



Product training

Nomenclature

Drive system for decentralized installation

Vol.
1



Contents

1	MOVIPRO®	4
1.1	Description.....	4
1.2	Type designation of MOVIPRO® SDC.....	6
1.3	Type designation of MOVIPRO® ADC.....	11
1.4	Accessories.....	16
2	MOVITRANS®	22
2.1	Description.....	22
2.2	TPS10A stationary converter.....	25
2.3	TAS10A transformer module.....	26
2.4	Installation material TCS, TVS, TLS, TIS.....	27
2.5	THM10C pick-ups.....	31
2.6	THM10E pick-ups.....	32
2.7	TPM12B mobile converter.....	33
3	MOVIFIT®	34
3.1	Description.....	34
3.2	Type designation MOVIFIT® FDC.....	38
3.3	Type designation MOVIFIT® MC.....	40
3.4	Type designation MOVIFIT® SC.....	42
3.5	Type designation MOVIFIT® FC.....	44
3.6	Combination options with MOVIFIT® FDC.....	46
3.7	Combination options with MOVIFIT® MC, SC, and FC.....	47
3.8	External braking resistors for MOVIFIT® FC.....	48
4	Field Distributors and Fieldbus Interfaces	49
4.1	Description.....	49
4.2	MF../Z.1 fieldbus interfaces.....	50
4.3	MQ../Z.1 fieldbus interfaces.....	53
4.4	MF../Z.3., MQ../Z.3. field distributors.....	55
4.5	MF../Z.6., MQ../Z.6. field distributors.....	56
4.6	MF../MM../Z.7., MQ../MM../Z.7. field distributors.....	57
4.7	MF../MM../Z.8., MQ../MM../Z.8. field distributors.....	58
5	MOVIMOT® Installed Close to the Motor	60
5.1	Description.....	60
5.2	Type designation of the variant "mounted close to the motor".....	61
6	MOVI-SWITCH® Installed Close to the Motor	62
6.1	Description.....	62
6.2	Sample type designation of the "installed close to the motor" type.....	63
7	MOVIGEAR®	64
7.1	Description.....	64
7.2	Type designation MOVIGEAR® DBC B.....	66
7.3	Type designation of MOVIGEAR® DAC B.....	68
7.4	Type designation of MOVIGEAR® DSC B.....	70
7.5	Type designation of MOVIGEAR® SNI B.....	73
7.6	Plug connectors.....	76
8	MOVIMOT®	79
8.1	Description.....	79
8.2	Type designation of MOVIMOT® MM..D.....	80
8.3	Type designation of MOVIMOT® MM..D with AS- Interface.....	82
8.4	Options.....	84



9	MOVI-SWITCH®	87
9.1	Description.....	87
9.2	MOVI-SWITCH® 1E – nameplate and type designation.....	89
9.3	MOVI-SWITCH® 2S – nameplate and type designation.....	90
10	Shared Options and Accessories.....	91
10.1	Options for diagnostics, startup and manual operation.....	91
10.2	Accessories.....	92



1 MOVIPRO®

1.1 Description

MOVIPRO® is a decentralized drive, positioning and application controller for asynchronous and synchronous motors with a power rating from 2.2 to 15.0 kW.



3166257035

MOVIPRO® is available in the following variants:

- Drive and positioning controller MOVIPRO® SDC – Standard Drive Controller
- Drive and positioning controller MOVIPRO® ADC – Application Drive Controller

General features of MOVIPRO® SDC and MOVIPRO® ADC

MOVIPRO® has the following functional characteristics:

- Compact system – various functions in one unit
- Robust aluminum housing
- Easy installation due to pluggable connections
- Power: 2.2 kW, 4.0 kW, 7.5 kW, 11.0 kW and 15.0 kW
- Drive inverter with MOVIDRIVE® platform:
Inverter functions with motor encoder and distance encoder as option
- Asynchronous or synchronous motors can be controlled
- Integrated brake control: DC 24 V, AC 230 V, AC 400 V and AC 460 V
- Optional external braking resistor
- SD memory card for quick unit replacement
- Power interface with energy distribution and maintenance switch for linear topologies
- Simple positioning applications with application modules
- 12 digital inputs and 4 digital inputs/outputs



- Communication via the following fieldbuses:
 - PROFIBUS
 - PROFINET
 - EtherNet/IP and Modbus/TCP
 - DeviceNet
- Safety-related communication as option

Additional features of MOVIPRO® ADC

MOVIPRO® ADC has the following additional functional characteristics:

- Available as parameterizable or programmable unit
- Optional communication packages for controlling auxiliary axes with the following interfaces:
 - SBUS^{plus} interface
 - CAN interface (electrically isolated or with DC 24 V)
 - RS485 interface (electrically isolated or with DC 24 V)
- Safe brake control as option
- With 15 kW unit:
 - with R15 regenerative power supply as option



1.2 Type designation of MOVIPRO® SDC

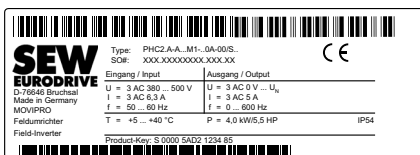
Nameplates

Each MOVIPRO® unit has 2 nameplates that provide important information:

- Main nameplate
- Function unit nameplate

Main nameplate

The main nameplate provides important information about the unit type. The following figure shows an example of a main nameplate:

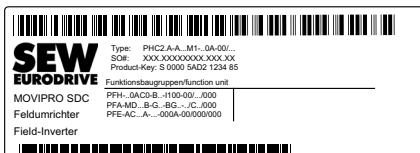


1887940875

Type	Type designation	f	Frequency
SO#	Production number	T	Ambient temperature
Product key	Product key	P	Output power
U	Voltage	IP	Degree of protection
I	Current	U _N	Rated voltage

Function unit nameplate

This nameplate describes the internal function units of MOVIPRO®. The following figure shows an exemplary nameplate for the function units:



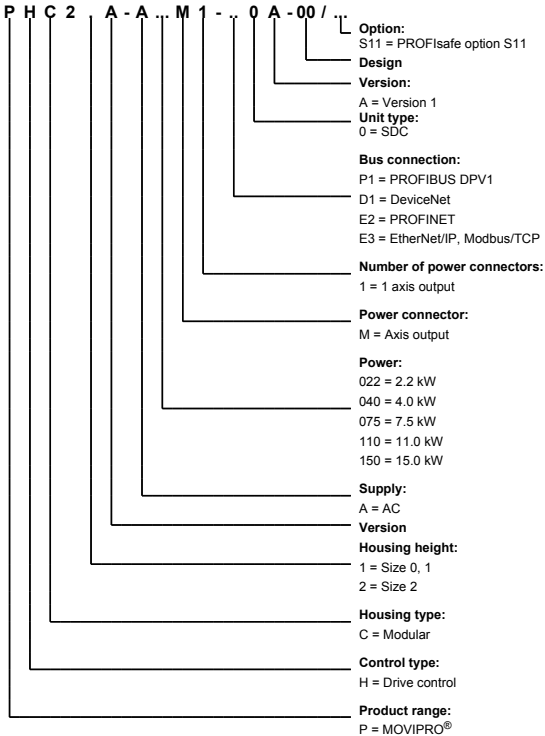
9007201143061771

PFH...0AC0-B...I100-00/.../000	Communication and control unit
PFA-MD...B-G...BG.../C.../000	Power section
PFE-AC...A...-000A-00/000/000	Energy supply



Type designation

The type designation of the MOVIPRO® drive and positioning controller provides the following unit data:





Function units

Power section

The following table shows the designations of the "power section" function unit:

P F A - MD... B - G ... - BG ... - ... / C ... / 000									
									Version of option 1:
									01 = Standard without fan subassembly
									02 = Standard with fan subassembly
									Type of option 1:
									C = Cooling
									Axis interface:
									11 = 2 × M12 plug connector for 4 digital axis inputs
									15 = 2 × M12 plug connectors for 2 digital axis inputs and 1 analog axis input
									Brake control voltage:
									02 = DC 24 V
									23 = AC 230 V
									40 = AC 400 V
									46 = AC 460 V
									BG = Brake control system
									Distance encoder type:
									0 = Without distance encoder
									1 = Distance encoder CANopen
									2 = Distance encoder SSI, HIPERFACE®, sin/cos, HTL, TTL, RS422
									Motor encoder type:
									0 = Without motor encoder
									1 = Motor encoder resolver
									2 = Motor encoder HIPERFACE®, sin/cos, HTL, TTL, RS422
									G = Encoder
									Frequency inverter power rating:
									022 = 2.2 kW
									040 = 4.0 kW
									075 = 7.5 kW
									110 = 11.0 kW
									150 = 15.0 kW
									Frequency inverter type:
									MD = MOVIDRIVE® platform
									Subassembly:
									A = Power section
									F = Internal function
									Product range:
									P = MOVIPRO®



Communication and control unit

The following table shows the designations of the "communication and control unit" function unit:

P F H - .. 0 A C 0 - B .. - I 1 0 0 - 0 0 / .. / 0 0 0									
									Option 1:
									000 = Without option 1
									S11 = PROFIsafe option S11
									Design
									1 = 12 digital inputs and 4 digital inputs/outputs
									I = Local interface
									Bus connection type:
									11 = DIP module PROFIBUS, 2 × M12
									12 = DIP module DeviceNet, 2 × M12
									53 = 2 × M12, D-coded, Ethernet, copper
									63 = 2 × push-pull RJ45, Ethernet, copper
									B = Fieldbus connection
									0 = 1-axis function
									C = Memory card for parameterizable functions
									A = Version 1
									Unit type:
									0 = SDC
									Communication type:
									P1 = PROFIBUS DPV1
									D1 = DeviceNet
									E2 = PROFINET IO
									E3 = EtherNet/IP / Modbus/TCP
									Subassembly:
									H = Control / communication
									F = Internal function
									Product range:
									P = MOVIPRO®



Energy supply

The following table shows the designations of the "energy supply" function unit:

P F E - AC ... A - ... - 000 A - 00 / 000 / 000

Supply system connection:

001 = Connection for plug connectors,
size 0, 1

002 = Connection for plug connectors,
size 2

101 = Connection for power interface,
size 0, 1

102 = Prepared for power interface,
size 2

A = Version A

Power rating of supply system
rectifier

AC = Supply system

Subassembly:

E = Energy

F = Internal function

Product range:

Product range:
P = MOVIPRO®



1.3 Type designation of MOVIPRO® ADC

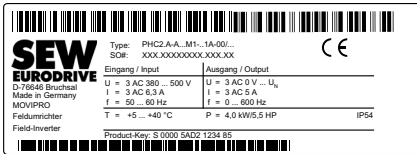
Nameplates

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- Function unit nameplate

Main nameplate

The main nameplate provides important information about the unit type. The following figure shows an example of a main nameplate:

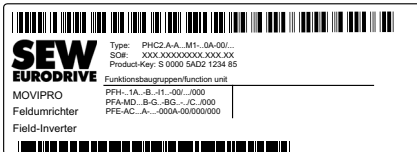


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Type	Type designation	f	Frequency
SO#	Production number	T	Ambient temperature
Product key	Product key	P	Output power
U	Voltage	IP	Degree of protection
I	Current	U _N	Nominal voltage

Function unit nameplate

This nameplate describes the internal function units of MOVIPRO®. The following figure shows an exemplary nameplate for the function units:



2816336907

PFH...1A...B...11...00/.../000	Communication and control unit
PFA-MD...B-G...BG.../C.../000	Power section
PFE-AC...A...-000A-00/000/000	Energy supply



Type designation

The type designation of the MOVIPRO® drive and application controller provides the following unit data:

P	H	C	2	A	-	A	...	M	1	-	...	1	A	-	00	/	...	
																		Option:
																		S11 = PROFIsafe option S11
																		Design
																		Version:
																		A = Version 1
																		Unit type:
																		1 = ADC
																		Bus connection:
																		P1 = PROFIBUS DPV1
																		D1 = DeviceNet
																		E2 = PROFINET
																		E3 = EtherNet/IP, Modbus/TCP
																		Number of power connectors:
																		1 = 1 axis output
																		Power connector:
																		M = Axis output
																		Power:
																		022 = 2.2 kW
																		040 = 4.0 kW
																		075 = 7.5 kW
																		110 = 11.0 kW
																		150 = 15.0 kW
																		Supply:
																		A = AC
																		Version
																		Housing height:
																		1 = Size 0, 1
																		2 = Size 2
																		Housing type:
																		C = Modular
																		Control type:
																		H = Drive control
																		Product range:
																		P = MOVIPRO®



Function units

Power section

P F A - MD ... B - G - B ... - / C ... / 000

Version of option 1:

- 01 = Standard without fan subassembly
- 02 = Standard with fan subassembly

Type of option 1:

- C = Cooling

Axis interface:

- 11 = 2 × M12 plug connector for 4 digital axis inputs
- 15 = 2 × M12 plug connectors for 2 digital axis inputs and 1 analog axis input

Brake control voltage:

- 02 = DC 24 V
- 23 = AC 230 V
- 40 = AC 400 V
- 46 = AC 460 V

Brake control

- BG = Standard brake control
- BS = With safety-related brake module

Distance encoder type:

- 0 = Without distance encoder
- 1 = CANopen
- 2 = SSI, HIPERFACE®, sin/cos, HTL, TTL, RS422

Motor encoder type:

- 0 = Without motor encoder
- 1 = Resolver
- 2 = HIPERFACE®, Sin/Cos, HTL, TTL, RS422

G = Encoder

Frequency inverter power rating:

- 022 = 2.2 kW
- 040 = 4.0 kW
- 075 = 7.5 kW
- 110 = 11.0 kW
- 150 = 15.0 kW

Frequency inverter type:

- MD = MOVIDRIVE® platform

Subassembly:

- A = Internal axis

F = Internal function

Product range:

- P = MOVIPRO®



Communication and control unit

P F H - ... 1 A - - B - - I 1 0 - 00 / ... / 000

Option 1:

000 = Without option 1

S11 = PROFIsafe option S11

Design

Communication packages

0 = Without

1 = With SBUS^{plus}, CAN and RS485 interface

2 = With SBUS^{plus}, CAN and RS485 interface (with DC 24 V)

3 = With SBUS^{plus}, CAN (with DC 24 V) and RS485 interface (with DC 24 V)

4 = With SBUS^{plus}, CAN (with DC 24 V) and RS485 interface

1 = **12 digital inputs and 4 digital inputs/outputs**

I = **Local interface**

Bus connection type:

11 = DIP module PROFIBUS, 2 × M12

12 = DIP module DeviceNet, 2 × M12

53 = 2 × M12, D-coded, Ethernet, copper

63 = 2 × push-pull RJ45, Ethernet, copper

64 = 2 × push-pull SCRJ

B = **Fieldbus connection**

Memory card

0 = OM._T0

1 = OM._T1

2 = OM._T2

Memory card type

C = Parameterizable

H = Programmable

A = **Version 1**

Unit type:

1 = ADC

Communication type:

P1 = PROFIBUS DPV1

D1 = DeviceNet

E2 = PROFINET IO

E3 = EtherNet/IP / Modbus/TCP

Subassembly:

H = Control / communication

F = **Internal function**

Product range:

P = MOVIPRO®



Energy supply

P F E - AC ... A - ... - 000 A - 00 / ... / 000

Type of option 2:

000 = Without option 2

Type of option 1:

000 = Without option 1

R15 = Regenerative power supply for MOVIPRO® with a power rating of at least 11.0 kW

Supply system connection:

001 = Connection for plug connectors, size 0,1

002 = Connection for plug connectors, size 2

101 = Connection for power interface, sizes 0 and 1

102 = Connection for power interface, size 2

A = Version A

Power rating of supply system rectifier

AC = Power supply

Subassembly:

E = Energy

F = Internal function

Product range:

P = MOVIPRO®

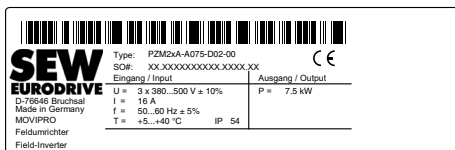


1.4 Accessories

Power interface

Nameplate

Each unit has a nameplate that provides important information. The following figure shows an example of a nameplate:



2081785611

Type designation
I max. current carrying capacity

SO# Production number
P max. switching capacity

Type designation

The type designation of the MOVIPRO® PZM2xA-A...-...-00 power interface comprises the following characteristic data:

P ZM 2 x A - A ... - ... - 00

MOVIPRO® connection:

D02 = Disconnection switch up to 25 A
D03 = Disconnection switch up to 40 A
M13 = Line and unit protection up to 5 A
M14 = Line and unit protection up to 9 A
M16 = Line and unit protection up to 15 A

Maximum switching capacity:

022 = 2.2 kW
040 = 4.0 kW
075 = 7.5 kW
150 = 15.0 kW

Housing height:

2 = 110 mm

Type:

ZM = Power interface accessories

Product range:

P = MOVIPRO®

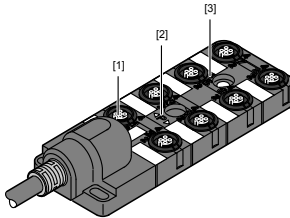


Sensor/actuator box

The sensor/actuator box allows for connecting up to 8 sensors/actors to the MOVIPRO®. It occupies only one connection for digital I/Os of the MOVIPRO® unit.

The sensor/actuator box provides one connection cable with M23 plug connector and M12 sockets for the sensors or actuators [1]. The green LED "P" [2] indicates the use of the DC 24 V supply voltage. Each M12 socket is equipped with a yellow LED for displaying the status of the inputs/outputs [3].

The following figure shows the sensor/actuator box:



36028798089825419

- [1] M12 socket
- [2] Operating display LED
- [3] Display status of inputs/outputs

The sensor/actuator box is available with different connection cable lengths.



External braking resistors

For regenerative operation, the MOVIPRO® is connected to an external braking resistor. The following figure shows an example of a size 1 braking resistor:



2084027019

Braking resistor assignment

The following table illustrates the assignment of the external braking resistors to the respective MOVIPRO® units:

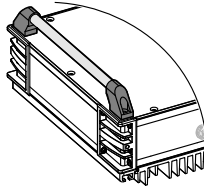
Braking resistor	Part number	Size	MOVIPRO®				
			up to 2.2 kW	up to 4.0 kW	up to 7.5 kW	up to 11.0 kW	up to 15.0 kW
BW100-004-00	1 796 218 8	BG0	•	•	•		
BW050-008-01	1 796 224 2	BG1		•	•	•	•
BW033-012-01	1 796 219 6	BG1		•	•	•	•
BW017-024-02	1 796 221 8	BG2				•	•



Mounting accessories

Handles

You can equip the MOVIPRO® with handles for easier handling:



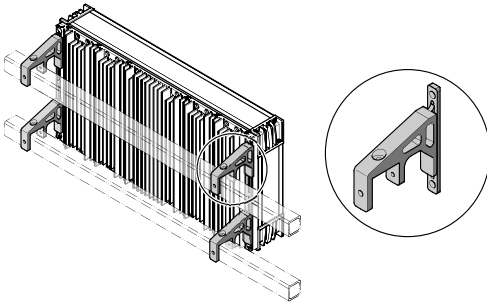
2049840395

The handles are available in two lengths depending on the size of MOVIPRO®:

Handles	Part number	MOVIPRO® housing height
Handle option 270	1 822 278 1 (2 pieces)	300 mm
Handle option 390	1 822 280 3 (2 pieces)	420 mm

Mounting brackets

You can use mounting brackets to mount the MOVIPRO® safely and easily:



658542347

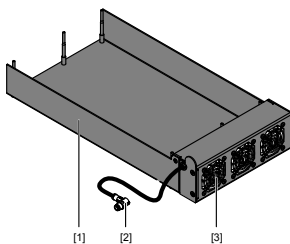
	Mounting brackets	Part number
MOVIPRO®	Mounting bracket kit, large (4 pieces)	1 270 830 5
Braking resistors: BW050-008-01 BW033-012-01 BW017-024-02	Mounting bracket kit, BW (4 pieces)	1 822 968 9



Fan subassembly

The fan is connected to the MOVIPRO® externally. The axial fans are controlled automatically depending on the temperature. They are encapsulated, and their degree of protection is IP54.

The following figure shows the fan subassembly:



36028797698977163

- [1] Air baffle
- [2] Connection cable
- [3] Axial fan

	Part number
Fan subassembly	1 270 970 0



Plug connectors

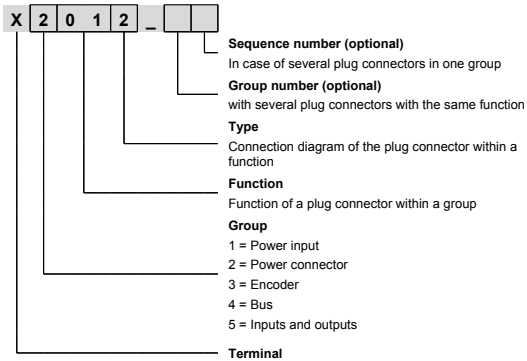
The following chapter provides information on plug connectors for MOVIPRO®. For more detailed information, refer to the corresponding operating instructions.

Plug connectors

The wiring diagrams of the plug connectors display the contact end of the connection.

Designation key

The designation of the plug connectors is specified according to the following key:





2 MOVITRANS®

2.1 Description

MOVITRANS® is a system consisting of stationary and mobile components that contactlessly transfers energy to mobile electrical consumers.



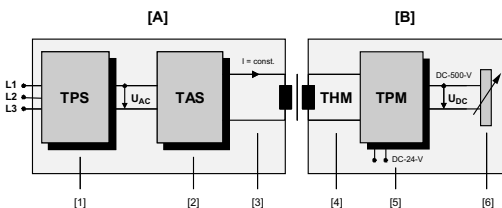
3170008331

Energy transfer

Electrical energy is transferred without contact from a fixed conductor to one or more mobile consumers. This process uses the principle of inductive energy transfer. The electromagnetic connection is made via an air gap and is not subject to wear, making it maintenance-free.

System overview

The MOVITRANS® system is divided into **stationary** and **mobile** components:



137714827

- [A] Stationary components
- [B] Mobile components
- [1] MOVITRANS® TPS stationary converter
- [2] MOVITRANS® TAS transformer module
- [3] MOVITRANS® TCS, TIS, TLS, TVS installation equipment (transmission line)
- [4] MOVITRANS® THM pick-up
- [5] MOVITRANS® TPM mobile converter
- [6] Mobile consumer



Stationary Components [A]

- **MOVITRANS® TPS stationary converter [1]**

The TPS converter, which is based on the MOVIDRIVE series, converts the incoming low frequency alternating voltage (50/60 Hz) from the three-phase system into an alternating voltage with a constant frequency of 25 kHz.

- **MOVITRANS® TAS transformer module [2]**

The TAS transformer module converts the output voltage from the TPS stationary converter into a constant sinusoidal alternating current. The output current is isolated from the AC power supply via a matching transformer. The transmission line is adjusted via compensation components.

- **MOVITRANS® TLS, TIS, TCS, TVS installation equipment [3] (transmission line)**

The TLS supply cable is used in 60 A systems between transformer module and transmission line as well as for interconnecting several transmission lines.

The line TLS conductor conducts the impressed alternating current from the TAS transformer module. It forms a conductor loop with supply and return cable.

The line cable is supported by the TIS profile system when U-shaped pick-ups are used for energy transfer. When flat THM pick-ups are used, the line cables are cast in the floor, installed on the floor with TIS installation plates, or installed in the floor with the TIS rubber profile (in preparation).

The TCS compensation box is used for compensating the inductive reactance of the TLS line cable. Each TCS compensation box compensates a particular track section.

The TVS connection distributor can be used to connect individual track parts and to connect the TLS supply cable to the track.



Mobile components [B]

- **MOVITRANS[®] THM pick-up [4]**

The THM pick-ups transfer the energy contactlessly from the line cable to the TPM mobile converter. Different mechanical designs and electrical performance ratings are available for the different transmission concepts. The TPM mobile converters must match the THM pick-ups.

The power that can be transmitted per THM pick-up depends on the size of the TLS line cable current and the electromagnetic connection between the TLS line cable and the THM pick-up.

- **MOVITRANS[®] TPM mobile converter [5]**

The TPM mobile converter converts the current impressed from the pick-up into DC voltage. The system is optimized for using inverters from SEW-EURODRIVE, such as MOVIDRIVE[®], MOVITRAC[®] 07 and MOVIMOT[®].



2.2 TPS10A stationary converter

Nameplate

The nameplate of the TPS10A stationary converter is attached on the left side of the control unit. The following figure shows an example of a nameplate:



9007199401568651

A type label is attached to the front of the control unit (above the TERMINAL slot). The following figure shows an example of a type label for MOVITRANS® TPS10A stationary converters:

Typ **TPS10A160-NF0-503-1**
Sach.-Nr. **8269807** Serien-Nr. **0001471**

9007199401588235

Type designation

The type designation of the MOVITRANS® TPS10A stationary converter comprises the following characteristic data:

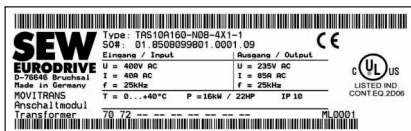
T	P	S	10	A	...	-	N	F	0	-	5	0	3	-	1	
																Design: 1 = Standard
																Connection type: 3 = 3-phase power supply connection
																Radio interference level: 0 = No radio interference
																Supply voltage:
																5 = Supply voltage AC 500 V
																Line cable current: 0 = Not specified
																Type of cooling: F = With heat sink and fan
																Enclosure: N = Degree of protection IP10
																Rated power:
																040 = 4.0 kW
																160 = 16.0 kW
																Version: A
																Series and generation: 10 = Standard
																Type of installation: S = Stationary
																Component: P = Power unit
																Type: T = MOVITRANS®



2.3 TAS10A transformer module

Nameplate

You find the nameplate with important information of the TAS10A transformer module at the side of the unit. The following figure shows an example of a nameplate:



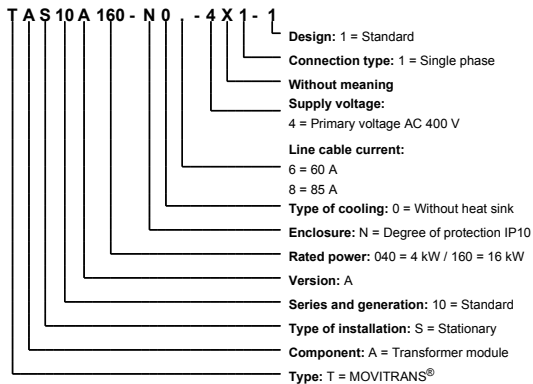
147079691

Type Type designation
U Voltage
I Current

f Frequency
P Output power
T Ambient temperature

Type designation

The type designation of the MOVITRANS® TAS10A transformer module comprises the following characteristic unit data:

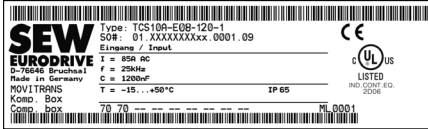




2.4 Installation material TCS, TVS, TLS, TIS

Nameplate of the TCS compensation box

The following figure shows an example for a TCS compensation box nameplate:



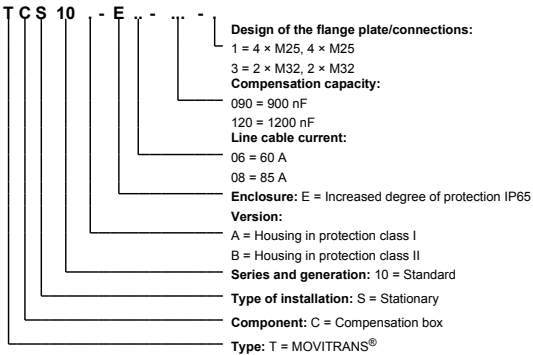
Type Type designation
I Current
f Frequency

C Compensation capacity
T Ambient temperature

1732952587

Type designation of the TCS compensation box

The type designation of the TCS compensation box comprises following characteristic data:





Nameplate of the TVS connection distributor

The following figure shows an example of a TVS connection distributor nameplate:



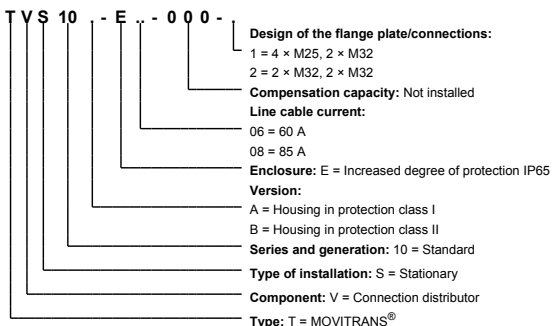
Type Type designation
I Current

f Frequency
T Ambient temperature

1732957323

Type designation of the TVS connection distributor

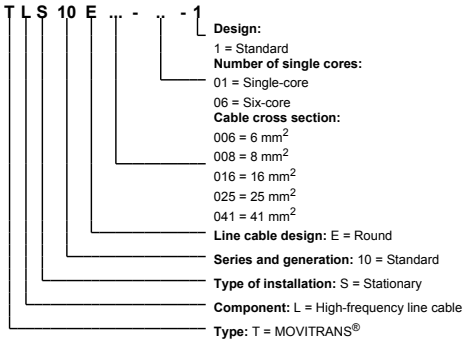
The type designation of the TVS connection distributor comprises following characteristic data:





TLS line cable

The type designation of the TLS line cable comprises following characteristic data:





TIS Installation components

The type designation of the TIS installation components comprises following characteristic data:

T I S 10 A 0.. - ... - 0

Design: 0 = Standard

Cable bushing:

A00 = Grommet

A74 = Cable bushing 8 mm²

Flexible profile section (cable duct), 2.2 m long:

F33 = Flexible, installation dimension 33 mm

F74 = Flexible, installation dimension 74 mm

Support complete (for profile section):

H00 = AFT profile 180

H02 = Dürr profile 180, universal

Fixed profile section (cable duct), 3 m long:

P33 = Fixed, installation dimension 33 mm

P74 = Fixed, installation dimension 74 mm

Installation plate (cable bridge):

V00 = Straight installation plate with cover

Retaining plate (for TCS, TVS and TIS10A008-H02-0):

X00 = AFT profile 180

X02 = Dürr 180

XH2 = Universal

Cable cross section of the line cable:

008 = 8 mm²

025 = 25 mm²

Version: A

Series and generation: 10 = Standard

Type of installation: S = Stationary

Component: I = Installation equipment

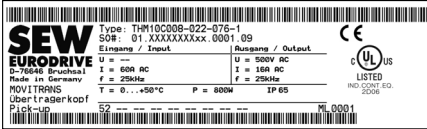
Type: T = MOVITRANS®



2.5 THM10C pick-ups

Nameplate

The THM10C pick-up has a nameplate that provides important information. The following figure shows an example of a nameplate:



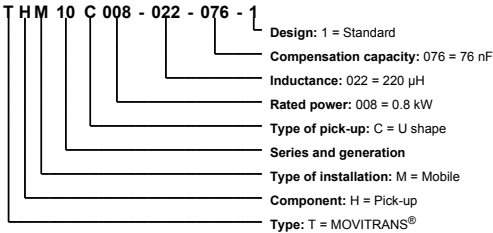
1530909195

Type Type designation
U Voltage
I Current

f Frequency
P Output power
T Ambient temperature

Type designation

The type designation of the MOVITRANS® THM10C pick-up comprises the following characteristic unit data:

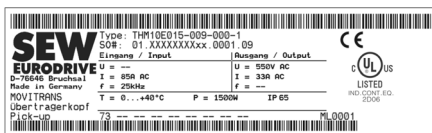




2.6 THM10E pick-ups

Nameplate

The THM10E pick-up has a nameplate that provides important information. The following figure shows an example of a nameplate:



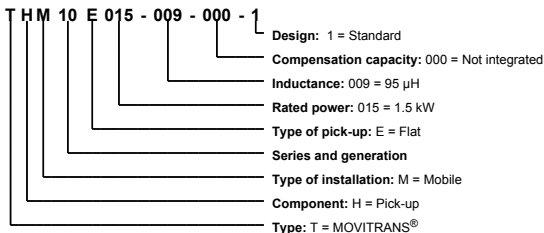
9007200785738123

Type Type designation
U Voltage
I Current

f Frequency
P Output power
T Ambient temperature

Type designation

The type designation of the MOVITRANS® THM10E pick-up comprises the following characteristic unit data:





2.7 TPM12B mobile converter

Nameplate

The TPM12B mobile converter has a nameplate that provides important information. The following figure shows an example of a nameplate:



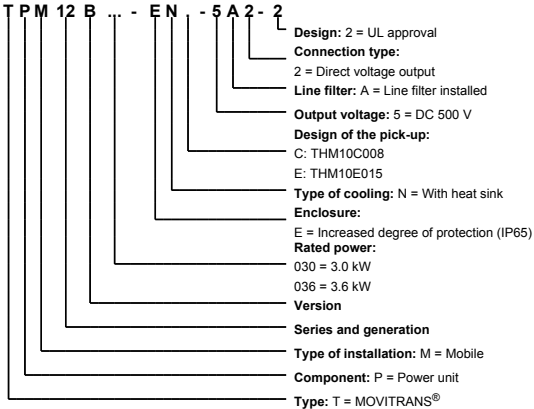
1518636683

Type Type designation
U Voltage
I Current

f Frequency
P Output power
T Ambient temperature

Type designation

The type designation of the MOVITRANS® TPM12B mobile converter comprises the following characteristic data:





3 MOVIFIT®

3.1 Description

The MOVIFIT® system combines the well-known advantages of decentralized installation technology from SEW-EURODRIVE with modern, application-oriented drive and communication functions.



3170008331

Features of MOVIFIT® FDC SNI – Field Device Controller

MOVIFIT® FDC SNI is a decentralized drive controller for controlling up to a maximum of 16 drive units.

MOVIFIT® FDC SNI has the following functional characteristics:

- Up to 16 drive units can be connected,
among them up to 10 drive units via SNI cable (for example MOVIGEAR® SNI B)
- Voltage range 3 x 380 – 500 V
- Integrated power distribution and line protection
- Maintenance switch
- Integrated fieldbus interface
 - PROFINET
 - EtherNet/IP (in preparation)
 - Modbus/TCP (in preparation)
- 12 digital inputs + 4 digital inputs/outputs
- CAN/SBus and RS485 interface
- SD memory card
- Easy and fast configuration with application configuration or programming via MOVI-PLC® standard.

MOVIFIT[®] MC characteristics

MOVIFIT[®] MC is a decentralized drive controller that controls up to 3 MOVIMOT[®] gearmotors.

MOVIFIT[®] MC has the following functional characteristics:

- Up to three MOVIMOT[®] drives can be connected via hybrid cable
- Voltage range 3 x 380 – 500 V
- Integrated power distribution and line protection
- Integrated fieldbus interface
 - PROFIBUS
 - PROFINET
 - DeviceNet
 - EtherNet/IP
 - Modbus/TCP
- Maintenance switch
- "Safe disconnection (STO)" function
 - Safety category 3 according to EN 954-1 as well as PL d to EN ISO 13849-1
 - Stop categories 0 and 1 according to EN 60204-1 (stop category 1 only in combination with external safety device)
- Optional PROFSafe extension /S11 with 4 x safe inputs and 2 x safe outputs
- 12 digital inputs + 4 digital inputs/outputs
- CAN/SBus interface
- Simple and fast parameter setting via DIP switches or fieldbus



MOVIFIT® SC characteristics

MOVIFIT® SC is a decentralized drive controller with integrated motor starter that controls a maximum of up to two gearmotors.

MOVIFIT® SC has the following functional characteristics:

- Electronic (contactless) motor starter
 - When 2 motors are connected (dual motor starter): One direction of rotation
 - When 1 motor is connected (reversing starter): Two directions of rotation
- Power range
 - When 2 motors are connected: 2 x 0.37 to 2.2 kW
 - When 1 motor is connected: 1 x 0.37 to 4.0 kW
- Parameterizable soft startup time
- Voltage range 3 x 380 – 500 V
- Increased safety through three-phase switching
- Integrated energy distribution
- Integrated brake management for SEW three-wire brakes
- Optional maintenance switch
- Integrated fieldbus interface
 - PROFIBUS
 - PROFINET
 - DeviceNet
 - EtherNet/IP
 - Modbus/TCP
- Optional design without fieldbus interface as SBus slave
- Digital inputs/outputs

Depends on the unit design, see following table:

Digital inputs/outputs	Function level	Fieldbus interface
12 DI + 4 DI/O	Technology or System	All
12 DI + 4 DI/O	Classic	PROFINET EtherNet/IP Modbus/TCP
6 DI + 2 DI/O	Classic	PROFIBUS DeviceNet
4 DI	None	SBus slave

- CAN/SBus interface
- Simple and fast parameter setting via DIP switches (easy mode)
- Expanded parameter setting via fieldbus or diagnostic interface (expert mode)

MOVIFIT[®] FC characteristics

MOVIFIT[®] FC is a decentralized drive controller with integrated frequency inverter for controlling a gearmotor.

MOVIFIT[®] FC has the following functional characteristics:

- Parameterizable open-loop frequency inverter
- Power range from 0.37 to 4 kW (in two sizes)
- Voltage range 3 x 380 – 500 V
- Integrated energy distribution
- Integrated brake management
- Optional internal braking resistor (integrated in ABOX)
- Optional external braking resistor
- Optional maintenance switch
- Integrated fieldbus interface
 - PROFIBUS
 - PROFINET
 - DeviceNet
 - EtherNet/IP
 - Modbus/TCP
- Optional design without fieldbus interface as SBus slave
- Digital inputs/outputs

Depends on the unit design, see following table:

Digital inputs/outputs	Function level	Fieldbus interface
12 DI + 4 DI/O	Technology or System	All
12 DI + 4 DI/O	Classic	PROFINET EtherNet/IP Modbus/TCP
6 DI + 2 DI/O	Classic	PROFIBUS DeviceNet
4 DI	None	SBus slave

- CAN/SBus interface
- "Safe disconnection (STO)" function
 - Safety category 3 according to EN 954-1 as well as PL d to EN ISO 13849-1
 - Stop categories 0 and 1 according to EN 60204-1 (stop category 1 only in combination with external safety device)
- Optional PROFIsafe extension /S11 with 4 x safe inputs and 2 x safe outputs
- Simple and fast parameter setting via DIP switches (easy mode)
- Expanded parameter setting via fieldbus or diagnostic interface (expert mode)

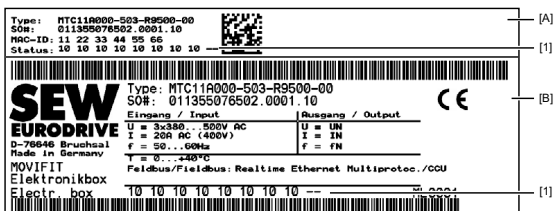


3.2 Type designation MOVIFIT® FDC

EBOX

Nameplate

The following figure shows an example nameplate of the EBOX of MOVIFIT[®] FDC:



[A] External nameplate

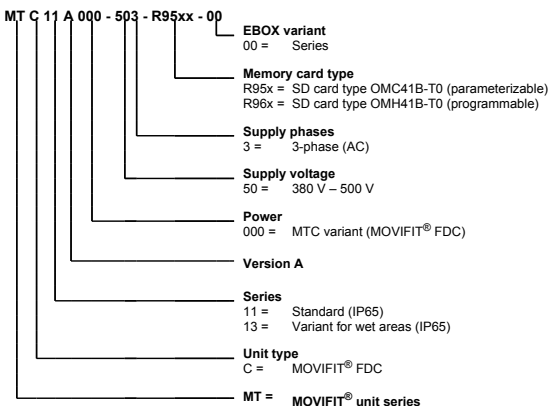
3299552907

[B] Internal nameplate

[1] EBOX status field

Type designation

The following table shows the type designation of the EBOX of MOVIFIT® FDC:

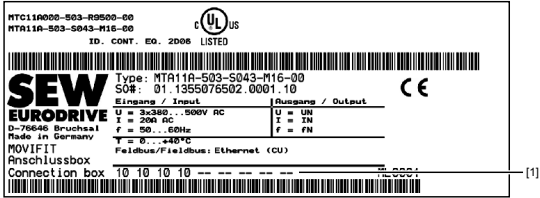




ABOX

Nameplate

The following figure shows an example nameplate of the ABOX of MOVIFIT[®] FDC:



[1] ABOX status field

3304573579

Type designation

The following table shows the type designation of the ABOX of MOVIFIT[®] FDC:

MT A 11 A - 50 3 - S04 3 - M16 - 00 / M11	
	ABOX option M11 = Stainless steel mounting rail
	ABOX variant 00 = Series
	Maintenance switch M16 = Motor protection switch 15 A M20 = Motor protection switch 20 A
	Fieldbus 3 = PROFINET IO, EtherNet/IP, Modbus/TCP
	Connection configuration S04 = Standard ABOX with terminals and cable bushings S54 = Hybrid ABOX with M12 for I/Os + bus and plug connector for MOVIGEAR [®] S64 = Hybrid ABOX with M12 for I/Os, push-pull RJ45 for bus and plug connector for MOVIGEAR [®]
	Supply phases 3 = 3-phase (AC)
	Supply voltage 50 = 380 V – 500 V
	A = Version
	Series 11 = Standard (IP65) 13 = Variant for wet areas (IP65)
	Unit type A = ABOX (connection box)
	MT = MOVIFIT[®] unit series

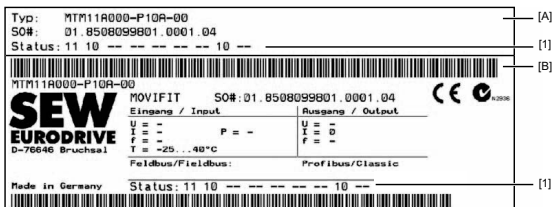


3.3 Type designation MOVIFIT® MC

EBOX

Nameplate

The following figure shows an example nameplate of the EBOX of MOVIFIT® MC:



[A] External nameplate

[B] Internal nameplate

[1] EBOX status field

9007200272312715

Type designation

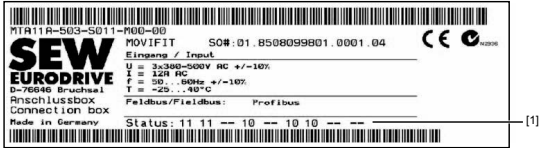
The following table shows the type designation of the EBOX of MOVIFIT® MC:

MT M 11 A 000 - P 1 0 A - 00 / S11	
	EBOX option S11 = PROFIsafe option S11
	EBOX variant 00 = Series
	A = Version
	Function level 0 = Classic 1 = Technology
	Fieldbus P1 = PROFIBUS D1 = DeviceNet E2 = PROFINET E3 = EtherNet/IP, Modbus/TCP
	Power MC 000 = Version MTM (MOVIFIT® MC)
	Version A
	Series 11 = Standard (IP65)
	Unit type M = MOVIFIT® MC (MOVIMOT® control)
	MT = MOVIFIT® unit series

ABOX

Nameplate

The following figure shows an example nameplate of the ABOX of MOVIFIT® MC:



[1] ABOX status field

1017787147

Type designation

The following table shows the type designation of the ABOX of MOVIFIT® MC:

MT A 11 A - 50 3 -S 01 1 - M01 - 00 / M11

ABOX option

M11 = Stainless steel mounting rail

ABOX variant

00 = Series

Maintenance switch

M01 = Motor protection switch up to 12 A

M14 = Motor circuit breaker up to 9 A¹⁾

M15 = Motor circuit breaker up to 12 A¹⁾

Fieldbus

1 = PROFIBUS

2 = DeviceNet

3 = EtherNet/IP, PROFINET, Modbus/TCP

Connection configuration

S01 = Standard ABOX with terminals and cable bushings

S41 = Hybrid ABOX with M12 for I/Os

S51 = Hybrid ABOX with M12 for I/Os + bus

S61 = Hybrid ABOX with M12 for I/Os and push-pull RJ45 for bus

Supply phases

3 = 3-phase (AC)

Supply voltage

$$50 = 380 \text{ V} - 500 \text{ V}$$

A = Version

Series

11 = Standard (IP65)

Unit type

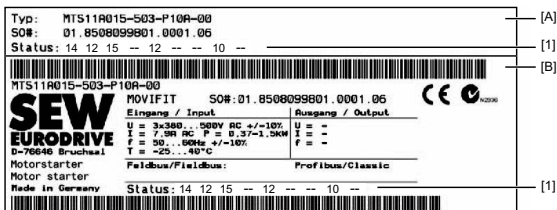
A = Connection box

MT = MOVIFIT® unit series

1) Only available in connection with UL

Nameplate

The following figure shows an example nameplate of the EBOX of MOVIFIT® SC:



[A] External nameplate

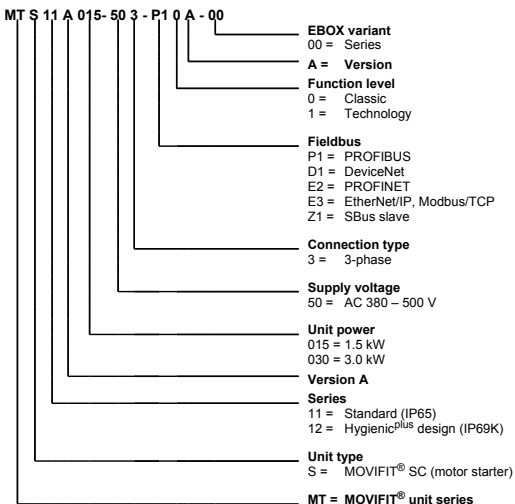
[B] Internal nameplate

[1] EBOX status field

9007200103334155

Type designation

The following table shows the type designation of the EBOX of MOVIFIT® SC:

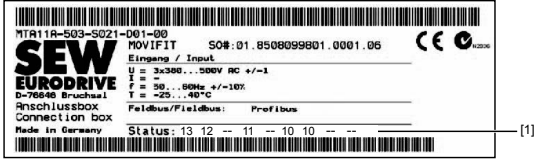




ABOX

Nameplate

The following figure shows an example nameplate of the ABOX of MOVIFIT[®] SC:



[1] ABOX status field

9007200067321995

Type designation

The following table shows the type designation of the ABOX of MOVIFIT[®] SC:

MT A 11 A - 50 3 - S02 1 - D01 - 00 / M11	
	ABOX option M11 = Stainless steel mounting rail
	ABOX variant 00 = Series
	Maintenance switch D01 = Load disconnector M12 = Motor protection switch up to 9 A ¹⁾
	Fieldbus 1 = PROFIBUS 2 = DeviceNet 3 = EtherNet/IP, PROFINET, Modbus/TCP
	Connection configuration S02 = Standard ABOX with terminals and cable bushings S42 = Hybrid ABOX with M12 for I/Os S52 = Hybrid ABOX with M12 for I/Os + bus S62 = Hybrid ABOX with M12 for I/Os and push-pull RJ45 for bus
	Connection type 3 = 3-phase (AC)
	Supply voltage 50 = 380 V – 500 V
	A = Version
	Series 11 = Standard (IP65) 12 = Hygienic ^{plus} design (IP69K) ²⁾
	Unit type A = Connection box
	MT = MOVIFIT[®] unit series

1) Motor protection switch M12 is mandatory for units with UL approval.

2) Available in conjunction with CE

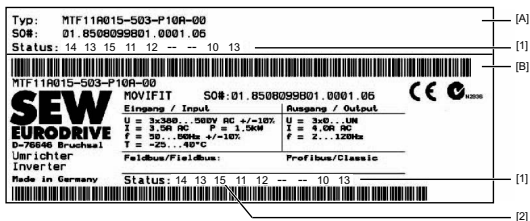


3.5 Type designation MOVIFIT® FC

EBOX

Nameplate

The following figure shows an example nameplate of the EBOX of MOVIFIT® FC:



[A] External nameplate
[B] Internal nameplate

[1] EBOX status field
[2] Firmware status

9007200067320331

Type designation

The following table shows the type designation of the EBOX of MOVIFIT® FC:

MT F 11 A 015- 50 3 - P 1 0 A - 00 / S11	
MT	MOVIFIT® unit series
F	Unit type F = MOVIFIT® FC
11	Series 11 = Standard (IP65) 12 = Hygienic ^{plus} (IP69K)
A	Version A
015	Unit power 003 = 0.37 kW 005 = 0.55 kW 007 = 0.75 kW 011 = 1.1 kW 015 = 1.5 kW 022 = 2.2 kW 030 = 3.0 kW 040 = 4.0 kW
50	Supply voltage 50 = AC 380 – 500 V
3	Connection type 3 = 3-phase
P	Fieldbus P1 = PROFIBUS D1 = DeviceNet E3 = EtherNet/IP, Modbus/TCP
10	EBOX option S11 = PROFSafe option S11 ¹⁾
A	EBOX variant 00 = DT/DV motor 400 V, 50 Hz 01 = DAS motor 400 V, 50 Hz 10 = DRS motor 400 V, 50 Hz 11 = DRE motor 400 V, 50 Hz 15 = DRS-DRE 50 – 60 Hz (global motor)
00	Function level 0 = Classic 1 = Technology
S11	E2 = PROFINET Z1 = SBus save

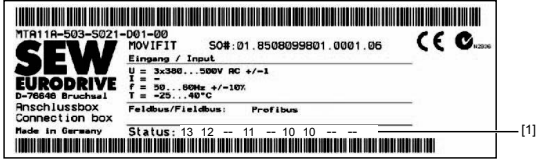
1) Only available in connection with PROFIBUS or PROFINET IO



ABOX

Nameplate

The following figure shows an example nameplate of the ABOX of MOVIFIT[®] FC:



[1] ABOX status field

9007200067321995

Type designation

The following table shows the type designation of the ABOX of MOVIFIT[®] FC:

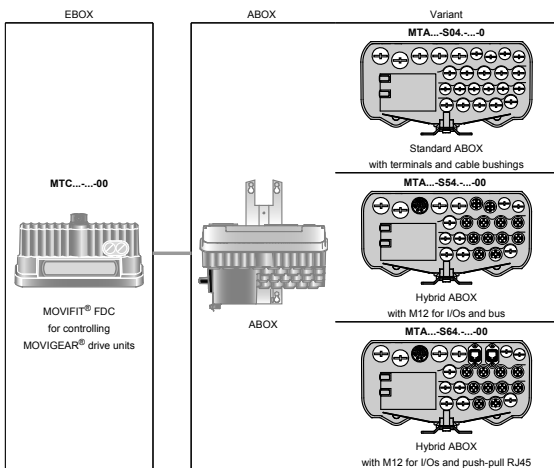
MTA11A - 503 - S021 - D01 - 00 / BW1 / M11	
	Option 2 ABOX M11 = Stainless steel mounting rail
	Option 1 ABOX BW1 / BW2 = Integrated braking resistor
	ABOX variant 00 = Series
	Maintenance switch D01 = Load disconnecter M11 = Motor circuit breaker up to 4 A ¹⁾ M12 = Motor protection switch up to 9 A ¹⁾
	Fieldbus 1 = PROFIBUS 2 = DeviceNet 3 = EtherNet/IP, PROFINET, Modbus/TCP
	Connection configuration S02 = Standard ABOX with terminals and cable bushings S42 = Hybrid ABOX with M12 for I/Os S52 = Hybrid ABOX with M12 for I/Os + bus S62 = Hybrid ABOX with M12 for I/Os and push-pull RJ45 for bus
	Connection type 3 = 3-phase (AC)
	Supply voltage 50 = 380 V – 500 V
	A = Version
	Series 11 = Standard (IP65) 12 = Hygienic ^{plus} design (IP69K)
	Unit type A = Connection box MT = MOVIFIT [®] unit series

1) Only available in connection with UL



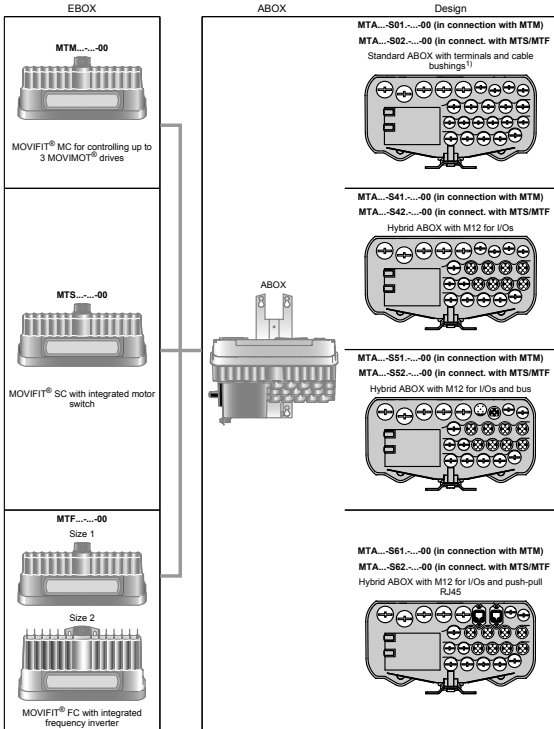
3.6 Combination options with MOVIFIT[®] FDC

The following figure shows the MOVIFIT[®] FDC variants with the standard ABOX and the hybrid ABOX:



3.7 Combination options with MOVIFIT[®] MC, SC, and FC

The following figure shows the MOVIFIT[®] MC, SC, and FC variants with the standard ABOX and the hybrid ABOX:



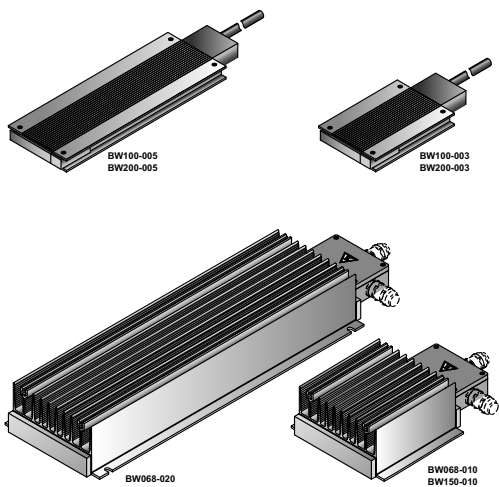
1) With DeviceNet: Micro-style connector for DeviceNet connection



3.8 External braking resistors for MOVIFIT® FC

Overview

The following figure gives an overview of external braking resistors:



1490214411

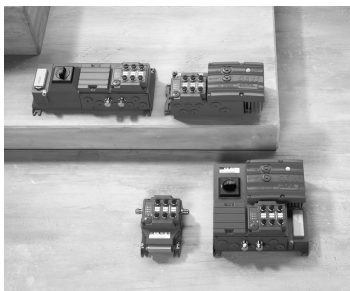


4 Field Distributors and Fieldbus Interfaces

4.1 Description

Field distributors establish an efficient connection between the drives and the power supply system, the 24 V control voltage and the fieldbus.

They are based on decentralized fieldbus interface technology with additional connection technology for power distribution.

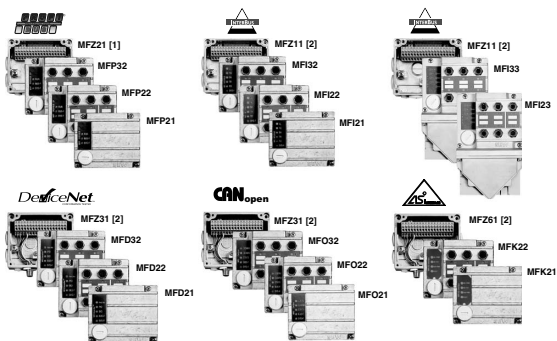


1507298827



4.2 MF../Z.1 fieldbus interfaces

The following figure shows the dimensions of the fieldbus interface MF../Z.1:



1413508491

[1] Red imprint on terminal
[2] Black imprint on terminal

PROFIBUS variants

The following figure shows the PROFIBUS variants of the fieldbus interface MF../Z.1:

Module type	MFP21D	MFP22D	MFP32D
Part number	823 624 0	823 625 9	823 626 7
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ21D	MFZ21D/AVT2/AWT2	
Part number	823 627 5	824 299 2	
Fieldbus connection technology	Terminals	M12 plug connector	
Module + module carrier	MFP21D/Z21D..	MFP22D/Z21D..	MFP32D/Z21D..



INTERBUS variants

The following figure shows the INTERBUS variants of the fieldbus interface MF../Z.1:

Module type	MF121A	MF122A	MF132A
Part number	823 526 0	823 527 9	823 528 7
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ11A		
Part number	823 514 7		
Fieldbus connection technology	Terminals		
Module + module carrier	MF121A/Z11A	MF122A/Z11A	MF132A/Z11A

INTERBUS variants with fiber optic cable and Rugged Line connector (Phoenix Contact)

The following figure shows the INTERBUS variants with fiber optic cable of the fieldbus interface MF../Z.1:

Module type	MF123F	MF133F
Part number	824 335 2	824 336 0
Connection technology	FO (via Rugged Line connector)	
Fieldbus	M12 and terminals	
Sensors/actuators		
Digital inputs	4	6
Digital outputs	2	0
Associated module carrier	MFZ11A	
Part number	823 514 7	
Module + module carrier	MF123F/Z11A	MF133F/Z11A

DeviceNet variants

The following figure shows the DeviceNet variants of the fieldbus interface MF../Z.1:

Module type	MFD21A	MFD22A	MFD32A
Part number	823 551 1	823 552 X	823 553 8
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ31A		
Part number	823 548 1		
Fieldbus connection technology	Micro-style connector		
Module + module carrier	MFD21A/Z31A	MFD22A/Z31A	MFD32A/Z31A



CANopen variants

The following figure shows the CANopen variants of the fieldbus interface MF../Z.1:

Module type	MFO21A	MFO22A	MFO32A
Part number	823 957 6	823 958 4	823 959 2
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ31A		
Part number	823 548 1		
Fieldbus connection technology	M12 plug connector		
Module + module carrier	MFO21A/Z31A	MFO22A/Z31A	MFO32A/Z31A

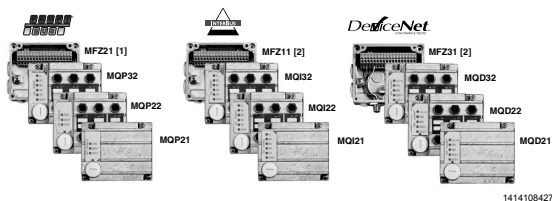
AS-Interface variants

The following figure shows the AS-Interface variants of the fieldbus interface MF../Z.1:

Module type	MFK21A	MFK22A
Part number	824 537 1	824 539 8
Connection technology	Terminals	M12 and terminals
Sensors/actuators		
Digital inputs	4	4
Digital outputs	2	2
Associated module carrier	MFZ61A	
Part number	824 574 6	
AS-Interface connection technology	M12 plug connector	
Module + module carrier	MFK21A/Z61A	MFK22A/Z61A

4.3 MQ../Z.1 fieldbus interfaces

The following figure shows the variants of the fieldbus interface MQ../Z.1:



[1] Red imprint on terminal
[2] Black imprint on terminal

PROFIBUS variants

The following figure shows the PROFIBUS variants of the fieldbus interface MQ../Z.1:

Module type	MQP21D	MQP22D	MQP32D
Part number	824 190 2	824 191 0	824 192 9
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ21D		MFZ21D/AVT2/AWT2
Part number	823 627 5		824 299 2
Fieldbus connection technology	Terminals		M12 plug connector
Module + module carrier	MQP21D/Z21D..	MQP22D/Z21D..	MQP32D/Z21D..

INTERBUS variants

The following figure shows the INTERBUS variants of the fieldbus interface MQ../Z.1:

Module type	MQI21A	MQI22A	MQI32A
Part number	824 203 8	824 204 6	824 205 4
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ11A		
Part number	823 514 7		
Fieldbus connection technology	Terminals		
Module + module carrier	MQI21A/Z11A	MQI22A/Z11A	MQI32A/Z11A



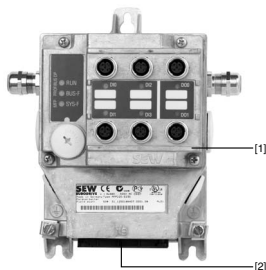
DeviceNet variants

The following figure shows the DeviceNet variants of the fieldbus interface MQ../Z.1:

Module type	MQD21A	MQD22A	MQD32A
Part number	824 200 3	824 201 1	824 202 X
Connection technology	Terminals	M12 and terminals	M12 and terminals
Sensors/actuators			
Digital inputs	4	4	6
Digital outputs	2	2	0
Associated module carrier	MFZ31A		
Part number	823 548 1		
Fieldbus connection technology	Micro-style connector		
Module + module carrier	MQD21A/Z31A	MQD22A/Z31A	MQD32A/Z31A

4.4 MF../Z.3., MQ../Z.3. field distributors

The following figure shows the MF../Z.3., MQ../Z.3.:



1415970827

- [1] MF../MQ... fieldbus interface
[2] Prefabricated cable connection

Unit properties

MF../Z.3., MQ../Z.3. field distributors have the following functional characteristics:

- Communication interface with I/Os (I/Os can only be used in combination with M12 plug connector)
- Common wiring space for bus and power terminals
- Pluggable connection to MOVIMOT®/MOVI-SWITCH® (via hybrid cable)

Sample type designation

The following table shows the type designation of MF../Z.3, MQ../Z.3 field distributors:

MFP21D/Z23D

Connection module for controlling MOVIMOT®

- Z13A = for INTERBUS
Z23D = for PROFIBUS
Z23D/AVT2/AWT2 = with M12 plug connector for PROFIBUS
Z33A = for DeviceNet and CANopen

Connection module for controlling MOVI-SWITCH®

- Z13W = for INTERBUS
Z23W = for PROFIBUS
Z23W/AVT2/AWT2 = with M12 plug connector for PROFIBUS
Z33W = for DeviceNet and CANopen
Z63W = for AS-Interface

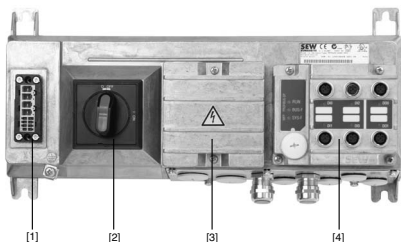
Fieldbus interface

- MFL.. / MQI.. = INTERBUS
MFP.. / MQP.. = PROFIBUS
MFD.. / MQD.. = DeviceNet
MFO.. = CANopen



4.5 MF../Z.6., MQ../Z.6. field distributors

The following figure shows the MF../Z.6., MQ../Z.6 field distributor:



1481358731

- [1] Prefabricated cable connection
- [2] Maintenance switch
- [3] Wiring space for power supply
- [4] MF../MQ../Z.6. fieldbus interface

Unit properties

MF../Z.6., MQ../Z.6. field distributors have the following functional characteristics:

- Communication interface with I/Os
- Separate wiring space for bus and power supply
- Pluggable connection to MOVIMOT® (via hybrid cable)
- Maintenance switch (triple lock)
 - with line protection function
 - Made by ABB
 - Type switch element MS 325 - 9
 - Type auxiliary contact HK 20
 - Color: black/red

Sample type designation

The following table shows the type designation of the MF../Z.6., MQ../Z.6. field distributors:

MFP21D/Z26F/AF0

Connection technology

- AF0 = Metric cable entry
- AF1 = With micro-style connector for DeviceNet and CANopen
- AF2 = M12 plug connector for PROFIBUS
- AF3 = M12 plug connector for PROFIBUS and M12 plug connector for 24 V supply

Connection module for controlling MOVIMOT®

- Z16F = for INTERBUS
- Z26F = for PROFIBUS
- Z36F = for DeviceNet and CANopen

Connection module for controlling MOVI-SWITCH®

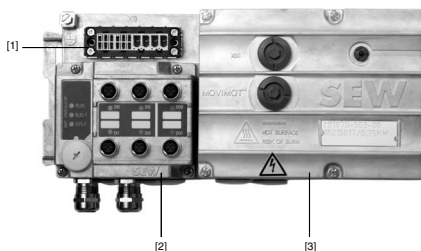
- Z26W = for PROFIBUS

Fieldbus interface

- MF1.. / MQ1.. = INTERBUS
- MFP.. / MQP.. = PROFIBUS
- MQS.. = PROFIBUS / PROFIsafe
- MFD.. / MQD.. = DeviceNet
- MFO.. = CANopen

4.6 MF../MM../Z.7., MQ../MM../Z.7. field distributors

The following figure shows the MF../MM../Z.7., MQ../MM../Z.7. field distributor:



1481919115

- [1] Prefabricated cable connection
[2] MF../MQ.. fieldbus interface
[3] MOVIMOT® inverter



Unit properties

The MF../MM../Z.7., MQ../MM../Z.7. field distributors have the following functional characteristics:

- Communication interface with I/Os
- Pluggable connection to MOVIMOT® (via hybrid cable)
- Integrated MOVIMOT® inverter

Sample type designation

The following table shows the type designation of MF../MM../Z.7., MQ../MM../Z.7. field distributors:

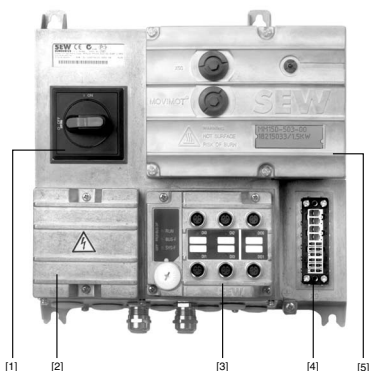
MFP22D/MM15D-503-00/Z27F 0 ¹⁾	Connection type
	0 = 
	1 = 
	Connection module
	Z17 = for INTERBUS
	Z27 = for PROFIBUS
	Z37 = for DeviceNet and CANopen
	MOVIMOT® inverter
	MM03 – MM15
	Fieldbus interface
	MFI.. / MQI.. = INTERBUS
	MFP.. / MQP.. = PROFIBUS
	MQS.. = PROFIBUS/PROFIsafe
	MFD.. / MQD.. = DeviceNet
	MFO.. = CANopen

1) If the field distributor is used in combination with a drive without mechanical holding brake, then the field distributor must be ordered with integrated braking resistor (according to the following example):



4.7 MF../MM../Z.8., MQ../MM../Z.8. field distributors

The following figure shows the MF../MM../Z.8., MQ../MM../Z.8. field distributor:



1482338315

- [1] Maintenance switch
- [2] Wiring space for power supply
- [3] MF../MQ... fieldbus interface
- [4] Prefabricated cable connection
- [5] MOVIMOT® inverter (here: size 1)

Unit properties

The MF../MM../Z.8., MQ../MM../Z.8. field distributors have the following functional characteristics:

- Communication interface with I/Os
- Separate wiring space for bus and power terminals
- Pluggable connection to MOVIMOT® (via hybrid cable)
- Integrated MOVIMOT® inverter
- Maintenance switch (triple lock)
 - Made by ABB
 - Type OT16ET3HS3ST1
 - Color: black/red



Sample type designation

The following table shows the type designation of MF../MM../Z.8., MQ../MM../Z.8. field distributors:

MFP22D/MM22D-503-00/Z28F0/AF0¹⁾

Connection technology

- AF0 = Metric cable entry
- AF1 = With micro-style connector for DeviceNet and CANopen
- AF2 = M12 plug connector for PROFIBUS
- AF3 = M12 plug connector for PROFIBUS and M12 plug connector for 24 V supply

Connection type

- 0 =
- 1 =

Connection module

- Z18 = for INTERBUS
- Z28 = for PROFIBUS
- Z38 = for DeviceNet and CANopen

MOVIMOT[®] inverter

Fieldbus interface

- MF1../MQ1..= INTERBUS
- MFP../MQP..= PROFIBUS
- MQS..= PROFIBUS / PROFIsafe
- MFD../MQD..= DeviceNet
- MFO..= CANopen

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



5 MOVIMOT[®] Installed Close to the Motor

5.1 *Description*

The optional field mounting plate allows the MOVIMOT[®] inverter to be mounted close to the motor.

The inverter is connected to the motor using a prefabricated hybrid cable.



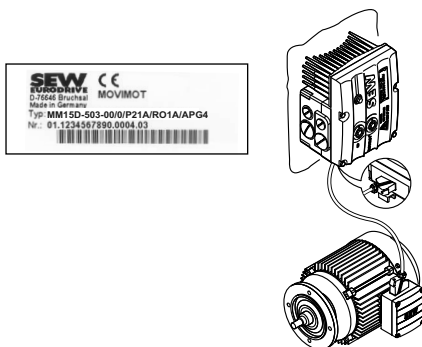
1507293067



5.2 Type designation of the variant "mounted close to the motor"

Nameplate

The following illustration shows an example of the MOVIMOT[®] inverter mounted close to the motor with corresponding nameplate:



457921547

Type designation

The following table shows the type designation of a MOVIMOT[®] inverter mounted close to the motor:

MM15D-503-00/0/P21A/RO1A/PG4

Plug connector

For the connection to the motor

Connection box design

Adapter for mounting close to the motor

21 = Size 1

22 = Size 2

Connection type

0 =

1 =

MOVIMOT[®] inverter



6 MOVI-SWITCH[®] Installed Close to the Motor

6.1 *Description*

The optional field mounting plate allows the MOVI-SWITCH[®] 2S control section to be mounted close to the motor.

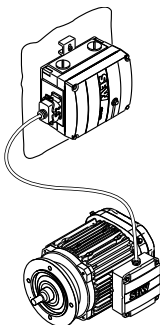
The inverter is connected to the motor using a prefabricated hybrid cable.



1507325067

6.2 Sample type designation of the "installed close to the motor" type

The following illustration shows MOVI-SWITCH[®] 2S installed close to the motor as an example:



1475556235

The following table shows the type designation of the MOVI-SWITCH[®] variant for installation close to the motor:

MSW-2S-07A/CB0/P22A/R12A/ALA4

ALA4	Plug connector for connection to the motor
R12A	Connection box design
P22A	Adapter for mounting MOVI-SWITCH [®] close to the motor
CB0	Design 0 = Standard
07A	Signal type B = Binary K = AS-Interface
2S	Control
MSW	MOVI-SWITCH [®]



7 MOVIGEAR®

7.1 Description

MOVIGEAR® is a compact mechatronic drive system comprising a gear unit, a motor and drive electronics.

MOVIGEAR® provides a high level of system efficiency contributing to reducing the overall energy expenses.



3166258955

General unit properties

- Wide voltage range 3 x AC 380 V to AC 500 V
- High overload capacity for all sizes
- 4Q capability due to integrated brake chopper and braking resistor installed as standard
- Line filter integrated as standard. EMC-compliant installation ensures compliance with limit class C3 to EN 61800-3 (class A, group 2 according to EN 55011).
- LED display for operating and fault states
- Protective features for complete protection of the frequency inverter and motor (short-circuit, overload, overvoltage/undervoltage, excess temperature in the frequency inverter, excess temperature in the drive unit).
- Integrated STO safety function
 - **STO** (safe torque off according to IEC 61800-5-2) by disconnecting the STO input.
 - **SS1(c)** (safe stop 1, function variant c according to IEC 61800-5-2) by means of suitable external control (e.g. safety relay with delayed disconnection)
 - Performance level e according to EN ISO 13849-1.
 - SIL 3 according to IEC 61800-5-2.

You find the specific unit properties of DBC-B, DAC-B, DSC-B and SNI-B in the subsequent chapters.

**Features of MOVIGEAR[®] DBC – Direct Binary Communication**

- Simple startup without PC via DIP switches and potentiometer
- Parameterizable fixed speeds and ramps
- Binary input control and signal relay evaluation via PLC
- Local mode via binary inputs
- Interface for diagnostics and parameterization

Features of MOVIGEAR[®] DAC – Direct AS-Interface Communication

- Parameterizable fixed speeds and ramps
- Control via standard AS-Interface specification
- Connection of external sensors on the actuator
- Voltage supply for connected sensors
- Local mode via binary inputs
- Interface for diagnostics and parameterization

Features of MOVIGEAR[®] DSC – Direct SBus Communication

- Line wiring
- Single control
- Integrated communication interface
- Fast communication for short cycle times
- Hybrid cable for minimum installation effort
- System bus controller for control cabinet or fieldbus installation with integrated PLC
- High drive dynamics and performance
- Optional motion control inputs (via plug connector) for local mode or sensor inputs

Features of MOVIGEAR[®] SNI – Single Line Network Installation

- Single control
- Reduction in the number of components
- Bus cables do not have to be routed in the field
- No risk of hidden faults in the bus cabling
- Reduced startup times
- Shorter project runtimes/reduction of project costs
- Optional motion control inputs (via plug connector) for local mode or sensor inputs

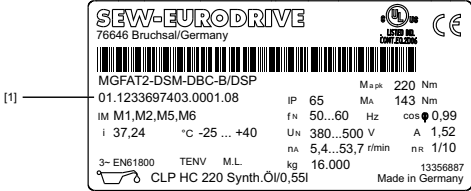


7.2 Type designation MOVIGEAR® DBC B

Drive unit

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



2368135179

[1] Unique serial number

The bar code on the nameplate (code 39) according to ISO/IEC 16388 represents the unique serial number (with period as separator).

Type designation

The following table shows the type designation of the MOVIGEAR® drive unit:

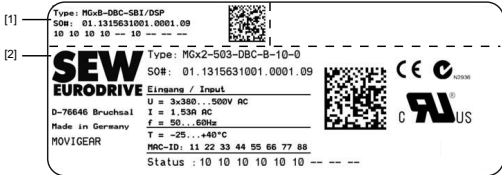
M	G	F	A	S	2	-	D	S	M	-	DBC	-	B	/	DSP	
																MOVIGEAR® option
																DSP = Electrodynamic deceleration function DynaStop®
																ECR = Extended control range
																ET = Extended torque
																IV = Plug connector
																WA = Variant for wet areas
																MOVIGEAR® version
																MOVIGEAR® installation technology
																DBC = Direct Binary Communication
																Motor type
																Size
																2 = Torque class 200 Nm
																4 = Torque class 400 Nm
																Housing mounting
																T = Drive with torque arm
																S = Housing with threads for mounting a torque arm
																Shaft design
																A = Shaft-mounted gear unit (hollow shaft with keyway)
																T = TorqLOC® hollow shaft mounting system
																Gear unit type
																F = Parallel shaft helical gear unit
																Product series
																MG = MOVIGEAR®



Electronics

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



9007201839838859

[1] Nameplate of connection unit

[2] Electronics cover nameplate

Type designation of electronics cover

The following table shows the type designation of the electronics cover:

M G x 4 - 5 0 3 - DBC - B - 10 / ET	
	Electronics cover option
	ET = Extended torque
	Design
	00 = Sand-cast design (standard)
	01 = Sand-cast design (wet areas)
	10 = Die-cast design (standard)
	11 = Die-cast design (wet areas)
	MOVIGEAR® version
	MOVIGEAR® installation technology
	DBC = <u>D</u> irect <u>B</u> inary <u>C</u> ommunication
	Connection type
	3 = 3-phase
	Supply voltage
	50 = AC 380 – 500 V
	Size
	2 = Torque class 200 Nm
	4 = Torque class 400 Nm
	Product series
	MG = MOVIGEAR®

Type designation of connection unit

The following table shows the type designation of the connection unit:

M G x B - DBC / DSP	
	Connection unit option
	DSP = Electrodynamic
	deceleration function DynaStop®
	MOVIGEAR® installation technology
	DBC = <u>D</u> irect <u>B</u> inary <u>C</u> ommunication
	MOVIGEAR® version
	Product series
	MG = MOVIGEAR®

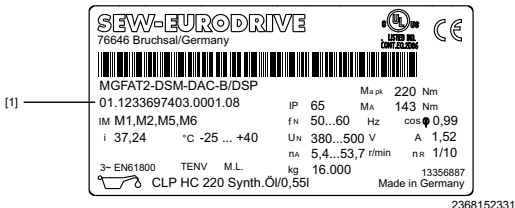


7.3 Type designation of MOVIGEAR® DAC B

Drive unit

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



[1] Unique serial number

The bar code on the nameplate (code 39) according to ISO/IEC 16388 represents the unique serial number (with period as separator).

Type designation

The following table shows the type designation of MOVIGEAR®:

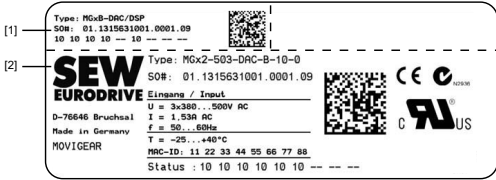
M G F A S 2 - D S M - D A C - B / D S P									
									MOVIGEAR® option
									DSP = Electrodynamic deceleration function DynaStop®
									ECR = Extended control range
									ET = Extended torque
									IV = Plug connector
									WA = Variant for wet areas
									MOVIGEAR® version
									MOVIGEAR® installation technology
									DAC = Direct AS-Interface Communication
									Motor type
									Size
									2 = Torque class 200 Nm
									4 = Torque class 400 Nm
									Housing mounting
									T = Drive with torque arm
									S = Housing with threads for mounting a torque arm
									Shaft design
									A = Shaft-mounted gear unit (hollow shaft with keyway)
									T = TorqLOC® hollow shaft mounting system
									Gear unit type
									F = Parallel shaft helical gear unit
									Product series
									MG = MOVIGEAR®



Electronics

Nameplate of electronics cover

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



9007201839836939

- [1] Nameplate of connection unit
 [2] Electronics cover nameplate

Type designation of electronics cover

The following table shows the type designation of the electronics cover:

M G x 4 - 5 0 3 - DAC - B - 10 / ET	
Electronics cover option	
ET	= Extended torque
Design	
00	= Sand-cast design (standard)
01	= Sand-cast design (wet areas)
10	= Die-cast design (standard)
11	= Die-cast design (wet areas)
MOVIGEAR® version	
MOVIGEAR® installation technology	
DAC	= Direct AS-Interface Communication
Connection type	
3	= 3-phase
Supply voltage	
50	= AC 380 – 500 V
Size	
2	= Torque class 200 Nm
4	= Torque class 400 Nm
Product series	
MG	= MOVIGEAR®

Type designation of connection unit

The following table shows the type designation of the connection unit:

M G x B - DAC / DSP	
Connection unit option	
DSP	= Electrodynamic deceleration function DynaStop®
MOVIGEAR® installation technology	
DAC	= Direct AS-Interface Communication
MOVIGEAR® version	
Product series	
MG	= MOVIGEAR®

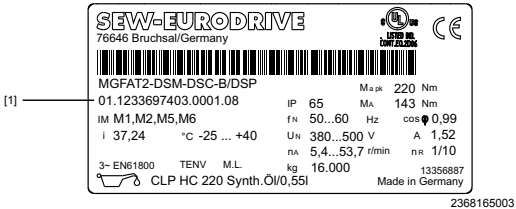


7.4 Type designation of MOVIGEAR® DSC B

Type designation of the drive unit

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



[1] Unique serial number

The bar code on the nameplate (code 39) according to ISO/IEC 16388 represents the unique serial number (with period as separator).

Type designation

The following table shows the type designation of MOVIGEAR®:

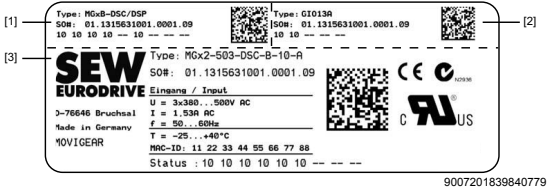
M G F A S 2 - D S M - D S C - B / D S P									
									MOVIGEAR® option
									DSP = Electrodynamic deceleration function DynaStop®
									ECR = Extended control range
									ET = Extended torque
									IV = Plug connector
									WA = Variant for wet areas
									MOVIGEAR® version
									MOVIGEAR® installation technology
									DSC = Direct SBus Communication
									Motor type
									Size
									2 = Torque class 200 Nm
									4 = Torque class 400 Nm
									Housing mounting
									T = Drive with torque arm
									S = Housing with threads for mounting a torque arm
									Shaft design
									A = Shaft-mounted gear unit (hollow shaft with keyway)
									T = TorqLOC® hollow shaft mounting system
									Gear unit type
									F = Parallel shaft helical gear unit
									Product series
									MG = MOVIGEAR®



Type designation of electronics

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



- [1] Nameplate of connection unit
[2] Nameplate of application option
[3] Electronics cover nameplate

Type designation of electronics cover

The following table shows the type designation of the electronics cover:

M G x 4 - 5 0 3 - D S C - B - 1 0 - A / E T	
	Electronics cover option
	ET = Extended torque
	Electronics cover variant
	A = With application slot
	Design
	00 = Sand-cast design (standard)
	01 = Sand-cast design (wet areas)
	10 = Die-cast design (standard)
	11 = Die-cast design (wet areas)
	MOVIGEAR® version
	MOVIGEAR® installation technology
	DSC = Direct SBus Communication
	Connection type
	3 = 3-phase
	Supply voltage
	50 = AC 380 – 500 V
	Size
	2 = Torque class 200 Nm
	4 = Torque class 400 Nm
	Product series
	MG = MOVIGEAR®

Type designation of connection unit

The following table shows the type designation of the connection unit:

M G x B - D S C / D S P	
	Connection unit option
	DSP = Electrodynamic deceleration function DynaStop®
	MOVIGEAR® installation technology
	DSC = Direct SBus Communication
	MOVIGEAR® version
	Product series
	MG = MOVIGEAR®



Type designation of application options

The following table shows the type designation for the available application options:

G IO 1 2 B		Version
		Design
	2	= 4 digital inputs + 2 digital outputs
	3	= 4 digital inputs (2 inputs can be used as primary frequency input) + 1 digital output + 1 analog input + 1 analog output
		Version
		Functionality
	IO	= Digital inputs/outputs
		Product series
G		= Option for MOVIGEAR®

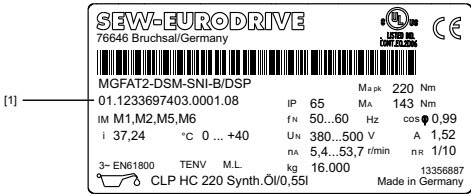


7.5 Type designation of MOVIGEAR® SNI B

Type designation of the drive unit

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



2368179339

[1] Unique serial number

The bar code on the nameplate (code 39) according to ISO/IEC 16388 represents the unique serial number (with period as separator).

Type designation

The following table shows the type designation of MOVIGEAR®:

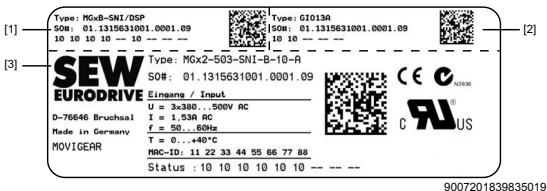
M G F A S 2 - D S M - S N I - B / D S P	
	MOVIGEAR® option
	DSP = Electrodynamic deceleration function DynaStop®
	ECR = Extended control range
	ET = Extended torque
	IV = Plug connector
	WA = Variant for wet areas
	MOVIGEAR® version
	MOVIGEAR® installation technology
	SNI = Single Line Network Installation
	Motor type
	Size
	2 = Torque class 200 Nm
	4 = Torque class 400 Nm
	Housing mounting
	T = Drive with torque arm
	S = Housing with threads for mounting a torque arm
	Shaft design
	A = Shaft-mounted gear unit (hollow shaft with keyway)
	T = TorqLOC® hollow shaft mounting system
	Gear unit type
	F = Parallel shaft helical gear unit
	Product series
	MG = MOVIGEAR®



Type designation of electronics

Nameplate

The following figure gives an example of a MOVIGEAR® nameplate. For the structure of the type designation, refer to chapter "Type designation".



- [1] Nameplate of connection unit
[2] Nameplate of application option
[3] Electronics cover nameplate

Type designation of electronics cover

The following table shows the type designation of the electronics cover:

MG x 4 - 503 - SNI - B - 10 - A / ET	
Electronics cover option	
ET	= Extended torque
Electronics cover variant	
A	= With application slot
Design	
00	= Sand-cast design (standard)
01	= Sand-cast design (wet areas)
10	= Die-cast design (standard)
11	= Die-cast design (wet areas)
MOVIGEAR® version	
MOVIGEAR® installation technology	
SNI	= Single Line Network Installation
Connection type	
3	= 3-phase
Supply voltage	
50	= AC 380 – 500 V
Size	
2	= Torque class 200 Nm
4	= Torque class 400 Nm
Product series	
MG	= MOVIGEAR®

Type designation of connection unit

The following table shows the type designation of the connection unit:

MG x B - SNI / DSP	
Connection unit option	
DSP	= Electrodynamic deceleration function DynaStop®
MOVIGEAR® installation technology	
SNI	= Single Line Network Installation
MOVIGEAR® version	
Product series	
MG	= MOVIGEAR®



Type designation of application options

The following table shows the type designation for the available application options:

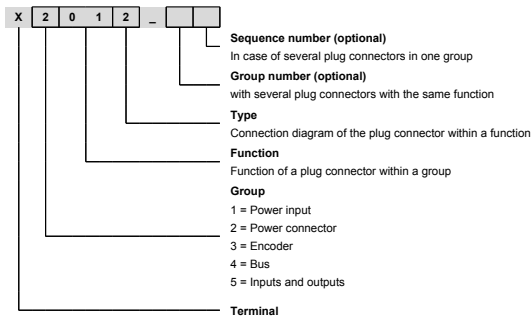
G IO 1 2 B		Version
		Design
	2	= 4 digital inputs + 2 digital outputs
	3	= 4 digital inputs (2 inputs can be used as primary frequency input) + 1 digital output + 1 analog input + 1 analog output
		Version
		Functionality
	IO	= Digital inputs/outputs
		Product series
G		= Option for MOVIGEAR®



7.6 Plug connectors

Designation key

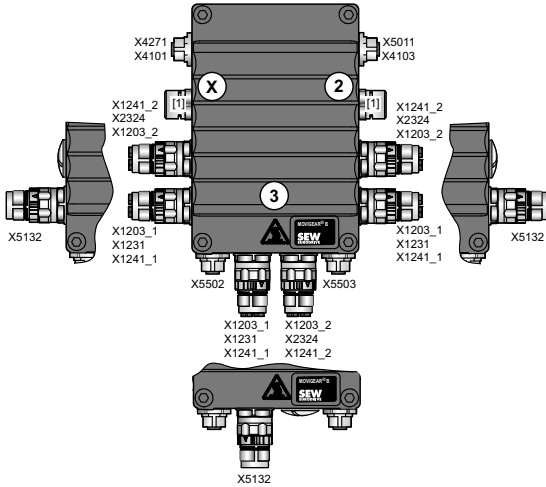
The designation of the plug connectors is specified according to the following key:





Overview

The following table shows possible plug connector positions. A difference is made between plug connectors with selectable position and plug connectors with fixed position. There are restrictions when operating the unit in wet areas.



3258261643

Plug connector	Color	Position	Location	Unit type
X5132: Digital inputs/outputs	–	As required	X, 2 or 3, Not together with X1203_1, X1203_2	DBC DAC DSC SNI
X5502: STO – IN	Orange	Fixed	3 (left)	DBC DAC DSC SNI
X5503: STO – OUT	Orange	Fixed	3 (right)	DBC DAC DSC SNI
X4271: AS-Interface Communication interface	Yellow	Fixed	X	DAC
X5011: AS-Interface sensors	Black	Fixed	2	DAC
X4104: CAN-Bus - System bus input	Violet	Fixed	X	DSC
X4103: CAN-Bus - System bus output	Violet	Fixed	2	DSC
X1203_1: AC 400 V connection ¹⁾	Black	As required	X, 2 or 3, not together with X5132	DBC DAC DSC
X1203_2: AC 400 V connection	Black	As required	X, 2 or 3, not together with X5132	DBC DAC DSC
X1231: AC 400 V input and CAN bus ¹⁾	Violet	As required	X, 2 or 3, not together with X5132	DSC
X1324: AC 400 V output and CAN bus ¹⁾	Violet	As required	X, 2 or 3, not together with X5132	DSC
X1241_1: AC 400 V connection with SNI ¹⁾	Red	As required	X, 2 or 3, not together with X5132	SNI



Plug connector	Color	Position	Location	Unit type
X1241_2: AC 400 V connection	Red	As required	X, 2 or 3, not together with X5132	SNI
[1] Pressure compensation ²⁾	–	Fixed	Depends on mounting position	DBC DAC DSC SNI

1) Plug connector X12._1 is also available separately (that is without plug connector X12._2).

2) Only in connection with the optional package for wet areas.



8 MOVIMOT®

8.1 Description

MOVIMOT® is the tried and tested, ingeniously simple combination of a gearmotor and a digital frequency inverter in the power range of 0.37 kW to 4.0 kW.



1686783499

Unit properties

MOVIMOT® has the following functional characteristics:

- Power range from 0.37 to 4 kW
- Voltage range: 3 x 380 – 500 V
- Frequency inverter with vector-oriented motor control
- Application-specific parameterization is possible
- Pluggable parameter memory for data backup
- Comprehensive protection and monitoring functions
- Low-noise thanks to 16 kHz PWM switching frequency
- Status LED for fast diagnostics
- Diagnostic interface with plug connector as a standard feature
- Diagnostics and manual operation via MOVITOOLS® Motion-Studio
- 4Q operation as standard
- 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.
- Control takes place either via binary signals, via the serial interface RS-485, or optionally via AS-Interface or all common fieldbus interfaces (PROFIBUS, PROFI-safe, INTERBUS, DeviceNet, CANopen).
- MOVIMOT® can be supplied with UL approval (UL listed) on request.

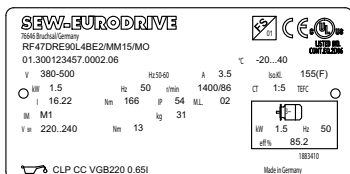


8.2 Type designation of MOVIMOT® MM..D

Drive

Nameplate

The following figure gives an example of a nameplate of a MOVIMOT® drive. The nameplate is attached to the motor.



9007199774918155

Type designation

The following table shows the type designation of the MOVIMOT® drive:

RF 47 DRE 90L 4 BE/MM15/MO	
	Additional feature: inverter ¹⁾
	MOVIMOT® inverter
	Optional design motor (brake)
	Size, number of poles on motor
	Motor series
	DRS = DRS motor
	DRE = DRE motor
	DRP = DRP motor
	Gear unit size
	Gear unit series

1) The nameplate only displays options installed at the factory.

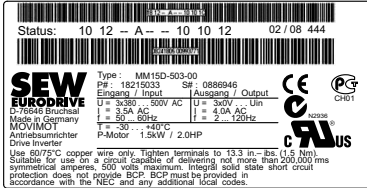
The available variants are listed in the "MOVIMOT® Gearmotors" catalog.



Inverter

Nameplate

The following figure gives an example of a nameplate of a MOVIMOT® inverter:



9007201212668299

Type designation

The following table shows the type designation of the MOVIMOT® inverter:

MM 15 D - 503 - 00	
	Variant 00 = Standard
	Connection type 3 = 3-phase
	Supply voltage 50 = AC 380 – 500 V 23 = AC 200 – 240 V
	Version D
	Motor power 15 = 1.5 kW
	Unit series MM = MOVIMOT®

The available variants are listed in the "MOVIMOT® Gearmotors" catalog.

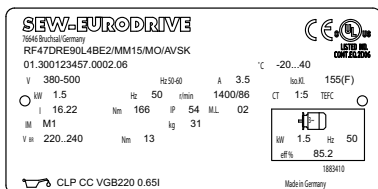


8.3 Type designation of MOVIMOT® MM..D with AS-Interface

Drive

Nameplate

The following figure gives an example of a nameplate of a MOVIMOT® drive. The nameplate is attached to the motor.

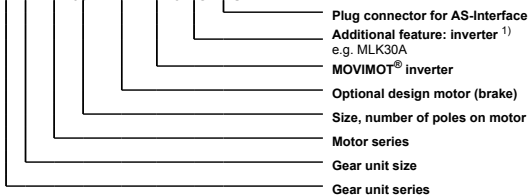


1685824651

Type designation

The following table shows the type designation of the MOVIMOT® drive:

RF 47 DRE 90L4 BE2/MM15/MO/AVSK



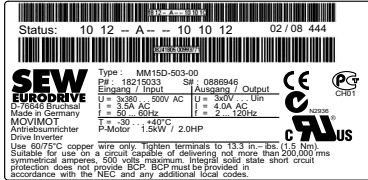
1) The nameplate only displays options installed at the factory.



Inverter

Nameplate

The following figure gives an example of a nameplate of a MOVIMOT® inverter with AS-Interface:



1957927307

Type designation




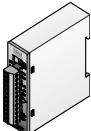
The following table shows the type designation of the MOVIMOT® inverter:

MM 15 D - 503 - 00	
	Design 00 = Standard
	Connection type 3 = 3-phase
	Supply voltage 50 = AC 380 - 500 V 23 = AC 200 - 240 V
	Version D
	Motor power 15 = 1.5 kW
	MOVIMOT® series




8.4 Options




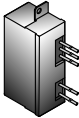

The following tables show the options for MOVIMOT® MM..D. You find more information about MOVIMOT® options in the "MOVIMOT® Gearmotors" catalog.

Option	Figure	Description
DC 24 V supply MLU11A (input voltage AC 380 – 500 V) Part number: 0 823 383 7 MLU21A (input voltage AC 200 – 240 V) Part number: 0 823 387 X		The MLU.1A option is mounted in a cable gland of 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.
Speed control module with DC 24 V supply MLG11A (input voltage AC 380 – 500 V) Part number: 0 823 384 5 MLG21A (input voltage AC 200 – 240 V) Part number: 0 823 388 8		The MLG.1A option is mounted in a cable gland of MOVIMOT® and lets you adjust the input speed in the –100% to +100% f_{max} range (potentiometer f1) and power the inverter using the DC 24 V auxiliary voltage.
MBG11A speed control module Part number: 0 822 547 8		The MBG11A speed control module has 2 keys and a display. They allow for remote speed control in the range of –100% – +100% f_{max} (potentiometer f1). Up to 31 MOVIMOT® units can be controlled at the same time (broadcasting).
MWA21A setpoint converter Part number: 0 823 006 4		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).

Options integrated in terminal box

	INFORMATION
	<ul style="list-style-type: none"> The options BEM, BES, URM, MLU13A and MNF21A are integrated in the MOVIMOT® terminal box. The MLU13A and MNF21A options can only be ordered in combination with the modular terminal box. The modular terminal box is assigned depending on the ordered option and the MOVIMOT® size.

The following table shows the options installed in the connection box:

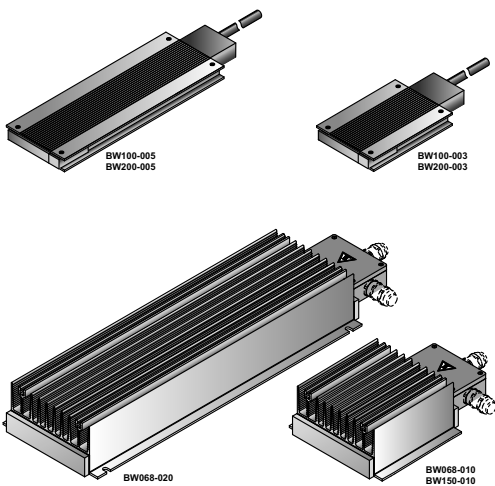
Option	Figure	Description
BEM brake control Part number: 0 829 611 1		<p>The BEM brake rectifier can be used with MOVIMOT® MM..D for controlling the brake (see also the MOVIMOT® operating instructions).</p> <p>The brake is controlled by means of parameter setting or activating additional function 7 or 9.</p> <p>The BEM brake controller implements fast release and application of the mechanical brake.</p> <p>The option is integrated in the MOVIMOT® terminal box.</p> <p>Important: The brake coil must correspond to the connection voltage.</p>
BES brake control Part number: 0 829 847 5		<p>The BES brake rectifier can be used with MOVIMOT® MM..D for controlling a non-series DC 24 V brake (see also the MOVIMOT® operating instructions).</p> <p>The brake is controlled by means of parameter setting or activating additional function 7 or 9.</p> <p>The BES brake controller implements normal release and fast application of the mechanical brake.</p> <p>The option is integrated in the MOVIMOT® terminal box.</p> <p>Important: The brake coil must be designed as DC 24 V coil.</p>
URM voltage relay Part number: 0 827 601 3		<p>The URM voltage relay implements rapid application of the mechanical brake.</p> <p>The option is integrated in the MOVIMOT® terminal box.</p> <p>Important: The brake coil must correspond to the MOVIMOT® standard (AC 120 V or 230 V).</p>
Internal DC 24 V voltage MLU13A Part number: 1 820 596 8		<p>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 as standard.</p> <p>Note that the height of the terminal box is higher for MOVIMOT® MM03 to MM15 by 18 mm.</p>
MNF21A internal line filter Part number: 0 804 265 9		<p>The MNF21A option is integrated in the terminal box of MOVIMOT® (MM03 – MM15) and allows for implementing 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.</p> <p>Note that the height of the terminal box is higher for MOVIMOT® MM03 to MM15 by 18 mm.</p>



External braking resistors

Overview

The following figure gives an overview of external braking resistors:



1490214411



9 MOVI-SWITCH®

9.1 Description

MOVI-SWITCH® is a particularly efficient solution when it comes to decentralization at power levels of up to 3 kW. The switching and protection functions integrated into the motor terminal box mean that this compact and sturdy gearmotor does not require any additional cables.



1507323147

MOVI-SWITCH® 1E – unit characteristics

MOVI-SWITCH® 1E has the following functional characteristics:

- MOVI-SWITCH® 1E is a drive with an integrated electronic on/off switch for one direction of rotation and integrated thermistor-type motor protection.
- Switching the star point with power semiconductors causes the current flow in the motor to be switched on or off.
- The BGW brake control integrated as standard results in short response times (brake voltage = motor voltage/ $\sqrt{3}$, alternatively motor voltage)



MOVI-SWITCH® 2S – unit characteristics

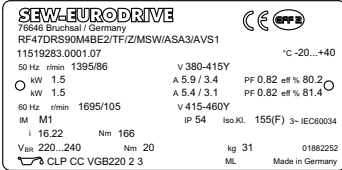
MOVI-SWITCH® 2S has the following functional characteristics:

- MOVI-SWITCH® 2S is a gearmotor with an integrated electronic on/off switch for two directions of rotation and integrated thermistor-type motor protection.
- The direction of rotation is reversed using a reversing relay combination with a long service life.
- MOVI-SWITCH® 2S is available in two designs:
 - CB0: Binary control
 - CK0: With integrated AS-Interface
- Supply system monitoring, brake control as well as switching and protection functions are implemented in the controller.
- The various operating states are indicated by the status LED.
- With the CB0 design (binary control), the connection assignment for clockwise direction of rotation (CW) is compatible to MOVI-SWITCH® 1E.
- With the CK0 design (with integrated AS-Interface), the connection assignment is compatible to MOVIMOT® with integrated AS-Interface.

9.2 MOVI-SWITCH® 1E – nameplate and type designation

Nameplate

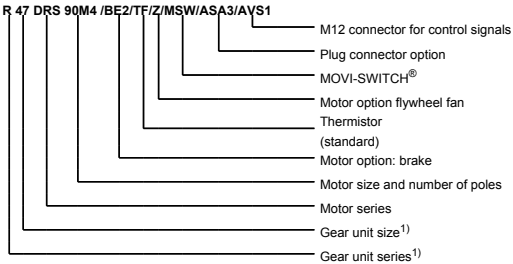
The type designation of the MOVI-SWITCH® drive starts from the component on the output end. For example, a MOVI-SWITCH® 1E helical gearmotor with brake and AVS1 and ASA3 plug connector has the following type designation:



1539177611

Type designation

The following table shows the type designation of the MOVI-SWITCH® 1E drive:






1) For detailed information about gearmotor combinations, refer to the "Gearmotors" catalog.



9.3 MOVI-SWITCH® 2S – nameplate and type designation

Nameplate

The type designation of the MOVI-SWITCH® 2S drive starts from the component on the output end. For example, a MOVI-SWITCH® 2S helical gearmotor with brake and ASA3 plug connector has the following type designation:

SEW-EURODRIVE			 	
76646 Bruchsal / Germany				
RF47DRS90M4BE2/TF/Z/MSW/CB0/ASA3				
11519283.0001.07			°C -20...+40	
50 Hz	n/min	1395/86	V 380-415Y	
○ kW	1.5		A 5.9 / 3.4	PF 0.82 e _{eff} % 80.2
○ kW	1.5		A 5.4 / 3.1	PF 0.82 e _{eff} % 81.4
60 Hz	n/min	1695/105	V 415-460Y	
IM	M1		IP 54	Iso.Kl. 155(F) 3~ IEC60034
i	16.22	Nm	166	
V _{BR}	220...240	Nm	20	
 CLP	CC VGB220 2 3		kg	31
			ML	01882252
Made in Germany				

1539179531

Type designation

The following table shows the type designation of the MOVI-SWITCH® 2S drive:





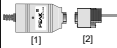
R 47 DRS 90M4 / BE2/TF/Z/MSW/CB0/ASA3	
	Plug connector option
	Design: 0 = Standard
	Signal type:
	B = Binary
	K = AS-Interface
	Control
	MOVI-SWITCH®
	Motor option flywheel fan
	Thermistor
	(standard)
	Motor option: brake
	Motor size and number of poles
	Motor series
	Gear unit size
	Gear unit series



10 Shared Options and Accessories

10.1 Options for diagnostics, startup and manual operation


Overview

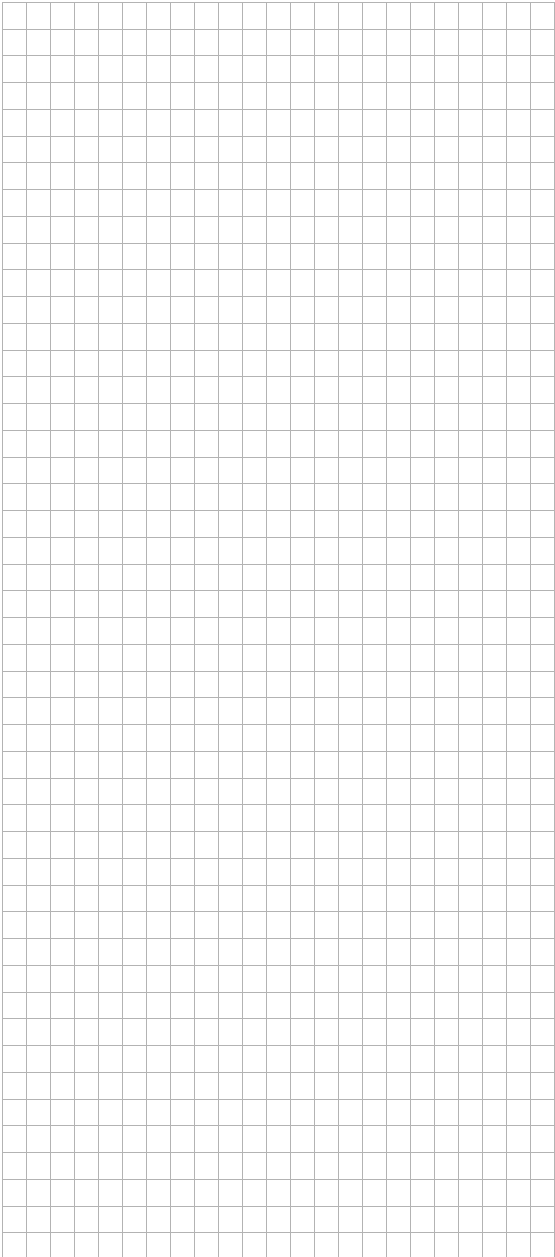
Option	Description	Type	Part number	Compatible with
Keypad	The MFG11A keypad is plugged onto an MFZ... connection module (not included in the delivery) instead of a fieldbus interface and allows for manual operation of the MOVIMOT® drive.	MFG11A 	823 559 7	<ul style="list-style-type: none"> Field distributor MFZ... connection module <p>(not included in scope of delivery)</p>
Keypad	<p>Features:</p> <ul style="list-style-type: none"> Illuminated text display, range of languages Keypad with 21 keys Can be connected via extension cable DKG60B (5 m) Enclosure IP40 (EN 60529) <p>Functions (examples):</p> <ul style="list-style-type: none"> Visualization of process values and status displays Representation of process output and input data Indicates error status and error reset Manual control and operation Status displays of binary inputs/outputs Parameters can be displayed and set Data backup and transfer of parameter sets 	<p>DBG60B-01 (DE/EN/FR/IT/ES/PT/NL)</p> <p>DBG60B-02 (DE/EN/FR/FI/SV/DA/TR)</p> <p>DBG60B-03 (DE/EN/FR/RU/PL/CS)</p> <p>DBG60B-04 (DE/EN/FR/ZH)</p>  from firmware version .14	<p>1 820 403 1</p> <p>1 820 405 8</p> <p>1 820 406 6</p> <p>1 820 850 9</p>	<ul style="list-style-type: none"> MOVIMOT® MOVIFIT® Fieldbus interfaces MF.../MQ...
Extension cable	<ul style="list-style-type: none"> Extension cable for DBG60B (length 5 m) 	DKG60B	0 817 583 7	<ul style="list-style-type: none"> DBG60B
Interface adapter RS-232 to RS-485	<p>The UWS21B option converts RS232 signals, for example from the PC, into RS485 signals. These RS485 signals can then be transmitted to the diagnostic interface of MOVIFIT®, MOVIMOT® with integrated AS-Interface or MF.../MQ... fieldbus interfaces.</p> <p>Scope of delivery:</p> <ul style="list-style-type: none"> UWS21B Serial interface cable with 9-pin D-sub socket and 9-pin D-sub connector to connect the UWS21B option to the PC. Serial interface cable with 2 RJ10 plugs for connection of MOVIFIT®, MOVIMOT® or MF.../MQ... fieldbus interfaces CD-ROM with MOVITOOLS® MotionStudio 	UWS21B 	1 820 456 2	<ul style="list-style-type: none"> MOVIMOT® MOVIFIT® Fieldbus interfaces MF.../MQ...
Interface adapter USB1.1/USB2.0 to RS-485	<p>Option USB11A enables a PC or laptop with a USB interface to be connected to MOVIFIT®, MOVIMOT® or MF.../MQ... fieldbus interfaces.</p> <p>The USB11A interface adapter supports USB 1.1 and USB 2.0.</p> <p>Scope of delivery:</p> <ul style="list-style-type: none"> USB11A interface adapter USB connection cable to connect USB11A - PC Serial interface cable with 2 RJ10 plugs for connecting MOVIFIT®, MOVIMOT® or MF.../MQ... fieldbus interfaces to USB11A CD-ROM with drivers and MOVITOOLS® MotionStudio 	USB11A 	0 824 831 1	<ul style="list-style-type: none"> MOVIMOT® MOVIFIT® Fieldbus interfaces MF.../MQ...
PC-CAN interface from SEW	<p>Using the PC-CAN interface of SEW, you can connect a PC or laptop with USB interface to MOVIGEAR® DBC B or MOVIGEAR® DAC B.</p> <p>The prefabricated cable included in the scope of delivery cannot be used for MOVIGEAR®.</p>	<p>[1] PEAK-CAN dongle</p> <p>[2] Adapter cable</p> 	<p>[1] 1 821 059 7</p> <p>[2] 1 812 386 4</p>	<ul style="list-style-type: none"> MOVIGEAR® DBC-B MOVIGEAR® DAC-B
Adapter cable	Adapter cable for connecting the PC-CAN interface with MOVIGEAR®.			

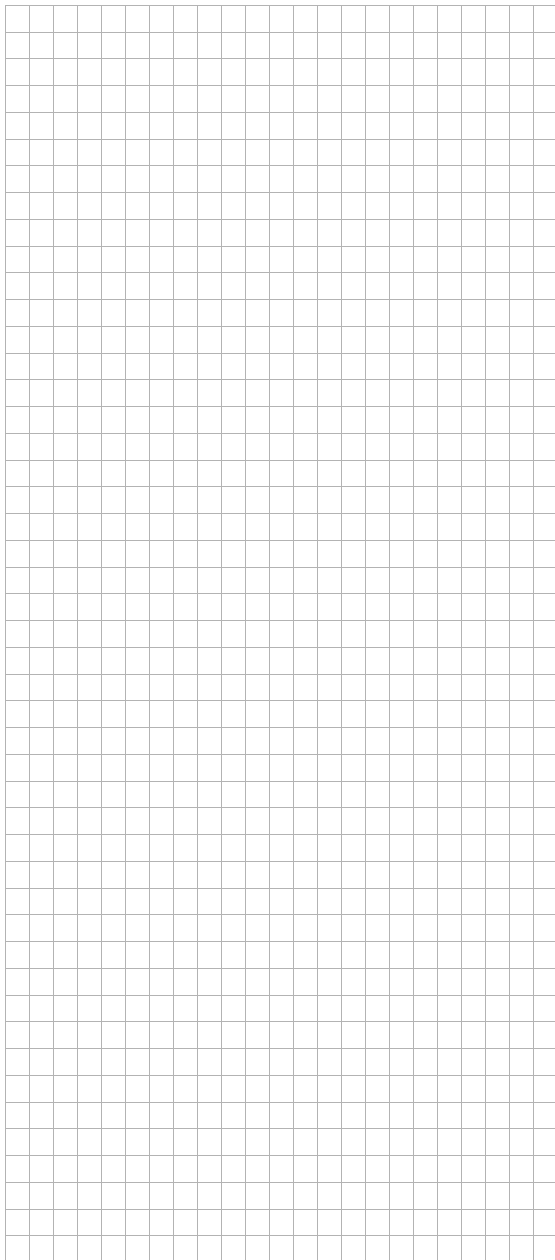


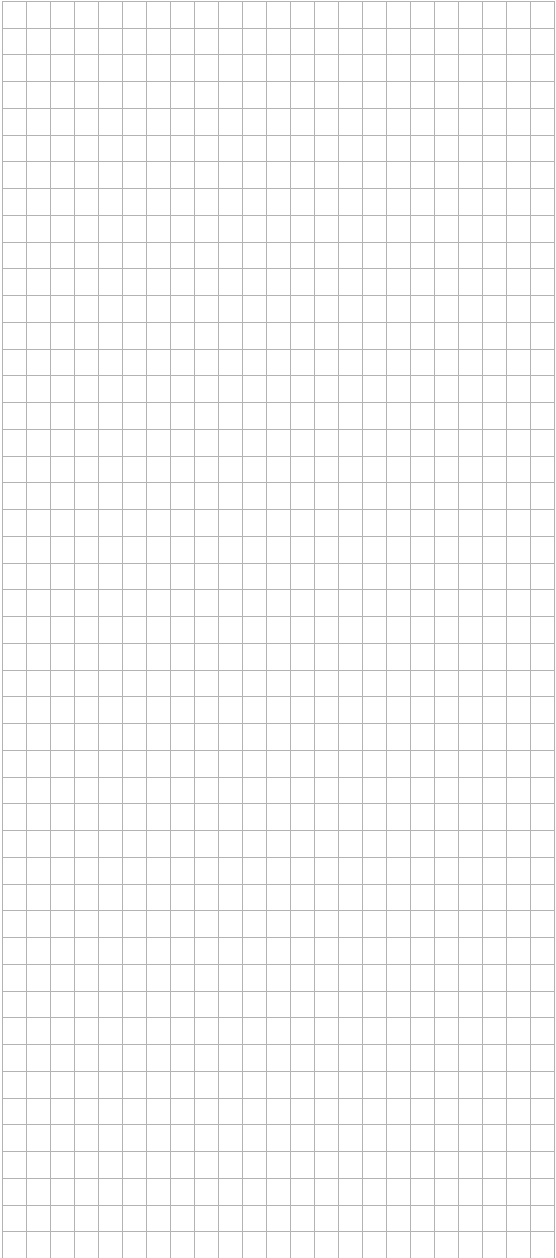
10.2 Accessories

The following table shows the accessories for decentralized components:

Accessories	Description	Type	Part number	Compatible with
Jumper plug	The jumper plug can be connected to the respective sockets of the units at startup. The jumper plug deactivates the safety functions of the unit.		1 174 709 9	<ul style="list-style-type: none"> • MOVIPRO® • MOVIGEAR® B







1700 7216 / 0311

DRIVE ACADEMY®

P.O. Box 3023 · 76642 Bruchsal/Germany

Phone +49 7251 75-0 · Fax +49 7251 75-1970

→ www.driveacademy.sew-eurodrive.de

