

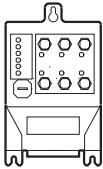
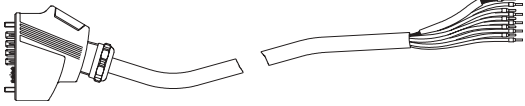
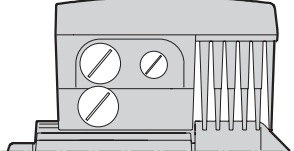
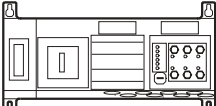

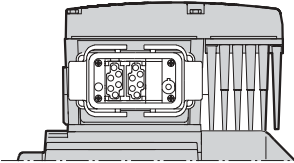
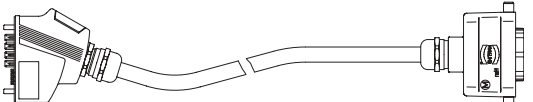
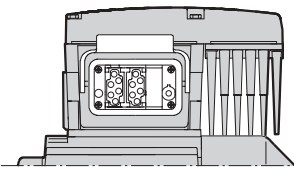
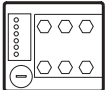
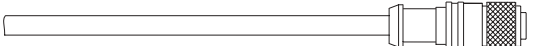
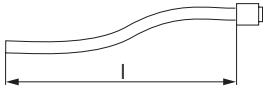
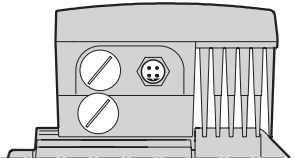
7 Hybrid Cables

7.1 Functional description

SEW-EURODRIVE hybrid cables...

- connect field distributors with AC motors
- connect MOVIMOT® or MOVI-SWITCH® 2S units mounted in close proximity to the motor with drives (in combination with option P2.A)
- combine power transmission, control voltage and communication within one cable sheath
- ensure optimum EMC shielding and cable impedances
- are supplied as pre-fabricated cables with plug connectors.

7.2 Connection between field distributor/fieldbus interface and MOVIMOT®

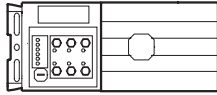
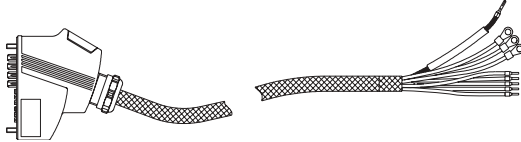
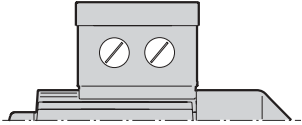
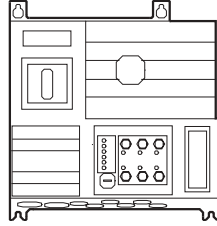
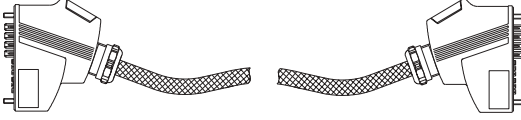
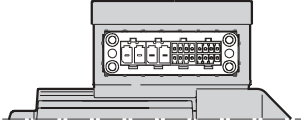
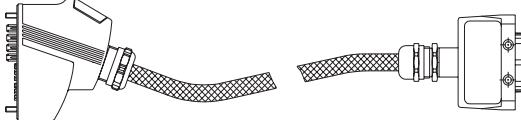
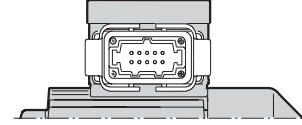
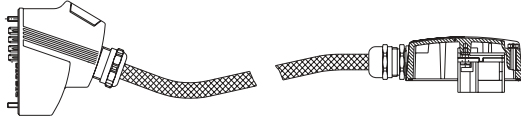
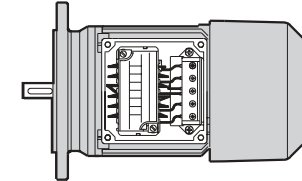
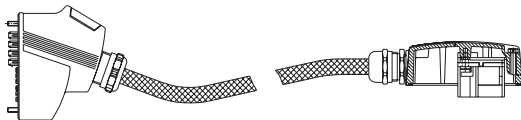
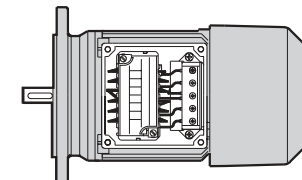
Field distributor Fieldbus interface	Hybrid cable	Cable type	Drive
Z.3 Z.6 	Part number: 0186 725 3 	B	MOVIMOT® with cable glands 
	Part number: 0593 516 4 	B	MOVIMOT® with AMA6 plug connector 
	Part number: 0817 112 2 	B	MOVIMOT® with AMD6 plug connector 
Z.1 or RS-485- master 	 Available cable lengths:  l = 5 m : Part number 0 815 592 5 l = 10 m: Part number 0 815 593 3	–	MOVIMOT® with AVT1 plug connector 

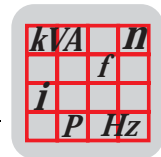


Hybrid Cables

Connection between field distributor and motor

7.3 Connection between field distributor and motor

Field distributor	Hybrid cable	Cable type	Drive
Z.8 Z.7 	Part number 0186 742 3 	A	AC motors with cable gland 
	Part number 0186 741 5 	A	AC motors with APG4 plug connector 
	Part number: 0593 076 6 	A	AC motors with ASB4 plug connector 
	Part number: 0593 278 5 (△) Part number: 0816 325 1 (△) 	A	AC motors with IS plug connector, sizes DT71–DT90 
	Part number: 0593 755 8 (△) Part number: 0816 326 X (△) 	A	AC motors with IS plug connector, size DV100 



7.4 Connection between MOVIMOT® and motor (when mounted in close proximity to the motor)

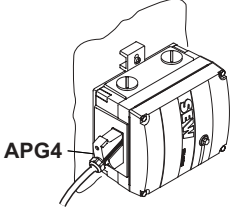
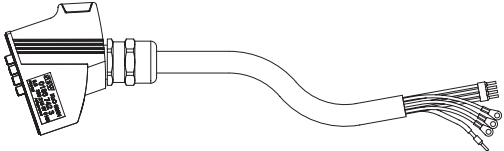
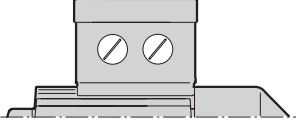

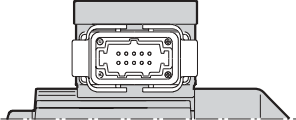

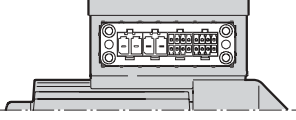
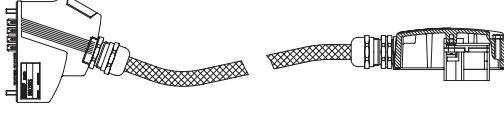
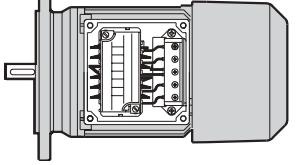
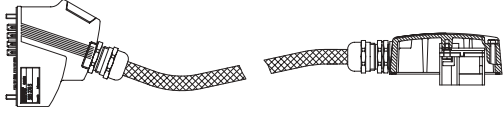
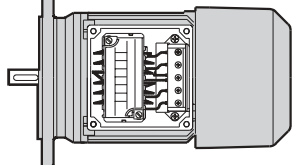
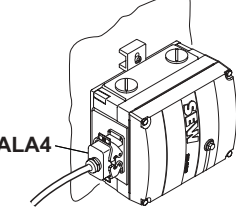
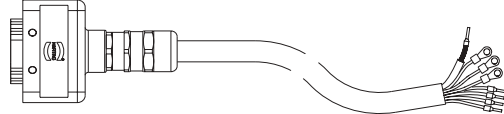
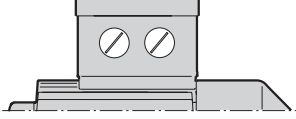

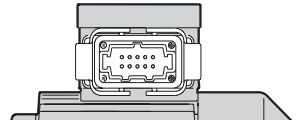
MOVIMOT® inverter	Hybrid cable	Cable type	Drive
<p>MM../P2.A/RO.A/PG4</p> <p>APG4</p>	<p>Part number: 0186 742 3</p>	A	<p>AC motors with cable gland</p>
	<p>Part number: 0 593 076 6</p>	A	<p>AC motors with ASB4 plug connector</p>
	<p>Part number: 0186 741 5</p>	A	<p>AC motors with APG4 plug connector</p>
	<p>Part number: 0593 278 5 (△) Part number: 0816 325 1 (△)</p>	A	<p>AC motors with IS plug connector, sizes DT71–DT90</p>
	<p>Part number: 0593 755 8 (△) Part number: 0816 326 X (△)</p>	A	<p>AC motors with IS plug connector, size DV100</p>
<p>MM../P2.A/RE.A/ALA4</p> <p>ALA4</p>	<p>Part number: 0817 948 4</p>	A	<p>AC motors with cable gland</p>
	<p>Part number: 0816 208 5</p>	A	<p>AC motors with ASB4 plug connector</p>



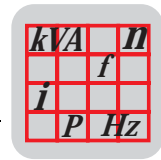
Hybrid Cables

Connection between MOVI-SWITCH® 2S and motor (when mounted in

7.5 Connection between MOVI-SWITCH® 2S and motor (when mounted in close proximity to the motor)

MOVI-SWITCH®	Hybrid cable	Cable type	Drive
MSW-2S../C.0/P22A/RI2A/APG4 MSW-2S../C.0/CC15/P22A/RI2A/APG4 ¹⁾ 	Part number: 0817 887 9 	C	AC motors with cable gland 
	Part number: 0817 889 5 	C	AC motors with ASB4 plug connector 
	Part number: 0186 741 5 	A	AC motors with APG4 plug connector 
	Part number: 0593 278 5 (人) 	A	AC motors with IS plug connector, sizes DT71–DT90 
	Part number: 0593 755 8 (人) 	A	AC motors with IS plug connector, size DV100 
MSW-2S../C.0/P22A/RI2A/ALA4 MSW-2S../C.0/CC15/P22A/RI2A/ALA4 ¹⁾ 	Part number: 0817 886 0 	C	AC motors with cable gland 
	Part number: 0817 888 7 	C	AC motors with ASB4 plug connector 

1) with line protection



7.6 Cable/pin assignment

Cable assignment part number 0186 725 3:

Core color / designation	MOVIMOT® terminal
Black / L1	L1
Black / L2	L2
Black / L3	L3
Red / 24 V	24 V
White / 0 V, white / 0 V	⊥
Orange / RS+	RS+
Green / RS-	RS-
Green-yellow + shield end	PE terminal

Cable assignment part numbers 0186 742 3, 0817 948 4:

Core color / designation	Motor terminal
Black / U1	U1
Black / V1	V1
Black / W1	W1
Red / 13	13
White / 14	14
Blue / 15	15
Black / 1	TH
Black / 2	TH
Green/yellow + shield end (internal shield)	PE terminal

Cable assignment part numbers 0817 887 9 and 0817 886 0:

Core color / designation	Motor terminal
Black / 1	U1
Black / 2	V1
Black / 3	W1
Black / 4	14
Black / 5	13
Black / 6	15
Black / 1 (shielded)	TH
Black / 2 (shielded)	TH
Green/yellow + shield end (internal shield)	PE terminal

PIN assignment part numbers 0815 592 5 and 0815 593 3:

PIN	Color coding	Assignment
1	Brown	+24 V
2	Yellow	RS-
3	White	GND
4	Green	RS+
Shield on coupling ring		

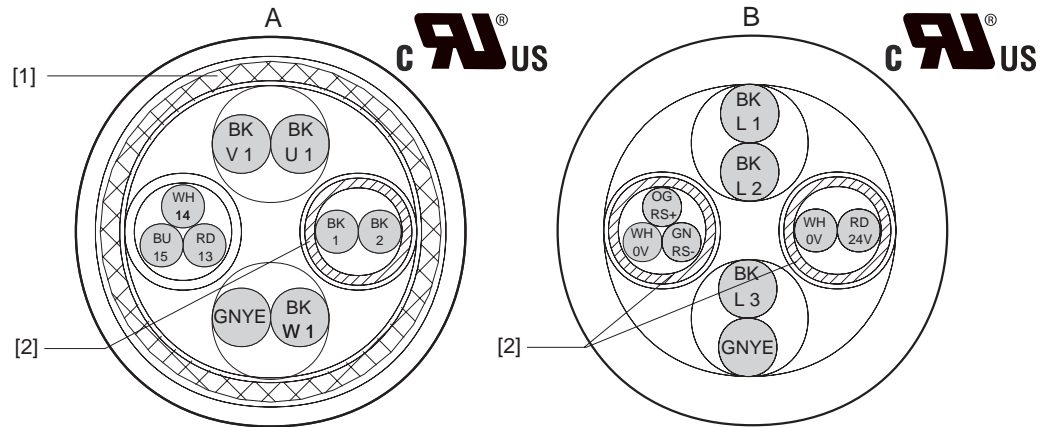


Hybrid Cables

Technical data of cable types A and B

7.7 Technical data of cable types A and B

Mechanical structure



52765AXX

A Connection between Z.7 or Z.8 field distributors and AC motors
Connection between MOVIMOT[®] or MOVI-SWITCH[®] 2S and drives (when mounted in close proximity to the motor with option P2.A)

B Connection between Z.3 or Z.6 field distributor and MOVIMOT[®]

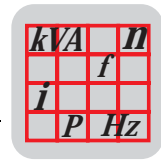
[1] Overall shield

[2] Shield

- Supply cores: 4 x 1.5 mm²
- Control core pair: 2 x 0.75 mm²
- Control core group: 3 x 0.75 mm²
 - Insulation: TPE-E (polyester)
 - Conductor: Bare E-Cu strand, extra fine wires with individual wire ≤ 0.1 mm
 - Shield: Tinned E-Cu wire.
- Overall diameter: ≤ 13.8 mm

Electrical properties

- Conductor resistance for 1.5 mm² (20 °C): max. 13 Ω/km
- Conductor resistance for 0.75 mm² (20 °C): max. 26 Ω/km
- Operating voltage for 1.5 mm² core: max. 750 V
- Operating voltage for 0.75 mm² core: max. 350 V
- Insulation resistance at 20 °C: min. 20 MΩ x km



Mechanical properties

- Suitable for cable tracks
 - Bending cycles > 2.5 million
 - Traveling velocity ≤ 3 m/s
- Bending radius in the cable track: 10 x diameter
with fixed routing: 5 x diameter

Thermal properties

- Processing and operation: -30 °C to +90 °C
- Transport and storage: -40 °C to +90 °C

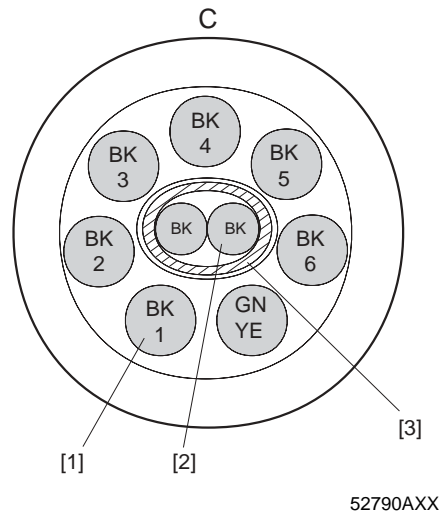
Chemical properties

- Oil-resistant according to VDE 0472 part 803 method B
- General fuel resistance (such as diesel, gasoline) according to ISO 6722 parts 1 and 2
- General resistance against acids, alkalis, cleaning agents
- General resistance against dusts (such as bauxite, magnesite)
- Insulation and cable jacket material is halogen free according to VDE 0472 part 815 as well as silicone free.



7.8 Technical data of cable type C

Mechanical structure



52790AXX

C Connection between MOVI-SWITCH® 2S and drives (when mounted in close proximity to the motor with option P2.A)

- [1] 2.5 mm cores²
- [2] 0.75 mm cores²
- [3] Shield

- Supply cores: 7 x 2.5 mm²
- Control cores: 2 x 0.75 mm²
- Insulation: PVC / special PVC
- Conductor: Fine wires to VDE class 5, copper strand conductor
- Shield: Braided tinned copper shield
- Overall diameter: 15.2 mm

Electrical properties

- Conductor resistance for 2.5 mm²: 8,5 Ω/km
- Conductor resistance for 0.75 mm²: 26 Ω/km
- Operating voltage for 2.5mm² cores: 600 V/1000 V
- Operating voltage for 0.75mm² cores: AC 48 V
- Insulation resistance: 20 MΩ x km

Mechanical properties

- Bending radius in the cable track: 20 x diameter
- with fixed routing: 6 x diameter

Thermal properties

- Processing and operation:
 - Flexible routing: - 5 °C to +70 °C
 - Fixed routing: -30 °C to +80 °C
- Transport and storage: -30 °C to +80 °C