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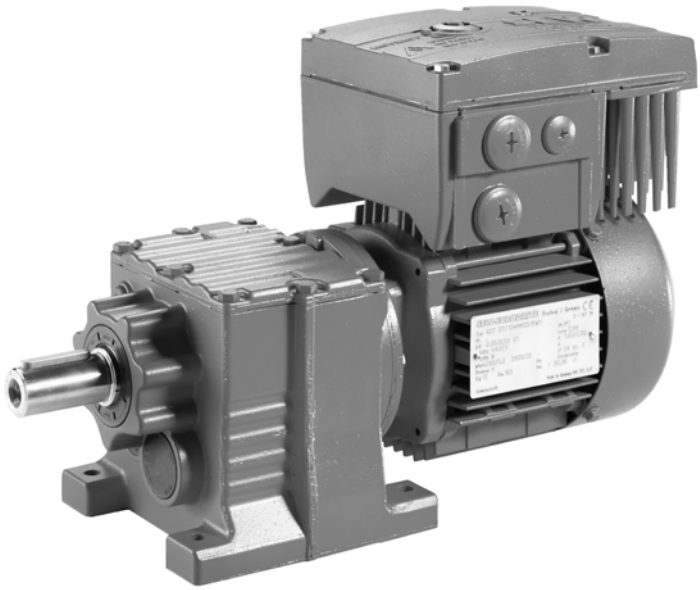
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3 MOVIMOT®

3.1 Functional description

	NOTES
	• This catalog describes MOVIMOT® motors and options for the MOVIMOT® frequency inverter. • For detailed information about gearmotor combinations, refer to the "MOVIMOT® Gearmotors" catalog.

The following figure shows a MOVIMOT® helical gearmotor:



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3.1.1 MOVIMOT® features

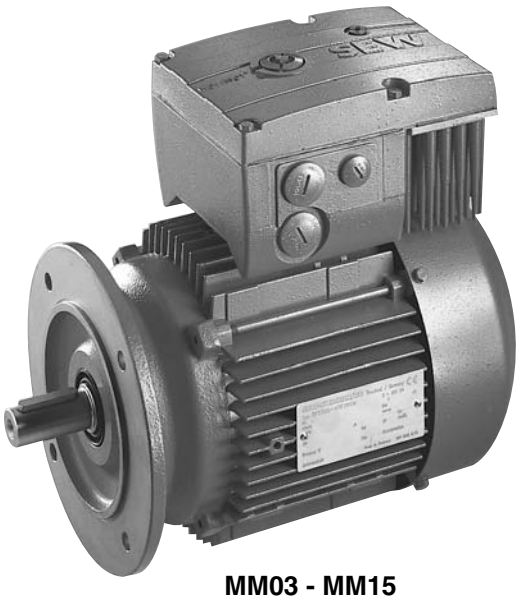
- Gearmotor with integrated frequency inverter
- Power range from 0.37 to 3 kW
- Output torque ratings from 40 to 40,000 Nm
- Frequency inverter with vector-oriented motor control
- Voltage range: 3 x 380 - 500 V
- Available for all mounting positions and ratios of the SEW modular drive system
- 4-quadrant operation as standard
- Comprehensive protection and monitoring functions
- Low-noise thanks to PWM switching frequency 16 kHz
- Status LED for fast diagnostics
- Integrated brake management
  - For motors with mechanical brake, the brake coil is used as braking resistor.
  - For motors without brake, MOVIMOT® is supplied with internal braking resistor as standard.
- High degree of protection IP66 for food and beverage industry as an option

- MOVIMOT® is available in 3 designs
  - MM..C-503-**00**: Standard version
  - MM..C-503-**05**: Design for energy efficient motors
  - MM..C-503-**30**: With integrated AS-Interface
- Control takes place via binary signals, via the serial interface RS-485 or optionally via all commercial fieldbus interfaces (PROFIBUS, PROFIsafe, INTERBUS, DeviceNet, CANopen or AS-Interface).
- Overview of MOVIMOT® functions (all designs)
  - Clockwise, counterclockwise operation
  - Changeover between two fixed setpoints
  - Setpoint f1 can be scaled
  - Ready signal to controller
  - Diagnostics of MOVIMOT® via status LED
  - Additional functions integrated as standard
- Additional functions of design with integrated AS-Interface
  - Addressing via M12 (AS-Interface address 1-31)
  - Connection option for two external sensors
  - Additional LED for AS-Interface status
  - Additional diagnostic interface via plug connector (RJ10)

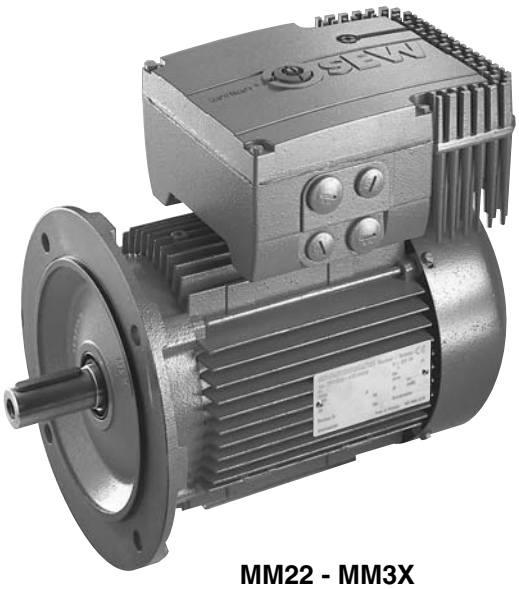
3.2 Available MOVIMOT® motor combinations

3.2.1 Combinations with DT/DV motors

MOVIMOT® standard design
MOVIMOT® with integrated AS-Interface



MM03 - MM15



MM22 - MM3X

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280 – 1400 1/min ⅄ 3 x 380 – 500 V (400 V) *IEC or* cULus

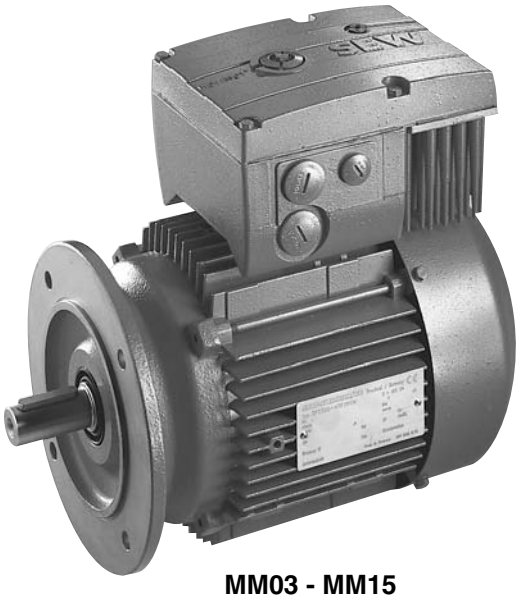
Type	P_N [kW]	M_n [Nm]	M_a/M_n f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	J_{mot} [10^{-4} kgm^2] without brake	J_{mot} [10^{-4} kgm^2] with brake	M_{Bmax} [Nm]	m [kg]	m [kg]
DT71D4/.../MM03	0.37	2.52	1.5	1400	1.3	0.99	4.61	5.51	5	8.6	11.4
DT80K4/.../MM05	0.55	3.75	1.5	1400	1.6	0.99	6.55	7.45	10	11.5	14.2
DT80N4/.../MM07	0.75	5.1	1.5	1400	1.9	0.99	8.7	9.6	10	13.1	15.8
DT90S4/.../MM11	1.1	7.5	1.5	1400	2.4	0.99	25	30.4	20	17.6	27.5
DT90L4/.../MM15	1.5	10.2	1.5	1400	3.5	0.99	34	39.4	20	19.6	29.5
DV100M4/.../MM22	2.2	15.0	1.5	1400	5.0	0.99	53	59	40	30.5	40.5
DV100L4/.../MM30	3.0	20.5	1.5	1400	6.7	0.99	65	71	40	33	43

290 – 2900 1/min △ 3 x 380 – 500 V (400 V) *IEC or* cULus

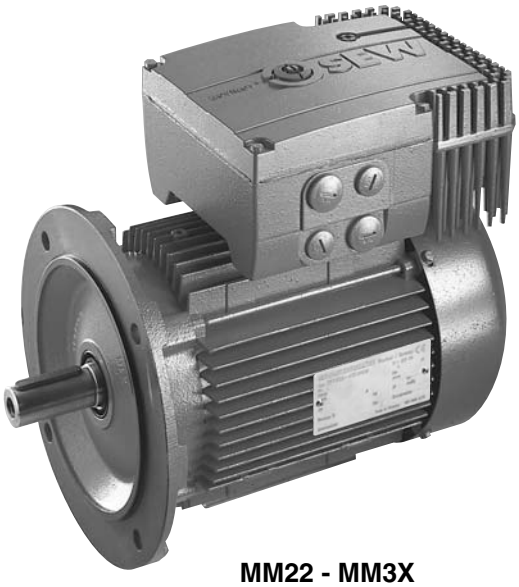
Type	P_N [kW]	M_n [Nm]	M_a/M_n f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	J_{mot} [10^{-4} kgm2] without brake	J_{mot} [10^{-4} kgm2] with brake	M_{Bmax} [Nm]	m [kg]	m [kg]
DT71D4/.../MM05	0.55	1.81	2.0	2900	1.6	0.99	4.61	5.51	5	8.6	11.4
DT80K4/.../MM07	0.75	2.47	2.0	2900	1.9	0.99	6.55	7.45	10	11.5	14.2
DT80N4/.../MM11	1.1	3.62	2.0	2900	2.4	0.99	8.7	9.6	10	13.1	15.8
DT90S4/.../MM15	1.5	4.95	1.6	2900	3.5	0.99	25	30.4	20	17.6	27.5
DT90L4/.../MM22	2.2	7.25	1.6	2900	5.0	0.99	34	39.4	20	21.0	31.0
DV100M4/.../MM30	3.0	9.9	1.6	2900	6.7	0.99	53	59	40	30.5	40.5

Thermal classification F as standard

MOVIMOT® standard design with increased short-term torque MOVIMOT®with integrated AS-Interface and increased short-term torque



MM03 - MM15



MM22 - MM3X

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280 – 1400 1/min ⅄ 3 x 380 – 500 V (400 V) *IEC or* cULus

Type	P_N [kW]	M_n [Nm]	M_a/M_n [1)] f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	J_{mot} [10^{-4} kgm^2] without brake	J_{mot} [10^{-4} kgm^2] with brake	M_{Bmax} [Nm]	m [kg]	m [kg]
DT71D4/.../MM05	0.37	2.52	2.1	1400	1.3	0.99	4.61	5.51	5	8.6	11.4
DT80K4/.../MM07	0.55	3.75	2.1	1400	1.6	0.99	6.55	7.45	10	11.5	14.2
DT80N4/.../MM11	0.75	5.1	2.1	1400	1.9	0.99	8.7	9.6	10	13.1	15.8
DT90S4/.../MM15	1.1	7.5	2.1	1400	2.4	0.99	25	30.4	20	17.6	27.5
DT90L4/.../MM22	1.5	10.2	2.1	1400	3.5	0.99	34	39.4	20	19.6	29.5
DV100M4/.../MM30	2.2	15.0	2.1	1400	5.0	0.99	53	59	40	30.5	40.5
DV100L4/.../MM3X	3.0	20.5	2.0	1400	6.7	0.99	65	71	40	33	43

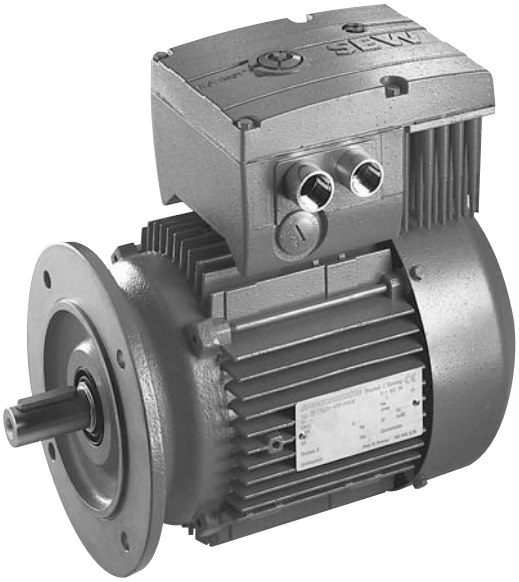
290 – 2900 1/min △ 3 x 380 – 500 V (400 V) *IEC or* cULus

Type	P_N [kW]	M_n [Nm]	M_a/M_n [1)] f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	J_{mot} [10^{-4} kgm^2] without brake	J_{mot} [10^{-4} kgm^2] with brake	M_{Bmax} [Nm]	m [kg]	m [kg]
DT71D4/.../MM07	0.55	1.81	2.5	2900	1.6	0.99	4.61	5.51	5	8.6	11.4
DT80K4/.../MM11	0.75	2.47	2.5	2900	1.9	0.99	6.55	7.45	10	11.5	14.2
DT80N4/.../MM15	1.1	3.62	2.5	2900	2.4	0.99	8.7	9.6	10	13.1	15.8
DT90S4/.../MM22	1.5	4.95	2.2	2900	3.5	0.99	25	30.4	20	17.6	27.5
DT90L4/.../MM30	2.2	7.25	2.2	2900	5.0	0.99	34	39.4	20	21.0	31.0
DV100M4/.../MM3X	3.0	9.9	2.0	2900	6.7	0.99	53	59	40	30.5	40.5

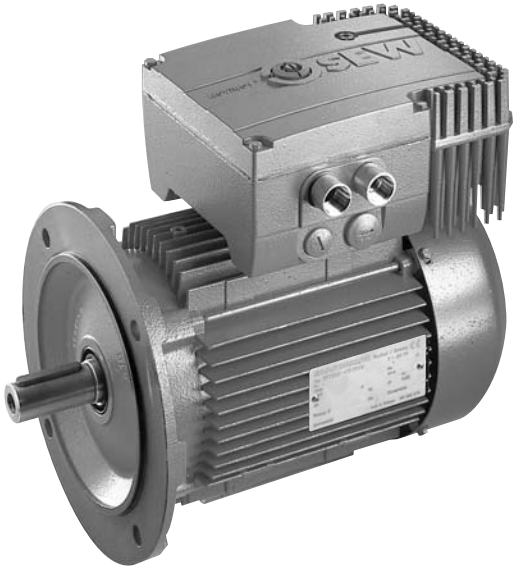
1) Increased short-term torque in S3 operation, 25 % cdf

Thermal classification F as standard

MOVIMOT® with operating point 460 V/60 Hz



MM03 - MM15 (380 - 500 V)
MM03 - MM07 (200 - 240 V)



MM22 - MM30 (380 - 500 V)
MM11 - MM22 (200 - 240 V)

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280 – 1700 1/min ⅄ 3 x 380 – 500 V (460 V)

Type	P_N [HP]	P_N [kW]	M_n [Nm]	n_n [1/min]	I_{n1} [A]	cosφ	J_{mot} [10^{-4} kgm^2] without brake	J_{mot} [10^{-4} kgm^2] with brake	M_{Bmax} [Nm]	m [kg]	m [kg]
DT71D4/.../MM03	0.5	0.37	2.08	1700	1.1	0.99	4.61	5.51	5	8.6	11.4
DT80K4/.../MM05	0.75	0.55	3.09	1700	1.4	0.99	6.55	7.45	10	11.5	14.2
DT80N4/.../MM07	1	0.75	4.2	1700	1.7	0.99	8.7	9.6	10	13.1	15.8
DT90S4/.../MM11	1.5	1.1	6.2	1700	2.1	0.99	25	30.4	20	17.6	27.5
DT90L4/.../MM15	2	1.5	8.4	1700	3	0.99	34	39.4	20	19.6	29.5
DV100L4/.../MM22	3	2.2	12.4	1700	4.3	0.99	53	59	40	30.5	40.5
DV100L4/.../MM30	5	3.7	20.7	1700	5.8	0.99	65	71	40	33	43

280 – 1700 1/min ⅄ ⅄ 3 x 200 – 240 V (230 V)[1)]

Type	P_N [HP]	P_N [kW]	M_n [Nm]	n_n [1/min]	I_{n1} [A]	cosφ	J_{mot} [10^{-4} kgm^2] without brake	J_{mot} [10^{-4} kgm^2] with brake	M_{Bmax} [Nm]	m [kg]	m [kg]
DT71D4/.../MM03	0.5	0.37	2.08	1700	2.2	0.99	4.61	5.51	5	8.6	11.4
DT80K4/.../MM05	0.75	0.55	3.09	1700	2.9	0.99	6.55	7.45	10	11.5	14.2
DT80N4/.../MM07	1	0.75	4.2	1700	3.5	0.99	8.7	9.6	10	13.1	15.8
DT90S4/.../MM11	1.5	1.1	6.2	1700	4.7	0.99	25	30.4	20	19.0	29.0
DT90L4/.../MM15	2	1.5	8.4	1700	6.2	0.99	34	39.4	20	21.0	31.0
DT100M4/.../MM22	3	2.2	12.4	1700	8.2	0.99	53	59	40	30.5	40.5

1) MOVIMOT® units with 3 x 200 – 240 V supply voltage are supplied with MOVIMOT® inverter MM..B

3.2.2 Combinations with energy efficient motors DTE/DVE

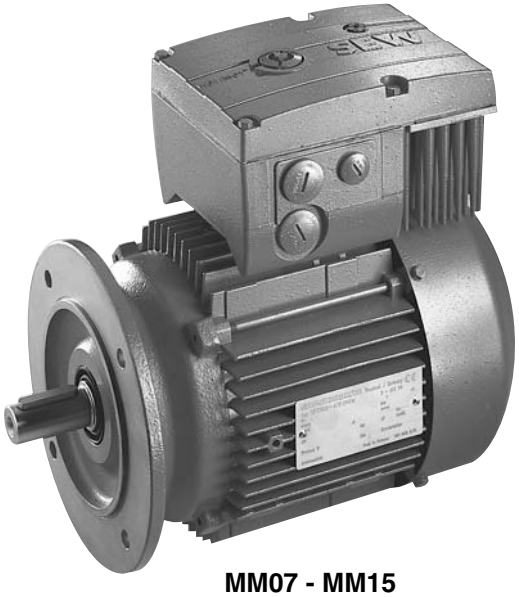
	NOTES
	• This design is exclusively intended for operation with DTE/DVE energy efficient motors (230 V/400 V Δ /人). • These energy efficient motors meet the requirements of efficiency category EFF1. • All combinations not listed in this document will be rejected with error 9 (slowly flashing red status LED on MOVIMOT®).

Sample unit designation

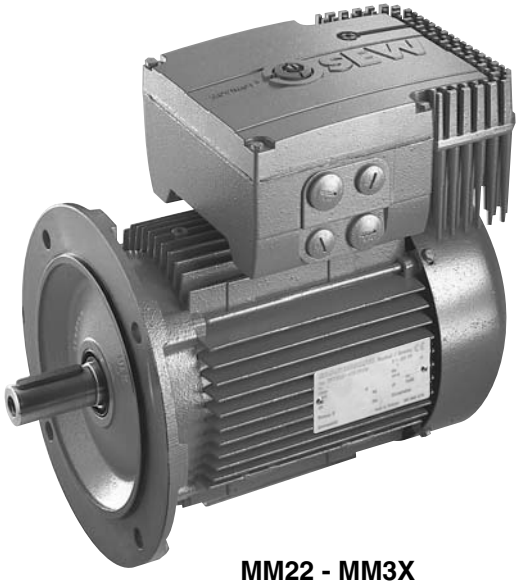
MM 15 C – 503 – 05

- **Type 05** **for DTE/DVE motors**
- Connection type (3 = 3-phase)
- Connection voltage (50 = AC 380...500 V)
- Version C
- Motor power (15 = 1.5 kW)
- MOVIMOT® series

MOVIMOT® with energy efficient motors DTE/DVE



MM07 - MM15



MM22 - MM3X

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280 – 1400 1/min ⅄ 3 x 380 – 500 V (400 V) *IEC design*

Type	P_N [kW]	M_n [Nm]	M_a/M_n f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	Brake	M_{Bmax} [Nm]
DTE90K4/.../MM07	0.75	5.1	1.5	1400	1.8	0.99	BMG2 230 V	20
DTE90S4/.../MM11	1.1	7.5	1.5	1400	2.4	0.99		20
DTE90L4/.../MM15	1.5	10.2	1.5	1400	3.2	0.99		20
DVE100M4/.../MM22	2.2	15.0	1.5	1400	4.6	0.99	BMG4 110 V	40
DVE100L4/.../MM30	3.0	20.5	1.5	1400	6.2	0.99		40

290 – 2900 1/min △ 3 x 380 – 500 V (400 V) *IEC design*

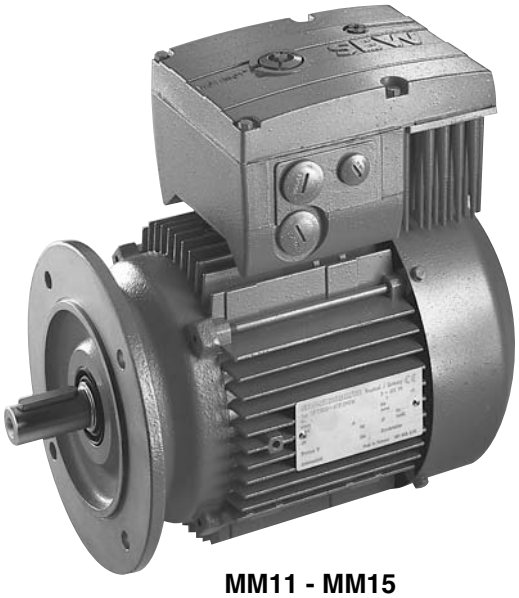
Type	P_N [kW]	M_n [Nm]	M_a/M_n f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	Brake	M_{Bmax} [Nm]
DTE90K4/.../MM11	1.1	3.62	2.0	2900	3.1	0.99	BMG2 230 V	20
DTE90S4/.../MM15	1.5	4.95	1.6	2900	4.2	0.99		20
DTE90L4/.../MM22	2.2	7.25	1.6	2900	5.5	0.99	BMG2 110 V	20
DVE100M4/.../MM30	3.0	9.9	1.6	2900	8.0	0.99	BMG4 110 V	40
DVE100L4/.../MM3X	3.0 [1]	9.9	1.6	2900	8.0	0.99		40
	4.0 [2]	13.2	1.2	2900	10.7	0.99		

1) S1

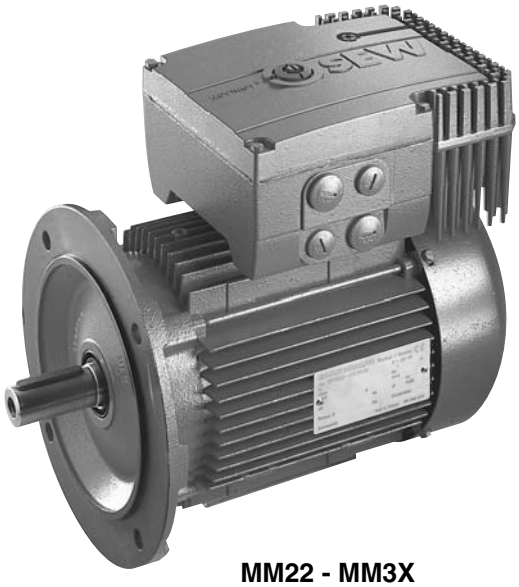
2) S3, 25 % c.d.f.

Thermal classification F as standard

MOVIMOT® with energy efficient motors DTE/DVE and increased short-term torque



MM11 - MM15



MM22 - MM3X

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280 – 1400 1/min ⅄ 3 x 380 – 500 V (400 V) *IEC design*

Type	P_N [kW]	M_n [Nm]	M_a/M_n [1)] f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	Brake	M_{Bmax} [Nm]
DTE90K4/.../MM11	0.75	5.1	2.1	1400	1.8	0.99	BMG2 230 V	20
DTE90S4/.../MM15	1.1	7.5	2.1	1400	2.4	0.99		20
DTE90L4/.../MM22	1.5	10.2	2.1	1400	3.2	0.99	BMG2 110 V	20
DVE100M4/.../MM30	2.2	15.0	2.1	1400	4.6	0.99	BMG4 110 V	40
DVE100L4/.../MM3X	3.0	20.5	2.0	1400	6.2	0.99		40

290 – 2900 1/min △ 3 x 380 – 500 V (400 V) *IEC design*

Type	P_N [kW]	M_n [Nm]	M_a/M_n [1)] f > 5 Hz	n_n [1/min]	I_{n1} [A]	cosφ	Brake	M_{Bmax} [Nm]
DTE90K4/.../MM15	1.1	3.62	2.5	2900	3.1	0.99	BMG2 230 V	20
DTE90S4/.../MM22	1.5	4.95	2.2	2900	4.2	0.99	BMG2 110 V	20
DTE90L4/.../MM30	2.2	7.25	2.2	2900	5.0	0.99		20
DVE100M4/.../MM3X	3.0	9.9	2.0	2900	8.0	0.99	BMG4 110 V	40

1) Increased short-term torque in S3 operation, 25 % cdf

Thermal classification F as standard

3.2.3 SafetyDrive designs

	NOTES
	• The SafetyDrive design must be ordered explicitly (order note: "–SafetyDrive"). • Use only those components in safety applications that were designed and delivered for this purpose by SEW-EURODRIVE.

SafetyDrive

Only the following unit combinations are permitted with MOVIMOT® for applications with safe disconnection of the drive according to stop category 0 or 1 to EN 60204-1 and fail-safe protection against restart according to EN 954-1, category 3:

Permitted designs	MOVIMOT® type
MOVIMOT® with binary control (Control via terminals)	D../MM.. – SafetyDrive MM..C-503-00 – SafetyDrive
MOVIMOT® with MBG11A option	
MOVIMOT® with MWA 21A option	
MOVIMOT® with MOVIFIT® MC	
MOVIMOT® with MFZ.6 field distributor	

3.3 Connection technology of MOVIMOT® in standard design

3.3.1 Overview

MOVIMOT® MM..C-503-00 is supplied without plug connector if not specified otherwise in the order. The plug connectors listed in the following table are available as standard. For other types, please contact SEW-EURODRIVE.

Order designation	Function	Terminal box design	Manufacturer designation
MM../AVT1	RS-485	Standard	M12 x 1 round plug connector
MM../RE.A/ASA3 RE1A = MM03-15 RE2A = MM22-3X	Power	Modular	Harting Han® 10 ES pin element (built-on housing with 2 clips)
MM../RE.A/ASA3/AVT1 RE1A = MM03-15 RE2A = MM22-3X	Power/RS-485	Modular	Harting Han® 10 ES pin element (built-on housing with 2 clips) + M12 x 1 round plug connector
MM../RE.A/AMA6 RE1A = MM03-15 RE2A = MM22-3X	Power/RS-485	Modular	Harting Han-Modular® pin element (built-on housing with 2 clips)
MM../RE.A/AMD6 RE1A = MM03-15 RE2A = MM22-3X	Power/RS-485	Modular	Harting Han-Modular® pin element (built-on housing with 1 clips)
MM../RB.A/APG6 RB3A = MM03-15 RB4A = MM22-3X	Power/RS-485	Modular	Phoenix Contact PLUSCON-VC (3 inserts)

Terminal box design:

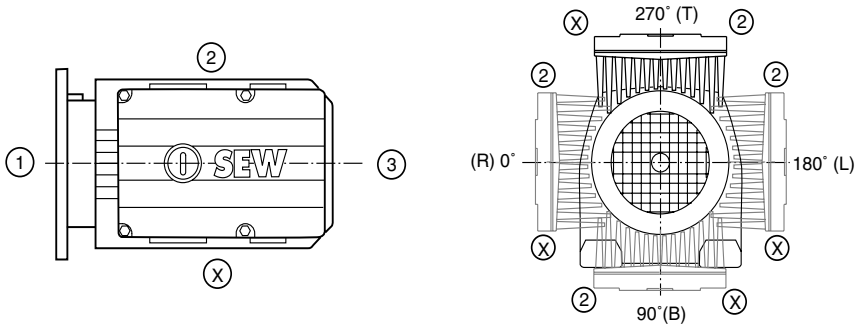
The modular terminal box offers the following functions compared to the standard terminal box:

- The position of the cable entries/plug connectors can later be turned to the opposite side (see "MOVIMOT® operating instructions").
- Integration of options (see sec. "Options")

3.3.2 Possible plug connector positions

The following positions are possible for plug connectors:

Plug connector	Possible positions
AVT1	X (standard)
	2
RE.A/ASA3	X (standard)
	2
RE.A/ASA3/AVT1	ASA3 = X (standard) + AVT1 = X (standard)
	ASA3 = 2 + AVT1 = 2
RE.A/AMA6 **RE.A/AMD6**	X (standard)
	2
RB.A/APG6 (not available for all motor/gear unit combinations)	1 (preferred position)
	3 (not readily available)

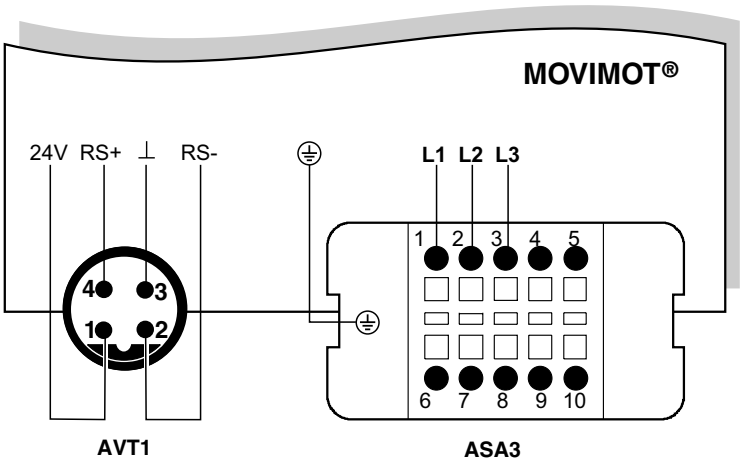


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3.3.3 Pin assignments

Pin assignment for AVT1, ASA3

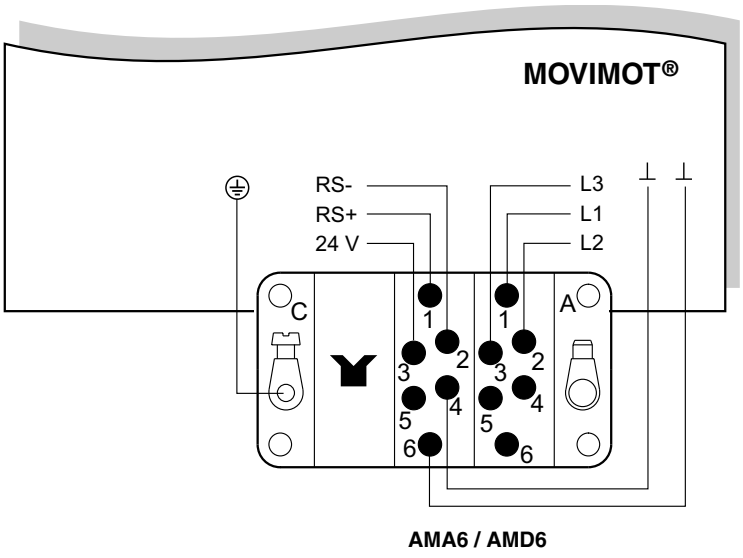
The following figure shows the assignment of the AVT1 and ASA3 plug connectors:



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Pin assignment for AMA6, AMD6

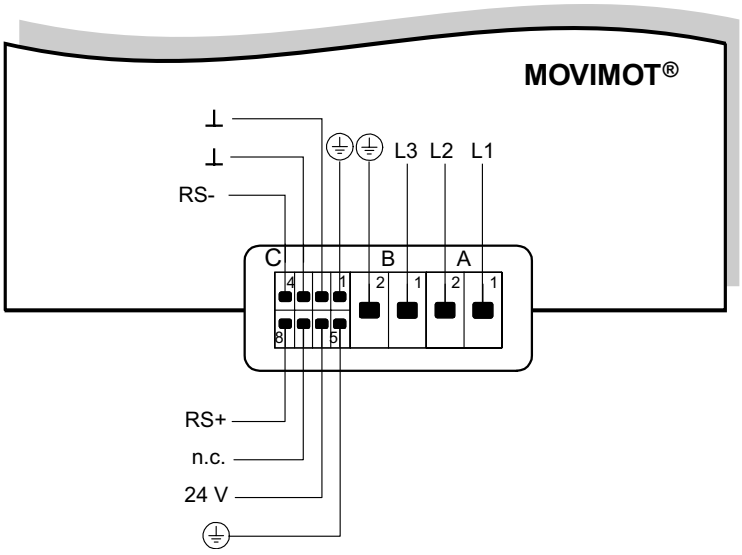
The following figure shows the assignment of the AMA6 and AMD6 plug connectors:



52459AXX

APG6 plug connector

The following figure shows the assignment of the APG6 plug connector:



60652AXX

3.4 Connection technology of MOVIMOT® with integrated AS-Interface

3.4.1 Overview

MOVIMOT® MM..C-503-30 (with integrated AS-Interface) is supplied with AVSK plug connector (for AS-Interface) if not specified otherwise in the order. The plug connectors listed in the following table are available as standard. For other types, please contact SEW-EURODRIVE.

Order designation	Function	Terminal box design	Manufacturer designation
MM../AVSK	AS interface	Standard	1 x round plug connector M12 x 1
MM../RC.A/AZSK RC1A = MM03-15 RC2A = MM22-3X	AS interface AUX PWR sensor connection	Modular	3 x round plug connector M12 x 1
MM../RJ.A/AND3/AZSK RJ1A = MM03-15 RJ2A = MM22-3X	Power AS interface AUX PWR sensor connection	Modular	Harting Han® Q8/0 pin element (built-on housing with 1 clip) + 3 x round plug connector M12 x 1

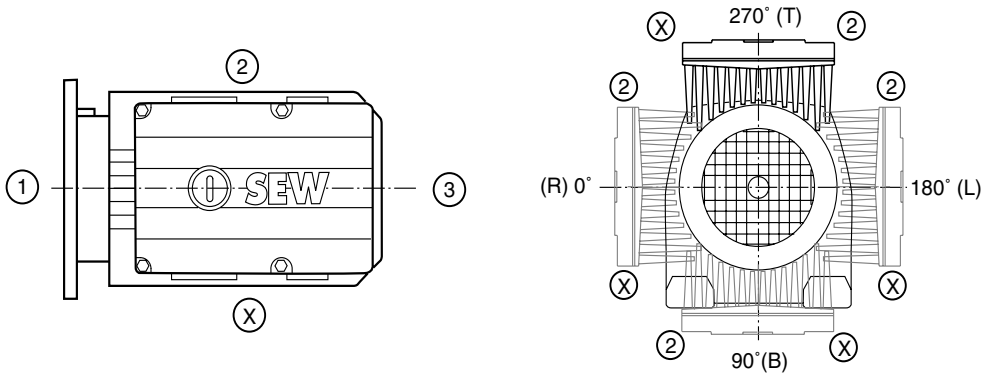
Terminal box design:

The modular terminal box offers the following functions compared to the standard terminal box:

- The position of the cable entries/plug connectors can later be turned to the opposite side (see "MOVIMOT® operating instructions").
- Integration of options (see sec. "Options")

3.4.2 Possible plug connector positions

Positions "X" or "2" are possible for plug connectors. The plug connectors are always located on one connection side. Combined plug connector positions are not possible.

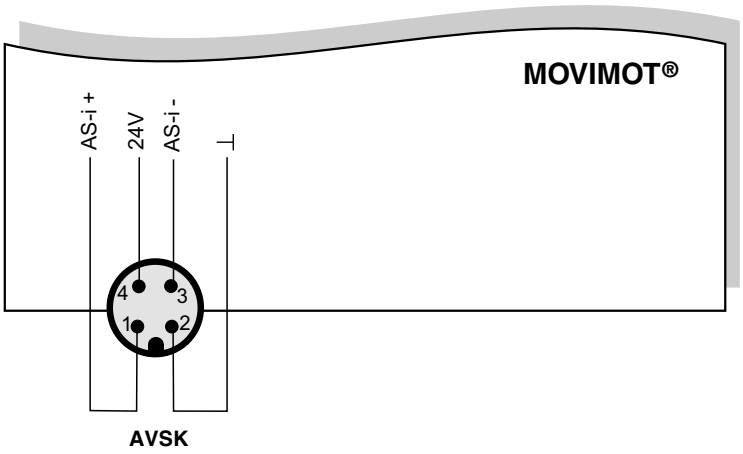


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3.4.3 Pin assignments

Pin assignment for AVSK

The following figure shows the assignment of the AVSK plug connector:

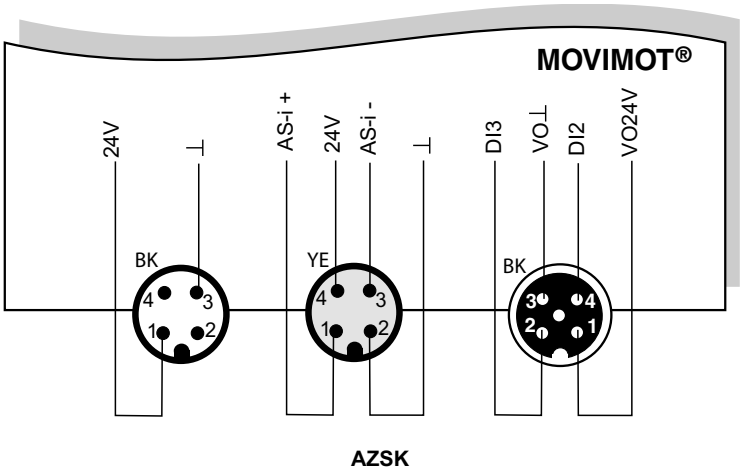


AVSK

52460AXX

Pin assignment for AZSK

The following figure shows the assignment of the AZSK plug connector:

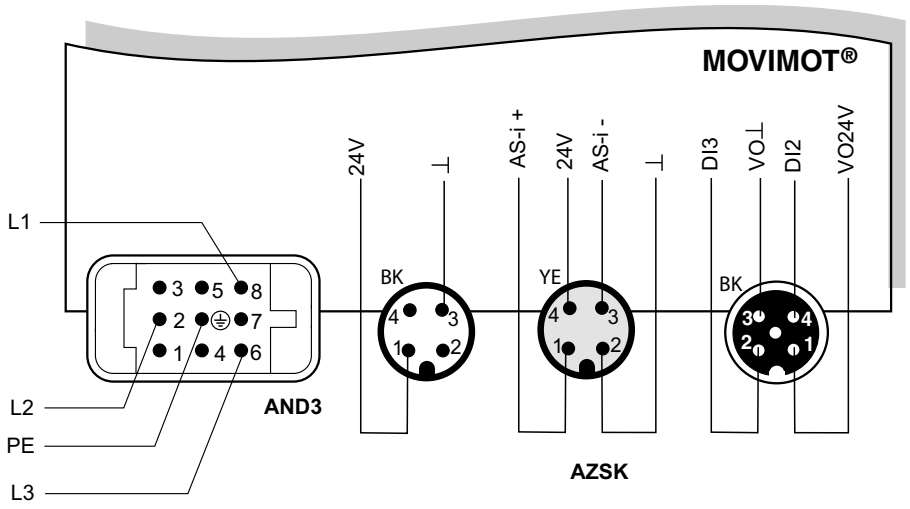


AZSK

52473AXX

Pin assignment for AND3/AZSK

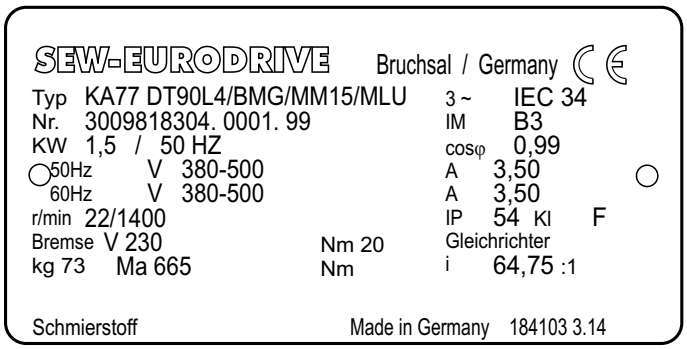
The following figure shows the assignment of AND3/AZSK:



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3.5 Sample unit designation for MOVIMOT® in standard design

The unit designation of the MOVIMOT® gearmotor starts from the component on the output end. For example, the unit designation of a MOVIMOT® helical-bevel gearmotor with brake, standard terminal box and installed MLU11A option is as follows:



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KA 77 DT 90L4 BMG/MM15/MLU

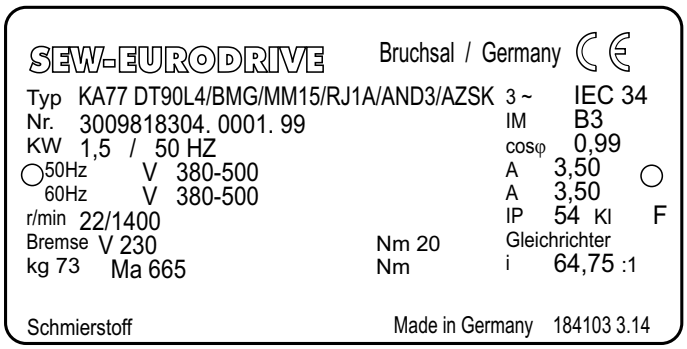
- Additional feature: inverter [1)]
- MOVIMOT® frequency inverter
- Optional design motor (brake)
- Size, number of poles on motor
- Motor series
- Gear unit size[2)]
- Gear unit series[2)]

1) Only options installed at the factory are listed on the nameplate.

2) Detailed information about gearmotor combinations can be found in the "MOVIMOT® Gearmotors" catalog.

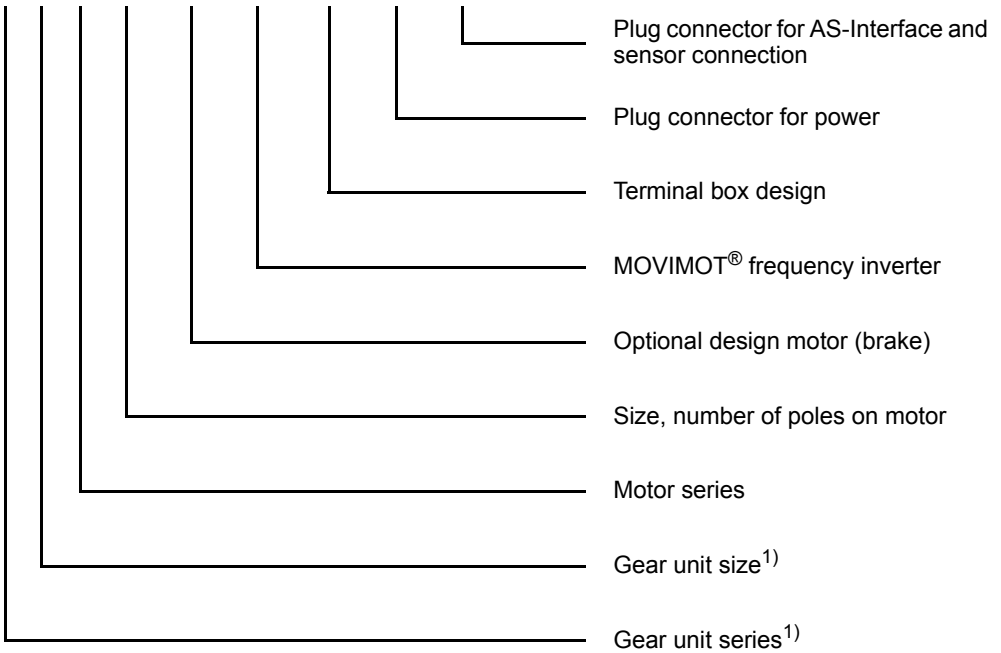
3.6 Sample unit designation for MOVIMOT® with integrated AS-Interface

The unit designation of the MOVIMOT® gearmotor starts from the component on the output end. For example, the unit designation of a MOVIMOT® helical-bevel gearmotor with brake, modular terminal box and integrated AS-Interface is as follows:



06488AXX

KA 77 DT 90L4 BMG/MM15/RJ1A/AND3/AZSK



1) Detailed information about gearmotor combinations can be found in the "MOVIMOT® Gearmotors" catalog.

3.7 Options

3.7.1 Options integrated in terminal box

- The options BGM, BSM, URM, MLU13A and MNF11A are integrated in the MOVIMOT® terminal box.
- These options can only be ordered in combination with the modular terminal box.
- The modular terminal box must be ordered as shown in the following example.

Order example

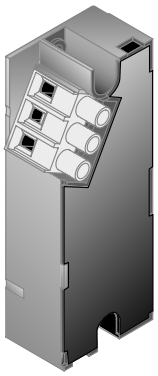
MM15/RA1A/BGM

- Brake control system
- **Terminal box design**[1)]
  RA1A = MM03-MM15 in connection with BGM, BSM, URM
  RA2A = MM22-MM3X in connection with BGM, BSM, URM

  RA1B = MM03-MM15 in connection with MLU13A, MNF11A
  RA2B = MM22-MM3X in connection with MLU13A, MNF11A
- MOVIMOT® frequency inverter

1) The order designation might differ from the example depending on the selected plug connector option (see the section on connection technology). The example shows the order designation for the modular terminal box without plug connector option

BGM brake controller



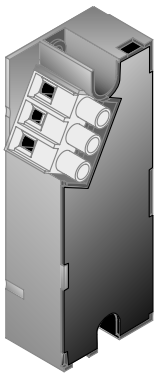
Functional description:

- The BGM brake rectifier can be used in conjunction with the MOVIMOT® MM..C special functions 7 or 9 for control of the brake (see also MOVIMOT® operating instructions).
- The BGM brake controller realizes fast release and application of the mechanical brake.
- The option is integrated in the MOVIMOT® terminal box.
- **BGM is not available for MOVIMOT® with integrated AS-Interface.**
- **Important: The brake coil must correspond to the supply voltage**

Technical data:

BGM brake rectifier	
Part number	827 602 1
Degree of protection	IP20
Rated supply voltage UE (black connecting wires)	AC 230 V ... AC 500 V +10% / -15% 50 Hz...60 Hz, ± 5%
Control voltage VIN (red/blue connection wires)	+13 V...+30 V = "1“ -3 V...+5 V = "0“
Brake current (brake connection 13, 14, 15)	max. DC 0.8 A
Ambient temperature	-25...60 °C

BSM brake controller



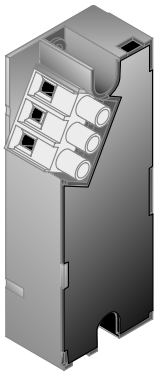
Functional description:

- The BSM brake rectifier can be used in conjunction with the MOVIMOT® MM..C special functions 7 or 9 for control of a DC 24 V brake (not standard). See also MOVIMOT® operating instructions.
- The BSM brake controller realizes fast release and application of the mechanical brake.
- The option is integrated in the MOVIMOT® terminal box.
- **BSM is not available for MOVIMOT® with integrated AS-Interface.**
- **Important: The brake coil must be designed as DC 24 V coil.**

Technical data:

BSM brake control	
Part number	827 600 5
Degree of protection	IP20
Rated supply voltage UE (red/black connection wires)	DC 24 V, +10% / -15% 50 Hz...60 Hz, ± 5%
Control voltage VIN (red/blue connection wires)	+13 V...+30 V = "1“ -3 V...+5 V = "0“
Brake current (brake connection 13, 14, 15)	max. DC 3.0 A
Ambient temperature	-25...60 °C

URM voltage relay



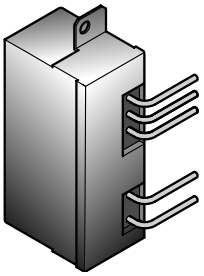
Functional description:

- The UMR voltage relay implements rapid application of the mechanical brake.
- The option is integrated in the MOVIMOT® terminal box.
- **Important: The brake coil must correspond to the MOVIMOT® standard (110 V or 230 V)**

Technical data:

Voltage relay	
Part number	827 601 3
Degree of protection	IP20
Rated voltage UN	DC 36 V... DC 167 V (Brake coil AC 88 V ... AC 400 V)
Brake current IN	0.75 A
Ambient temperature	-25...60 °C
Disconnection time toff (cut-off in the DC circuit)	approx. 40 ms

MLU13A internal DC 24 V supply



Functional description:

The MLU13A option is integrated in the terminal box of MOVIMOT® and allows for operating a MOVIMOT® unit including one option with a maximum current consumption of 70 mA (MBG11A, MWA21A) without external 24 V auxiliary voltage. The option is installed in the modular terminal box on delivery.

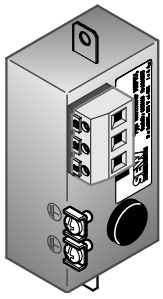
Technical data:

MLU13A option	
Part number	1 820 596 8
Input voltage	3 x AC 380 V ... AC 500 V ± 10 % (50/60 Hz)
Output voltage	DC 24 V ± 25 %
Output power	max. 8 W
Ambient temperature	-25...+85 °C
Storage temperature	-25...+85 °C

NOTE

Note that the height of the terminal box is higher for MOVIMOT® MM03 - MM15. Refer to the dimension drawing RA1B.

MNF11A internal line filter



Functional description:

The MNF11A option is integrated in the terminal box of MOVIMOT® (MM03 - MM15) and allows for a drive system that complies with category C1 according to EN 61800-3 with respect to interference emission. The option requires the modular terminal box with increased dimensions.

Technical data:

MNF11A option	
Part number	0 828 316 8
Function	3-phase line filter
Input voltage	3 x AC 380 V ... AC 500 V ± 10 % (50/60 Hz)
Input current	4 A
Ambient temperature	-25...+60 °C
Storage temperature	-25...+85 °C

NOTE

Note that the height of the terminal box is higher for MOVIMOT® MM03 - MM15. Refer to the dimension drawing RA1B.

3.7.2 DC 24 V supply MLU.1A

Function description

The MLU.1A option is mounted in a cable gland of the MOVIMOT® and offers the opportunity to operate one MOVIMOT® including **one** option with a current consumption of max. 70 mA (MBG11A, MWA21A) without external 24 V auxiliary power supply.

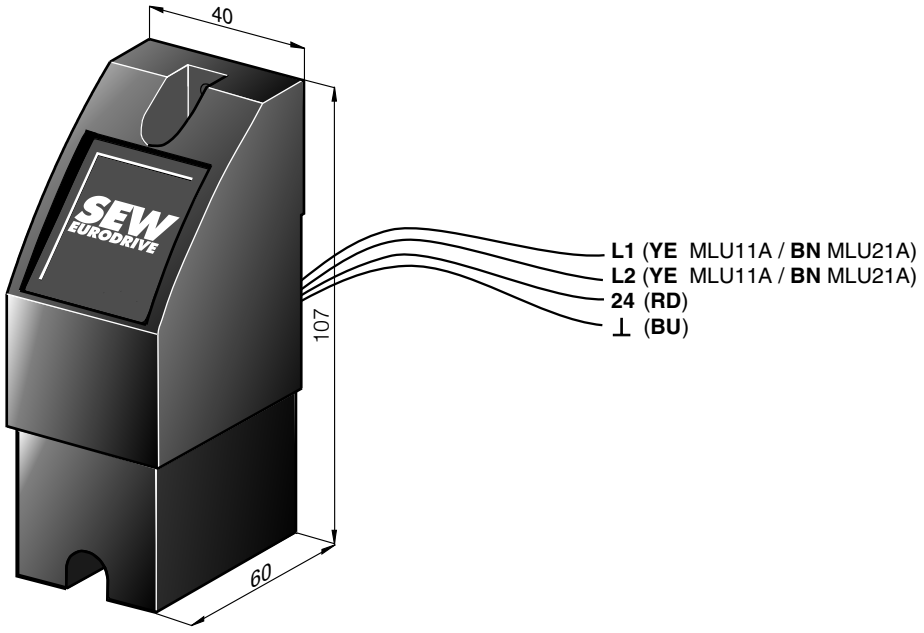
Technical data

The following table shows the technical data of the MLU..1A:

	For MOVIMOT® with supply voltages of AC 380 V to AC 500 V	For MOVIMOT® with supply voltages of AC 200 V to AC 240 V
Option	**MLU11A**	**MLU21A**
Part number	823 383 7	823 387 X
Input voltage	AC 380 V ... AC 500 V± 10 %	AC 200 V ... AC 240 V± 10 %
Output voltage	DC 24 V ± 25 %	DC 24 V ± 25 %
Output power	Max. 6 W	Max. 6 W
Degree of protection	IP 65	IP 65
Ambient temperature	-25...60 °C	-25...60 °C

Dimensions and connection assignment

The following figure shows the dimensions and the connection assignments of the MLU.1A option:



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3.7.3 MLG.1A setpoint generator with DC 24 V supply

Function description

The MLG.1A option is mounted in a cable gland of MOVIMOT® and offers the possibility of adjusting the input speed in the range of -100 % ... +100 % f_{max} (potentiometer f1) as well as of powering the inverter with the DC 24 V auxiliary voltage. **MLG.1A is not available for MOVIMOT® with integrated AS-Interface.**

Technical data

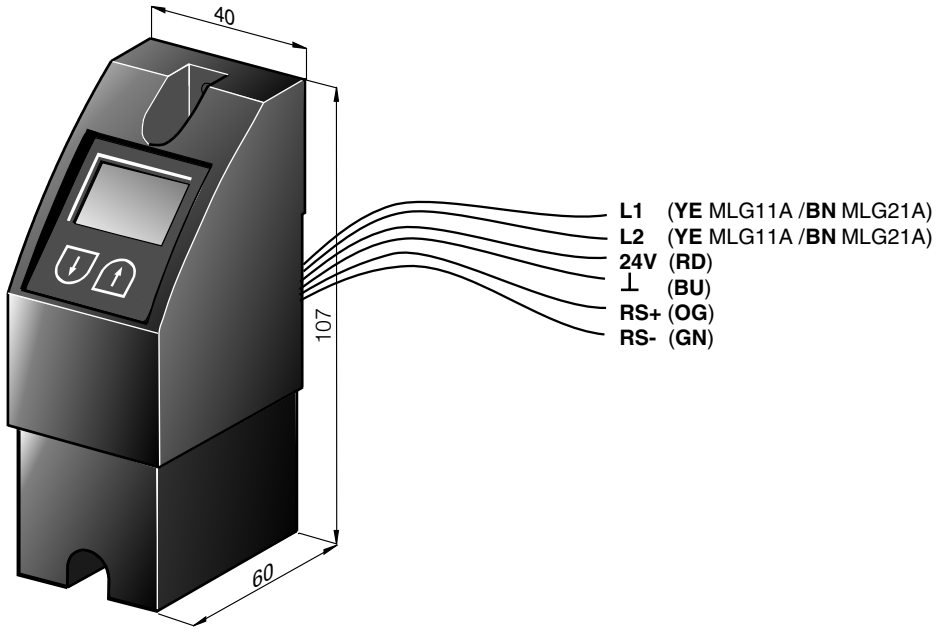
The following table shows the technical data of the MLG..1A:

	For MOVIMOT® with supply voltages of AC 380 V to AC 500 V	For MOVIMOT® with supply voltages of AC 200 V to AC 240 V
Option	**MLG11A**	**MLG21A**
Part number	823 384 5	823 388 8
Input voltage	AC 380 V ... AC 500 V± 10 %	AC 200 V ... AC 240 V± 10 %
Output voltage	DC 24 V ± 25 %	DC 24 V ± 25 %
Output power	Max. 6 W	Max. 6 W
Setpoint resolution	1 %	1 %
Serial interface[1)]	RS-485 for connecting a MOVIMOT® inverter	
Degree of protection	IP 65	IP 65
Ambient temperature	-15...60 °C	-15...60 °C

1) With integrated dynamic terminating resistor

Dimensions and connection assignment

The following figure shows the dimensions and the connection assignments of the MLG.1A option:



03195BXX

3.7.4 MBG11A setpoint generator

Function description

- The MBG11A speed control module has two keys and a display. They make it possible to adjust the speed remotely in the range from -100 %... +100 % f_{max} (potentiometer f1).
- Up to 31 MOVIMOT® units can be controlled at the same time (broadcasting).
- **MBG11A is not available for MOVIMOT® with integrated AS-Interface.**

Technical data

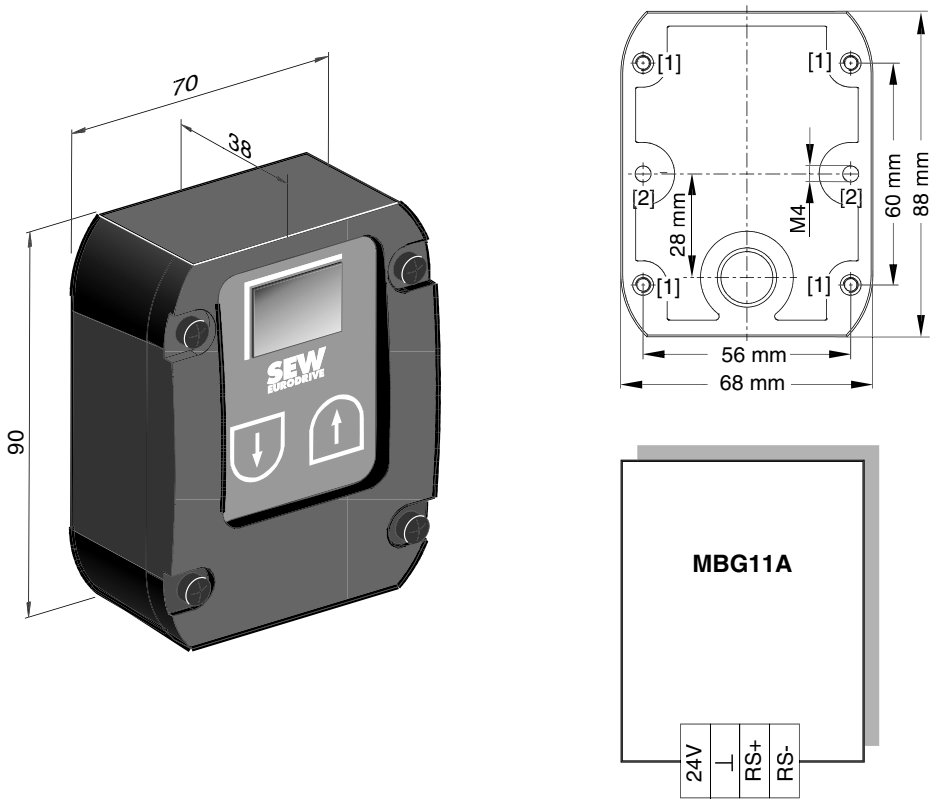
The following table shows the technical data of the MBG11A:

MBG11A option	
Part number	822 547 8
Input voltage	DC 24 V ± 25 %
Current consumption	approx. 70 mA
Setpoint resolution	1 %
Serial interface[1)]	RS-485 for connecting max. 31 MOVIMOT® inverters (max. 200 m, 9600 baud)
Degree of protection	IP 65
Ambient temperature	-15...60 °C

1) With integrated dynamic terminating resistor

Dimensions and connection assignment

The following figure shows the dimensions and the connection assignments of the MGB11A option:



[1] Tapped hole on the rear
[2] Retaining holes for M4 screws

3.7.5 MWA21A setpoint converter

Function description

- The MWA21A setpoint converter converts an analog setpoint and control signals into an RS-485 protocol.
- This conversion allows for remote control of the MOVIMOT® from the control cabinet.
- Up to 31 MOVIMOT® units can be controlled at the same time (broadcasting).
- **MWA21A is not available for MOVIMOT® with integrated AS-Interface.**

Technical data

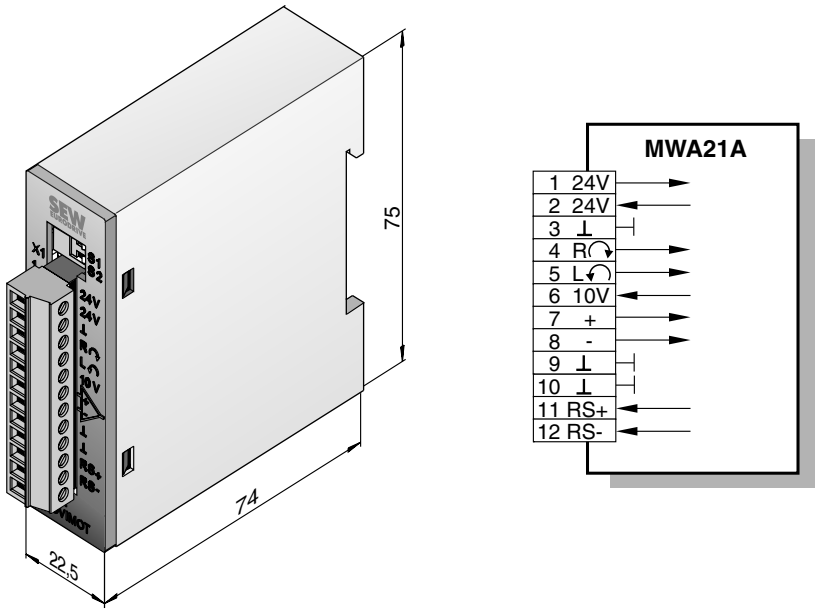
The following table shows the technical data of the MWA21A:

MWA21A option	
Part number	823 006 4
Input voltage	DC 24 V ± 25 %
Current consumption	approx. 70 mA
Serial interface[1)]	RS-485 for connecting max. 31 MOVIMOT® inverters (max. 200 m, 9600 baud) Unidirectional communication Cycle time: 100 ms
Analog input	0...10 V / 2...10 V, R_i ª 12 kΩ 0...20 mA / 4...20 mA, R_i ª 22 Ω
Setpoint resolution of the analog input	8 bit (± 1 bit)
Signal level binary inputs	+13 V ...+30 V = "1" - 3 V ...+5 V = "0"
Degree of protection	IP 20
Ambient temperature	-15...60 °C

1) With integrated dynamic terminating resistor

Dimensions and connection assignment

The following figure shows the dimensions and the connection assignments of the MWA21A option:

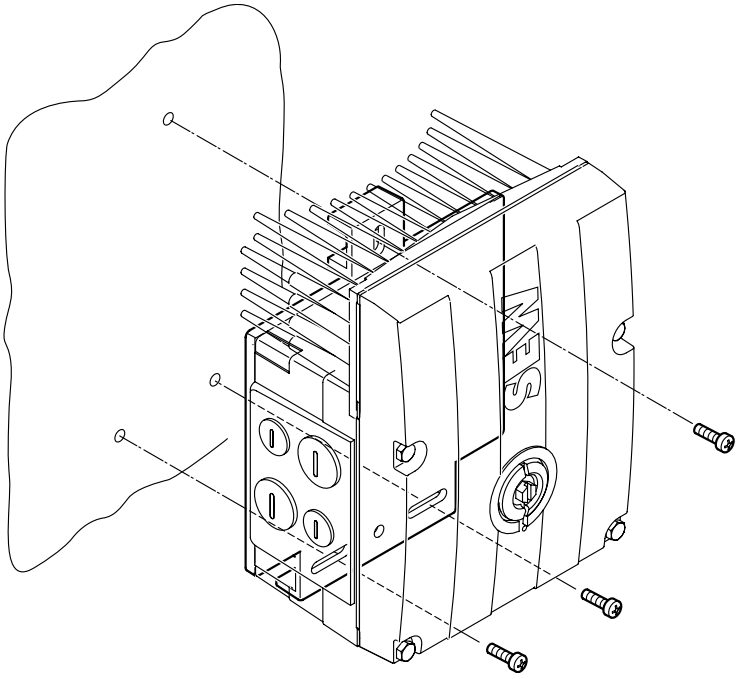


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3.7.6 Option P2.A for mounting the MOVIMOT® inverter close to the motor

Function description

- The P2.A option allows for mounting of the MOVIMOT® inverter in close proximity to the motor.
- The inverter is connected to the motor using a pre-fabricated hybrid cable (see page 247).
- MOVIMOT® with option P2.A is supplied in enclosure IP65.



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Available designs

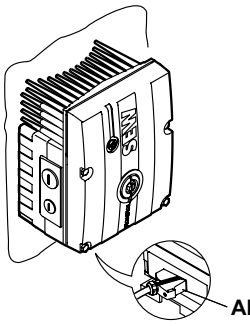
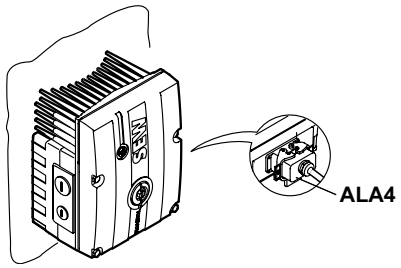
The following designs are available:

Connection to motor	MOVIMOT® size	1)	MOVIMOT® standard design	MOVIMOT® with integrated AS-Interface
APG4	MM03-MM15	⅄	MM..C-503-00/0/ P21A/RO1A/APG4	MM..C-503-30/0/ P21A/RO1A/APG4/AVSK
		△	MM..C-503-00/1/ P21A/RO1A/APG4	MM..C-503-30/1/ P21A/RO1A/APG4/AVSK
	MM22-MM3X	⅄	MM..C-503-00/0/ P22A/RO2A/APG4	MM..C-503-30/0/ P22A/RO2A/APG4/AVSK
		△	MM..C-503-00/1/ P22A/RO2A/APG4	MM..C-503-30/1/ P22A/RO2A/APG4/AVSK
ALA4	MM03-MM15	⅄	MM..C-503-00/0/ P21A/RE1A/ALA4	MM..C-503-30/0/ P21A/RE1A/ALA4/AVSK
		△	MM..C-503-00/1/ P21A/RE1A/ALA4	MM..C-503-30/1/ P21A/RE1A/ALA4/AVSK
	MM22-MM3X	⅄	MM..C-503-00/0/ P22A/RE2A/ALA4	MM..C-503-30/0/ P22A/RE2A/ALA4/AVSK
		△	MM..C-503-00/1/ P22A/RE2A/ALA4	MM..C-503-30/1/ P22A/RE2A/ALA4/AVSK

1) Connection type of connected motor

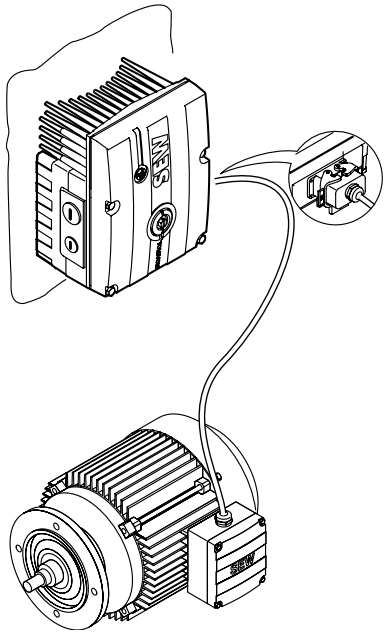
Position of plug connector

The following table shows the positions of plug connectors:

APG4	ALA4
	

Sample unit designation

For example, a MOVIMOT® inverter with ALA4 plug connector for motor connection has the following unit designation:



62811AXX

MM22C-503-00/0/P22A/RE2A/ALA4[1)]

- Plug connector for the connection to the motor
- Terminal box design
- Adapter for mounting close to the motor
- Connection type
- MOVIMOT®

1) If the MOVIMOT® is used in combination with a drive without mechanical holding brake, an integrated braking resistor must be ordered (according to the following example).

MM22C-503-00/0/**BW.**/P22A/RE.A/ALA4

→ MM03 - MM15: **BW1**
MM22 - MM3X: **BW2**

Assignment of motors (1400 rpm) to MOVIMOT® with option P2.A

Power [kW]	Motor	MOVIMOT® with option P.2A	
		Standard version	With integrated AS-Interface
0.25	DFR63L4/TH	– MM03C-503-00/**0**/**BW1**/P21A/R.1A/A..4[1)]	– MM03C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DFR63L4/**BR**/TH.	– MM03C-503-00/**0**/P21A/R.1A/A..4[1)]	– MM03C-503-30/**0**/P21A/R.1A/A..4/AVSK[1)]
0.37	DT71D4/TH	MM03C-503-00/**0**/**BW1**/P21A/R.1A/A..4 MM05C-503-00/**0**/**BW1**/P21A/R.1A/A..4[1)]	MM03C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK MM03C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT71D4/**BMG**/TH.	MM03C-503-00/**0**/P21A/R.1A/A..4 MM05C-503-00/**0**/P21A/R.1A/A..4[1)]	MM03C-503-30/**0**/P21A/R.1A/A..4/AVSK MM05C-503-30/**0**/P21A/R.1A/A..4/AVSK[1)]
0.55	DT80K4/TH	MM05C-503-00/**0**/**BW1**/P21A/R.1A/A..4 MM07C-503-00/**0**/**BW1**/P21A/R.1A/A..4[1)]	MM03C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK MM07C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT80K4/**BMG**/TH.	MM05C-503-00/**0**/P21A/R.1A/A..4 MM07C-503-00/**0**/P21A/R.1A/A..4[1)]	MM05C-503-30/**0**/P21A/R.1A/A..4/AVSK MM07C-503-30/**0**/P21A/R.1A/A..4/AVSK[1)]
0.75	DT80N4/TH	MM07C-503-00/**0**/**BW1**/P21A/R.1A/A..4 MM11C-503-00/**0**/**BW1**/P21A/R.1A/A..4[1)]	MM07C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK MM11C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT80N4/**BMG**/TH.	MM07C-503-00/**0**/P21A/R.1A/A..4 MM11C-503-00/**0**/P21A/R.1A/A..4[1)]	MM07C-503-30/**0**/P21A/R.1A/A..4/AVSK MM11C-503-30/**0**/P21A/R.1A/A..4/AVSK[1)]
1.1	DT90S4/TH	MM11C-503-00/**0**/**BW1**/P21A/R.1A/A.14 MM15C-503-00/**0**/**BW1**/P21A/R.1A/A.14[1)]	MM11C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK MM15C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT90S4/**BMG**/TH.	MM11C-503-00/**0**/P21A/R.1A/A..4 MM15C-503-00/**0**/P21A/R.1A/A..4[1)]	MM11C-503-30/**0**/P21A/R.1A/A..4/AVSK MM15C-503-30/**0**/P21A/R.1A/A..4/AVSK[1)]
1.5	DT90L4/TH	MM15C-503-00/**0**/**BW1**/P21A/R.1A/A..4 MM22C-503-00/**0**/**BW2**/P22A/R.2A/A..4[1)]	MM15C-503-30/**0**/**BW1**/P21A/R.1A/A..4/AVSK MM22C-503-30/**0**/**BW2**/P22A/R.2A/A..4/AVSK[1)]
	DT90L4/**BMG**/TH.	MM15C-503-00/**0**/P21A/R.1A/A..4 MM22C-503-00/**0**/P22A/R.2A/A..4[1)]	MM15C-503-30/**0**/P21A/R.1A/A..4/AVSK MM22C-503-30/**0**/P22A/R.2A/A..4/AVSK[1)]
2.2	DV100M4/TH	MM22C-503-00/**0**/**BW2**/P22A/R.2A/A..4 MM30C-503-00/**0**/**BW2**/P22A/R.2A/A..4[1)]	MM22C-503-30/**0**/**BW2**/P22A/R.2A/A..4/AVSK MM30C-503-30/**0**/**BW2**/P22A/R.2A/A..4/AVSK[1)]
	DV100M4/**BMG**/TH.	MM22C-503-00/**0**/P22A/R.2A/A..4 MM30C-503-00/**0**/P22A/R.2A/A..4[1)]	MM22C-503-30/**0**/P22A/R.2A/A..4/AVSK MM30C-503-30/**0**/P22A/R.2A/A..4/AVSK[1)]
3	DV100L4/TH	MM30C-503-00/**0**/**BW2**/P22A/R.2A/A..4 MM3XC-503-00/**0**/**BW2**/P22A/R.2A/A..4[1)]	MM30C-503-30/**0**/**BW2**/P22A/R.2A/A..4/AVSK MM3XC-503-30/**0**/**BW2**/P22A/R.2A/A..4/AVSK[1)]
	DV100L4/**BMG**/TH.	MM30C-503-00/**0**/P22A/R.2A/A..4 MM3XC-503-00/**0**/P22A/R.2A/A..4[1)]	MM30C-503-30/**0**/P22A/R.2A/A..4/AVSK MM3XC-503-30/**0**/P22A/R.2A/A..4/AVSK[1)]

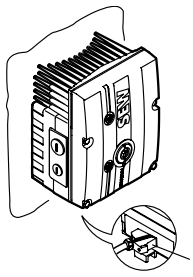
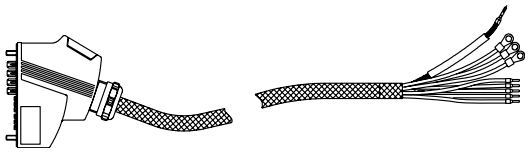
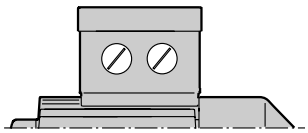
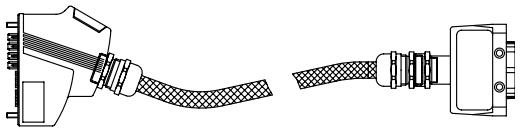
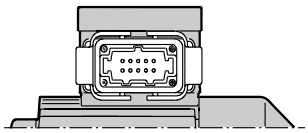
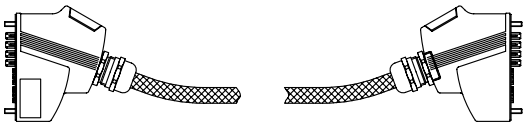
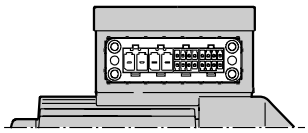
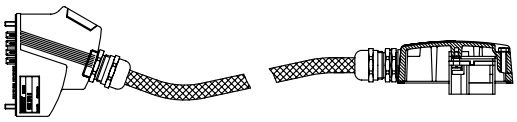
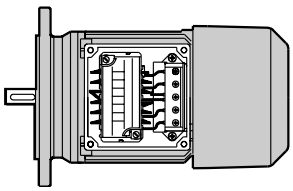
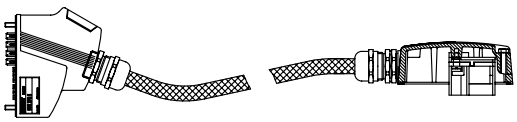
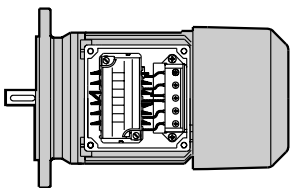
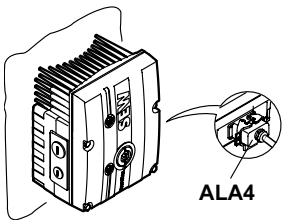
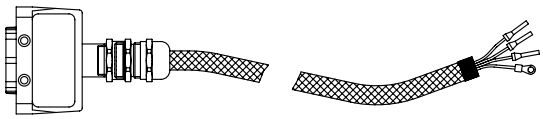
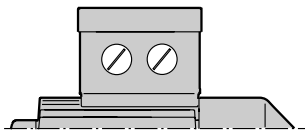
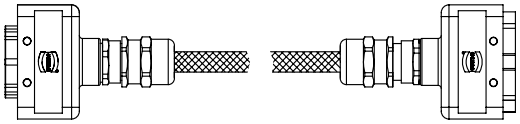
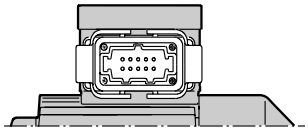
1) Combination with increased short-term torque

Assignment of motors (2800 rpm) to MOVIMOT® with option P2.A

Power [kW]	Motor △	MOVIMOT® with option P2A	
		Standard version	With integrated AS-Interface
0.37	DFR63L4/TH	MM03C-503-00/**1**/**BW1**/P21A/R.1A/A..4 MM05C-503-00/**1**/**BW1**/P21A/R.1A/A..4[1)]	MM03C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK MM03C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DFR63L4/**BR**/TH.	MM03C-503-00/**1**/P21A/R.1A/A..4 MM05C-503-00/**1**/P21A/R.1A/A..4[1)]	MM03C-503-30/**1**/P21A/R.1A/A..4/AVSK MM05C-503-30/**1**/P21A/R.1A/A..4/AVSK[1)]
0.55	DT71D4/TH	MM05C-503-00/**1**/**BW1**/P21A/R.1A/A..4 MM07C-503-00/**1**/**BW1**/P21A/R.1A/A..4[1)]	MM03C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK MM07C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT71D4/**BMG**/TH.	MM05C-503-00/**1**/P21A/R.1A/A..4 MM07C-503-00/**1**/P21A/R.1A/A..4[1)]	MM05C-503-30/**1**/P21A/R.1A/A..4/AVSK MM07C-503-30/**1**/P21A/R.1A/A..4/AVSK[1)]
0.75	DT80K4/TH	MM07C-503-00/**1**/**BW1**/P21A/R.1A/A..4 MM11C-503-00/**1**/**BW1**/P21A/R.1A/A..4[1)]	MM07C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK MM11C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT80K4/**BMG**/TH.	MM07C-503-00/**1**/P21A/R.1A/A..4 MM11C-503-00/**1**/P21A/R.1A/A..4[1)]	MM07C-503-30/**1**/P21A/R.1A/A..4/AVSK MM11C-503-30/**1**/P21A/R.1A/A..4/AVSK[1)]
1.1	DT80N4/TH	MM11C-503-00/**1**/**BW1**/P21A/R.1A/A..4 MM15C-503-00/**1**/**BW1**/P21A/R.1A/A..4[1)]	MM11C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK MM15C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK[1)]
	DT80N4/**BMG**/TH.	MM11C-503-00/**1**/P21A/R.1A/A..4 MM15C-503-00/**1**/P21A/R.1A/A..4[1)]	MM11C-503-30/**1**/P21A/R.1A/A..4/AVSK MM15C-503-30/**1**/P21A/R.1A/A..4/AVSK[1)]
1.5	DT90S4/TH	MM15C-503-00/**1**/**BW1**/P21A/R.1A/A..4 MM22C-503-00/**1**/**BW2**/P22A/R.2A/A..4[1)]	MM15C-503-30/**1**/**BW1**/P21A/R.1A/A..4/AVSK MM22C-503-30/**1**/**BW2**/P22A/R.2A/A..4/AVSK[1)]
	DT90S4/**BMG**/TH.	MM15C-503-00/**1**/P21A/R.1A/A..4 MM22C-503-00/**1**/P22A/R.2A/A..4[1)]	MM15C-503-30/**1**/P21A/R.1A/A..4/AVSK MM22C-503-30/**1**/P22A/R.2A/A..4/AVSK[1)]
2.2	DT90L4/TH	MM22C-503-00/**1**/**BW2**/P22A/R.2A/A..4 MM30C-503-00/**1**/**BW2**/P22A/R.2A/A..4[1)]	MM22C-503-30/**1**/**BW2**/P22A/R.2A/A..4/AVSK MM30C-503-30/**1**/**BW2**/P22A/R.2A/A..4/AVSK[1)]
	DT90L4/**BMG**/TH.	MM22C-503-00/**1**/P22A/R.2A/A..4 MM30C-503-00/**1**/P22A/R.2A/A..4[1)]	MM22C-503-30/**1**/P22A/R.2A/A..4/AVSK MM30C-503-30/**1**/P22A/R.2A/A..4/AVSK[1)]
3	DV100M4/TH	MM30C-503-00/**1**/**BW2**/P22A/R.2A/A..4 MM3XC-503-00/**1**/**BW2**/P22A/R.2A/A..4[1)]	MM30C-503-30/**1**/**BW2**/P22A/R.2A/A..4/AVSK MM3XC-503-30/**1**/**BW2**/P22A/R.2A/A..4/AVSK[1)]
	DV100M4/**BMG**/TH.	MM30C-503-00/**1**/P22A/R.2A/A..4 MM3XC-503-00/**1**/P22A/R.2A/A..4[1)]	MM30C-503-30/**1**/P22A/R.2A/A..4/AVSK MM3XC-503-30/**1**/P22A/R.2A/A..4/AVSK[1)]

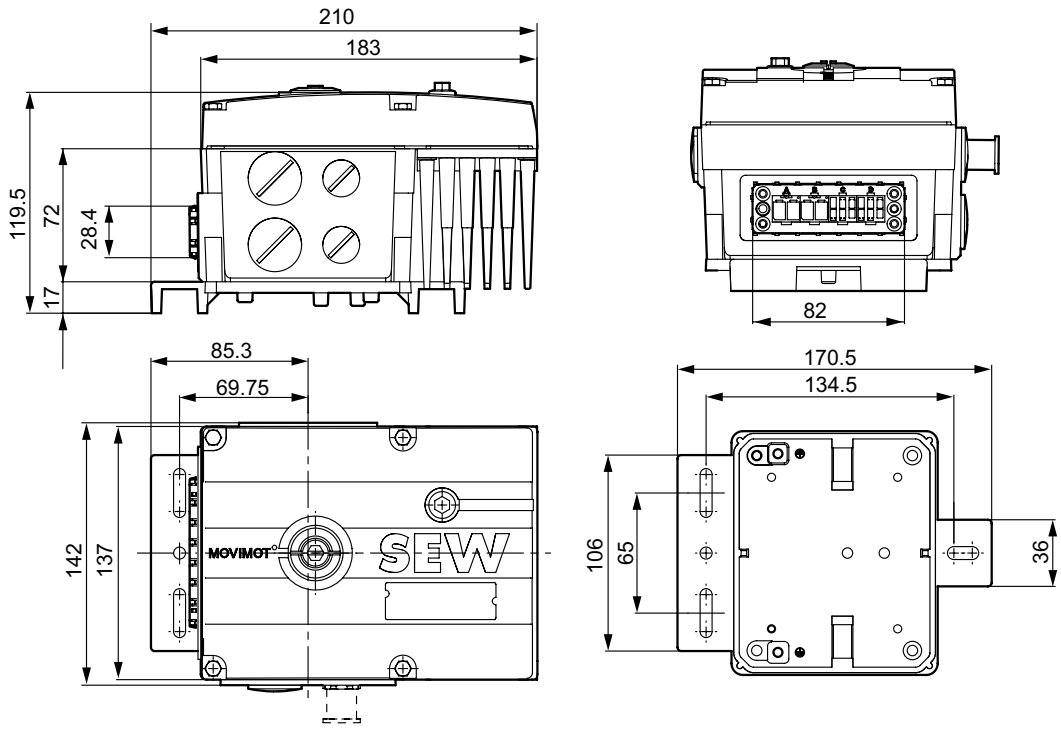
1) Combination with increased short-term torque

Connecting MOVIMOT® to motors (when mounted close to the motor)

MOVIMOT® inverter	Hybrid cable	Cable type	Drive
MM../P2.A/RO.A/APG4  **APG4**	Part number: 0186 742 3  ***High-priority type (preferred lengths 1.5 / 2 / 3 / 5 m)*** *High-priority types with preferred length can usually be delivered at short notice*	**A**	AC motors with cable gland 
	Part number: 0593 076 6  ***High-priority type (preferred lengths 1.5 / 2 / 3 / 5 m)*** *High-priority types with preferred length can usually be delivered at short notice*	**A**	AC motors with ASB4 plug connector 
	Part number: 0186 741 5 	**A**	AC motors with APG4 plug connector 
	Part number: 0593 278 5 (W) Part number: 0816 325 1 (m) 	**A**	AC motors with IS plug connector, sizes DT71–DT90 
	Part number: 0593 755 8 (W) Part number: 0816 326 X (m) 	**A**	AC motors with IS plug connector, size DV100 
MM../P2.A/RE.A/ALA4  **ALA4**	Part number: 0817 948 4 	**A**	AC motors with cable gland 
	Part number: 0816 208 5 	**A**	AC motors with ASB4 plug connector 

Dimension drawing of MM03 to MM15 with option P21A (APG4 plug connector)

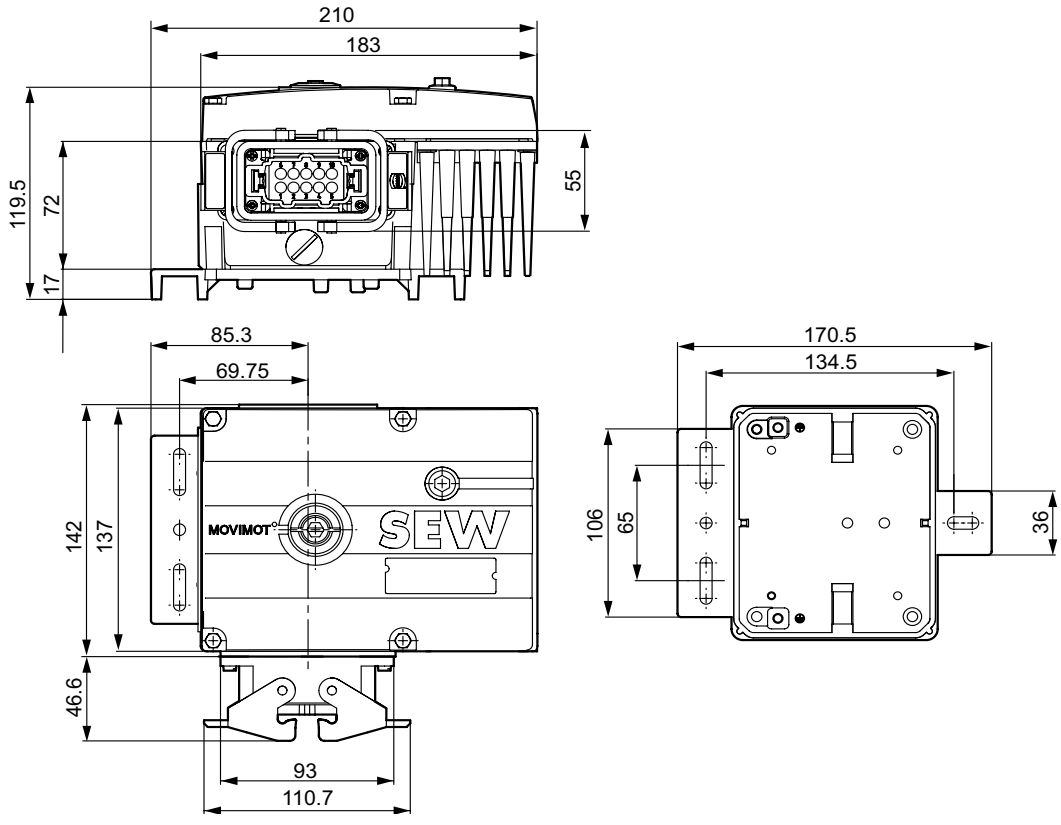
The following figure shows the dimensions of MM03 to MM15 with option P21A (APG4 plug connector):



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Dimension drawing of MM03 to MM15 with option P21A (ALA4 plug connector)

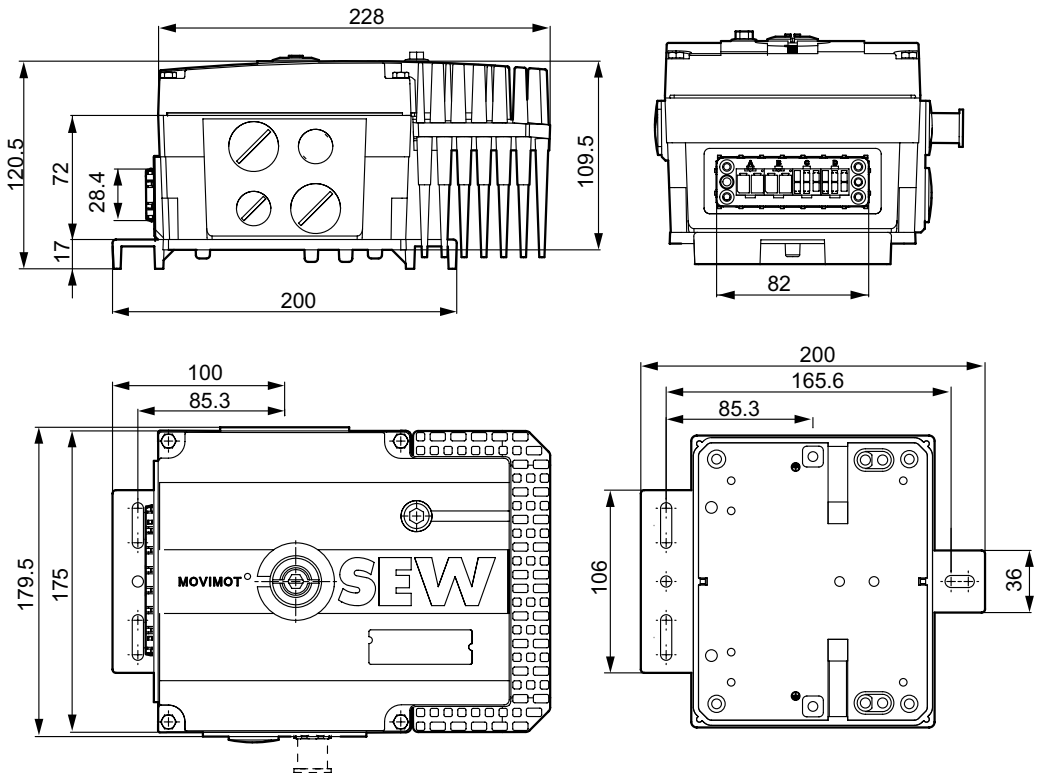
The following figure shows the dimensions of MM03 to MM15 with option P21A (ALA4 plug connector):



52835AXX

Dimension drawing of MM22 to MM3X with option P22A (APG4 plug connector)

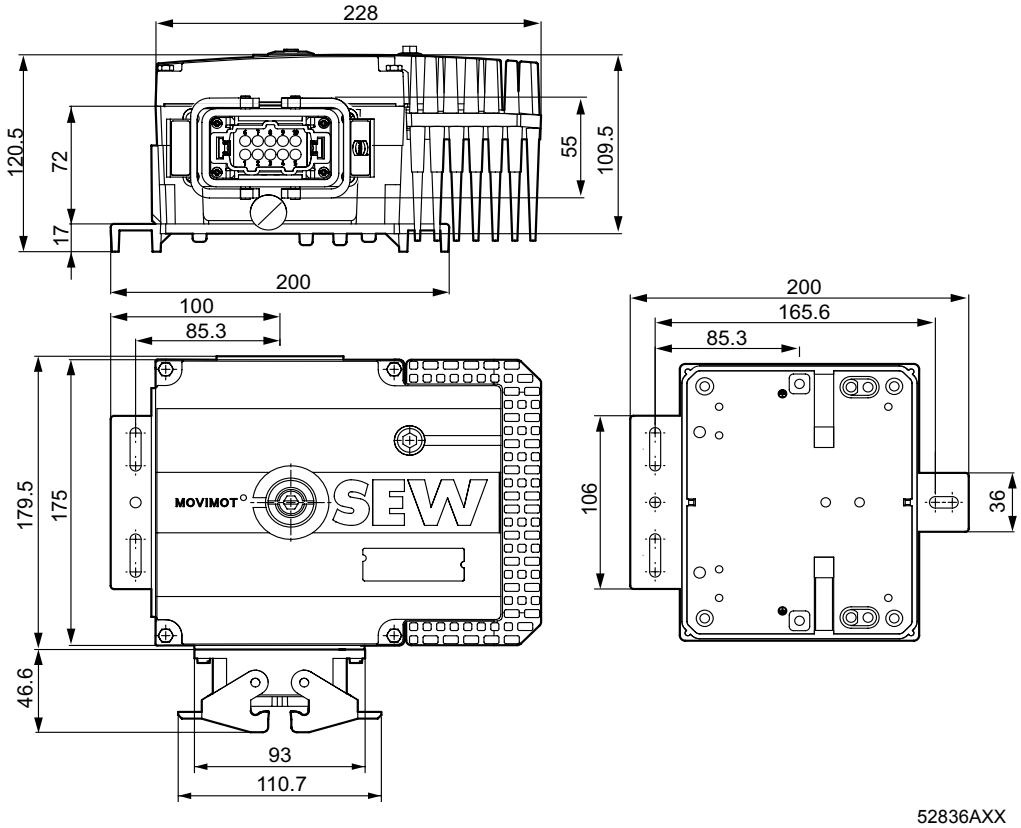
The following figure shows the dimensions of MM22 to MM3X with option P22A (APG4 plug connector):



52708AXX

MM22 dimension drawing MM3X with option P22A (ALA4 plug connector)

The following figure shows the dimensions of MM22 to MM3X with option P22A (ALA4 plug connector):



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3.7.7 Factory installed options

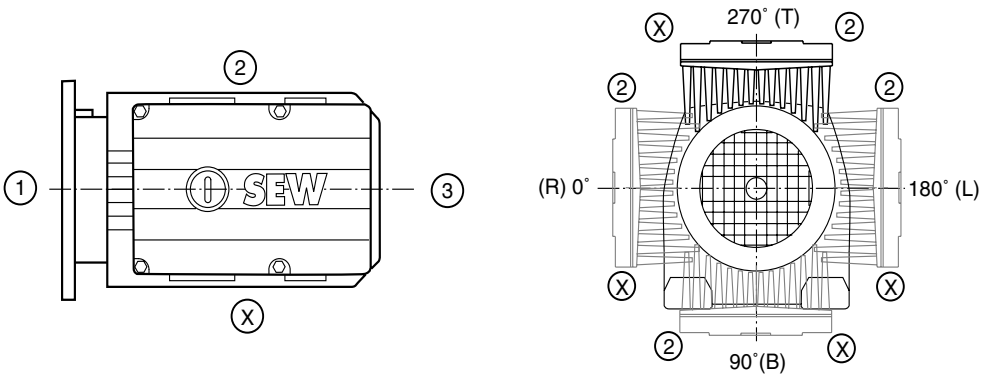
The following options can be installed and supplied if required (mounted and wired ready for operation):

- Local DC 24 V supply (MLU.1A)
- Local speed control module with DC 24 V supply (MLG.1A)
- Profibus fieldbus interface (MFP../MQP..)
- InterBus fieldbus interface (MFI../MQI..)
- DeviceNet fieldbus interface (MFD../MQD..)
- CANopen fieldbus interface (MFO..)
- AS-Interface (MFK..)
- Hybrid cable for connection between MF.../Z.3. or MF../.6. field distributor and MOVIMOT®
  - KPF6 1...5 meters

Important order information

The options can be installed in the following positions:

- Position "2"
- Position "X" (standard)



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For a sample order, please refer to page 115.

3.7.8 4Q operation with motors with a mechanical brake

- The brake coil is used as braking resistor in 4Q operation.
- No external braking resistor may be connected.
- Brake voltage is generated internally within the unit, which means it is mains-independent.

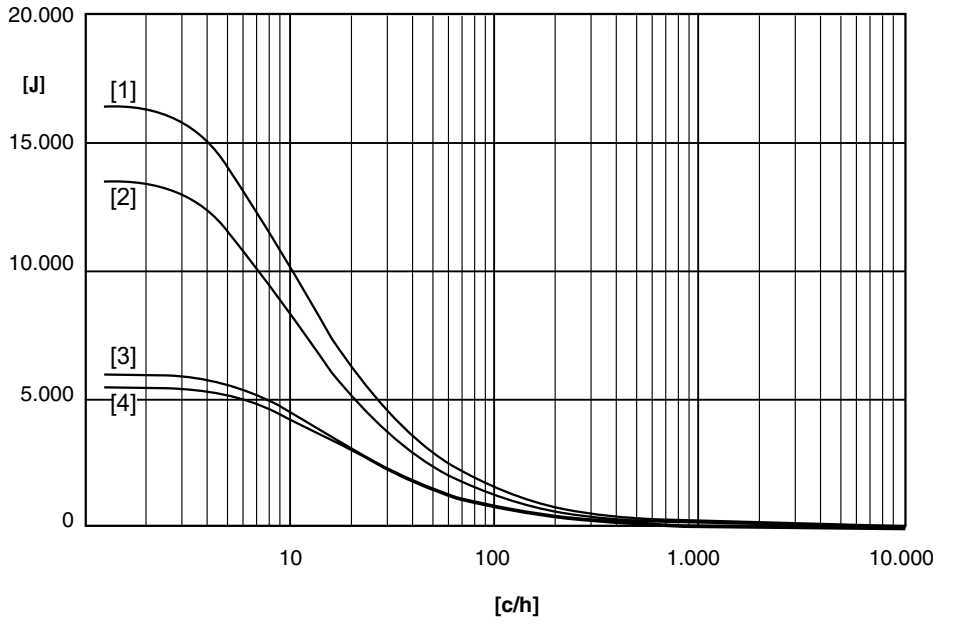
Resistance and assignment of the brake coil

Motor	Brake	Resistance of the brake coil[1)]	
		MOVIMOT® with input voltage AC 380 V ... AC 500 V	MOVIMOT® with input voltage AC 200 V ... AC 240 V
DT71	**BMG05**	277 Ω (230 V)	69.6 Ω (110 V)
DT80	**BMG1**	248 Ω (230 V)	62.2 Ω (110 V)
DT90	**BMG2**	216 Ω (230 V) / 54.2 W (110 V)	54.2 Ω (110 V)
DV100/DT100	**BMG4**	43.5 Ω (110 V)	27.3 Ω (88 V)

1) Rated value measured between the red connection (terminal 13) and the blue connection (terminal 15) at 20 °C, temperature-dependent fluctuations in the range -25% / +40% are possible.

Regenerative load capacity of the brake coil

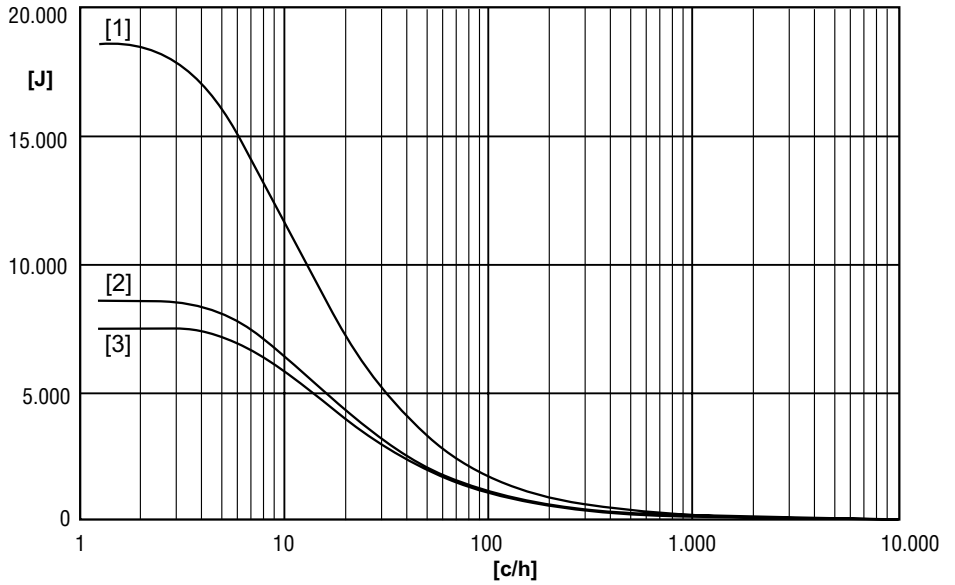
MOVIMOT® with supply voltage AC 380 V ... AC 500 V:



52711AXX

[c/h] Cycles per hour
[1] BMG2/BMG4 (110 V)
[2] BMG2 (230 V)
[3] BMG1 (230 V)
[4] BMG05 (230 V)

MOVIMOT® with supply voltage AC 200 V ... AC 240 V:



52712AXX

[c/h] Cycles per hour
[1] BMG2 (110 V), BMG4 (88 V)
[2] BMG1 (110 V)
[3] BMG05 (110 V)

3.7.9 External braking resistors

The following table shows the assignments of external braking resistors to MOVIMOT®:

Braking resistor	MOVIMOT® type	Part number	Protective grid
BW200-003/K-1.5	**MM03... to MM15...**	**0 828 291 9**	0 813 152 X
BW200-005/K-1.5		**0 828 283 8**	-
BW150-010		**0 802 285 2**	-
BW100-003/K-1.5	**MM22... to MM3X...**	**0 828 293 5**	0 813 152 X
BW100-005/K-1.5		**0 828 286 2**	-
BW068-010		**0 802 287 9**	-
BW068-020		**0 802 286 0**	-

3.7.10 Integrated braking resistors

The brake resistor is integrated in the terminal box of MOVIMOT® as standard in motors without mechanical brake.

MOVIMOT® type	Braking resistor	Part number
MM03 to MM15	BW1	822 897 3[1)]
MM22 to MM30	BW2	823 136 2[1)]

1) Two screws M4 x 8, included in delivery

NOTE

For detailed information, see section "Braking resistors" on page page 253.

3.8 MOVIMOT® retrofit sets

NOTES

- **Only (brake) motors are allowed to be retrofitted with:**
  - Rated motor voltage: AC 220 V ... AC 240 V / AC 380 V ... AC 415 V, 50 Hz
  - Rated brake voltage: AC 230 V for MM03 to MM15; AC 110 V for MM22 to MM3X
- **No retrofit sets are available for UL units!**
- **No retrofit sets are available for units with integrated AS-Interface!**
- The following tables gives an overview of available MOVIMOT® standard retrofit sets; additional retrofit sets on request.

3.8.1 1400 rpm

Power / kW	Motor	+ retrofit part number	= MOVIMOT®
0.37	DT71 D4	827 695 1 (MM03C, ⅄)	DT71 D4/.../MM03C
	DT71 D4	827 696 X (MM05C, ⅄)[1)]	DT71 D4/.../MM05C
0.55	DT80 K4	827 696 X (MM05C, ⅄)	DT80 K4/.../MM05C
	DT80 K4	827 697 8 (MM07C, ⅄[1)]	DT80 K4/.../MM07C
0.75	DT80 N4	827 697 8 (MM07C,⅄)	DT80 N4/.../MM07C
	DT90 S4	827 698 6 (MM11C, ⅄)[1)]	DT80 N4/.../MM11C
1.1	DT90 S4	827 698 6 (MM11C, ⅄)	DT90 S4/.../MM11C
	DT90 S4	827 699 4 (MM15,C ⅄)[1)]	DT90 S4/.../MM15C
1.5	DT90 L4	827 699 4 (MM15,C ⅄)	DT90 L4/.../MM15C
	DT90 L4	827 955 1 (MM22C, ⅄)[1)]	DT90 L4/.../MM22C
2.2	DV100 M4	827 700 1 (MM22C, ⅄)	DV100 M4/.../MM22C
	DV100 M4	827 701 X (MM30C, ⅄)[1)]	DV100 M4/.../MM30C
3.0	DV100 L4	827 701 X (MM30C, ⅄)	DV100 L4/.../MM30C
	DV100 L4	828 156 4 (MM3XC, ⅄)[1)]	DV100 L4/.../MM3XC

1) Combination with increased short-term torque

3.8.2 2900 rpm

Power / kW	Motor	+ retrofit part number	= MOVIMOT®
0.55	DT71 D4	827 702 8 (MM05C, △)	DT71 D4/.../MM05C
	DT71 D4	827 703 6 (MM07C, △)[1)]	DT71 D4/.../MM07C
0.75	DT80 K4	827 703 6 (MM07C, △)	DT80 K4/.../MM07C
	DT80 K4	827 704 4 (MM11C, △)[1)]	DT80 K4/.../MM11C
1.1	DT80 N4	827 704 4 (MM11C, △)	DT80 N4/.../MM11C
	DT80 N4	827 705 2 (MM15C, △)[1)]	DT80 N4/.../MM15C
1.5	DT90 S4	827 705 2 (MM15C, △)	DT90 S4/.../MM15C
	DT90 S4	827 706 0 (MM22C, △)[1)]	DT90 S4/.../MM22C
2.2	DT90 L4	827 706 0 (MM22C, △)	DT90 L4/.../MM22C
	DT90 L4	827 707 9 (MM30C, △)[1)]	DT90 L4/.../MM30C
3.0	DV100 M4	827 707 9 (MM30C, △)	DV100 M4/.../MM30C
	DV100 M4	828 157 2 (MM3XC, △)[1)]	DV100 M4/.../MM3XC

1) Combination with increased short-term torque

Braking resistor for motors without brake

For motors without mechanical brake, we recommend to connect an integrated braking resistor BW.. . The braking resistor is not included in the scope of delivery of the retrofit set and must be ordered separately:

MOVIMOT® type	Braking resistor	Part number
MM03 to MM15	BW1	822 897 3[1)]
MM22 to MM30	BW2	823 136 2[1)]

1) Two screws M4 x 8, included in delivery

3.9 Dimension drawings

3.9.1 Dimension sheet information

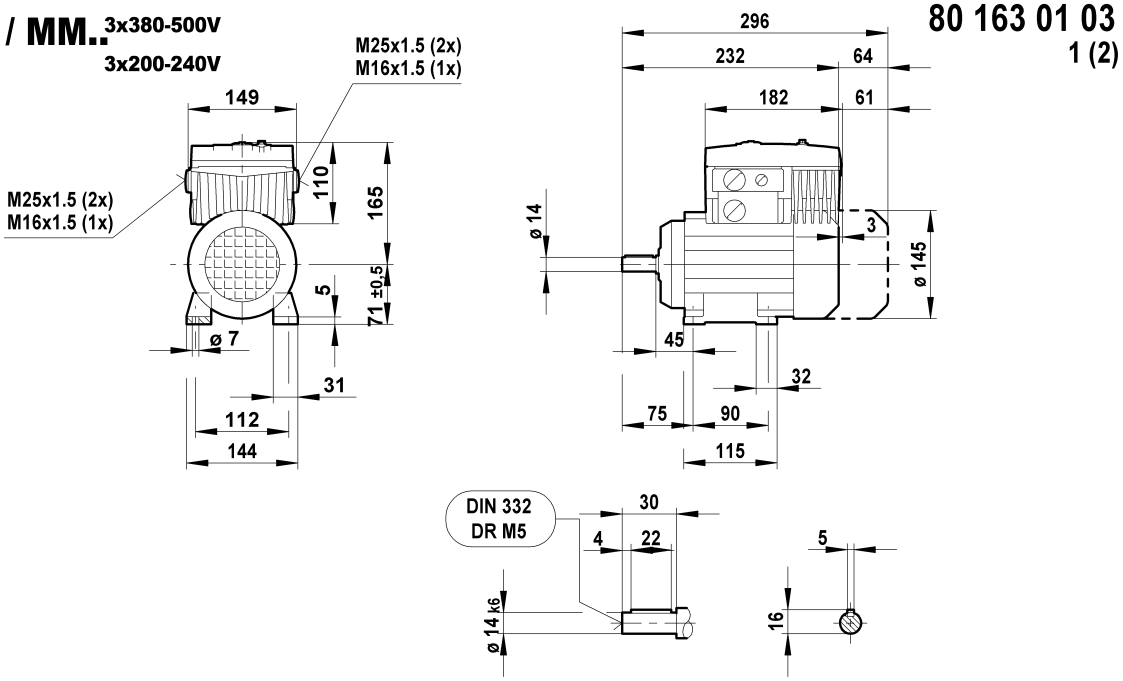
Please observe the following notes regarding the dimension sheets for MOVIMOT® AC motors (DT/DV):

- The foot dimensions of the DT90 motor differ from IEC dimensions.
- The fan guards of the DT71.., DT90.. foot-mounted motors are flat on top (not in connection with option proximity sensor NV..).
- Foot-mounted motors are available with terminal box position 270° only.
- A fan guard represented by a dotted line shows the design with brake.
- Manual brake release can be pivoted through 90° together with the terminal box, with the exception of DT71.., DT90.. foot-mounted motors.
- For brake motors do not forget to add the space required for removing the fan guard (= fan guard diameter).
- Leave a clearance of at least half the fan guard diameter to provide unhindered air access.
- MOVIMOT® AC motors with supply voltage 3 x AC 200 ... AC 240 V are delivered in MOVIMOT® version B.

DT71D / MM..

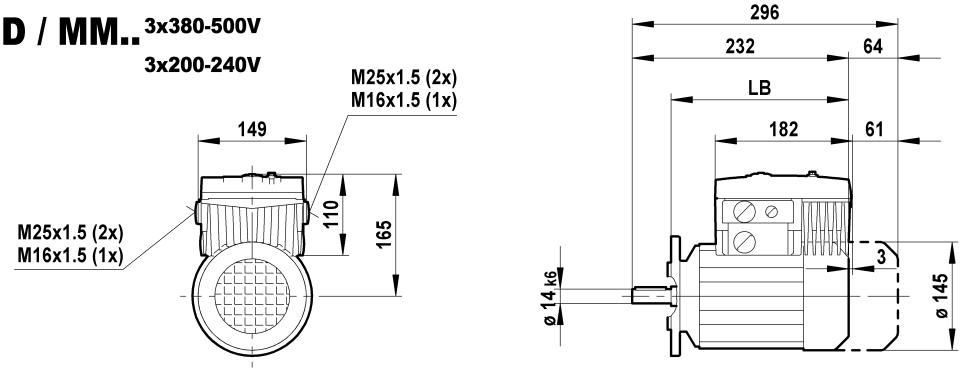
3x380-500V
3x200-240V

80 163 01 03
1 (2)

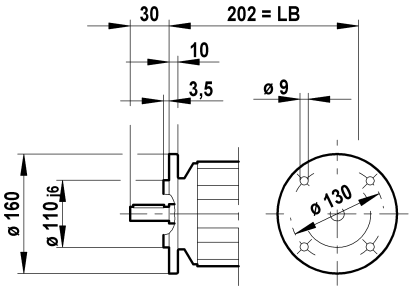


DFT71D / MM..

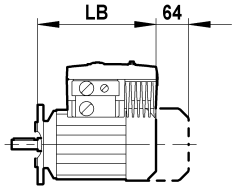
3x380-500V
3x200-240V



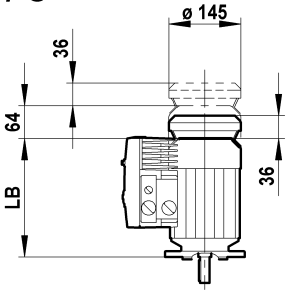
ø 160 IEC



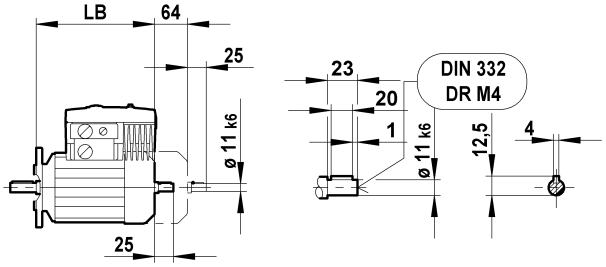
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/ C



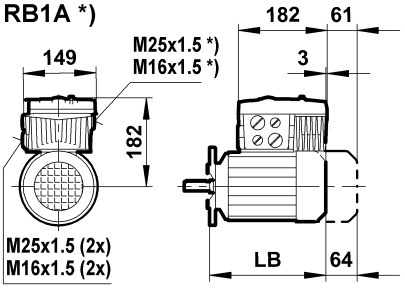
/ 2.WE



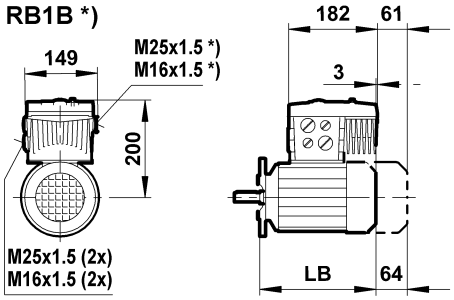
D(F)T71D / MM..

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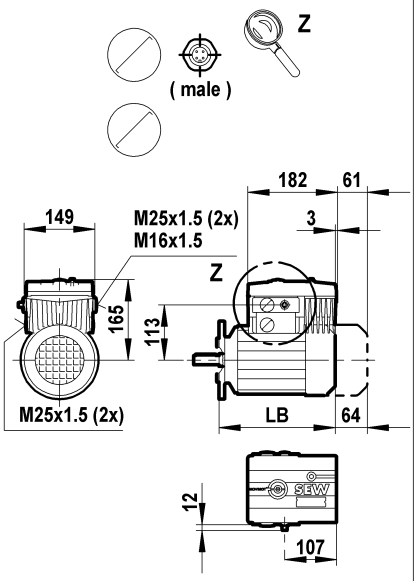
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/ RB1A *)



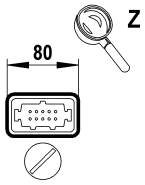
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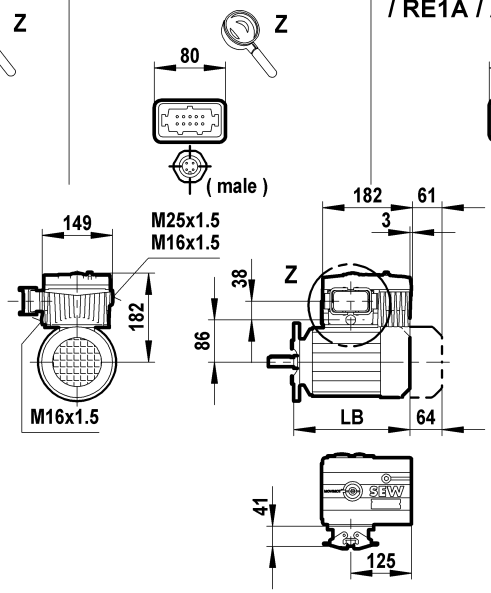
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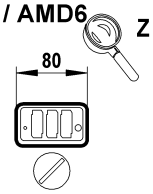
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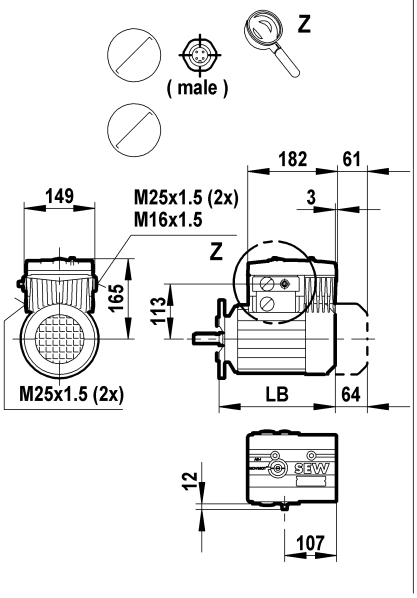
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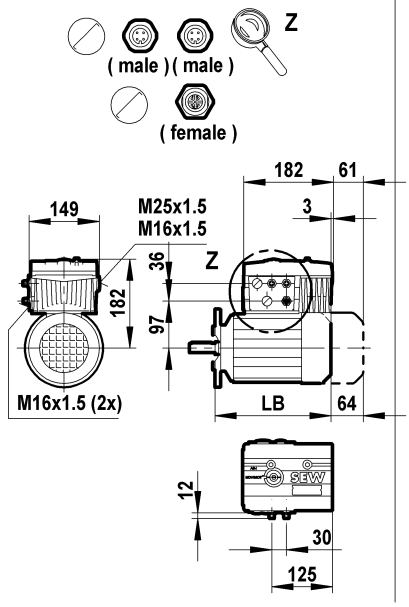
/ RE1A / AMA6
/ RE1A / AMD6



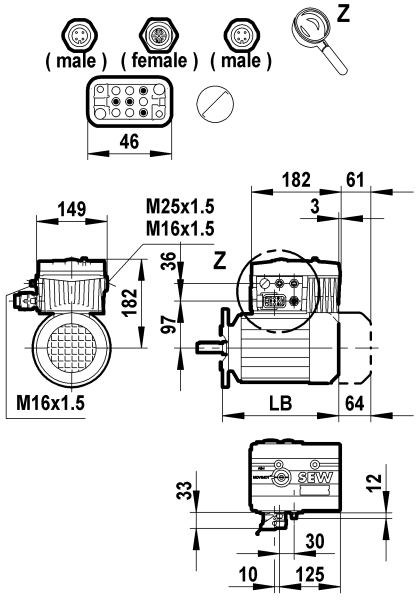
/ AVSK



/ RC1A / AZSK



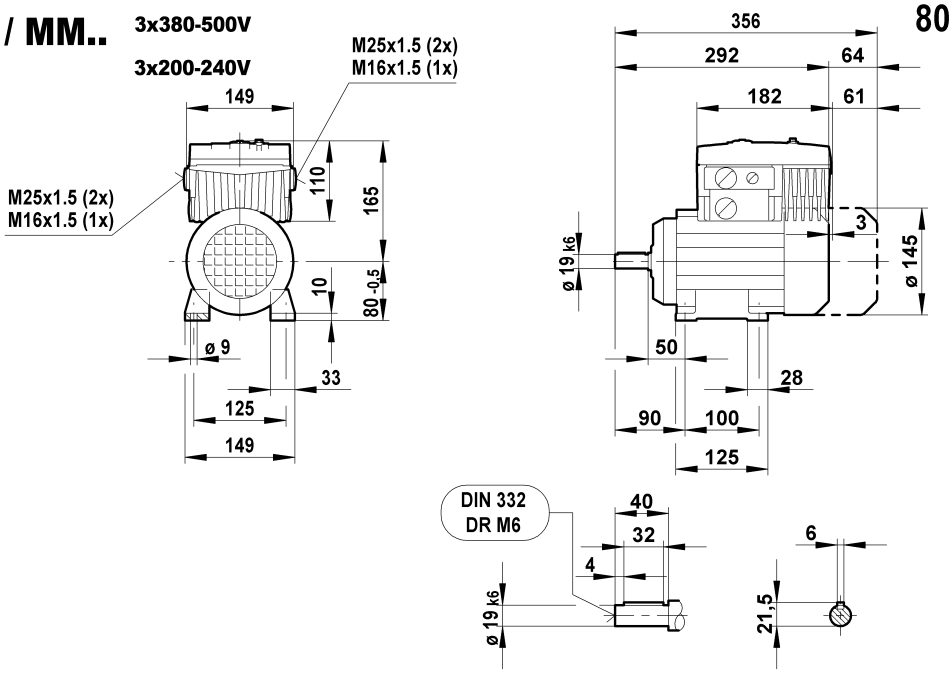
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1 (2)

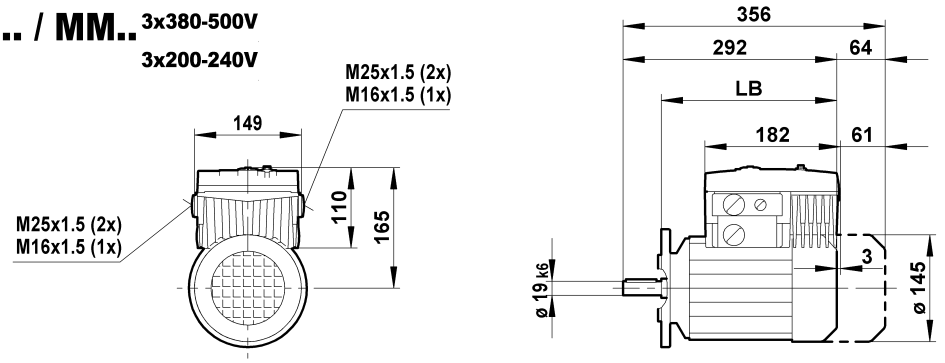
DT80.. / MM..

3x380-500V
3x200-240V

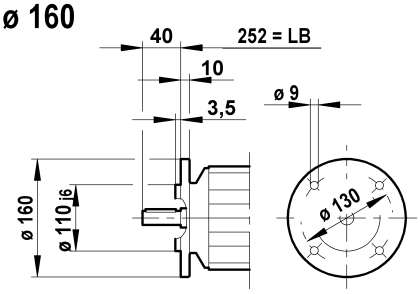


DFT80.. / MM..

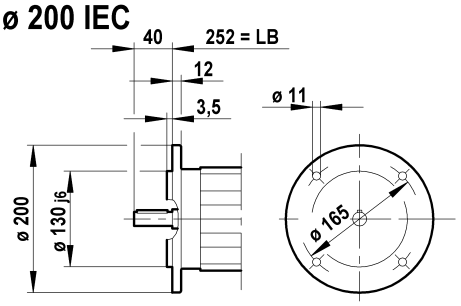
3x380-500V
3x200-240V



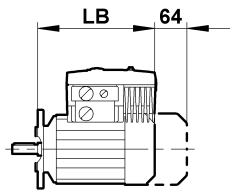
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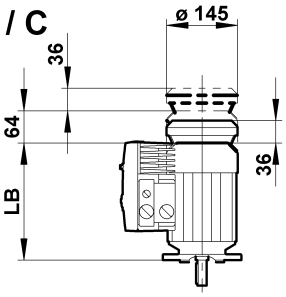
ø 200 IEC



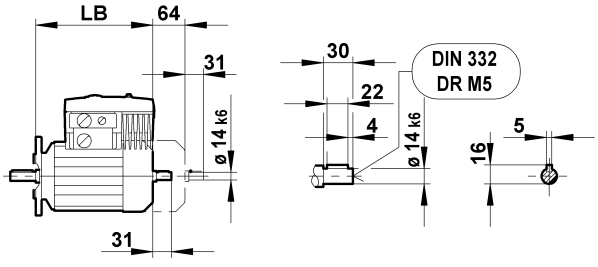
/ RS



/ C



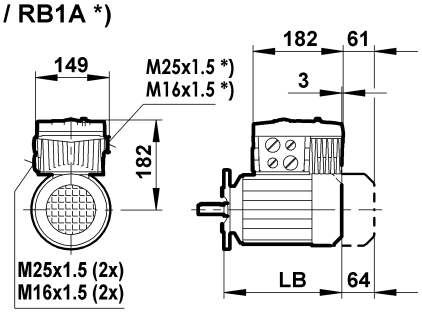
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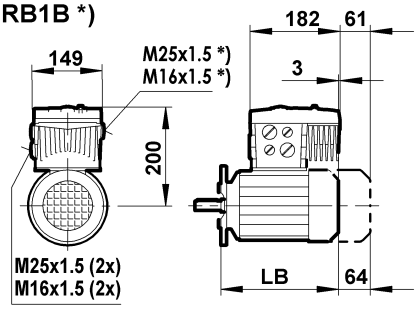
D(F)T80.. / MM..

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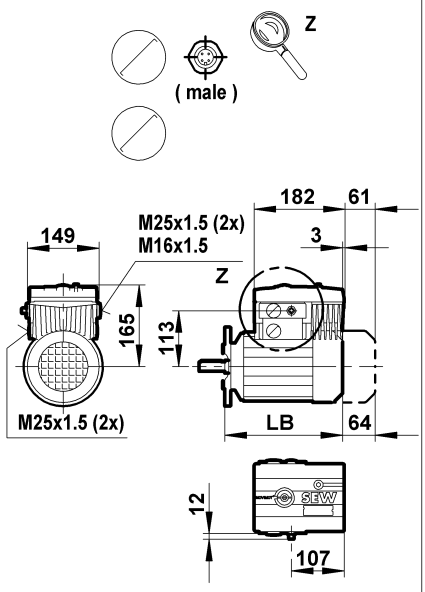
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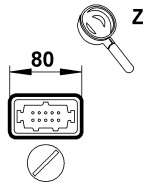
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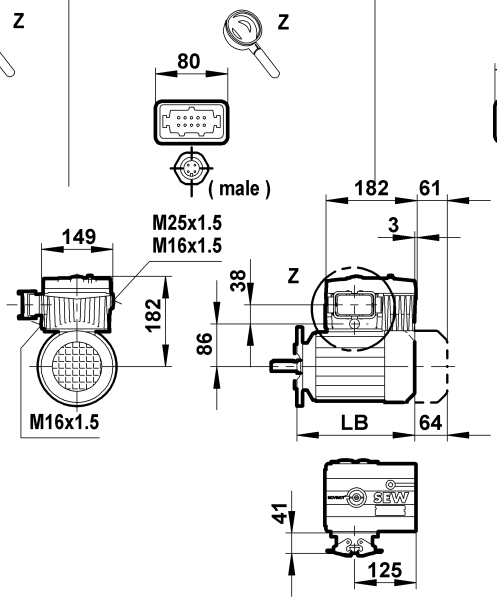
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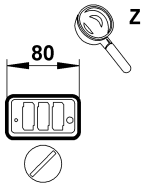
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ASA3



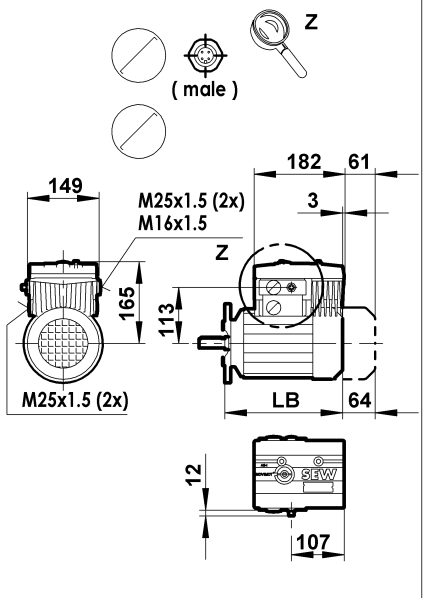
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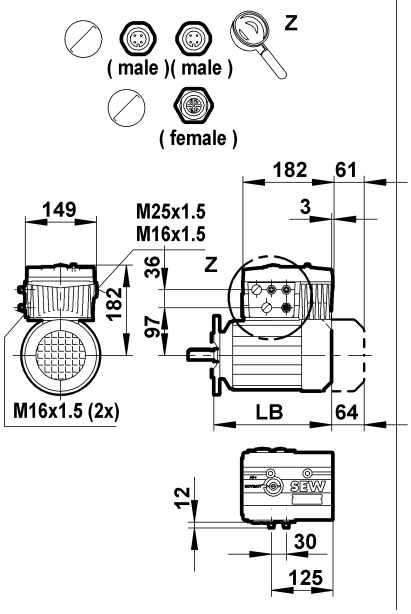
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/ RE1A / AMD6



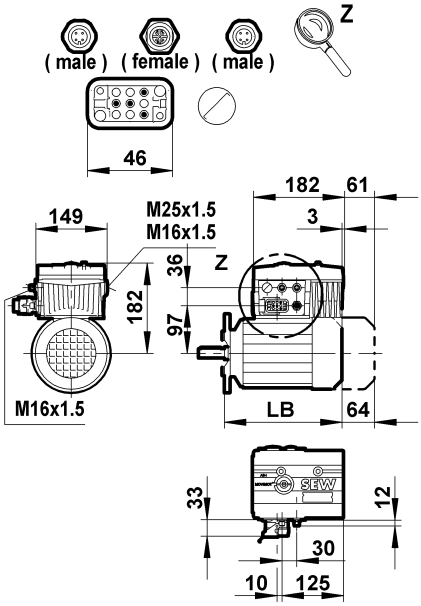
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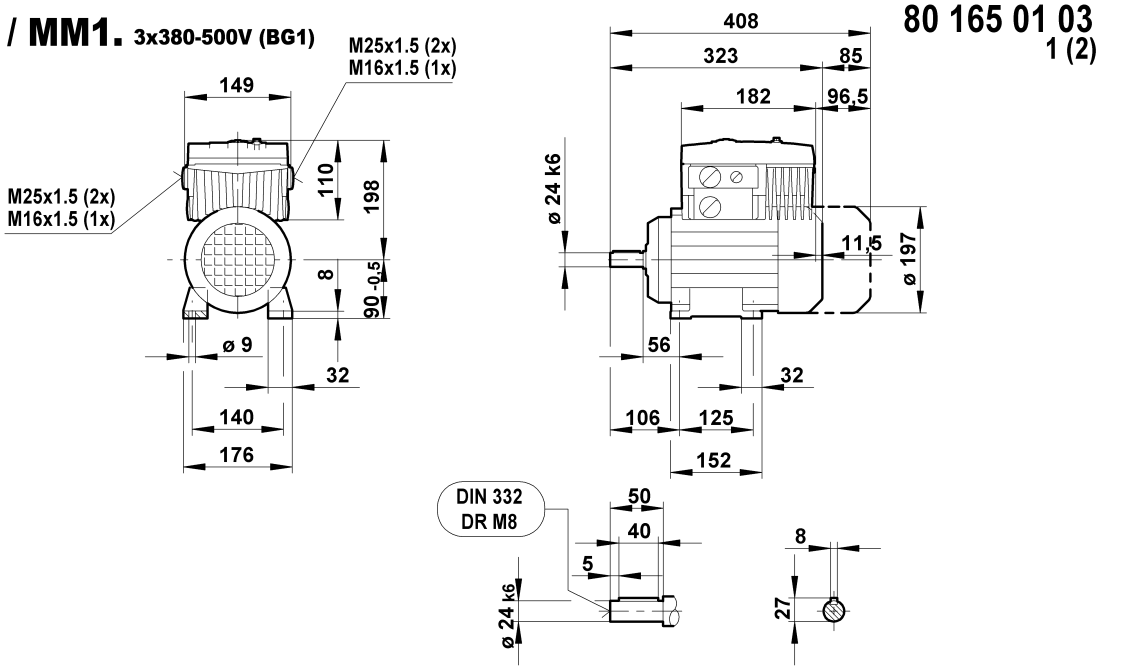


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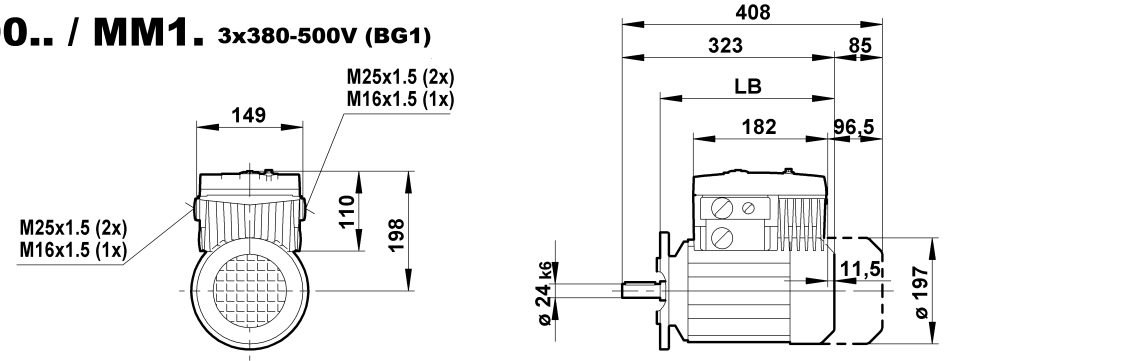


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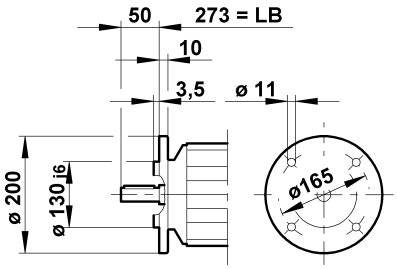
DT90.. / MM1. 3x380-500V (BG1)



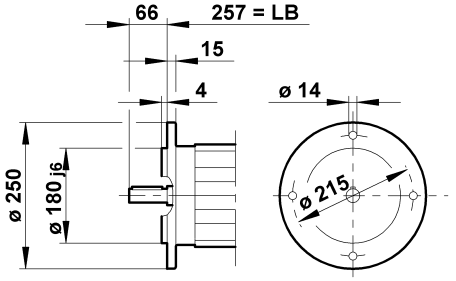
DFT90.. / MM1. 3x380-500V (BG1)



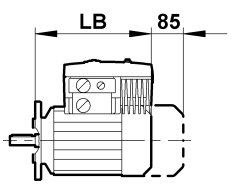
ø 200 IEC



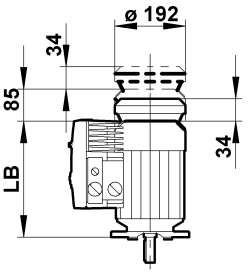
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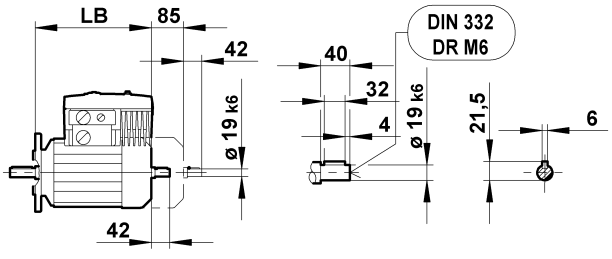
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/ C



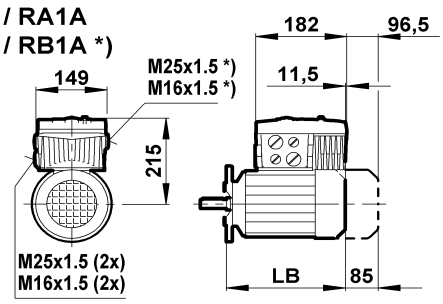
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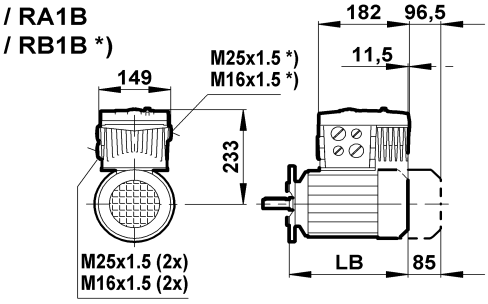
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80 165 01 03
2 (2)

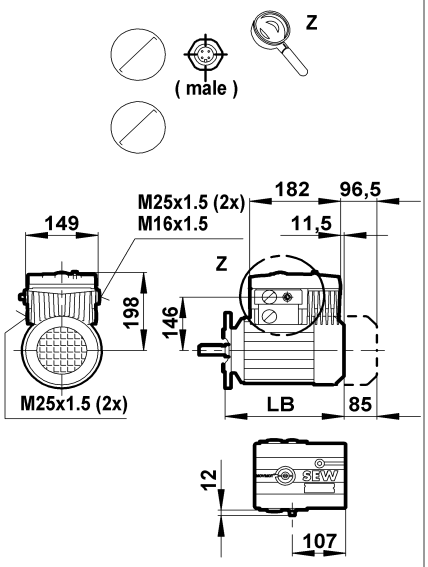
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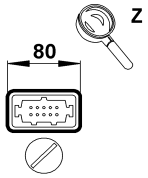
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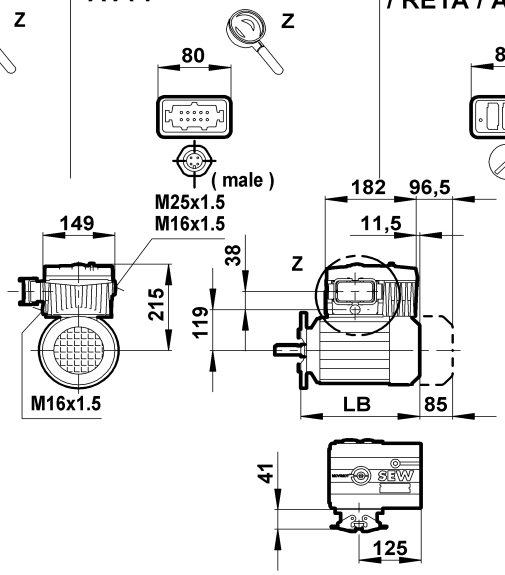
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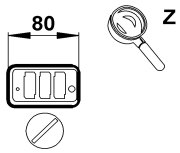
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ASA3



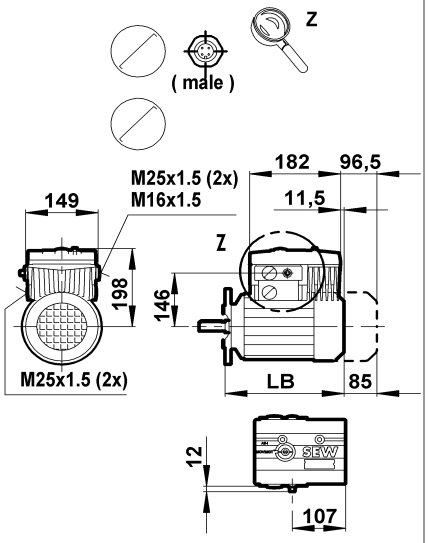
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AVT1



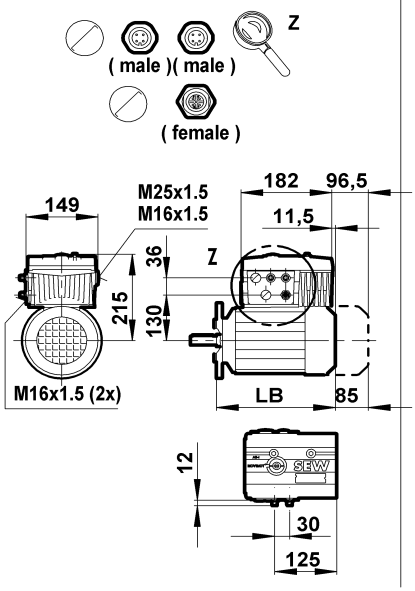
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/ RE1A / AMD6



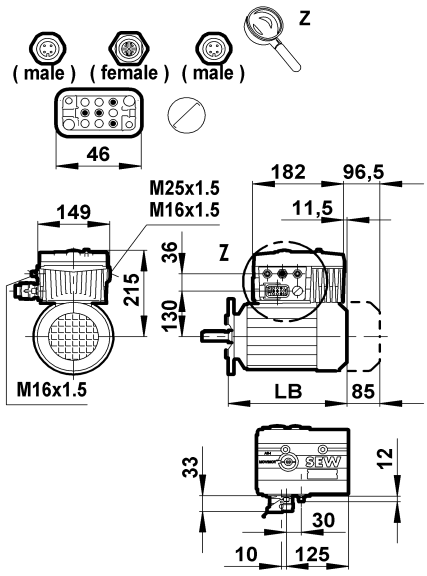
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/ RC1A / AZSK

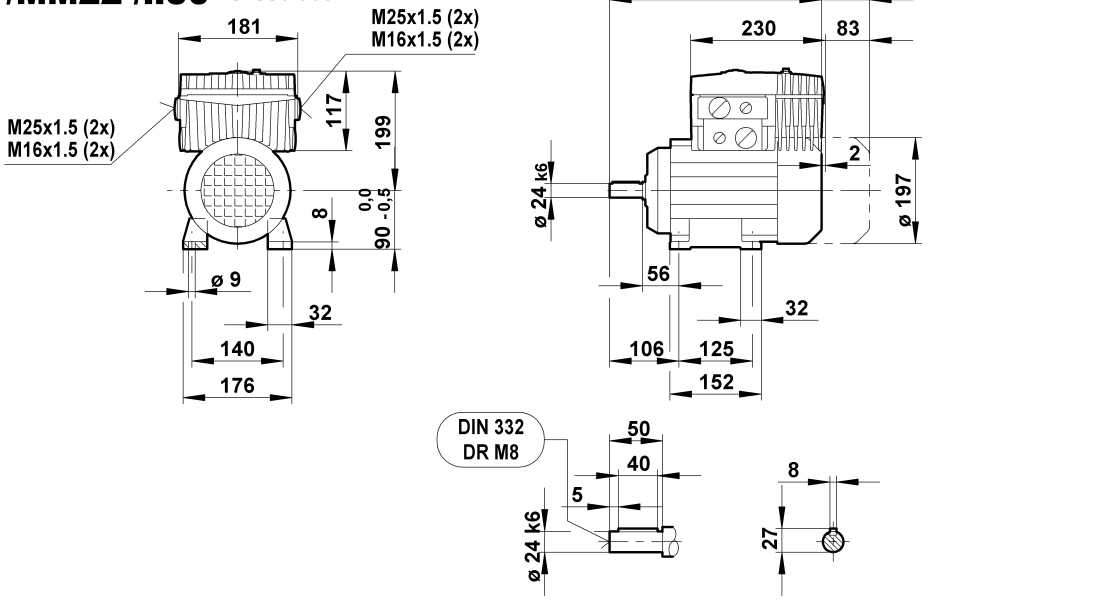


/ RJ1A / AND3 / AZSK

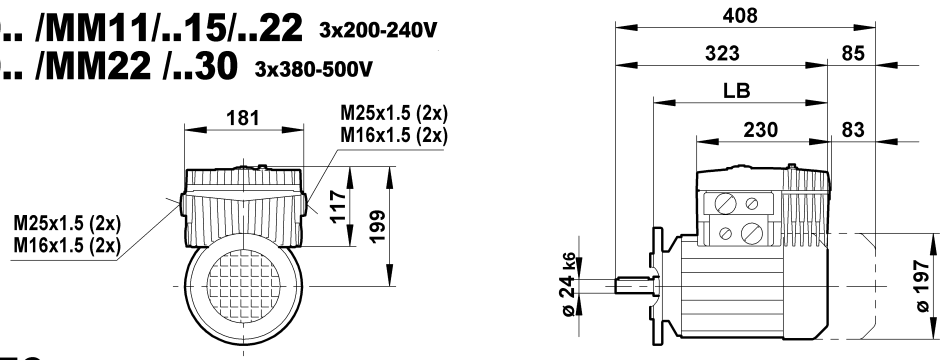


DT90.. /MM11/..15/..22 3x200-240V
DT90.. /MM22 /..30 3x380-500V

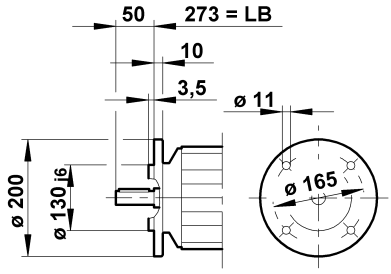
80 166 01 03
1 (2)



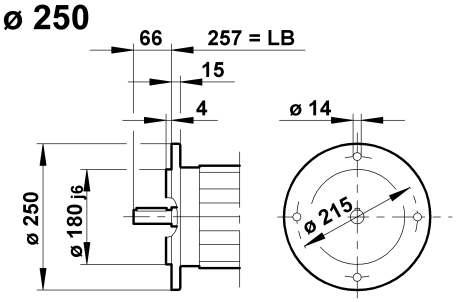
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DFT90.. /MM22 /..30 3x380-500V



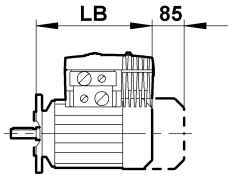
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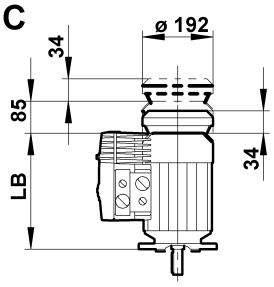
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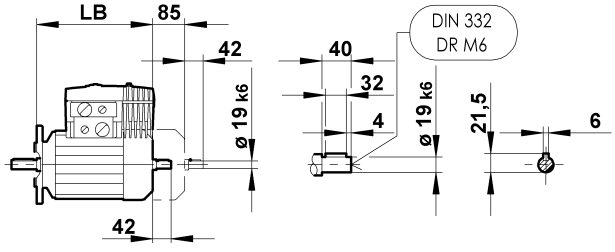
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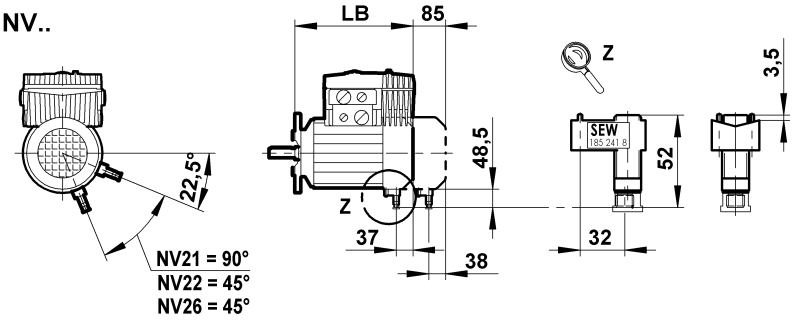
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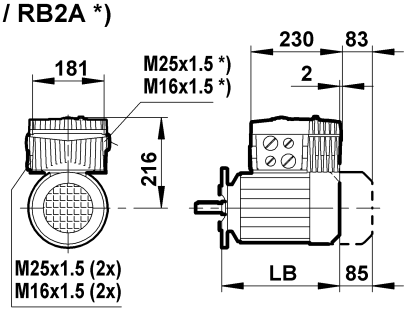
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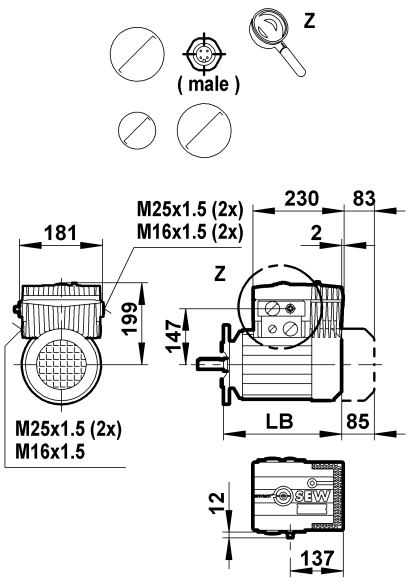
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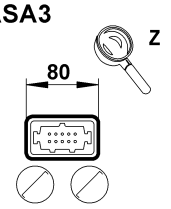
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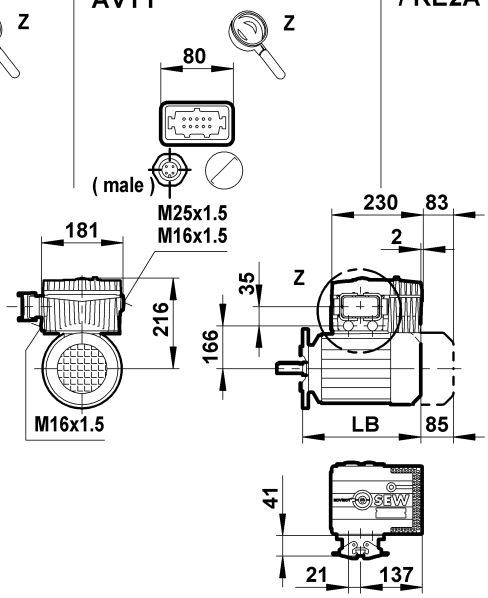
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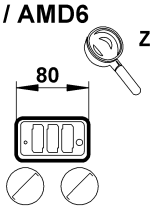
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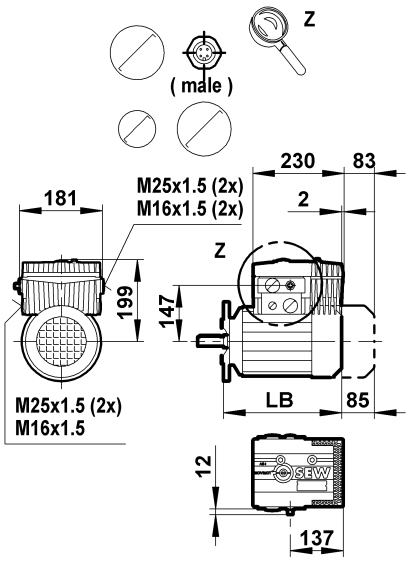
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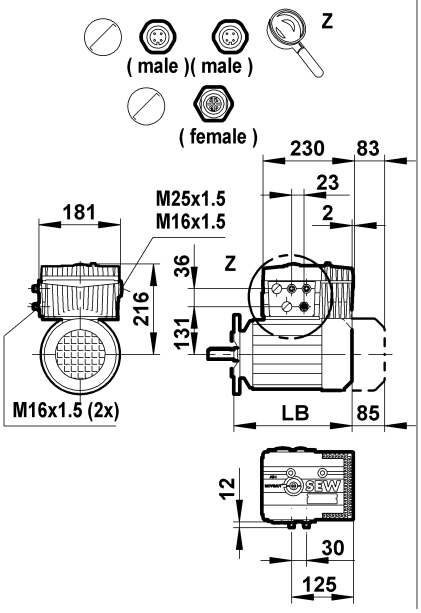
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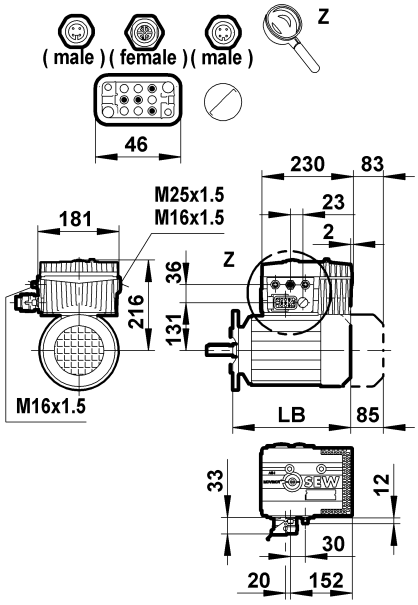
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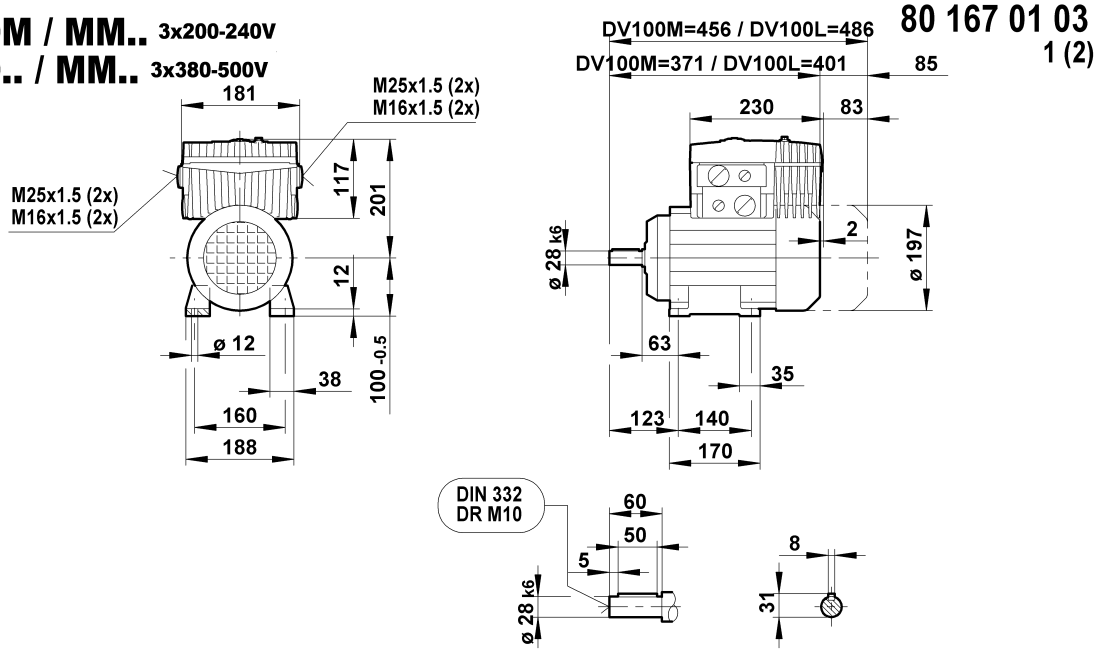


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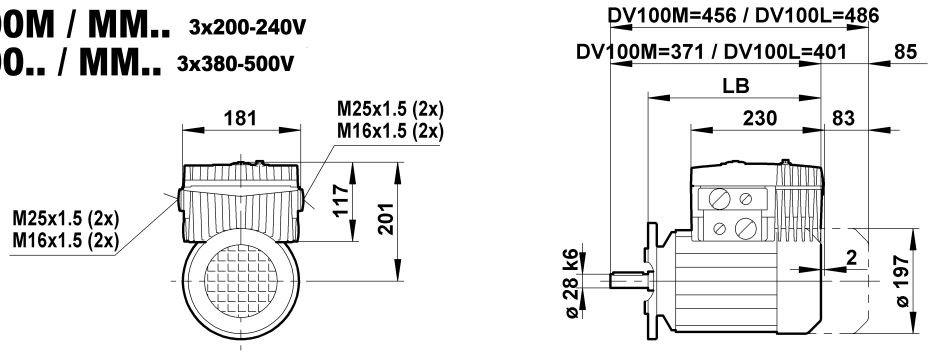


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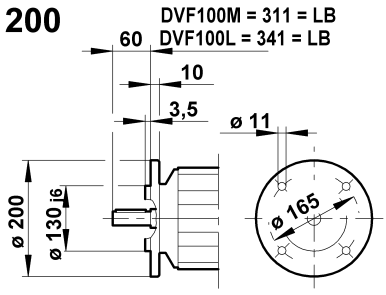
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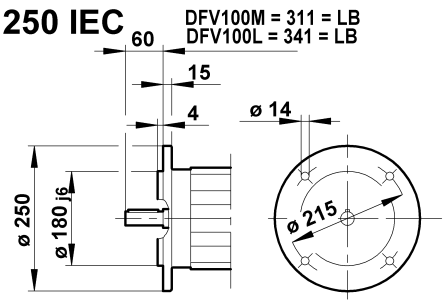
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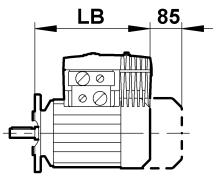
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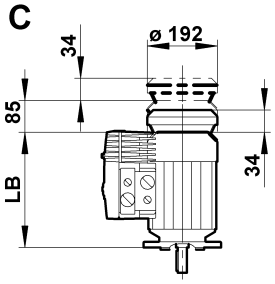
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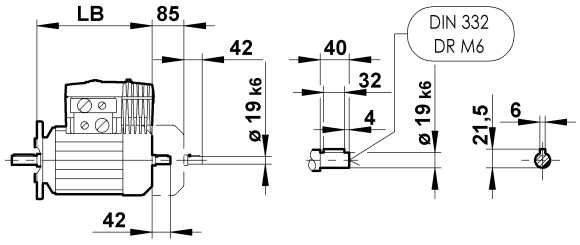
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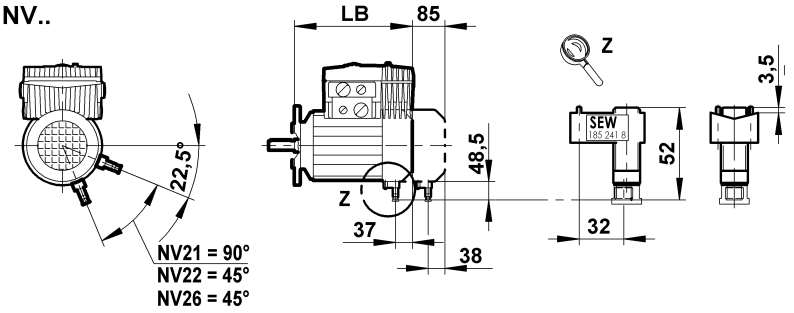
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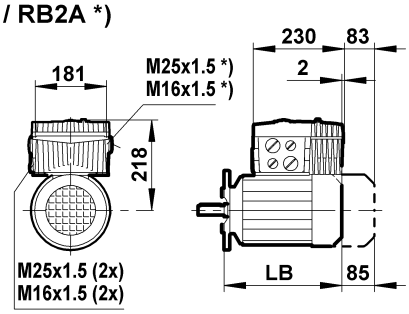
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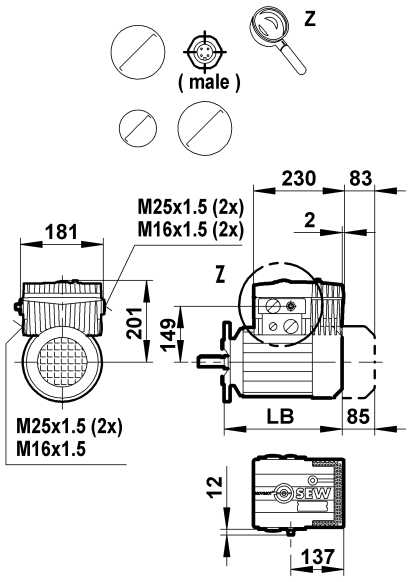
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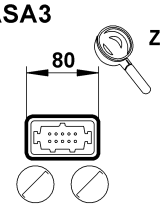
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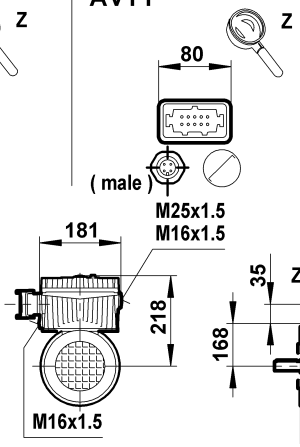
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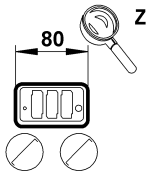
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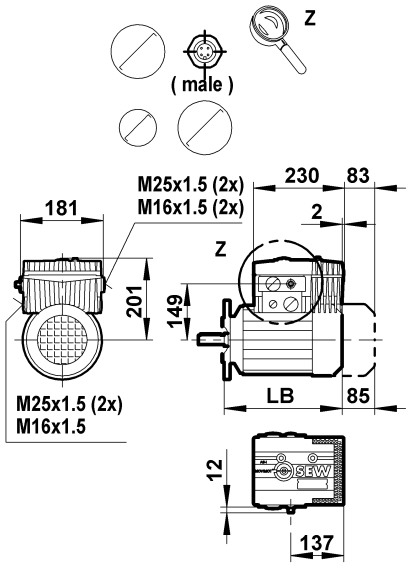
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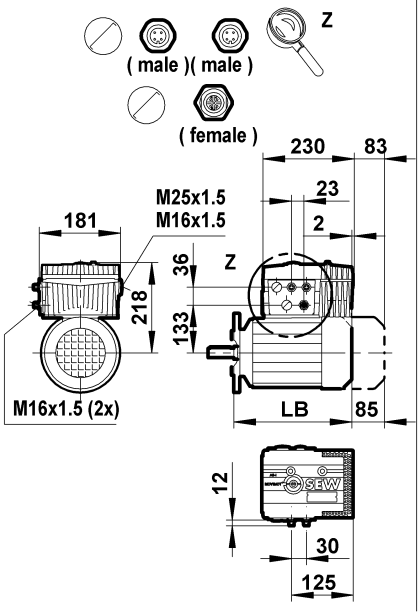
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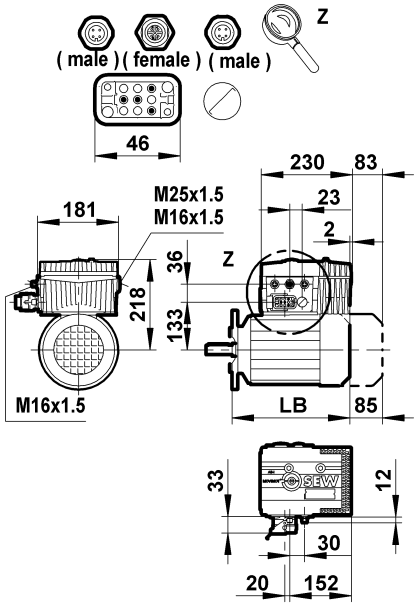
/ AVSK



/ RC2A /AZSK



/ RJ2A / AND3 / AZSK



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