

10 Mounting MOVI-SWITCH® 2S close to the motor

10.1 Description

The following figure shows the MOVI-SWITCH® design for mounting close to the motor:

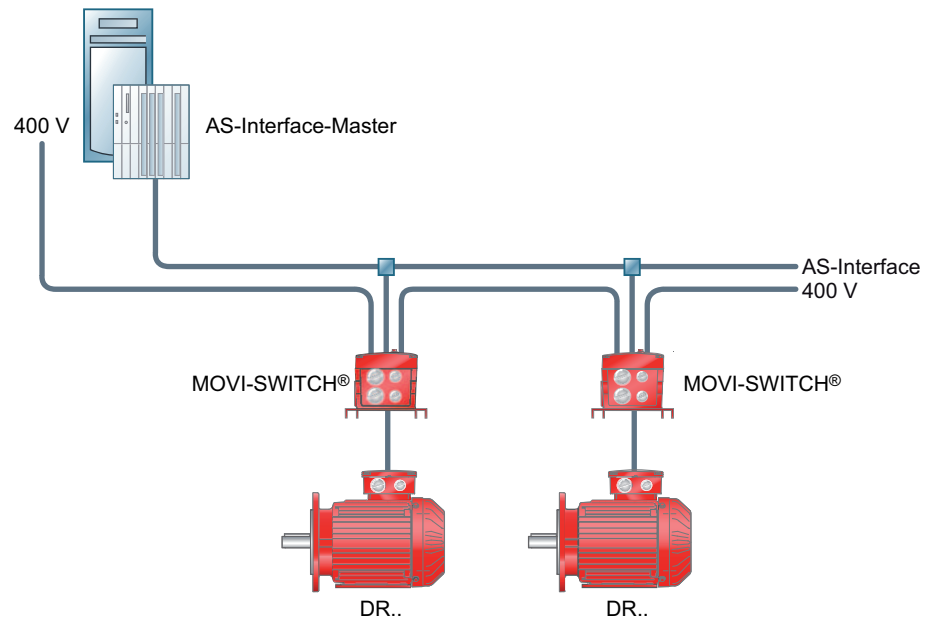


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- The P22A option allows for mounting the MOVI-SWITCH® close to the motor.
- The inverter is connected to the motor using a pre-fabricated "hybrid cable" (→ 336).
- **With brakemotors, the brake voltage must correspond to the voltage of the phase voltage (e.g. 400 V line voltage = 400 V brake coil).**
- MOVI-SWITCH® with P22A option is supplied in IP65 degree of protection.

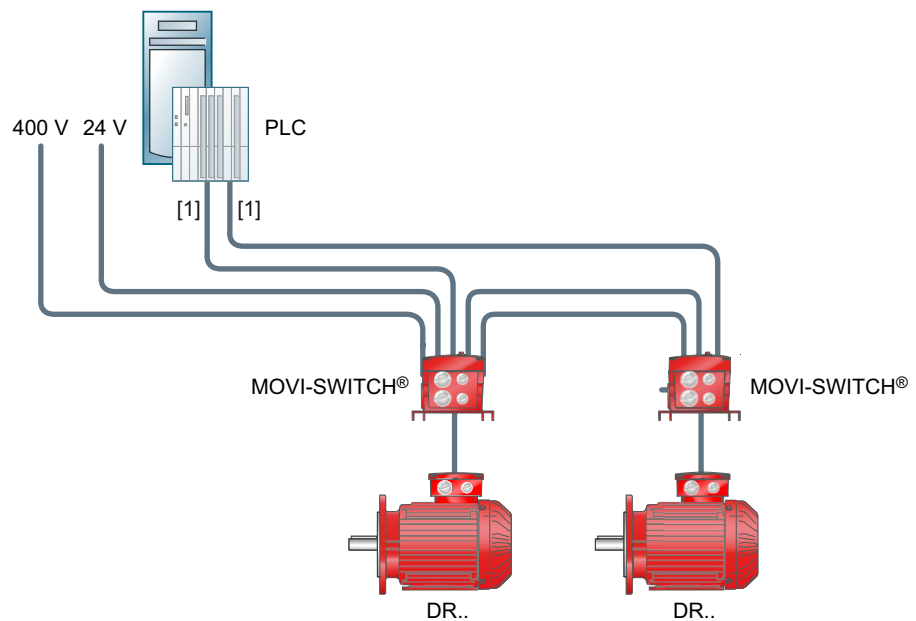
10.2 Installation topology of MOVI-SWITCH®, mounted close to the motor

The following figure shows the basic installation topology of the MOVI-SWITCH® drive with AS-Interface when mounted close to the motor (DC 24 V supply via AS-Interface):



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The following figure shows the basic installation topology of the MOVI-SWITCH® drive when mounted close to the motor:

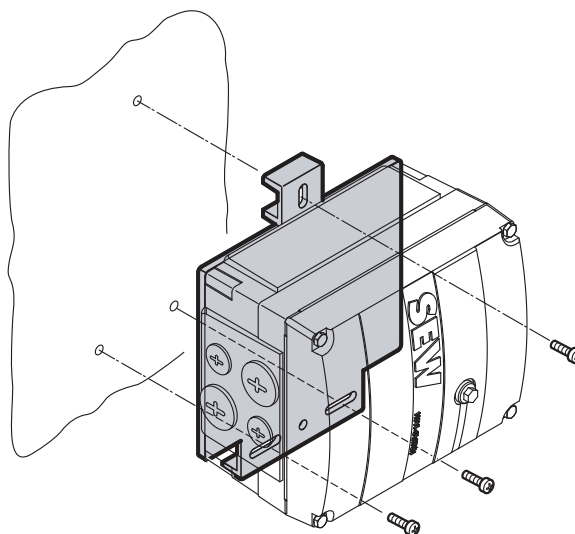


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[1] Control: Binary

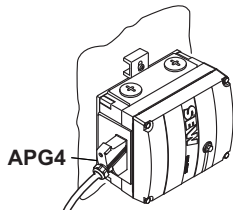
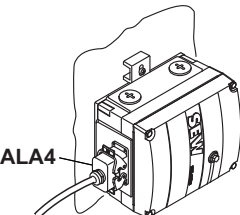
10.3 Available designs

The following figure shows option P22A for mounting the MOVI-SWITCH® 2S close to the motor:



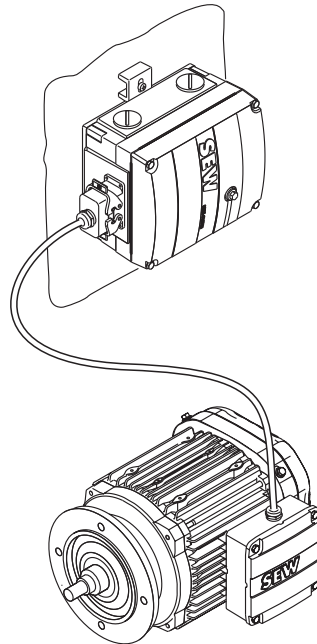
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The following designs are available. They can be combined with all the motors listed in chapter "Motor assignment" (→ 334).

Connection to motor	MOVI-SWITCH® binary control	MOVI-SWITCH® with integrated AS-Interface
APG4 	MSW-2S-07A/CB0/ P22A/RI2A/APG4	MSW-2S-07A/CK0/ P22A/RI2A/APG4
ALA4 	MSW-2S-07A/CB0/ P22A/RI2A/ALA4	MSW-2S-07A/CK0/ P22A/RI2A/ALA4

10.4 Type designation of MOVI-SWITCH® 2S, mounting close to the motor

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



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10.4.1 Type designation

The following table shows the type designation of the MOVI-SWITCH® motor starter **MSW-2S-07A/CB0/P22A/RI2A/ALA4** when mounted close to the motor:

MSW-2S-07A	MOVI-SWITCH® motor starter	
/		
C	Control	
B	Signal type	B = Binary control K = Control via AS-Interface
0	Design	0 = Standard
/		
P22A	Adapter for mounting close to the motor	
/		
RI2A	Connection box design	
/		
ALA4	Plug connector for connection to the motor	

10.5 Motor assignment

10.5.1 Motor requirements

The following table lists the basic requirements and restrictions for assigned motors. Observe these specifications when ordering the drives assigned to MOVI-SWITCH® drive (design for mounting close to the motor):

Characteristics	Requirements for the assigned AC motor
Permitted motors	Only motors listed in the chapters "DRE../DRN...: 1500 min-1 ..." (→ 335) and "DRS...: 1500 min-1 ..." (→ 335) are permitted.
Permitted nominal motor voltage	AC 380 to 500 V
Permitted brakes	No restrictions
Permitted brake voltage	With brakemotors, the brake voltage must correspond to the voltage of the phase voltage. (e.g. 400 V line voltage = 400 V brake coil).
Brake rectifier	Always order the assigned motor without brake rectifier .
Permitted plug connectors	MSW-2S../C.0/P22A/RI2A/APG4: • ASB4 plug connector • APG4 plug connector • ISU4 plug connector MSW-2S../C.0/P22A/RI2A/ALA4: • ASB4 plug connector See chapter "Hybrid cables" (→ 336) for additional information.
Permitted motor protection	Always order the assigned motor with TF temperature sensor (PTC thermistor or PTC resistor).

10.5.2 DRE../DRN.: 1500 min⁻¹ – S1 (50 Hz) IE2/IE3

Motor type DRE../DRN..	P _N [kW]	M _N [Nm]	n _N [min ⁻¹]	I _N 400 V [A]	I _N 380 – 420 V [A]	cos φ	η _{75%} η _{100%} [%] ¹⁾	I _A /I _N	M _A /M _N M _H /M _N	m [kg] ²⁾	J _{Mot} [10 ⁻⁴ kgm ²]
DRE80S4	0.37	2.45	1435	0.87	–	0.77	78.5 78.8	4.9	2.6 2.1	11.5	14.9
DRE80M4	0.55	3.63	1445	1.27	–	0.76	82.0 82.3	6.7	3.1 2.2	14.3	21.5
DRE80M4	0.75	5.0	1435	1.68	1.75	0.79	81.3	6.2	2.8	14.3	21.5
DRN80M4							81.0		2.1		
DRE90M4	1.1	7.4	1420	2.45	2.55	0.79	83.5	5.9	2.8	18.4	35.5
DRN90S4							82.4		2.3		
DRE90L4	1.5	10	1430	3.35	3.45	0.77	84.7	6.6	3.2	21.4	43.5
DRN90L4							84.0		2.8		
DRE100M4	2.2	14.7	1425	4.6	4.7	0.80	86.7	6.4	3.3	26.0	56
DRN100LS4							85.4		2.7		
DRE100LC4	3	19.7	1455	6.2	6.3	0.81	87.1	7.5	2.7	31.2	90
DRN100L4							86.3		2.4		
DRE112M4	3	19.7	1455	6	6.2	0.83	87.4 86.5	7.3	2.4 2.0	41.3	146

1) Efficiency levels according to IEC 60034-2-1 Ed.1 (2007) / PLL from Residual Losses

2) Applies for foot-mounted motors without brake

10.5.3 DRS.: 1500 min⁻¹ – S1 (50 Hz) IE1

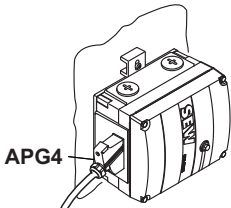
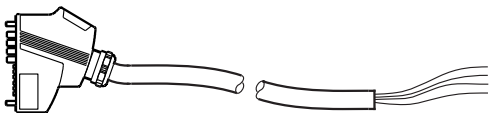
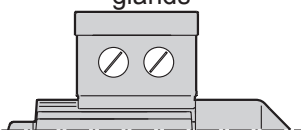
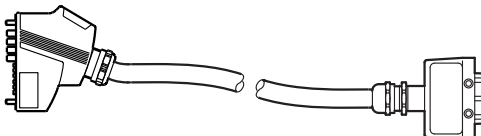
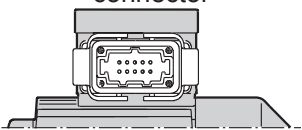
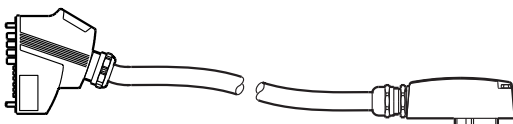
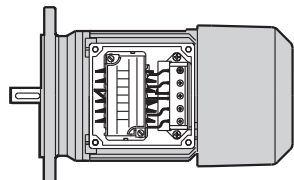
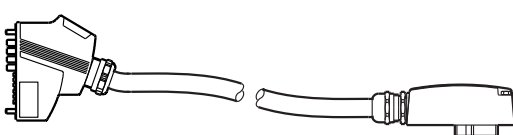
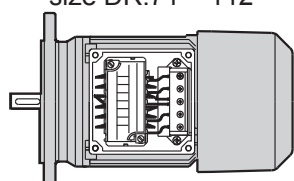
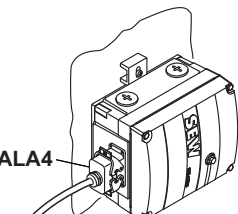
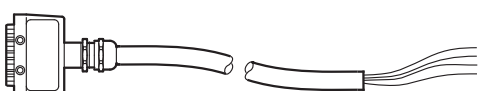
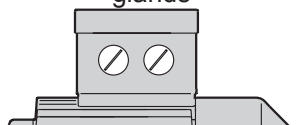
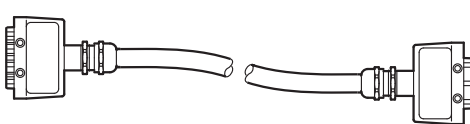
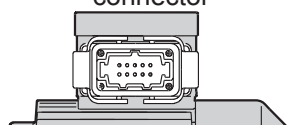
Motor type DRS	P _N [kW]	M _N [Nm]	n _N [min ⁻¹]	I _N 400 V [A]	I _N 380 – 420 V [A]	cos φ	η _{75%} η _{100%} [%] ¹⁾	I _A /I _N	M _A /M _N M _H /M _N	m [kg] ²⁾	J _{Mot} [10 ⁻⁴ kgm ²]
DRS71S4	0.37	2.55	1380	1.14	1.24	0.70	65.3 66.6	3.5	1.8 1.8	7.8	4.9
DRS71M4	0.55	3.8	1380	1.55	1.62	0.72	71.9 70.6	3.6	2.1 2.1	9.1	7.1

1) Efficiency levels according to IEC 60034-2-1 Ed.1 (2007) / PLL from Residual Losses

2) Applies for foot-mounted motors without brake

10.6 Hybrid cables

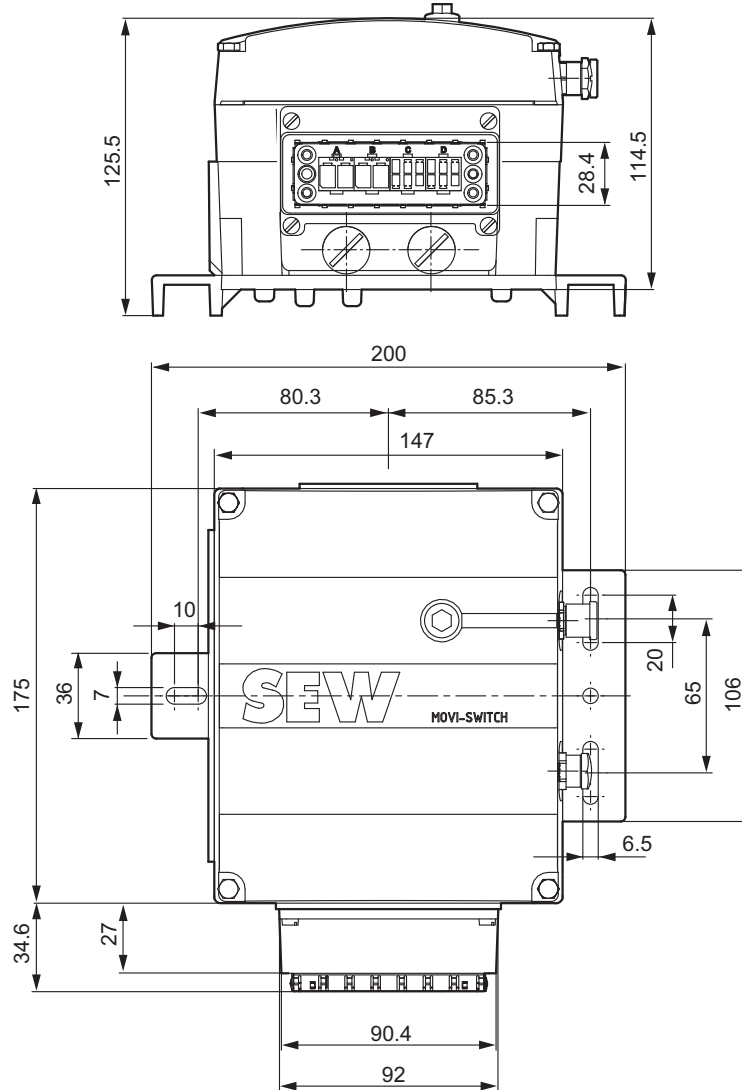
10.6.1 Connection between MOVI-SWITCH® and motor when mounted close to the motor

MOVI-SWITCH®	Hybrid cables	Drive
MSW-2S../C.0/ P22A/RI2A/APG4 	Part number 08178879 	AC motors with cable glands 
	Part number: 08178895 	AC motors with ASB4 plug connector 
	Part number: 0 5932785 (人) 	AC motors with ISU4 plug connectors size DR63 
	Part number: 05937558 (人) 	AC motors with ISU4 plug connectors size DR.71 – 112 
MSW-2S../C.0/ P22A/RI2A/ALA4 	Part number 08178860 	AC motors with cable glands 
	Part number: 08178887 	AC motors with ASB4 plug connector 

10.7 Dimension drawings

10.7.1 Dimension drawing of MOVI-SWITCH® 2S with option P22A (APG4 plug connector)

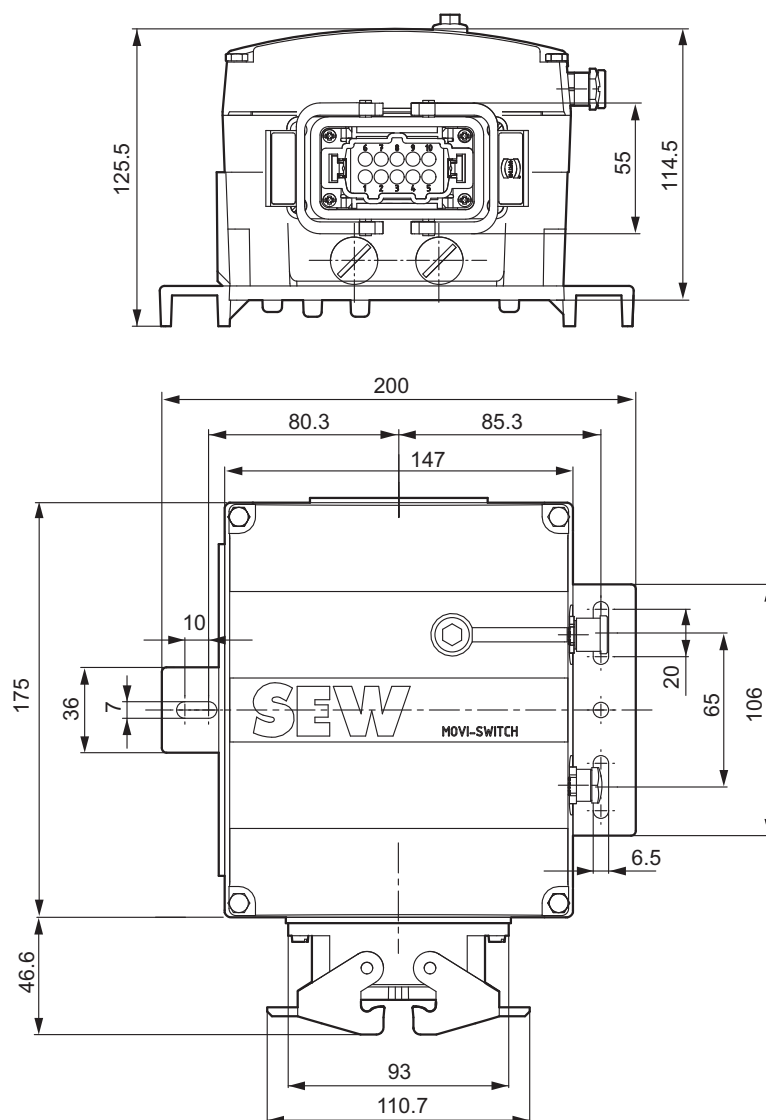
The following figure shows the dimensions of MOVI-SWITCH® 2S with option P22A (APG4 plug connector):



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10.7.2 Dimension drawing of MOVI-SWITCH® 2S with option P22A (ALA4 plug connector)

The following figure shows the dimensions of MOVI-SWITCH® 2S with option P22A (ALA4 plug connector):



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