

Multipole connector SEM

Powerline | Industrial Connectors



SEM Connectors

The SEM connector is used to connect direct-current circuits as well as for 3-phase cable connections. The variable pole number (2-pole, expandable to 3-pole) can adjust to the individual requirements of the application. The connector can also be fitted with 4 pilot contacts for signal transfer.

A locking device secures the connector against accidental disconnection in the event of vibrations.

Coding pins enable individual coding of the connector to prevent incorrect connection if multiple systems are operated in parallel. 6 different codings are possible.

The flat elastomer casing contributes to the compact design of the system. The casing material reliably absorbs vibrations and impacts. With increased resistance to mineral oils, gasoline, and the conventional lubricants and detergents used by the automotive industry, as well as its self-extinguishing properties, the connector is an excellent option for use in tough conditions and in the transport industry. The IP2X contact protection, when unmated, considerably improves user safety.

The SEM connector is used in electric vehicles, trains and underground trains for connections between batteries, inverters, and

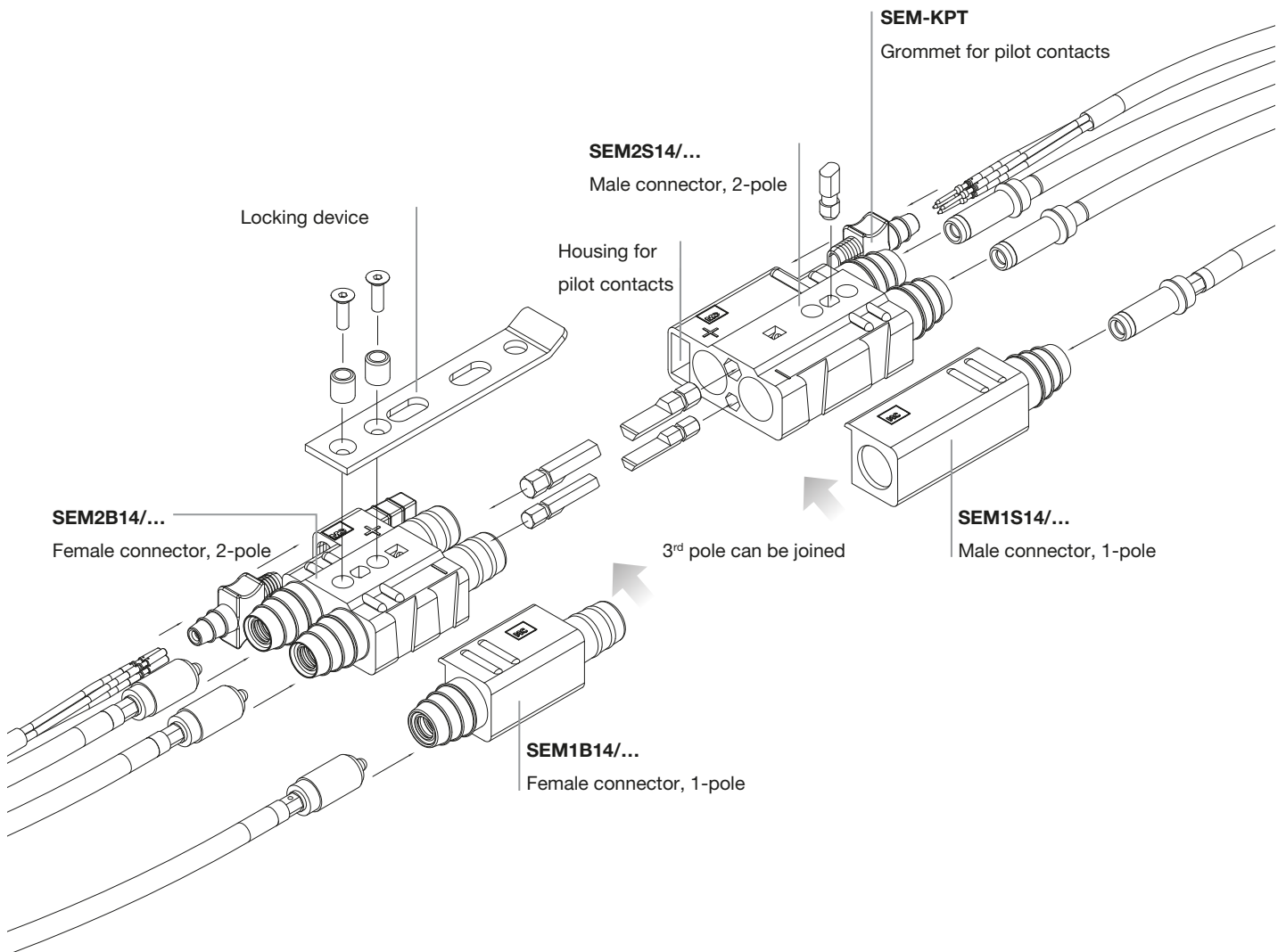
motors. Other potential applications include infrastructure applications, for example maintenance work at airports (connection of mobile batteries, lifting equipment), or logistics applications such as connecting a battery for a forklift truck.

Technical data	
Rated current:	
Power contacts	330 A
Pilot contacts	16 A
Rated voltage:	
Power contacts	630 V
Pilot contacts	250 V
Insulation coordination	VDE 0110/6 kV/4.
Test voltage	3.5 kV (50 Hz/1 min.)
Insulation resistance	> 103 MΩ
Temperature range	-40°C...+120°C
Contacts:	
Pins/sockets, power contacts	Cu, silver plated
Pilot contacts	Cu/Zn, silver plated
Type of connection	Crimping
Conductor cross-section:	
Power contacts	25 mm ² -95 mm ² ,
Pilot contacts	1.5 mm ² /2.5 mm ²
Plugging cycles	≤ 5,000
Degree of protection, mated	IP65
unmated	IP2X
Further specifications	DIN VDE 0627

RoHS ready

Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment

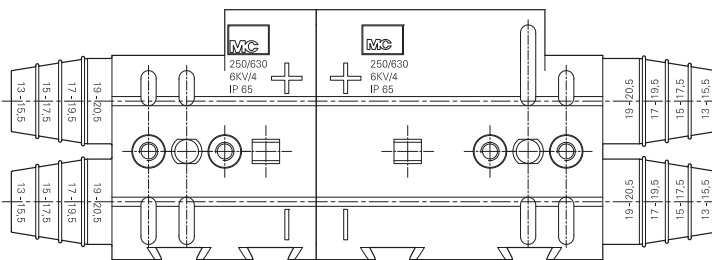
SEM... 3-pole



SEM2B14/...



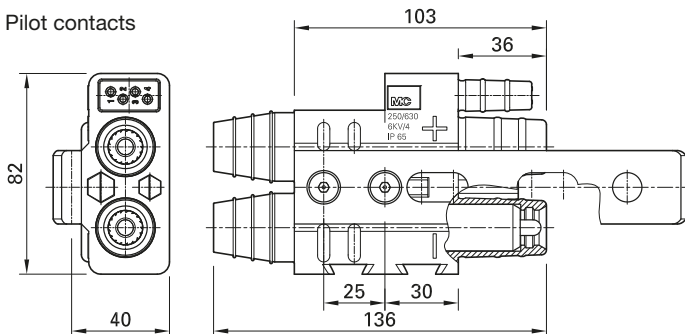
SEM2S14/...



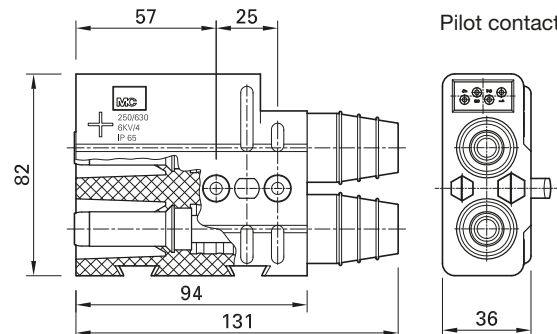
Female connector, 2-pole

Male connector, 2-pole

Pilot contacts



Pilot contacts



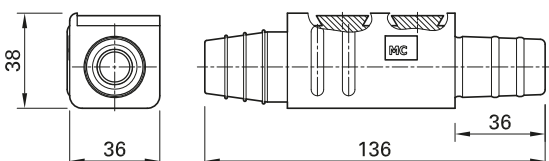
SEM1B14/...



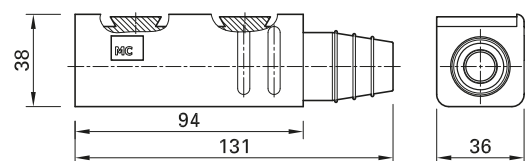
SEM1S14/...



Female connector, 1-pole



Male connector, 1-pole



Order No.	Type	Designation	Rated current	Rated voltage	Norm-Ø Pin / Socket	Conductor cross-section
			max. A	V	mm	mm ²
31.0000	SEM2B14/25	Female connector, 2-pole*	135	630	14	25
31.0001	SEM2B14/35		160	630	14	35
31.0002	SEM2B14/50		220	630	14	50
31.0003	SEM2B14/70		260	630	14	70
31.0004	SEM2B14/95		330	630	14	95
31.0020	SEM2S14/25	Male connector, 2-pole*	135	630	14	25
31.0021	SEM2S14/35		160	630	14	35
31.0022	SEM2S14/50		220	630	14	50
31.0023	SEM2S14/70		260	630	14	70
31.0024	SEM2S14/95		330	630	14	95
31.0010	SEM1B14/25	Female connector, 1-pole*		630	14	25
31.0011	SEM1B14/35			630	14	35
31.0012	SEM1B14/50			630	14	50
31.0013	SEM1B14/70			630	14	70
31.0014	SEM1B14/95			630	14	95
31.0030	SEM1S14/25	Male connector, 1-pole*		630	14	25
31.0031	SEM1S14/35			630	14	35
31.0032	SEM1S14/50			630	14	50
31.0033	SEM1S14/70			630	14	70
31.0034	SEM1S14/95			630	14	95

* Includes power contacts, signal contacts not included
(for signal contacts see page 7)



Assembly instructions MA206

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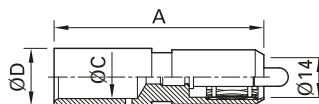
Individual parts

Pins/Socket SEM...P14/...

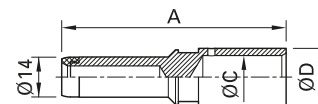


SEMBP14/...

SEMSP14/...



SEMBP14/...



SEMSP14/...

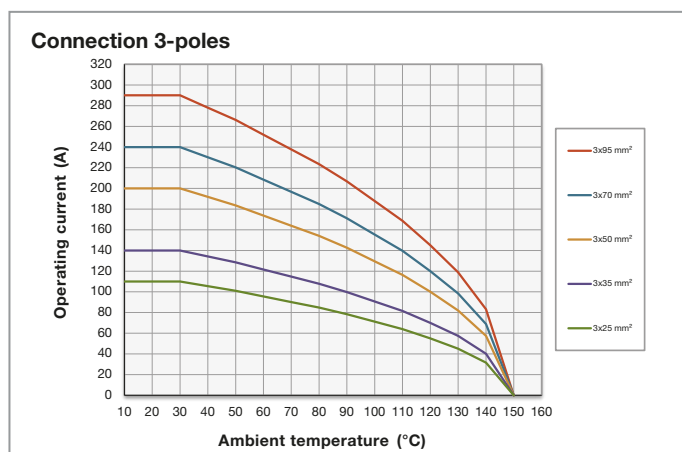
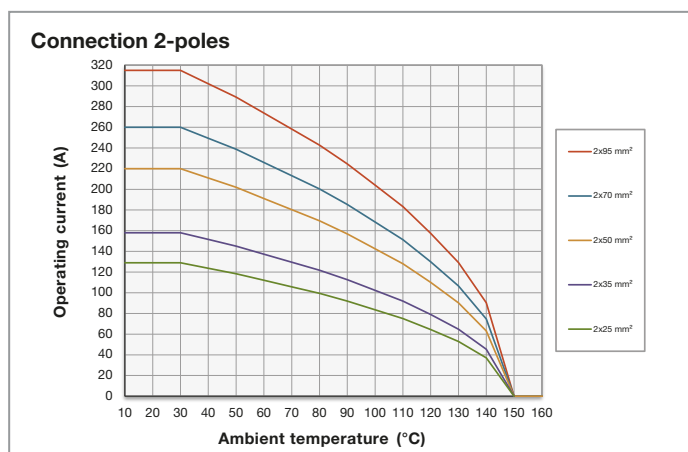
Order No.	Type	Plating	Norm.-Ø pin / socket	Dimensions (mm)			Fits pin or socket carriers
				A	ØC	ØD	
31.0500	SEMSP14/25	Ag	14	64	8	11	SEM2S14/25, SEM1S14/25
31.0100	SEMBP14/25	Ag	14	59	8	11	SEM2B14/25, SEM1B14/25
31.0501	SEMSP14/35	Ag	14	69	9	13	SEM2S14/35, SEM1S14/35
31.0101	SEMBP14/35	Ag	14	64	9	13	SEM2B14/35, SEM1B14/35
31.0502	SEMSP14/50	Ag	14	76	11	14.5	SEM2S14/50, SEM1S14/50
31.0102	SEMBP14/50	Ag	14	71	11	14.5	SEM2B14/50, SEM1B14/50
31.0503	SEMSP14/70	Ag	14	76	13	17	SEM2S14/70, SEM1S14/70
31.0103	SEMBP14/70	Ag	14	71	13	17	SEM2B14/70, SEM1B14/70
31.0504	SEMSP14/95	Ag	14	78	15	20	SEM2S14/95, SEM1S14/95
31.0104	SEMBP14/95	Ag	14	73	15	20	SEM2B14/95, SEM1B14/95

Derating diagrams

The current capacity of a connection is limited by the thermal capacity of its contact, connecting and insulating materials. The derating diagram shows the continuous current (not intermittent) that flows through all the contact elements of a connector at one

time, whereby the max. temperature limit is not exceeded. Calibration and test method according to DIN 41640/Part 3.

The derating diagram values are valid for the connection. The max. permissible current load of the cable can be found in DIN VDE 0298/Part 4, DIN VDE 0100/Part 523 and DIN VD0113/Part 1. See also EN 60204.



Accessories

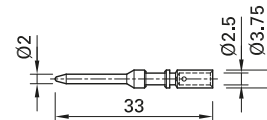
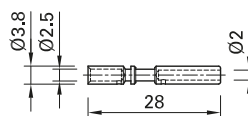
Pilot contacts



BP2/2,5



SP2/2,5

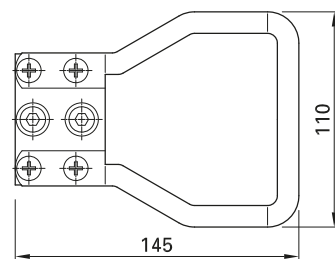
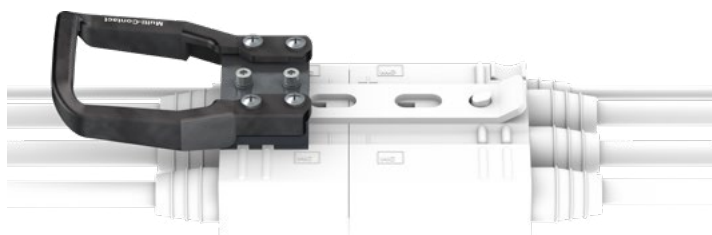


Order No.	Type	Plating	Rated current	Rated voltage	Norm-Ø Pin/Socket	Conductor cross-section
			max. A	V	mm	mm ²
31.0505	SP2/2,5	Ag	16	250	2	2.5
31.0506	SP2/2,5AU	Au				
18.8010	BP2/2,5	Ag	16	250	2	2.5
18.8011	BP2/2,5AU	Au				

SEM-KTP



SEM-HG



MVS1,5/2



Order No.	Type	Remarks
31.5002	SEM-KTP	Grommet for pilot contacts
18.5500	MVS1,5/2	Blind plug for pilot contacts
31.5005	SEM-HG	Grip (incl. fastening material)

Tools

The tools needed for assembly can be seen in the assembly instructions MA206.



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