SEW EURODRIVE

Revision

Gear Units Catalog

Edition 04/2015

22142207/EN

1 Revision to the catalog

INFORMATION

This revision corrects the following information in the gear units catalog (edition 06/2010):

- Chapter "AR adapter with slip clutch" was updated.

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2 AR adapter with slip clutch

2.1 Double gear unit with adapter and slip clutch

In combination with double gear units, the adapter with slip clutch is preferably installed between the two gear units. Contact SEW-EURODRIVE if required.

2.2 Selecting the gear unit

The type sizes of the AR adapter with slip clutch correspond to those of the AM adapter for IEC motors.

This means you can select the gear unit using the selection tables for AM adapters. In this case, substitute the type designation AM with AR and determine the required slip torque.

2.2.1 Determining the slip torque

The slip torque should be about 1.5 times the nominal torque of the drive. When determining the slip torque, bear in mind the maximum permitted output torque of the gear unit as well as the variations in the slip torque of the clutch (± 20%) depending on the design.

When you order a gear unit with adapter and slip clutch, you have to specify the required slip torque of the clutch.

If you do not specify the slip torque, it will be set according to the maximum permitted output torque of the gear unit.

2.3 Torques, slip torques

The following table shows an overview of torques and slip torques sorted by adapter:

Type	P_m 1) kW	M_R 2) Nm	M_R 2) Nm	M_R 2) Nm
AR71	0.37	1 – 6	6.1 – 16	–
AR80	0.75	1 – 6	6.1 – 16	–
AR90	1.5	1 – 6	6.1 – 16	17 – 32
AR100	3.0	5 – 13	14 – 80	–
AR112	4.0	5 – 13	14 – 80	–
AR132S/M	7.5	15 – 130	–	–
AR132ML	9.2	15 – 130	–	–
AR160	15	30 – 85	86 – 200	–
AR180	22	30 – 85	86 – 300	–

1) Maximum rated power of the mounted standard electric motor at 1400 min^{-1}

2) Slip torque which can be set based on the cup springs installed

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2.4 Speed monitor option /W

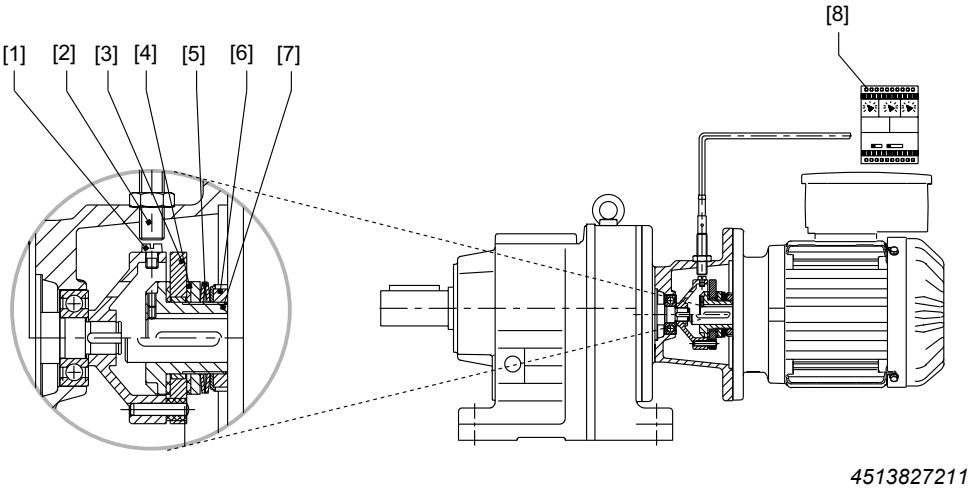
Part number 19139438

We recommend monitoring the speed of the clutch using a speed monitor to avoid uncontrolled slipping of the clutch and the associated wear to the friction lining.

The speed of the output end clutch half of the slip clutch is detected with a contactless method using a trigger cam and an inductive incremental encoder. The speed monitor compares the pulses with a defined reference speed. The output relay (NC or NO contact) trips when the speed drops below the specified speed (overload). The monitor is equipped with a start bypass to suppress error messages during the startup phase. The start bypass can be set within a time window of 0.5 to 15 seconds.

Reference speed, start bypass and switching hysteresis can be set on the speed monitor.

The following figure shows the adapter with slip clutch and speed monitor /W:



[1] Trip cam
[2] Incremental encoder (adapter)
[3] Driving disk
[4] Friction lining
[5] Cup spring
[6] Slotted nut
[7] Friction hub
[8] Speed monitor

2.4.1 Connection

The encoder is connected to the slip monitor using a 2 or 3-core cable (depending on the encoder type).

- Maximum cable length: 500 m with a cable cross section of 1.5 mm^2
- Standard supply cable: 3-core / 2 m
- Route the signal lines separately (not in multicore cables) and shield them, if necessary
- Degree of protection: IP40 (terminals IP20)
- Operating voltage: AC 110 – 240 V or DC 24 V
- Maximum switching capacity of the output relay: 6 A (AC 250 V)

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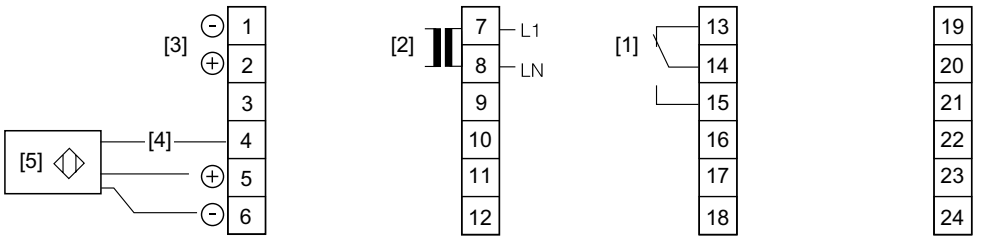
2.4.2 Terminal assignment W

Part number: 19139438

The following figure shows the terminal assignment /W:



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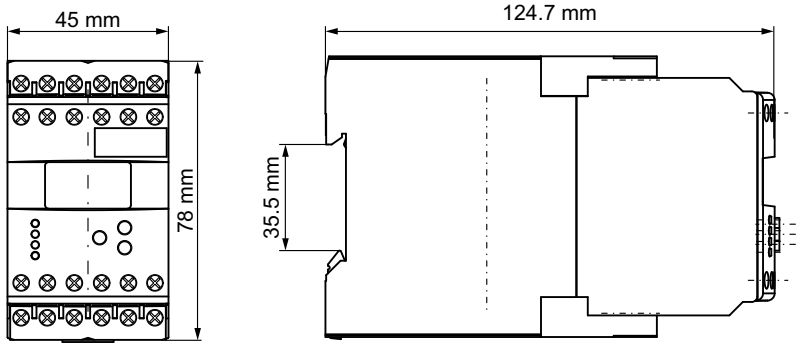
[1] Relay output
[2] AC 110 – 240 V (47 – 63 Hz) connection voltage
[3] DC 24 V connection voltage
[4] Signal (pnp)
[5] Encoder

2.4.3 Dimensions W

The following figure shows the dimensions for /W:



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2.5 Slip monitor option /WS

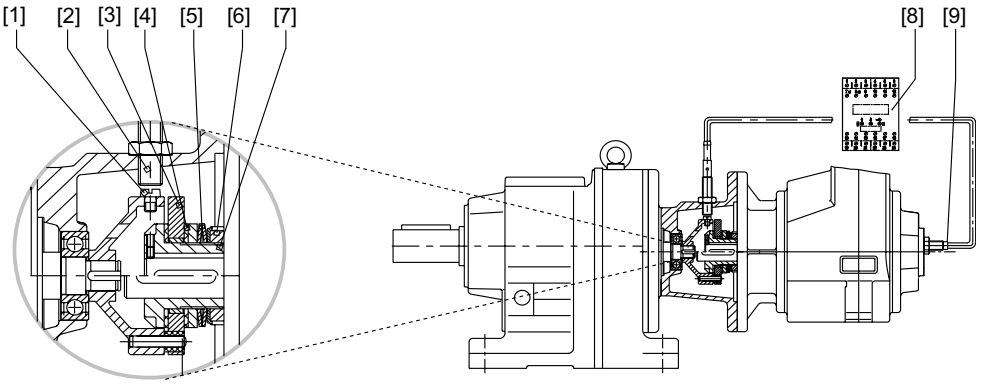
Part number: 01649493

The following figure shows the slip monitor option /WS:

In conjunction with VARIBLOC® variable-speed gear units (see Variable-Speed Gear Units catalog), the speed monitor is replaced by a slip monitor for monitoring the speed difference between the input and output halves of the clutch.

The signal pick-up depends on the size of the variable speed gear unit with two incremental encoders or one incremental encoder and an AC encoder.

The following figure shows the adapter with slip clutch and slip monitor /WS:



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[1] Trigger cam
[2] Incremental encoder (adapter)
[3] Driving disk
[4] Friction lining
[5] Cup spring
[6] Slotted nut
[7] Friction hub
[8] Slip monitor /WS
[9] Incremental encoder IG

2.5.1 Connection

The IG voltage encoder is connected to the WS slip monitor via a 2 or 3-core cable depending on the type.

- Maximum cable length: 500 m with a cable cross section of 1.5 mm^2
- Standard supply cable: 3-core (2 m)
- Route the signal lines separately (not in multicore cables) and shield them, if necessary
- Degree of protection: IP40 (terminals IP20)
- Operating voltage: AC 110 V – 240 V or DC 24 V
- Maximum switching capacity of the output relay: 6 A (AC 250 V)

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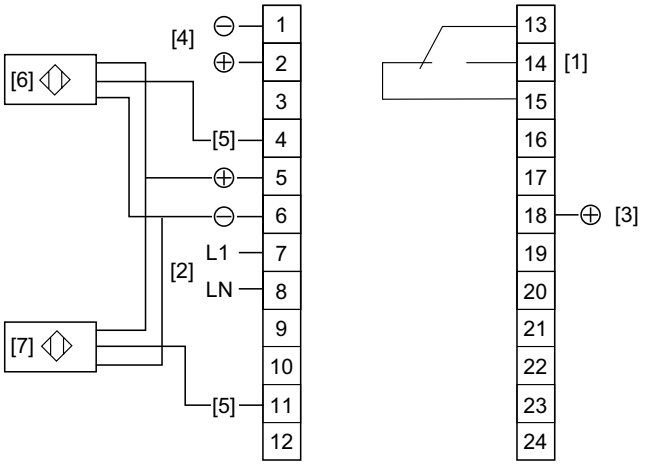
2.5.2 Terminal assignment

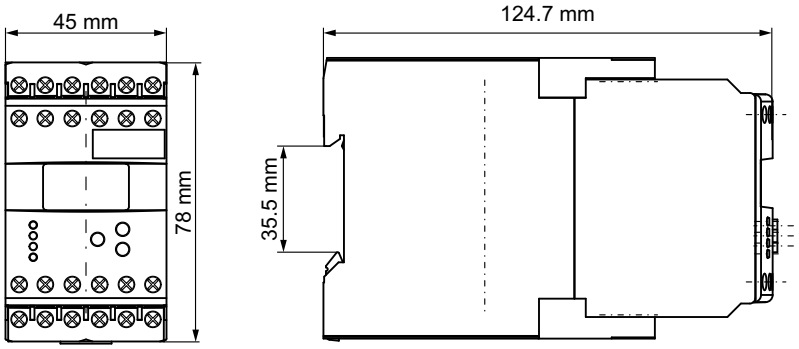
The following figure shows the terminal assignment of the slip monitor /WS.



4569288075

[1] Relay output
[2] AC 230 V, 47 Hz – 63 Hz connection voltage
[3] External slip reset
[4] DC 24 V connection voltage
[5] Signal
[6] Encoder 1
[7] Encoder 2

2.5.3 Dimension drawing



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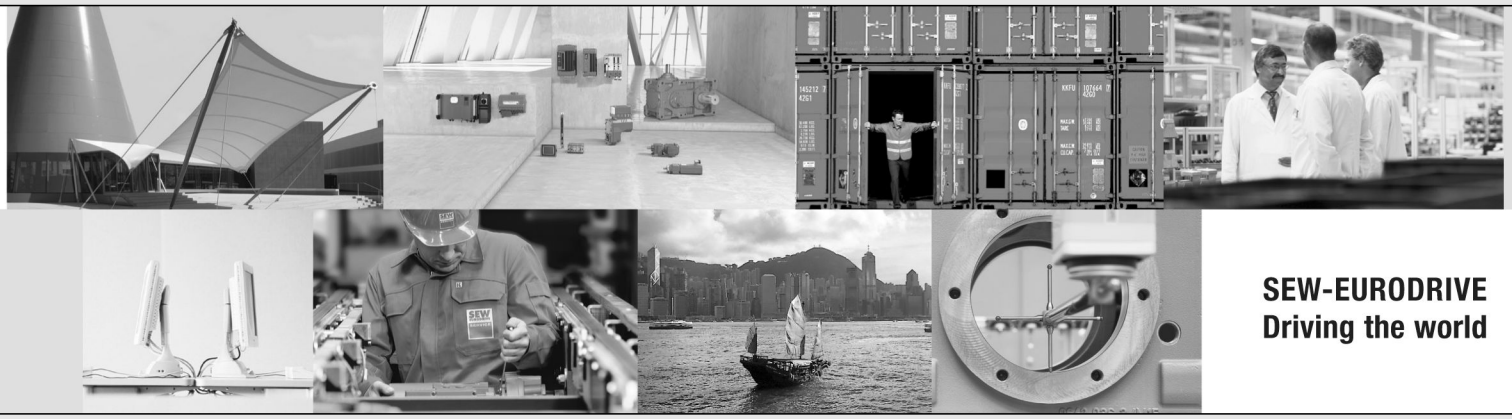

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