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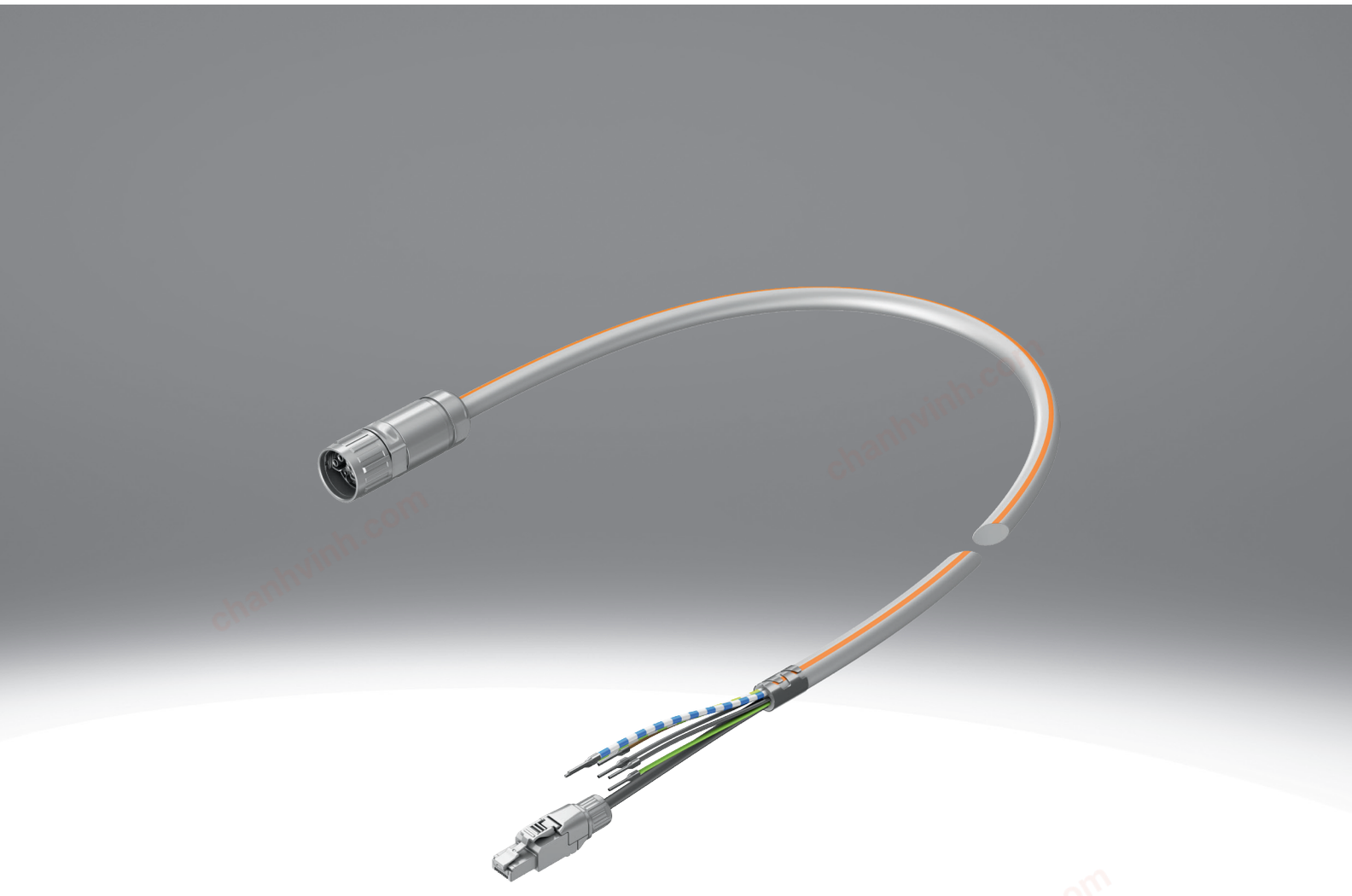
Connecting cable NEBM



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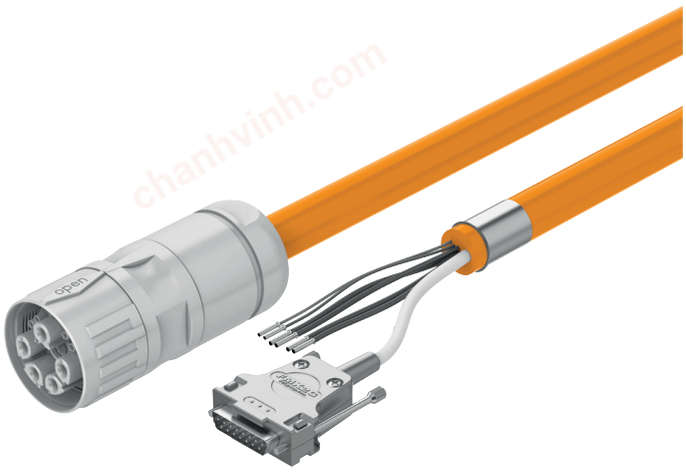
Characteristics

At a glance



The connecting cables NEBM are optimally adapted for servo motors, stepper motors, motor controllers and servo drives from Festo.
The following properties are typical of the cables:
Electrical connection

- Depending on the motor, degree of protection of up to IP67 is achieved on the motor side
- Can be used in a broad temperature range
- Length
- Cable characteristic

The cable characteristic indicates the resistance of the connecting cable to mechanical stress.
There are several qualities:
They are suitable for energy chains

- Suitable for energy chains
- Suitable for robot applications

Ordering data - modular system

Configurable product
This product and all its product options can be ordered online via the configurator.

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Type code

001	Series	
NEBM	Connecting cable	

002	Connection technology left, field device side	
F1	Socket design F1	
H6	Socket connection pattern H6, coded for motor	
H7	Socket connection pattern H7, coded for motor brake	
H17	M17 stainless steel connection for hygiene applications	
L5	Plug pattern L5	
L10	Connection pattern L10	
L15	Plug pattern L15	
M12	Socket M12x1 A-coded, EN 61076-2-101	
M17	M17	
M23	M23	
M40	M40	
RE	Socket connection pattern RE	
S1	Sub-D socket	
SF1	Plug type F1	
SM12	Plug M12x1 A-coded	
T1	ITT M3	
T12	Socket M12x1 T-coded, EN 61076-2-111	

003	Cable outlet left	
G	Straight	
W	Angled	

004	Number of pins/wires on the left	
2	2	
4	4	
6	6	
8	8	
9	9	
12	12	
14	14	
15	15	
24	24	
31	31	

005	Cable characteristic	
E	Suitable for energy chains	
F	Food-safe to standard	
R	Suitable for robot applications	
X	For dynamic applications	

006	Cable design	
	Standard	
C	Foil cable	
H	Hybrid cable	
S	With shielding	

007	Cable length	
	...m	
0.2	0.2 m	
0.5	0.5 m	
1	1 m	
1.5	1.5 m	
2.23	2.23 m	
2.5	2.5 m	
2.6	2.6 m	
3	3 m	
5	5 m	
7	7 m	
7.5	7.5 m	
10	10 m	
15	15 m	
20	20 m	
25	25 m	

008	Wire cross section [mm²]	
	Standard	
Q5	0.34	
Q15	0.35	
Q6	0.5	
Q14	0.51	
F1	0.1 x 0.65	
Q7	0.75	
Q13	0.79	
Q9	1.5	
Q10	2.5	
Q11	4	
Q12	6	

009	Cable identification	
	With label holder	
N	Without label holder	

010	Connection technology right, controller side	
DF1	Socket design F1	
L5	Plug pattern L5	
L10	Plug pattern L10	
LE	Open end	
M12	Plug M12x1 A-coded, EN 61076-2-101	
M17	M17	
M23	M23	
M40	M40	
R3LE	RJ45 and open end	
RE	Socket connection pattern RE	
S1	Sub-D	
S1LE	Plug Sub-D and open end	

011	Cable outlet right	
	None	
G	Straight	
W	Angled	

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Type code

012	Number of pins/wires on the right	
2	2	
4	4	
6	6	
8	8	
9	9	
12	12	
14	14	
15	15	
21	21	
24	24	

012	Number of pins/wires on the right	
28	28	
31	31	

013	Additional connector function	
	None	
H	For wall mounting	

014	Pin allocation	
	Standard	
V3	Variant 3	

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Datasheet

General technical data – Connection pattern M12x1, A-coded			
Electrical connection 1, number of connections/cores	4	8	12
Conforms to standard	DIN 47100; EN 61984	–	DIN 47100; EN 61984
Cable designation	Without inscription label holder		

Technical data – Electrical connection 1, connection pattern M12x1, A-coded	
Electrical connection 1, connector system	M12x1, A-coded to EN 61076-2-101
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket, Plug
Electrical connection 1, cable outlet	Straight, Angled
Electrical connection 1, design	Round
Electrical connection 1, number of connections/cores	4 ... 12
Electrical connection 1, used connections/cores	4 ... 11
Electrical connection 1, type of mounting	Screw-type lock, size 14 mm

Technical data – Electrical connection 2, connection pattern M12x1, A-coded	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable, Plug
Electrical connection 2, cable outlet	Straight
Electrical connection 2, design	Square, Round
Electrical connection 2, connector system	M12x1, A-coded to EN 61076-2-101, Sub-D, Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	4 ... 15
Electrical connection 2, used connections/cores	4 ... 11
electrical connection 2, type of mounting	Screw-type lock with hex A/F18

Technical data – Electrical, connection pattern M12x1, A-coded						
Electrical connection 2, connector system	M12x1, A-coded to EN 61076-2-101		Sub-D		Open end	
Electrical connection 1, number of connections/cores	4	12	8	12	4	8
Nominal operating voltage DC	–	24 V			–	24 V
Operational voltage range DC	0 ... 250 V	0 ... 30 V			0 ... 250 V	0 ... 72 V
Nominal operating voltage AC	–	24 V			–	24 V
Operational voltage range AC	0 ... 250 V	0 ... 30 V			0 ... 250 V	0 ... 30 V
Current rating at 40° C	4 A	1 A	–	1 A	4 A	–
Pollution degree	3		–	3		–

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Datasheet

Technical data – Cable, connection pattern M12x1, A-coded

Electrical connection 2, connector system	M12x1, A-coded to EN 61076-2-101		Sub-D		Open end		
Electrical connection 2, number of connections/cores	4	12	9	15	4	6	8
Electrical connection 1, number of connections/cores	4	12	8	12	4	8	
Cable diameter	5.9 mm	7 mm	6.5 ... 8.2 mm	7 mm	5.9 mm	6.2 mm	6.8 mm
Cable characteristic	Suitable for robot applications		Suitable for energy chains	Suitable for robot applications		Suitable for energy chains	
Bending radius, moving cable	≥60 mm	≥70 mm	≥49 mm	≥70 mm	≥60 mm	≥62 mm	≥68 mm
Cable structure	4 x 0.34 mm²	12 x 0.14 mm²	3 x (2 x 0.14 mm²) + 2 x (0.5 mm²) 4 x 2 x 0.14 mm²	12 x 0.14 mm²	4 x 0.34 mm²	6 x 0.34 mm²	4 x 2 x 0.14 mm²
Nominal cross section conductor	0.34 mm²	0.14 mm²	0.14 ... 0.5 mm²	0.14 mm²	0.34 mm²		0.14 mm²

Materials – Connection pattern M12x1, A-coded

Electrical connection 2, connector system	M12x1, A-coded to EN 61076-2-101		Sub-D		Open end	
Electrical connection 1, number of connections/cores	4	12	8	12	4	8
Material housing	TPE-U(PUR)		–	TPE-U(PUR)		–
Material union nut	–			Nickel-plated die-cast zinc	–	
Material seals	NBR		–	NBR		–
Material cable sheath	TPE-U(PUR)					
Cable sheath colour	Black		Grey	Black		Grey
Material insulating sheath	TPE-E		–	TPE-E		–
Note on materials	RoHS compliant					
LABS (PWIS) conformity	VDMA24364-B2-L					

Operating and environmental conditions – connection pattern M12x1, A-coded

Electrical connection 2, connector system	M12x1, A-coded to EN 61076-2-101		Sub-D		Open end	
Electrical connection 1, number of connections/cores	4	12	8	12	4	8
Ambient temperature	-25 ... 80°C		-50 ... 80°C	-25 ... 80°C		-40 ... 80°C
Ambient temperature with moving cable	0 ... 40°C		-40 ... 75°C	0 ... 40°C		-5 ... 80°C
Corrosion resistance class CRC [1]	2 - Moderate corrosion stress		0 - No corrosion stress	2 - Moderate corrosion stress		–
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive					
UKCA marking (see declaration of conformity)	To UK RoHS instructions					
Degree of protection	IP67		IP65	IP67		IP65
Note on degree of protection	In mounted state		IP30 for Sub-D plug connector, In mounted state	IP50 for Sub-D plug connector, In mounted state	In mounted state	

1) More information www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern M12x1, T-coded

Line function	Power line
Based on standard	EN 61076-2-111
Cable designation	With inscription label holder

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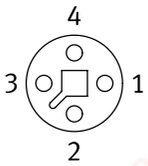
Datasheet

Technical data – Electrical connection 1 – Plug pattern M12x1, T-coded



For HEPP electric grippers.

Electrical connection 1, connector system	M12x1, T-coded according to EN 61076-2-111
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket
Electrical connection 1, cable outlet	Straight, Angled
Electrical connection 1, design	Round
Electrical connection 1, number of connections/cores	4
Electrical connection 1, used connections/cores	4
Electrical connection 1, type of mounting	Screw-type lock
Electrical connection 1, tightening torque	0.4

Technical data – Electrical connection 2 – Plug pattern M12x1, T-coded

Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, connector system	Open end
Wire ends	Stripped
Electrical connection 2, number of connections/cores	4
Electrical connection 2, used connections/cores	4

Technical data – Electrical – Port pattern M12x1, T-coded

Operational voltage range DC	0 ... 60 V
Immunity to surge	1.5 kV
Current rating at 40° C	5 A
Pollution degree	3
Shielding	No

Technical data – cable – plug pattern M12x1, T-coded

Cable diameter	7.5 mm
Cable diameter tolerance	±0.2 mm
Cable characteristic	Suitable for robot applications
Bending radius, fixed cable	≥30 mm
Bending radius, moving cable	≥75 mm
Test conditions cable	Test conditions on request
Cable structure	4 x 0.75 mm²
Nominal cross section conductor	0.75 mm²
Conductor nominal cross section	AWG19

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Datasheet

Materials – Plug pattern M12x1, T-coded

Material housing	TPE-U(PUR)
Housing colour	Black
Cable sheath colour	Black
Material insulating sheath	PVC
Material screw-type lock	High-alloy stainless steel
Material seals	HNBR
Material electrical contact	Gold-plated brass
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions – plug pattern M12x1, T-coded

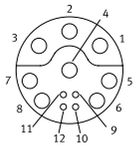
Ambient temperature	-40 ... 80°C
Ambient temperature with moving cable	-20 ... 80°C
Corrosion resistance class CRC [1]	0 - No corrosion stress
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)[3]	To UK RoHS instructions
Degree of protection	IP67
Note on degree of protection	In mounted state

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/pun-h → Support/Downloads.

3) More information www.festo.com/catalogue/pun-h → Support/Downloads.

General technical data – plug pattern M17



Connection cable for stepper motors from the EMMT-ST-42/57/87 and EMMB-ST-42/57/87 product families.

Based on standard	EN 61984
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern M17

Electrical connection 1, connector system	M17x0.75
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Hybrid socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round
Electrical connection 1, number of connections/cores	12
Electrical connection 1, used connections/cores	12
Electrical connection 1, type of mounting	Screw-type lock

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Datasheet

Technical data – Electrical connection 2, plug pattern M17	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, cable outlet	Straight
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	12
Electrical connection 2, used connections/cores	12
electrical connection 2, type of mounting	Plugged in

Technical data – Electrical, plug pattern M17	
Operational voltage range DC	0 ... 48 V
Immunity to surge	1.5 kV
Overvoltage category	I
Current rating at 40° C	7.6 A; 11.7 A; 17.8 A
Pollution degree	3
Shielding	Yes

Technical data – Cable, plug pattern M17			
Current rating at 40° C	7.6 A	11.7 A	17.8 A
Cable diameter	10.5 mm		10.8 mm
Cable diameter tolerance	± 0.3 mm		
Cable characteristic	Suitable for energy chains		
Bending radius, fixed cable	42 mm		43.2 mm
Bending radius, moving cable	78.75 mm		81 mm
Test conditions cable	Test conditions on request		
Cable structure	4 x 0.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	4 x 0.75 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	4 x 1.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²
Nominal cross section conductor	0.15 mm²; 0.5 mm²	0.15 mm²; 0.5 mm²; 0.75 mm²	0.15 mm²; 0.5 mm²; 1.5 mm²

Materials – Plug pattern M17	
Material cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Material insulating sheath	PP
Note on materials	RoHS compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions – Plug pattern M17	
Ambient temperature	-40 ... 90°C
Ambient temperature with moving cable	-25 ... 80°C
Corrosion resistance class CRC [1]	1 - Low corrosion stress
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK RoHS instructions
Degree of protection	IP67
Note on degree of protection	In mounted state

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

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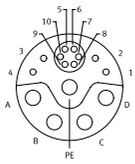
Datasheet

General technical data – plug pattern M23



Connecting cable for EMMT motors.

Based on standard	EN 61984
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern M23

Electrical connection 1, connector system	M23x1
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Hybrid socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round
Electrical connection 1, number of connections/cores	15
Electrical connection 1, used connections/cores	12
Electrical connection 1, type of mounting	Snap-locking, Screw-type lock

Technical data – Electrical connection 2, plug pattern M23

Electrical connection 2, connector system	RJ45 and open end	Sub-D and open end
Electrical connection 2, function	Control side	
Electrical connection 2, connection type	Plugs and cables	Cable
Electrical connection 2, cable outlet	Straight	
Wire ends	Wire ferrule	
Electrical connection 2, number of connections/cores	14	21
Electrical connection 2, used connections/cores	12	
electrical connection 2, type of mounting	–	Plugged in

Technical data – Electrical, plug pattern M23

Electrical connection 2, connector system	RJ45 and open end	Sub-D and open end
Operational voltage range DC	0 ... 850 V	
Operational voltage range AC	0 ... 630 V	
Immunity to surge	6 kV	
Current rating at 40° C	11.7 ... 23.7 A	11.7 ... 17.8 A
Overvoltage category	–	III
Pollution degree	1; 3	3
Shielding	Yes	

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Technical data – Cable, plug pattern M23			
Current rating at 40° C	11.7 A	17.8 A	23.7 A
Cable diameter	12 mm	12.8 mm	13.9 mm
Cable diameter tolerance	± 0.3 mm		
Cable characteristic	Suitable for energy chains		
Bending radius, fixed cable	48 mm	51.2 mm	≥55.6 mm
Bending radius, moving cable	90 mm	96 mm	≥97.3 mm
Test conditions cable	Test conditions on request		
Cable structure	4 x 0.75 mm² + 1 x (2 x 0.75 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	4 x 1.5 mm² + 1 x (2 x 0.75 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	4 x 2.5 mm² + 1 x (2 x 1.0 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Nominal cross section conductor	0.15 ... 0.75 mm²	0.15 ... 1.5 mm²	0.15 ... 2.5 mm²

Materials – Plug pattern M23	
Material cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Material insulating sheath	PP
Note on materials	RoHS compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions – connection pattern M23					
Electrical connection 2, connector system	RJ45 and open end			Sub-D and open end	
Current rating at 40° C	11.7	17.8	23.7	11.7	17.8
Ambient temperature	-40 ... 90°C				
Ambient temperature with moving cable	-25 ... 80°C				
Corrosion resistance class CRC [1]	1 - Low corrosion stress				
CE mark (see declaration of conformity) [2]	To EU Low Voltage Directive In accordance with EU RoHS Directive				
UKCA marking (see declaration of conformity)	To UK RoHS instructions To UK regulations for electrical equipment				
Degree of protection	IP67			IP20; IP67	
Note on degree of protection	In mounted state				

1) More information visit www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern M40	
Based on standard	EN 61984
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern M40	
Electrical connection 1, connector system	M40x1
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Hybrid socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round
Electrical connection 1, number of connections/cores	15
Electrical connection 1, used connections/cores	12
Electrical connection 1, type of mounting	Snap-locking

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Datasheet

Technical data – Electrical connection 2, plug pattern M40	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Plugs and cables
Electrical connection 2, cable outlet	Straight
Electrical connection 2, connector system	RJ45 and open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	14
Electrical connection 2, used connections/cores	12

Technical data – Electrical, plug pattern M40		
Cable structure	4 x 4 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	4 x 6 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Operational voltage range DC	0 ... 850 V	
Operational voltage range AC	0 ... 630 V	
Immunity to surge	6 kV	
Current rating at 40° C	31.9 A	40 A
Pollution degree	3	

Technical data – Cable, plug pattern M40		
Cable structure	4 x 4 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	4 x 6 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Cable diameter	16.4 mm	18.7 mm
Cable diameter tolerance	± 0.3 mm	
Cable characteristic	Suitable for energy chains	
Bending radius, fixed cable	65.6 mm	74.8 mm
Bending radius, moving cable	123 mm	140.25 mm
Test conditions cable	Test conditions on request	

Materials – Plug pattern M40		
Cable structure	4 x 4 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	4 x 6 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Material cable sheath	TPE-U(PUR)	PUR
Cable sheath colour	Grey	
Material insulating sheath	PP	
Note on materials	RoHS compliant; Free of halogen	
LABS (PWIS) conformity	VDMA24364-B2-L	

Operating and environmental conditions – Plug pattern M40		
Cable structure	4 x 4 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	4 x 6 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Ambient temperature	-40 ... 90°C	
Ambient temperature with moving cable	-25 ... 80°C	
Corrosion resistance class CRC [1]	1 - Low corrosion stress	
CE mark (see declaration of conformity) [2]	To EU Low Voltage Directive In accordance with EU RoHS Directive	To EU Low Voltage Directive
UKCA marking (see declaration of conformity)	To UK RoHS instructions To UK regulations for electrical equipment	
Degree of protection	IP67	
Note on degree of protection	Dependent on the connection block	

1) More information www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern L5	
Based on standard	EN 61984
Cable designation	Without inscription label holder

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Datasheet

Technical data – Electrical connection 1, plug pattern L5	
Electrical connection 1, connector system	Connection pattern L5
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Hybrid socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Square
Electrical connection 1, number of connections/cores	14
Electrical connection 1, used connections/cores	13
Electrical connection 1, type of mounting	Snap-locking

Technical data – Electrical connection 2, plug pattern L5	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, cable outlet	Straight
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	12
Electrical connection 2, used connections/cores	12
electrical connection 2, type of mounting	Plugged in

Technical data – Electrical, plug pattern L5	
Operational voltage range DC	0 ... 48 V
Immunity to surge	1.5 kV
Overvoltage category	I
Current rating at 40° C	7.6 A
Pollution degree	3
Shielding	Yes

Technical data – Cable, plug pattern L5	
Cable diameter	10.5 mm
Cable diameter tolerance	± 0.3 mm
Cable characteristic	Suitable for energy chains
Bending radius, fixed cable	42 mm
Bending radius, moving cable	78.75 mm
Test conditions cable	Test conditions on request
Cable structure	4 x 0.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²
Nominal cross section conductor	0.15 mm²; 0.5 mm²

Materials – Plug pattern L5	
Material cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Material insulating sheath	PP
Note on materials	RoHS compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364 zone III

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Datasheet

Operating and ambient conditions – Plug pattern L5	
Ambient temperature	-40 ... 90°C
Ambient temperature with moving cable	-25 ... 80°C
Corrosion resistance class CRC [1]	1 - Low corrosion stress
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK RoHS instructions
Degree of protection	IP20
Note on degree of protection	In mounted state

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern L10	
Based on standard	EN 61984
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern L10	
Electrical connection 1, connector system	Connection pattern L10
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Hybrid socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Square
Electrical connection 1, number of connections/cores	14
Electrical connection 1, used connections/cores	13
Electrical connection 1, type of mounting	Snap-locking

Technical data – Electrical, plug pattern L10	
Operational voltage range DC	0 ... 48 V
Immunity to surge	1.5 kV
Overvoltage category	I
Current rating at 40° C	7.6 A; 11.7 A
Pollution degree	3
Shielding	Yes

Technical data – Electrical connection 2, plug pattern L10	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, cable outlet	Straight
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	12
Electrical connection 2, used connections/cores	12
electrical connection 2, type of mounting	Plugged in

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Technical data – Cable, plug pattern L10		
Current rating at 40° C	7.6	11.7
Cable diameter	10.5 mm	
Cable diameter tolerance	± 0.3 mm	
Cable characteristic	Suitable for energy chains	
Bending radius, fixed cable	42 mm	
Bending radius, moving cable	78.75 mm	
Test conditions cable	Test conditions on request	
Cable structure	4 x 0.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	4 x 0.75 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²
Nominal cross section conductor	0.15 mm²; 0.5 mm²	0.15 mm²; 0.5 mm²; 0.75 mm²

Materials – Plug pattern L10	
Material cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Material insulating sheath	PP
Note on materials	RoHS compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364 zone III

Operating and ambient conditions – Plug pattern L10	
Ambient temperature	-40 ... 90°C
Ambient temperature with moving cable	-25 ... 80°C
Corrosion resistance class CRC [1]	1 - Low corrosion stress
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK RoHS instructions
Degree of protection	IP20
Note on degree of protection	In mounted state

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern L15	
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern L15	
Electrical connection 1, connector system	Connection pattern L15
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	4x socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, number of connections/cores	24
Electrical connection 1, used connections/cores	24

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Technical data – Electrical connection 2, plug pattern L15	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	4x cable
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	24
Electrical connection 2, used connections/cores	24

Technical data – Electrical, plug pattern L15	
Nominal operating voltage DC	24 V
Shielding	Yes

Technical data – Cable, plug pattern L15	
Cable diameter	3.3 ... 4.6 mm
Cable characteristic	Suitable for energy chains
Bending radius, fixed cable	23.1 mm
Bending radius, moving cable	33 mm
Cable structure	2 x 4 x 0.25 mm² + 2 x 8 x 0.08 mm²
Nominal cross section conductor	0.08 ... 0.25 mm²

Materials – Plug pattern L15	
Material cable sheath	PUR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and ambient conditions – Plug pattern L15	
Ambient temperature	-30 ... 70°C
Ambient temperature with moving cable	-5 ... 70°C
Storage temperature	-30 ... 70°C
Relative air humidity	0 - 100%
Nominal altitude of use	<= 2000 m NHN
CE mark (see declaration of conformity) [2)]	In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC
KC mark	KC-EMV

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Sub-D socket	
Cable designation	Without inscription label holder

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Technical data – Electrical connection 1, Sub-D socket	
Electrical connection 1, connector system	Sub-D
Electrical connection 1, number of connections/cores	9 ... 15
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket
Electrical connection 1, cable outlet	Straight, Angled
Electrical connection 1, design	Square
Electrical connection 1, used connections/cores	6 ... 10

Technical data – Electrical connection 2, Sub-D socket	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	6
Electrical connection 2, used connections/cores	6

Technical data – Electrical, Sub-D socket	
Nominal operating voltage DC	24 V
Operational voltage range DC	0 ... 72 V

Technical data – Cable, Sub-D socket		
Electrical connection 1, number of connections/cores	9	15
Cable diameter	6.2 mm	8 mm
Cable characteristic	Suitable for energy chains	
Bending radius, moving cable	≥62 mm	≥80 mm
Cable structure	6 x 0.34 mm²	6 x 0.75 mm²
Nominal cross section conductor	0.34 mm²	0.75 mm²

Materials – Sub-D socket		
Electrical connection 1, number of connections/cores	9	15
Material cable sheath	TPE-U(PUR)	
Cable sheath colour	Grey	
Material insulating sheath	–	PP
Note on materials	RoHS compliant	
LABS (PWIS) conformity	VDMA24364-B2-L	

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Environmental and operating conditions – Sub-D socket				
Electrical connection 1, number of connections/cores	9		15	
Electrical connection 1, cable outlet	Straight	Angled	Straight	Angled
Ambient temperature	-40 ... 80°C			
Ambient temperature with moving cable	-5 ... 80°C			
Corrosion resistance class CRC [1]	0 - No corrosion stress	–	0 - No corrosion stress	
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive			
Degree of protection	IP65			
Note on degree of protection	In mounted state			

1) More information visit www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern ITT M3	
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern ITT M3	
Electrical connection 1, connector system	ITT M3
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Square
Electrical connection 1, number of connections/cores	12
Electrical connection 1, used connections/cores	8

Technical data – Electrical connection 2, plug pattern ITT M3	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Plug
Electrical connection 2, cable outlet	Straight
Electrical connection 2, design	Square
Electrical connection 2, connector system	Sub-D
Electrical connection 2, number of connections/cores	15
Electrical connection 2, used connections/cores	8

Technical data – Electrical, plug pattern ITT M3	
Nominal operating voltage DC	24 V
Nominal operating voltage AC	24 V
Operational voltage range DC	0 ... 30 V
Operational voltage range AC	0 ... 30 V

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Technical data – Cable, plug pattern ITT M3	
Cable diameter	5.8 mm
Cable characteristic	Suitable for energy chains
Bending radius, moving cable	≥48 mm
Cable structure	1 x 4 x 0.15 mm² + 4 x 0.34 mm²
Nominal cross section conductor	0.15 ... 0.34 mm²

Materials – Plug pattern ITT M3	
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions – Plug pattern ITT M3	
Ambient temperature	-40 ... 80°C
Ambient temperature with moving cable	-10 ... 80°C
CE mark (see declaration of conformity) [2)]	In accordance with EU RoHS Directive
Degree of protection	IP65
Note on degree of protection	IP30 for Sub-D plug connector, In mounted state

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern H6	
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern H6	
Electrical connection 1, connector system	Connection pattern H6, coded for motor
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Square
Electrical connection 1, number of connections/cores	4
Electrical connection 1, used connections/cores	4

Technical data – Electrical connection 2, plug pattern H6	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	4
Electrical connection 2, used connections/cores	4

Technical data – Electrical, plug pattern H6	
Operational voltage range DC	0 ... 300 V
Operational voltage range AC	0 ... 300 V
Immunity to surge	2 kV
Current rating at 40° C	9.5 A
Pollution degree	3

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Technical data – Cable, plug pattern H6	
Cable diameter	7.3 mm
Cable characteristic	Suitable for energy chains
Bending radius, fixed cable	≥55 mm
Bending radius, moving cable	≥55 mm
Test conditions cable	Test conditions on request
Cable structure	4 x 0.79 mm²
Nominal cross section conductor	0.79 mm²

Materials – Plug pattern H6	
Material housing	Process automation
Housing colour	White
Material cable sheath	PVC
Cable sheath colour	Black
Material insulating sheath	PVC
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions – plug pattern H6	
Ambient temperature	-25 ... 90°C
Ambient temperature with moving cable	-25 ... 90°C
Corrosion resistance class CRC [1]	0 - No corrosion stress
CE mark (see declaration of conformity) [2]	To EU Low Voltage Directive In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK RoHS instructions To UK regulations for electrical equipment
Degree of protection	IP20
Note on degree of protection	In mounted state

1) More information visit www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern H7	
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern H7	
Electrical connection 1, connector system	Connection pattern H7, coded for motor brake
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Square
Electrical connection 1, number of connections/cores	2
Electrical connection 1, used connections/cores	2

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Technical data – Electrical connection 2, plug pattern H7	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, connector system	Open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	2
Electrical connection 2, used connections/cores	2

Technical data – Electrical, plug pattern H7	
Operational voltage range DC	0 ... 30 V
Operational voltage range AC	0 ... 30 V
Immunity to surge	2 kV
Current rating at 40° C	5 A
Pollution degree	3

Technical data – Cable, plug pattern H7	
Cable diameter	5.1 mm
Cable characteristic	Suitable for energy chains
Bending radius, fixed cable	≥27 mm
Bending radius, moving cable	≥55 mm
Test conditions cable	Test conditions on request
Cable structure	2 x 0.51 mm²
Nominal cross section conductor	0.51 mm²

Materials – Plug pattern H7	
Material housing	Process automation
Housing colour	White
Material cable sheath	PVC
Cable sheath colour	Black
Material insulating sheath	PVC
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions – Plug pattern H7	
Ambient temperature	-40 ... 80°C
Ambient temperature with moving cable	-10 ... 80°C
Corrosion resistance class CRC [1)]	0 - No corrosion stress
CE mark (see declaration of conformity) [2)]	In accordance with EU RoHS Directive
Degree of protection	IP20
Note on degree of protection	In mounted state

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Connection pattern H17	
Cable designation	Without inscription label holder
Overvoltage category	III
Product weight	0.558 ... 2.23 kg

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Technical data – Electrical connection 1, connection pattern H17	
Electrical connection 1, connector system	M21x1
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Hybrid socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round
Electrical connection 1, number of connections/cores	12
Electrical connection 1, used connections/cores	12
Electrical connection 1, type of mounting	Screw-type lock

Technical data – Electrical connection 2, connection pattern H17	
Electrical connection 1, connector system	M21x1
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Cable
Electrical connection 2, cable outlet	Straight
Electrical connection 2, connector system	RJ45 and open end
Wire ends	Wire ferrule
Electrical connection 2, number of connections/cores	14
Electrical connection 2, used connections/cores	12
electrical connection 2, type of mounting	Plugged in

Technical data – Electrical, connection pattern H17	
Operational voltage range DC	0 ... 850 V
Operational voltage range AC	0 ... 630 V
Immunity to surge	6 kV
Current rating at 40° C	17.8 A
Pollution degree	3
Shielding	Yes

Technical data – Cable, plug pattern H17	
Cable diameter	11.5 mm
Cable length	2.5 ... 10 m
Cable diameter tolerance	± 0.3 mm
Cable characteristic	Suitable for use in the food industry
Bending radius, fixed cable	57.5 mm
Test conditions cable	Test conditions on request
Cable structure	4 x 1.5 mm² + 1 x (2 x 0.75 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Nominal cross section conductor	0.15 ... 1.5 mm²

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Materials – Connection pattern H17	
Material cable sheath	TPE-E
Cable sheath colour	Grey
Material insulating sheath	PP
Note on materials	RoHS compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions – Connection pattern H17	
Ambient temperature	-40 ... 90°C
Ambient temperature with moving cable	-25 ... 80°C
Corrosion resistance class CRC [1]	4 - Very high corrosion stress
CE mark (see declaration of conformity) [2]	To EU Low Voltage Directive In accordance with EU RoHS Directive
Degree of protection	IP20, IP69K
Note on degree of protection	In mounted state
UKCA marking (see declaration of conformity)	To UK RoHS instructions, To UK regulations for electrical equipment

1) More information www.festo.com/x/topic/kbk

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern F1		
Electrical connection 1, connection type	Socket	Plug
Conforms to standard	–	DIN 47100
Frequency of connection	30	
Cable designation	Without inscription label holder	

Technical data – Electrical connection 1, plug pattern F1		
Electrical connection 1, connection type	Socket	Plug
Electrical connection 1, function	Field device side	
Electrical connection 1, cable outlet	Angled	Straight Angled
Electrical connection 1, note on cable outlet	90°	
Electrical connection 1, design	Square	
Electrical connection 1, connector system	Connection pattern F1	
Electrical connection 1, number of connections/cores	31	
Electrical connection 1, used connections/cores	31	
Electrical connection 1, type of mounting	Snap-locking	

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Technical data – Electrical connection 2, plug pattern F1		
Electrical connection 1, connection type	Socket	Plug
Electrical connection 2, function	Control side	
Electrical connection 2, connection type	Socket	Cable
Electrical connection 2, cable outlet	Angled	–
Electrical connection 2, note on cable outlet	90°	–
Electrical connection 2, design	Square	–
Electrical connection 2, connector system	Connection pattern F1	Open end
Wire ends	–	Wire ferrule
Electrical connection 2, number of connections/cores	31	14 ... 28
Electrical connection 2, used connections/cores	31	14 ... 28
electrical connection 2, type of mounting	Snap-locking	–

Technical data – Electrical, plug pattern F1	
Nominal operating voltage DC	24 V
Operational voltage range DC	0 ... 50 V
Immunity to surge	0.25 kV
Current rating at 40° C	0.5 A
Pollution degree	1

Technical data – Cable, plug pattern F1		
Electrical connection 1, connection type	Socket	Plug
Cable diameter	–	4.6 ... 9.9 mm
Cable diameter tolerance	–	±0.2 mm
Cable characteristic	For dynamic applications	Suitable for energy chains
Bending radius, fixed cable	0 mm	≥23.1 mm
Information on bending radius, fixed cable installation	Can be bent once	–
Bending radius, moving cable	≥25 mm	≥33 mm
Test conditions cable	Test conditions on request	
Cable structure	31 x 0.01 mm²	1 x (6 x 0.35 mm²) + 2 x (4 x 0.15 mm²) 4 x 0.25 mm² 8 x 0.08 mm²
Nominal cross section conductor	0.0105 mm²	0.15 mm² 0.35 mm²

Materials – plug pattern F1		
Electrical connection 1, connection type	Socket	Plug
Material housing	Process automation	
Housing colour	Black	
Material electrical contact	Tin-plated copper alloy	
Material cable sheath	PET	PUR; TPE-U(PUR)
Cable sheath colour	Grey	Black
Note on materials	RoHS compliant	

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Operating and environmental conditions – connection pattern F1		
Electrical connection 1, connection type	Socket	Plug
Ambient temperature	-20 ... 75°C	
Ambient temperature with moving cable	-5 ... 70°C	
Storage temperature	-25 ... 55°C	-25 ... 70°C
Corrosion resistance class CRC [1]	1 - Low corrosion stress	
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive	
Degree of protection	IP20	
Note on degree of protection	In mounted state	

1) More information visit www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Plug pattern RE	
Cable designation	Without inscription label holder

Technical data – Electrical connection 1, plug pattern RE	
Electrical connection 1, connector system	Connection pattern RE
Electrical connection 1, function	Field device side
Electrical connection 1, connection type	Socket
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Square
Electrical connection 1, number of connections/cores	6
Electrical connection 1, used connections/cores	6

Technical data – Electrical connection 2, plug pattern RE	
Electrical connection 2, function	Control side
Electrical connection 2, connection type	Plug
Electrical connection 2, cable outlet	Straight
Electrical connection 2, design	Square
Electrical connection 2, connector system	Connection pattern RE
Electrical connection 2, number of connections/cores	6
Electrical connection 2, used connections/cores	6

Technical data – Electrical, plug pattern RE	
Operational voltage range DC	0 ... 30 V
Operational voltage range AC	0 ... 30 V
Immunity to surge	2 kV
Current rating at 40° C	1.6 A
Pollution degree	3

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Technical data – Cable, plug pattern RE	
Cable diameter	7.4 mm
Cable characteristic	Suitable for energy chains
Bending radius, fixed cable	≥55 mm
Bending radius, moving cable	≥55 mm
Test conditions cable	Test conditions on request
Cable structure	2 x 0.51 mm² + 4 x 0.205 mm²
Nominal cross section conductor	0.205 mm² 0.51 mm²

Materials – Plug pattern RE	
Material housing	PVC
Housing colour	Grey
Material cable sheath	PVC
Cable sheath colour	Black
Material insulating sheath	PVC
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and ambient conditions – connection pattern RE	
Ambient temperature	-40 ... 80°C
Ambient temperature with moving cable	-10 ... 80°C
Corrosion resistance class CRC [1]	0 - No corrosion stress
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive
Degree of protection	IP20
Note on degree of protection	In mounted state

1) More information visit www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

General technical data – Modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Based on standard	EN 61984	
Electrical connection	12-pin; 14-pin	–
Cable designation	Without inscription label holder	
Product weight	365 ... 1,880 g	0.199 ... 0.547 g

Technical data – Electrical connection 1, modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Electrical connection 1, function	Field device side	
Electrical connection 1, connection type	Hybrid socket	
Electrical connection 1, cable outlet	Straight	
Electrical connection 1, design	Square; Round	Round
Electrical connection 1, number of connections/cores	12; 14	15
Electrical connection 1, used connections/cores	12; 13	12
Electrical connection 1, type of mounting	Snap-locking; Screw-type lock	Snap-locking

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Technical data – Electrical connection 2, modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Electrical connection 2, function	Control side	
Electrical connection 2, connection type	Socket; Cable	Hybrid plug; Cable
Electrical connection 2, cable outlet	Straight	
Electrical connection 2, connector system	Connection pattern L10; Connection pattern L5; M17x0.75; Open end	M23x1; M40x1.5; RJ45 and open end
Wire ends	Wire ferrule; Crimp pin terminal	
Electrical connection 2, number of connections/cores	12; 14	14; 15
Electrical connection 2, used connections/cores	12; 13	12
electrical connection 2, type of mounting	Snap-locking; Screw-type lock; Plugged in	Snap-locking; Plugged in

Technical data – Electrical, modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Operational voltage range DC	0 ... 48 V	0 ... 850 V
Operational voltage range AC	–	0 ... 630 V
Immunity to surge	1.5 kV	6 kV
Overvoltage category	I	III
Current rating at 40° C	7.6 ... 17.8 A	11.7 ... 40 A
Pollution degree	3	
Shielding	Yes	

Technical data - Cables, modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Cable diameter	10.5 ... 10.8 mm	12 ... 18.7 mm
Cable diameter tolerance	± 0.3 mm	
Cable characteristic	Suitable for energy chains	
Bending radius, fixed cable	42 ... 43.2 mm	48 ... 74.8 mm
Bending radius, moving cable	78.75 ... 81 mm	90 ... 140.25 mm
Test conditions cable	Test conditions on request	
Cable structure	4 x 0.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm² 4 x 0.75 mm² + 2 x 0.5 mm² + 6 x 0.15 mm² 4 x 1.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	4 x 0.75 mm² + 1 x (2 x 0.75 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²) 4 x 1.5 mm² + 1 x (2 x 0.75 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²) 4 x 2.5 mm² + 1 x (2 x 1.0 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²) 4 x 4 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²) 4 x 6 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)
Nominal cross section conductor	0.15 mm²; 0.5 mm²; 0.75 mm²; 1.5 mm²	0.15 mm²; 0.24 mm²; 0.75 mm²; 1 mm²; 1.5 mm²; 2.5 mm²; 4 mm²; 6 mm²

Materials – Modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Material cable sheath	TPE-U(PUR)	
Cable sheath colour	Grey	
Material insulating sheath	PP	
Note on materials	RoHS compliant; Free of halogen	
LABS (PWIS) conformity	VDMA24364 zone III	VDMA24364-B2-L

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Operating and environmental conditions – Modular product system		
Electrical connection 1, connector system	Connection pattern L10; Connection pattern L5; M17x0.75	M23x1; M40x1.5
Ambient temperature	-40 ... 90°C	
Ambient temperature with moving cable	-25 ... 80°C	
Corrosion resistance class CRC [1]	1 - Low corrosion stress	
CE mark (see declaration of conformity) [2]	In accordance with EU RoHS Directive	To EU Low Voltage Directive In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK RoHS instructions	To UK RoHS instructions To UK regulations for electrical equipment
Degree of protection	IP20; IP67	IP00; IP20; IP67; IP69K
Note on degree of protection	In mounted state	

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

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Ordering data

Plug pattern M12x1, socket A-coded

Electrical connection 1, number of connections/cores	Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
4	Straight	M12x1, A-coded to EN 61076-2-101	4	2.23 m	571900	NEBM-M12G4-RS-2.23-N-M12G4H
		Open end		15 m	571907	NEBM-M12G4-RS-15-N-LE4
8		Sub-D	9	1 ... 25 m	1599108	NEBM-M12G8-E- -S1G9-V3
					550751	NEBM-M12G8-E- -S1G9
				5 m	550748	NEBM-M12G8-E-5-S1G9
					1599105	NEBM-M12G8-E-5-S1G9-V3
				10 m	550749	NEBM-M12G8-E-10-S1G9
					1599106	NEBM-M12G8-E-10-S1G9-V3
				15 m	550750	NEBM-M12G8-E-15-S1G9
					1599107	NEBM-M12G8-E-15-S1G9-V3
				20 m	5105625	NEBM-M12G8-E-20-S1G9
				25 m	5105626	NEBM-M12G8-E-25-S1G9
		Open end	8	1 ... 25 m	1451591	NEBM-M12G8-E- -LE8
				1.5 m	1451586	NEBM-M12G8-E-1.5-LE8
				2.5 m	1451587	NEBM-M12G8-E-2.5-LE8
				5 m	1451588	NEBM-M12G8-E-5-LE8
				7 m	1451589	NEBM-M12G8-E-7-LE8
				10 m	1451590	NEBM-M12G8-E-10-LE8
	Angled			1 ... 25 m	1451679	NEBM-M12W8-E- -LE8
				1.5 m	1451674	NEBM-M12W8-E-1.5-LE8
				2.5 m	1451675	NEBM-M12W8-E-2.5-LE8
				5 m	1451676	NEBM-M12W8-E-5-LE8
				7 m	1451677	NEBM-M12W8-E-7-LE8
				10 m	1451678	NEBM-M12W8-E-10-LE8
12	Straight	M12x1, A-coded to EN 61076-2-101	12	2.23 m	571902	NEBM-M12G12-RS-2.23-N-M12G12H
		Sub-D	15	15 m	571915	NEBM-M12G12-RS-15-N-S1G15

Plug pattern M12x1, plug A-coded

Electrical connection 1, number of connections/cores	Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
8	Straight	Open end	6	1 ... 25 m	1449605	NEBM-SM12G8-E- -Q5-LE6
				1.5 m	1449600	NEBM-SM12G8-E-1.5-Q5-LE6
				2.5 m	1449601	NEBM-SM12G8-E-2.5-Q5-LE6
				5 m	1449602	NEBM-SM12G8-E-5-Q5-LE6
				7 m	1449603	NEBM-SM12G8-E-7-Q5-LE6
				10 m	1449604	NEBM-SM12G8-E-10-Q5-LE6
				15 m	5105618	NEBM-SM12G8-E-15-Q5-LE6
				20 m	5105619	NEBM-SM12G8-E-20-Q5-LE6
				25 m	5105620	NEBM-SM12G8-E-25-Q5-LE6

Plug pattern M12x1, socket T-coded

Electrical connection 1, number of connections/cores	Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
4	Straight	Open end	4	3 m	8140935	NEBM-T12G4-R-3-LE4
				5 m	8140936	NEBM-T12G4-R-5-LE4
				10 m	8140937	NEBM-T12G4-R-10-LE4
	Angled			3 m	8140938	NEBM-T12W4-R-3-LE4
				5 m	8140939	NEBM-T12W4-R-5-LE4
				10 m	8140940	NEBM-T12W4-R-10-LE4

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Ordering data

Connection pattern M17

Current rating at 40° C	Cable structure	Cable length	Part no.	Type
7.6 A	4 x 0.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	2.5 m	8181670	NEBM-M17G12-EH-2.5-Q6N-LE12
		5 m	8181668	NEBM-M17G12-EH-5-Q6N-LE12
		7.5 m	8190096	NEBM-M17G12-EH-7.5-Q6N-LE12
		10 m	8195457	NEBM-M17G12-EH-10-Q6N-LE12
11.7 A	4 x 0.75 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	2.5 m	8195458	NEBM-M17G12-EH-2.5-Q7N-LE12
		5 m	8195459	NEBM-M17G12-EH-5-Q7N-LE12
		7.5 m	8195460	NEBM-M17G12-EH-7.5-Q7N-LE12
		10 m	8195461	NEBM-M17G12-EH-10-Q7N-LE12
17.8 A	4 x 1.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	2.5 m	8234028	NEBM-M17G12-EH-2.5-Q9N-LE12
		5 m	8234029	NEBM-M17G12-EH-5-Q9N-LE12
		7.5 m	8234030	NEBM-M17G12-EH-7.5-Q9N-LE12
		10 m	8234031	NEBM-M17G12-EH-10-Q9N-LE12

Connection pattern M23

Electrical connection 1, connection type	Electrical connection 2, connector system	Current rating at 40° C	Cable length	Part no.	Type
Hybrid socket	RJ45 and open end	11.7 A	0.5 ... 100 m	5251373	NEBM-M23G15-EH- -Q7N-R3LEG14
			2.5 m	5251374	NEBM-M23G15-EH-2.5-Q7N-R3LEG14
			5 m	5251375	NEBM-M23G15-EH-5-Q7N-R3LEG14
			7.5 m	5251376	NEBM-M23G15-EH-7.5-Q7N-R3LEG14
			10 m	5251377	NEBM-M23G15-EH-10-Q7N-R3LEG14
			15 m	5251378	NEBM-M23G15-EH-15-Q7N-R3LEG14
			20 m	5251379	NEBM-M23G15-EH-20-Q7N-R3LEG14
		17.8 A	0.5 ... 100 m	5251380	NEBM-M23G15-EH- -Q9N-R3LEG14
			2.5 m	5251381	NEBM-M23G15-EH-2.5-Q9N-R3LEG14
			5 m	5251382	NEBM-M23G15-EH-5-Q9N-R3LEG14
			7.5 m	5251383	NEBM-M23G15-EH-7.5-Q9N-R3LEG14
			10 m	5251384	NEBM-M23G15-EH-10-Q9N-R3LEG14
			15 m	5251385	NEBM-M23G15-EH-15-Q9N-R3LEG14
			20 m	5251386	NEBM-M23G15-EH-20-Q9N-R3LEG14
		23.7 A	0.5 ... 100 m	5251387	NEBM-M23G15-EH- -Q10N-R3LEG14
			2.5 m	5251388	NEBM-M23G15-EH-2.5-Q10N-R3LEG14
			5 m	5251389	NEBM-M23G15-EH-5-Q10N-R3LEG14
			7.5 m	5251390	NEBM-M23G15-EH-7.5-Q10N-R3LEG14
			10 m	5251391	NEBM-M23G15-EH-10-Q10N-R3LEG14
			15 m	5251392	NEBM-M23G15-EH-15-Q10N-R3LEG14
			20 m	5251393	NEBM-M23G15-EH-20-Q10N-R3LEG14
	Sub-D and open end	11.7 A	5 m	8190885	NEBM-M23G15-EH-5-Q7N-S1LEG21
			7.5 m	8190886	NEBM-M23G15-EH-7.5-Q7N-S1LEG21
			10 m	8190887	NEBM-M23G15-EH-10-Q7N-S1LEG21
		17.8 A	5 m	8190888	NEBM-M23G15-EH-5-Q9N-S1LEG21
			7.5 m	8190889	NEBM-M23G15-EH-7.5-Q9N-S1LEG21
			10 m	8190890	NEBM-M23G15-EH-10-Q9N-S1LEG21

Connection pattern M40

Electrical connection 1, connection type	Electrical connection 2, connector system	Cable structure	Cable length	Part no.	Type
Hybrid socket	RJ45 and open end	4 x 4 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	0.5 ... 100 m	5251394	NEBM-M40G15-EH- -Q11N-R3LEG14
			2.5 m	5251395	NEBM-M40G15-EH-2.5-Q11N-R3LEG14
			5 m	5251396	NEBM-M40G15-EH-5-Q11N-R3LEG14
			7.5 m	5251397	NEBM-M40G15-EH-7.5-Q11N-R3LEG14
			10 m	5251398	NEBM-M40G15-EH-10-Q11N-R3LEG14
			15 m	5251399	NEBM-M40G15-EH-15-Q11N-R3LEG14
			20 m	5251400	NEBM-M40G15-EH-20-Q11N-R3LEG14
		4 x 6 mm² + 1 x (2 x 1.5 mm²) + 1 x (2 x 0.24 mm² + 2 x 2 x 0.15 mm²)	0.5 ... 100 m	5251401	NEBM-M40G15-EH- -Q12N-R3LEG14

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Connection pattern L5

Electrical connection 1, connector system	Electrical connection 2, connector system	Cable length	Part no.	Type
Connection pattern L5	Open end	2.5 m	8181675	NEBM-L5G14-EH-2.5-Q6N-LE12
		5 m	8181664	NEBM-L5G14-EH-5-Q6N-LE12
		7.5 m	8181676	NEBM-L5G14-EH-7.5-Q6N-LE12
		10 m	8181672	NEBM-L5G14-EH-10-Q6N-LE12

Connection pattern L10

Current rating at 40° C	Cable structure	Cable length	Part no.	Type
7.6 A	4 x 0.5 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	2.5 m	8181677	NEBM-L10G14-EH-2.5-Q6N-LE12
		5 m	8181667	NEBM-L10G14-EH-5-Q6N-LE12
		7.5 m	8181669	NEBM-L10G14-EH-7.5-Q6N-LE12
		10 m	8181665	NEBM-L10G14-EH-10-Q6N-LE12
11.7 A	4 x 0.75 mm² + 2 x 0.5 mm² + 6 x 0.15 mm²	2.5 m	8181666	NEBM-L10G14-EH-2.5-Q7N-LE12
		5 m	8181671	NEBM-L10G14-EH-5-Q7N-LE12
		7.5 m	8181674	NEBM-L10G14-EH-7.5-Q7N-LE12
		10 m	8181673	NEBM-L10G14-EH-10-Q7N-LE12

Connection pattern L15

Electrical connection 1, connection type	Electrical connection 2, connector system	Electrical connection 2, number of connections/ cores	Cable length	Part no.	Type
4x socket	Open end	24	1 m	8178801	NEBM-L15G24-ES-1-LE24
			3 m	8178802	NEBM-L15G24-ES-3-LE24
			5 m	8178803	NEBM-L15G24-ES-5-LE24
			10 m	8178804	NEBM-L15G24-ES-10-LE24

Sub-D socket

Electrical connection 1, number of connections/ cores	Electrical connection 1, cable outlet	Electrical connection 2, connection type	Cable length	Part no.	Type
9	Straight	Cable	1 ... 25 m	1450373	NEBM-S1G9-E- -Q5-LE6
			1.5 m	1450368	NEBM-S1G9-E-1.5-Q5-LE6
			2.5 m	1450369	NEBM-S1G9-E-2.5-Q5-LE6
			5 m	1450370	NEBM-S1G9-E-5-Q5-LE6
			7 m	1450371	NEBM-S1G9-E-7-Q5-LE6
			10 m	1450372	NEBM-S1G9-E-10-Q5-LE6
			15 m	5085055	NEBM-S1G9-E-15-Q5-LE6
			20 m	5085056	NEBM-S1G9-E-20-Q5-LE6
			25 m	5085057	NEBM-S1G9-E-25-Q5-LE6
	Angled		1 ... 25 m	1450741	NEBM-S1W9-E- -Q5-LE6
			1.5 m	1450736	NEBM-S1W9-E-1.5-Q5-LE6
			2.5 m	1450737	NEBM-S1W9-E-2.5-Q5-LE6
			5 m	1450738	NEBM-S1W9-E-5-Q5-LE6
			7 m	1450739	NEBM-S1W9-E-7-Q5-LE6
			10 m	1450740	NEBM-S1W9-E-10-Q5-LE6
15	Straight		1 ... 25 m	1450839	NEBM-S1G15-E- -Q7-LE6
			1.5 m	1450834	NEBM-S1G15-E-1.5-Q7-LE6
			2.5 m	1450835	NEBM-S1G15-E-2.5-Q7-LE6
			5 m	1450836	NEBM-S1G15-E-5-Q7-LE6
			7 m	1450837	NEBM-S1G15-E-7-Q7-LE6
			10 m	1450838	NEBM-S1G15-E-10-Q7-LE6
			15 m	5085058	NEBM-S1G15-E-15-Q7-LE6
			20 m	5085059	NEBM-S1G15-E-20-Q7-LE6
			25 m	5085060	NEBM-S1G15-E-25-Q7-LE6
	Angled		1 ... 25 m	1450948	NEBM-S1W15-E- -Q7-LE6
			1.5 m	1450943	NEBM-S1W15-E-1.5-Q7-LE6
			2.5 m	1450944	NEBM-S1W15-E-2.5-Q7-LE6
			5 m	1450945	NEBM-S1W15-E-5-Q7-LE6
			7 m	1450946	NEBM-S1W15-E-7-Q7-LE6

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Ordering data

Sub-D socket

Electrical connection 1, number of connections/ cores	Electrical connection 1, cable outlet	Electrical connection 2, connection type	Cable length	Part no.	Type
15	Angled	Cable	10 m	**1450947**	**NEBM-S1W15-E-10-Q7-LE6**

Connection pattern ITT M3

Electrical connection 1, connection type	Electrical connection 2, connection type	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
Socket	Plug	Sub-D	15	20 m	**5105627**	**NEBM-T1G8-E-20-N-S1G15**
				25 m	**5105628**	**NEBM-T1G8-E-25-N-S1G15**

Connection pattern H6

Electrical connection 1, connector system	Electrical connection 1, connection type	Electrical connection 2, connection type	Electrical connection 2, connector system	Cable length	Part no.	Type
Connection pattern H6, coded for motor	Socket	Cable	Open end	2.5 m	**5219197**	**NEBM-H6G4-E-2.5-Q13N-LE4**
				5 m	**5219198**	**NEBM-H6G4-E-5-Q13N-LE4**
				7.5 m	**5219199**	**NEBM-H6G4-E-7.5-Q13N-LE4**
				10 m	**5219200**	**NEBM-H6G4-E-10-Q13N-LE4**
				15 m	**8097203**	**NEBM-H6G4-E-15-Q13N-LE4**
				20 m	**8097204**	**NEBM-H6G4-E-20-Q13N-LE4**
				25 m	**8097205**	**NEBM-H6G4-E-25-Q13N-LE4**

Connection pattern H7

Electrical connection 1, connector system	Electrical connection 1, connection type	Electrical connection 2, connection type	Electrical connection 2, connector system	Cable length	Part no.	Type
Connection pattern H7, coded for motor brake	Socket	Cable	Open end	2.5 m	**5219205**	**NEBM-H7G2-E-2.5-Q14N-LE2**
				5 m	**5219206**	**NEBM-H7G2-E-5-Q14N-LE2**
				7.5 m	**5219207**	**NEBM-H7G2-E-7.5-Q14N-LE2**
				10 m	**5219208**	**NEBM-H7G2-E-10-Q14N-LE2**
				15 m	**8097206**	**NEBM-H7G2-E-15-Q14N-LE2**
				20 m	**8097207**	**NEBM-H7G2-E-20-Q14N-LE2**
				25 m	**8097208**	**NEBM-H7G2-E-25-Q14N-LE2**

Connection pattern H17

Electrical connection 1, connector system	Electrical connection 1, connection type	Electrical connection 2, connector system	Electrical connection 2, connection type	Cable length	Part no.	Type
M21x1	Hybrid socket	RJ45 and open end	Cable	2.5 m	**8226143**	**NEBM-H17G12-FH-2.5-Q9N-R3LEG14**
				5 m	**8226144**	**NEBM-H17G12-FH-5-Q9N-R3LEG14**
				10 m	**8226145**	**NEBM-H17G12-FH-10-Q9N-R3LEG14**

Connection pattern F1

Electrical connection 1, connection type	Electrical connection 2, connector system	Electrical connection 2, number of connections/ cores	Cable length	Part no.	Type
Socket	Connection pattern F1	31	0.2 m	**8113317**	**NEBM-F1W31-XC-0.2-F1N-DF1W31**
			0.5 m	**8079819**	**NEBM-F1W31-XC-0.5-F1N-DF1W31**
Plug	Open end	14	2.6 m	**5213343**	**NEBM-SF1W31-EH-2.6-Q15N-LE14**
			5 m	**8113308**	**NEBM-SF1W31-EH-5-Q15N-LE14**
			10 m	**8113310**	**NEBM-SF1W31-EH-10-Q15N-LE14**
		24	1 m	**8219830**	**NEBM-SF1W31-E-1-N-LE24**
			3 m	**8219831**	**NEBM-SF1W31-E-3-N-LE24**
			5 m	**8219832**	**NEBM-SF1W31-E-5-N-LE24**
		28	2.6 m	**5213342**	**NEBM-SF1W31-EH-2.6-Q15N-LE28**
			5 m	**8113307**	**NEBM-SF1W31-EH-5-Q15N-LE28**
			10 m	**8113309**	**NEBM-SF1W31-EH-10-Q15N-LE28**

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Connection pattern RE

Electrical connection 1, connection type	Electrical connection 2, connection type	Electrical connection 2, connector system	Cable length	Part no.	Type
Socket	Plug	Connection pattern RE	2.5 m	**5219213**	**NEBM-REG6-E-2.5-Q14N-REG6**
			5 m	**5219214**	**NEBM-REG6-E-5-Q14N-REG6**
			7.5 m	**5219215**	**NEBM-REG6-E-7.5-Q14N-REG6**
			10 m	**5219216**	**NEBM-REG6-E-10-Q14N-REG6**
			15 m	**8097200**	**NEBM-REG6-E-15-Q14N-REG6**
			20 m	**8097201**	**NEBM-REG6-E-20-Q14N-REG6**
			25 m	**8097202**	**NEBM-REG6-E-25-Q14N-REG6**

Modular product system

	Electrical connection 1, connector system	Electrical connection 2, connector system	Cable length	Part no.	Type
	Connection pattern L10, Connection pattern L5, M17x0.75	Connection pattern L10, Connection pattern L5, M17x0.75, Open end	0.5 ... 20 m	**8181663**	**NEBM-LX/M17-**
	M23x1, M40x1.5	M23x1, M40x1.5, RJ45 and open end	0.5 ... 99.9 m	**8190874**	**NEBM-M23/40**