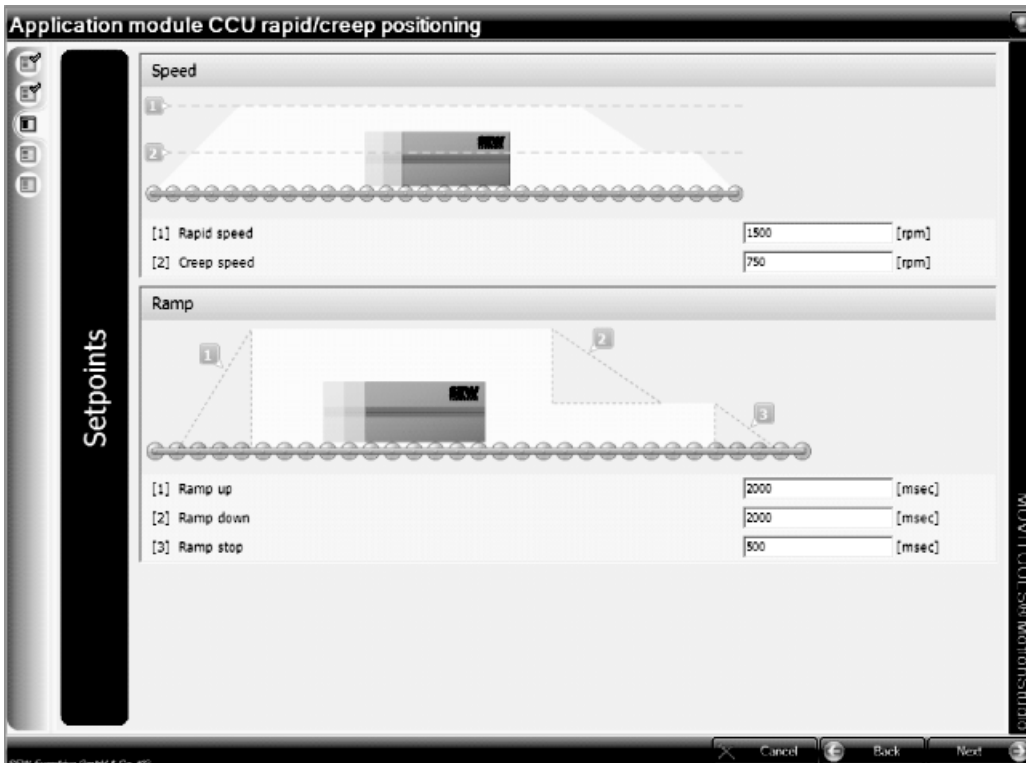


3457973771

Section	Function
Group "Creep speed"	• This is where you enter the maximum deviation from the creep speed when reaching the stop switch. Operate the slider or enter the required value in the input field. If you enter the value "0", this monitoring function is disabled. Note: This function allows you to determine the minimum clearance between the rapid/creep speed switch and the stop switch during startup.
"Run time" group	• Enter the following run time values: – Maximum run time from start signal till reaching the stop switch – Maximum run time from start signal till reaching the rapid/creep speed switch Enter the required value in the input field. If you enter the value "0", this monitoring function is disabled. Note: This function allows you to detect blockades (e.g. on a roller conveyor).

5.4.3 Setpoints 1 PD

The "Setpoints 1 PD" tab displays the following functions:

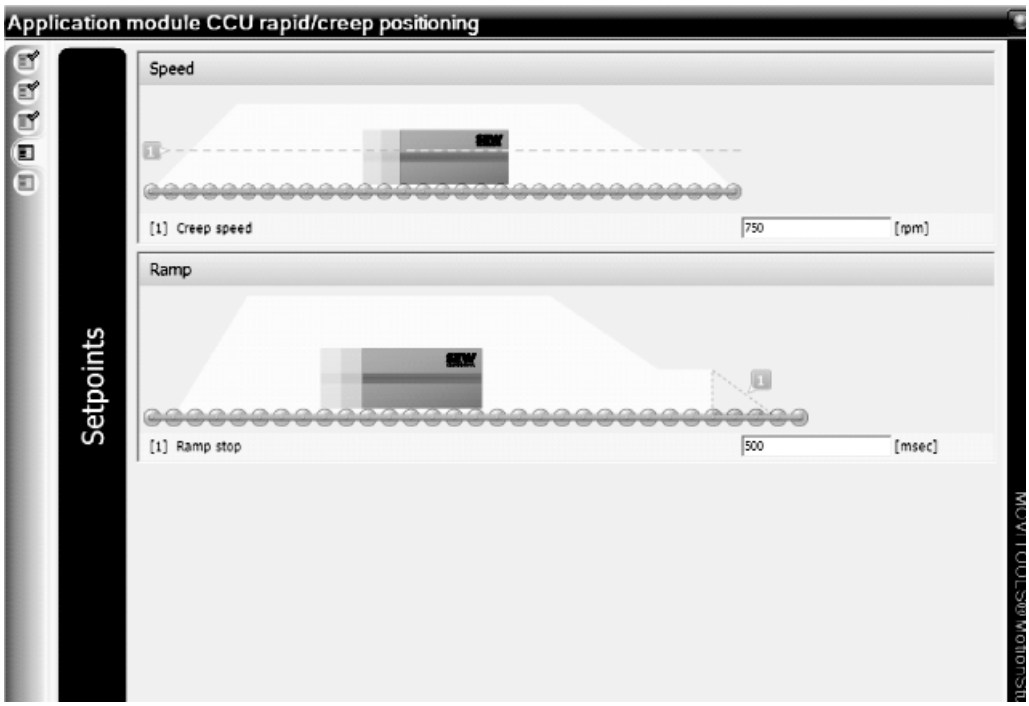


3457980171

Section	Function
Group "Speed"	• Enter the following speed values: – Rapid speed: This is the (fast) speed, the drive travels at until it reaches the "Rapid/creep speed" switch. – Creep speed: This is the (slow) speed the drive travels at between the rapid/ creep speed switch and the stop switch.
Group "Ramp"	• Enter the following ramps: – Ramp up: This is the ramp for each acceleration – Ramp down: This is the ramp for each deceleration apart from "inward conveyance" mode. – Ramp stop: This is the ramp in "inward conveyance" mode.

5.4.4 Setpoints 3 PD

The "Setpoints 3 PD" tab displays the following functions:



3457999883

Section	Function
Group "Speed"	• Enter the creep speed: This is the (slow) speed the drive travels at between the rapid/creep speed switch and the stop switch.
Group "Ramp"	• Enter the "Ramp stop": This is the ramp in "inward conveyance" mode.

5.4.5 Completing the configuration

The following functions are available for completing the configuration:

3458007563

Section	Function
[Save configuration] button	With this function, you can save frequently used axis configurations in a configuration file (*.XML). This allows you to use these values again for later startup procedures with the same axis configuration. Proceed as follows: • Click [Save configuration]. A window opens with the folder structure of your computer. • Search for the corresponding storage location in the folder structure. • Enter a random name for the Configuration. • Click [Save] to exit the dialog.
[Record configuration] button	• With this function, you can generate a PDF file with the axis configuration report.
"Author" input field	• If you enter a name in the "Author" input field, it will be listed in the report.
[Finish] button	• Click [Finish] to exit the assistant. The configuration is now completed, and the configuration screen of the Application Configurator is displayed again.

5.5 Saving the configuration on the SD card of the CCU

CAUTION

Download while the plant is running.

Injury and damage to property.

- Set the plant to a safe state.

You can use the Application Configurator to save the axis configuration of the application module on the SD card of the CCU. For detailed information, refer to the documentation of the Application Configurator.

Proceed as follows to save the configuration:

1. Configure the axis.
2. Open the "Download" section.
3. Click the [Download] button to save the configuration on the SD card of the CCU.
4. The CCU has to be restarted in order to process the new configuration data after the download. This is why there is an according query before the configuration is stored.
5. The start page is displayed if the download and the CCU restart have been successful.

6 Operation and Diagnostics

The functions for operation and diagnostics of the application module are integrated in the "Application Configurator" software, from where they are called.

This is why detailed information about the procedure can be found in the documentation (manual or online help) of the Application Configurator.

7 Appendix

7.1 Input terminal assignment

The following table shows the terminal assignment of the respective unit:

Terminal assignment	Input terminal		
	MOVIDRIVE® B MOVIPRO® ADC	MOVIGEAR® B DSC	MOVITRAC® B
Rapid/creep switch right	DI02	DI01	DI00
Stop switch right	DI03	DI02	DI02
Rapid/creep switch left	DI04	DI03	DI03
Stop switch left	DI05	DI04	DI04

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