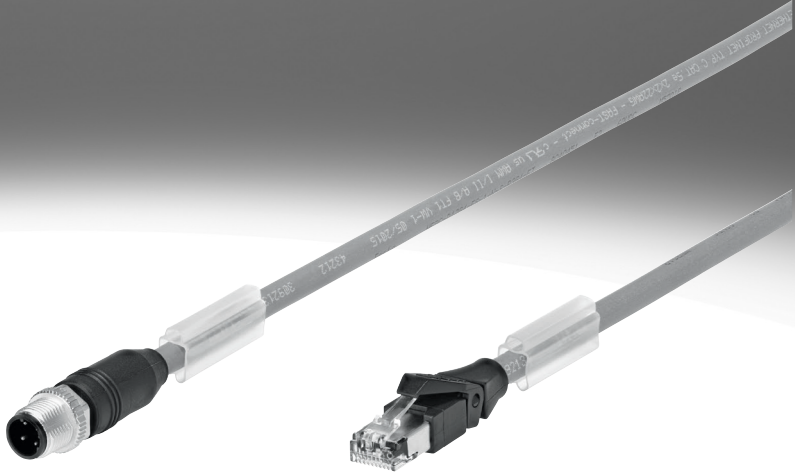


# Connecting cables for controllers



Product range overview

Function	Version	Type	Connection technology (Electrical connection 2)	Cable characteristic	Length	→ Page/ Internet
<b>Electrical connection 1 plug</b>	<b>Plug M8</b>					
	4-pin A-coded	NEBC-M8	Sub-D socket, 9-pin	Suitable for energy chains	1.5 m 2.5 m	6
	4-pin D-coded	NEBC-D8	Plug M8x1, D-coded	Suitable for energy chains	0.3 m 0.5 m 1 m 2 m 5 m 7.5 m 10 m 15 m 20 m 25 m 30 m 40 m 50 m	8
	<b>Plug M9</b>					
	5-pin	NEBC-M9	Open cable end	Suitable for energy chains	2 m 5 m	12
	<b>Plug M12</b>					
	4-pin D-coded	NEBC-D12	Plug M12, 4-pin Plug RJ45, 8-pin Open cable end	Basic Suitable for energy chains	0.5 m 1 m 3 m 5 m 10 m	14
	5-pin A-coded	NEBC-M12	Plug M12, 5-pin	Standard	1.5 m	18
	5-pin	NEBC-A1W3	Socket	Standard	0.3 m	20
	8-pin Festo-specific coding	NEBC-F12	Plug M12, 8-pin	Standard	0.25 m 0.5 m 1 m 1.5 m 2 m 3 m	22
	<b>Sub-D plug</b>					
	25-pin	NEBC-S1G25	Sub-D plug, 25-pin Open cable end	Standard	1 m 2 m 2.5 m 3.2 m 5 m	25
	<b>RJ45 plug</b>					
	8-pin	NEBC-R3G4 NEBC-R3G4	Plug RJ45, 8-pin	Standard Suitable for energy chains	0.2 m 1 m	27
	<b>Plug RJ45 with screw-type lock</b>					
	8-pin	NEBC-R3G8M22	Plug RJ45, 8-pin	For static applications	5 m	30
	<b>Plug and socket strip RJ45</b>					
	20-pin	NEBC-R3Z12G20	Plug RJ45 and socket strip 12 pins, 2 rows	Standard	5 m 10 m 15 m	32
	<b>USB 2.0 plug, type A</b>					
	4-pin	NEBC-U1G4	USB 2.0 plug, type B	Standard	1.8 m	34

## Product range overview

Function	Version	Type	Connection technology (Electrical connection 2)	Cable characteristic	Length	→ Page/ Internet
<b>Electrical connection 1 socket</b>	<b>Socket M12x1</b>					
	5-pin	NEBC-M12G5	Open cable end	Suitable for energy chains	5 m	35
	8-pin	NEBC-M12G8 NEBC-M12W8	Plug M12, 8-pin Open cable end	Suitable for energy chains	2 m	37
					5 m	
					10 m	
15 m						
<b>Sub-D socket</b>						
9-pin	NEBC-S1WA9	Open cable end	Standard	2.5 m 5 m 10 m 0.5 ... 20 m	40	

## Type codes

001	Series
NEBC	Connecting cable for controllers

002	Product version
	Standard
C	Easy-to-clean design

003	Connection technology left, field device side
A1	Socket type A, EN 175301-803
D8	M8, D-coded, IEC 61076-2-114 ED1
D12	M12, D-coded
F12	M12, Festo-specific encoding
LE	Open end
M8	Socket M8x1 A-coded, EN 61076-2-104
M9	M9
M12	Socket M12x1 A-coded, EN 61076-2-101
P1	Fork spring
R3	RJ45
R3Z12	RJ45 and socket strip 12-pin
S1	Sub-D socket
U1	USB, type A

004	Cable outlet left
	None
G	Straight
W	Angled
WA	Angled 45°

005	Number of pins/wires on the left
3	3
4	4
5	5
8	8
9	9
20	20
25	25

006	Additional socket functions
	None
HS	With seal
M22	Mounting with union nut M22x1.5

007	Cable characteristic
	Without cable
P	Basic
K	Standard
E	Suitable for energy chains

008	Cable design
	Standard
H	Hybrid cable
S	With shielding

009	Cable length [m]
0.2	0.2
0.25	0.25
0.3	0.3
0.5	0.5
1	1
1.5	1.5
1.8	1.8
2	2
2.5	2.5
3	3
3.2	3.2
5	5
7.5	7.5
10	10
15	15
20	20
25	25
30	30
40	40
50	50

010	Cable identification
	With label holder
N	Without label holder

011	Type of connector
	Standard
B	Socket
S	Plug at both ends
SB	Plug/socket
SBS	Plug, left socket strip/right plug

012	Connection technology right, controller side
D8	M8, D-coded, IEC 61076-2-114 ED1
D12	M12, D-coded
F12	M12, 4 wires
LE	Open end
M12	Plug M12x1 A-coded, EN 61076-2-101
R3	RJ45
RS	Round plug
S1	Sub-D
U2	USB, type B

013	Plug
	None
G	Straight
W	Angled

014	Number of pins/wires on the right
3	3
4	4
5	5
8	8
9	9
17	17
25	25
26	26

## Type codes

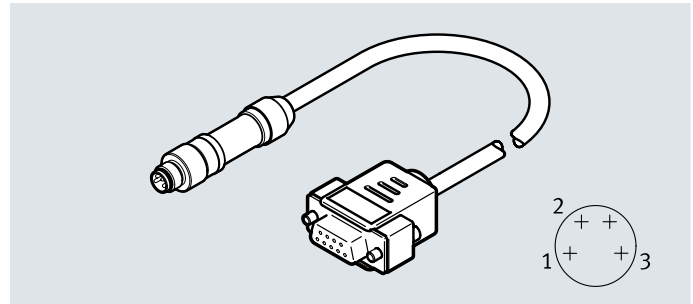
015	Bus protocol/activation
	None
<b>ET</b>	EtherNet
<b>CO</b>	CANopen
<b>PT</b>	I-Port interface
<b>RS2</b>	RS232

016	Degree of protection, electrical system
	Standard
<b>S7</b>	IP20
<b>S1</b>	IP65
<b>S10</b>	IP65/IP67/IP69K

## Datasheet

### Connecting cable NEBC-M8G4

- Connecting cable with 4-pin plug M8x1
- Pre-assembled at one end
- Cable lengths 1.5 m and 2.5 m
- Suitable for electrical module VAEM-VS8RS2



#### General technical data

Protocol	RS232
Mounting position	Any
Cable identification	With accessories

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Round
Connection technology	M8x1, A-coded to EN 61076-2-104
Number of pins/cores	4
Assigned pins/cores	3
Type of mounting	Screw-type lock

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Socket
Cable outlet	Straight
Design	Square
Connection technology	Sub-D
Number of pins/cores	9
Assigned pins/cores	8
Type of mounting	2x screw 4-40 UNC

#### Technical data – Electrical components

Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	1.5
Current rating at 40 °C	[A]	4
Pollution degree		2
Shielding		Yes

#### Technical data – Cable

Cable diameter	[mm]	4.6
Cable diameter tolerance	[mm]	±0.1
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥24
Bending radius, flexible cable installation	[mm]	≥47
Test conditions, cable		Test conditions on request
Cable structure	[mm <sup>2</sup> ]	3x0.34
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.34

## Datasheet

Materials	
Cable sheath	TPE-U(PUR)
Cable sheath colour	Black
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions	
Ambient temperature [°C]	0 ... +50
Ambient temperature with flexible cable installation [°C]	0 ... +50
CE marking (see declaration of conformity) <sup>1)</sup>	To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>1)</sup>	To UK RoHS regulations
Degree of protection	IP67
Note on degree of protection	In mounted state
	IP20 for Sub-D socket

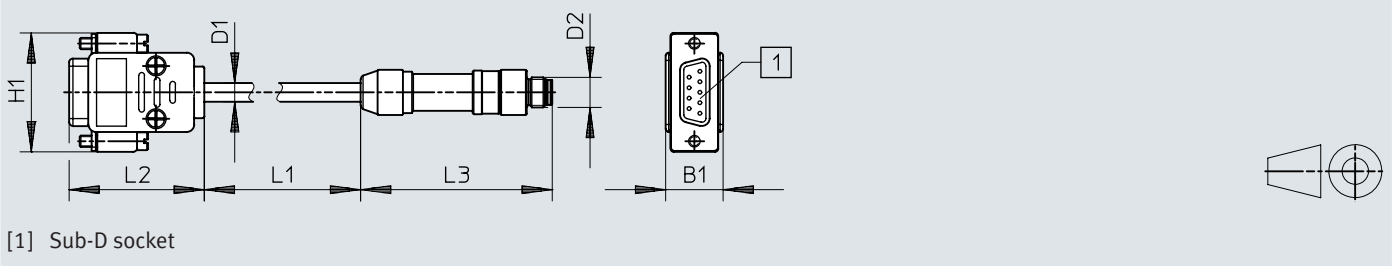
1) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Circuitry (socket/plug view)	Pin	Wire colour <sup>1)</sup>	Pin	Electrical connection 2
	1	BN	5	
	2	BK	2	
	3	BU	3	
	4	n.c.	1	
	-	-	4	
	-	-	6	
	-	-	7	
	-	-	8	
	-	-	9	
	Housing	Shielding	Housing	

1) To IEC 757

### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



	B1	D1 ∅	D2	H1	L1	L2	L3
NEBC-M8G4-ES-1.5	15.2	4.6	M8x1	31.5	1500	35.8	50.7
NEBC-M8G4-ES-2.5					2500		

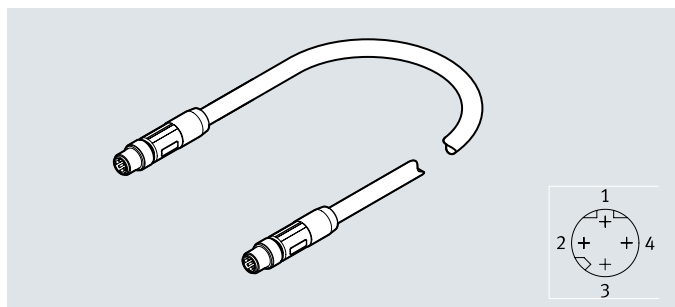
### Ordering data

	Cable length [m]	Part no.	Type
Plug M8x1 – Sub-D socket, 9-pin	1.5	<b>8099218</b>	<b>NEBC-M8G4-ES-1.5-N-SB-S1G9-RS2-S7</b>
	2.5	<b>8086524</b>	<b>NEBC-M8G4-ES-2.5-N-SB-S1G9-RS2-S7</b>

## Datasheet

### Connecting cable NEBC-D8G4

- Connecting cable with 4-pin plug M8x1
- Pre-assembled at both ends
- Cable lengths 0.3 m, 0.5 m, 1.0 m, 2.0 m, 5.0 m, 7.5 m, 10.0 m and 15.0 m
- Suitable for remote I/O system CPX-AP-I



General technical data	
Based on standard	EN 61076-2-114
Transmission characteristics	According to system communication AP
Cable identification	Without inscription label holder
Contact durability	100

Technical data – Electrical connection 1		
Type	NEBC-D8G4	NEBC-D8W4
Function	Control side	Control side
Connection type	Plug	Plug
Cable outlet	Straight	Angled
Design	Round	Round
Connection technology	M8x1, D-coded to EN 61076-2-114	M8x1, D-coded to EN 61076-2-114
Number of pins/cores	4	4
Assigned pins/cores	4	4
Type of mounting	Screw-type lock with longitudinal knurl	Screw-type lock with longitudinal knurl

Technical data – Electrical connection 2		
Type	NEBC-D8G4	NEBC-D8W4
Function	Control side	Control side
Connection type	Plug	Plug
Cable outlet	Straight	Angled
Design	Round	Round
Connection technology	M8x1, D-coded to EN 61076-2-114	M8x1, D-coded to EN 61076-2-114
Number of pins/cores	4	4
Assigned pins/cores	4	4
Type of mounting	Screw-type lock with longitudinal knurl	Screw-type lock with longitudinal knurl

Technical data – Electrical components		
Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	1.5
Current rating at 40 °C	[A]	3
Reverse polarity protection		No
Protective earth connection		Not provided
Shielding		Yes
Pollution degree		3



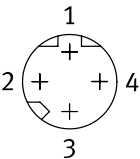
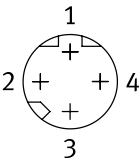
## Datasheet

Technical data – Cable		
Cable diameter	[mm]	6.3
Cable diameter tolerance	[mm]	±0.2
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥20
Bending radius, flexible cable installation	[mm]	≥75
Test conditions, cable		Test conditions on request
Cable structure		1 x (4 x AWG22)
Nominal conductor cross-section		AWG22
Special characteristics		Oil-resistant

Materials	
Housing	PA, TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Seals	NBR
Pin contacts	Gold-plated copper alloy
Cable sheath	TPE-U(PUR)
Cable sheath colour	Silver-grey with sky blue stripe
Insulating sheath	PP
Note on materials	RoHS-compliant Halogen-free
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	–20 ... +60
Ambient temperature with flexible cable installation	[°C]	–5 ... +60
Storage temperature		–40 ... +70
Corrosion resistance class CRC <sup>1)</sup>		2
CE marking (see declaration of conformity) 2)		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations
Degree of protection		IP65 IP67
Note on degree of protection		In mounted state
Certification		c UL us (OL)
Certificate-issuing authority		UL E474609

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Circuitry (socket/plug view)				
Electrical connection 1	Pin	Wire colour <sup>1)</sup>	Pin	Electrical connection 2
	1	BL	1	
	2	OR	2	
	3	WH	3	
	4	YE	4	
	Housing	Shielding	Housing	

1) To IEC 757

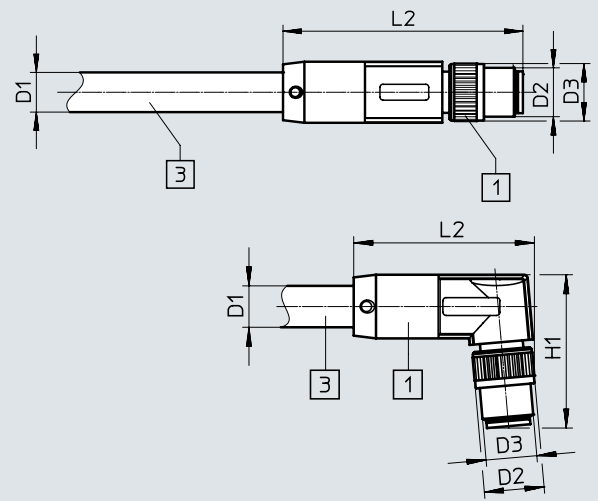
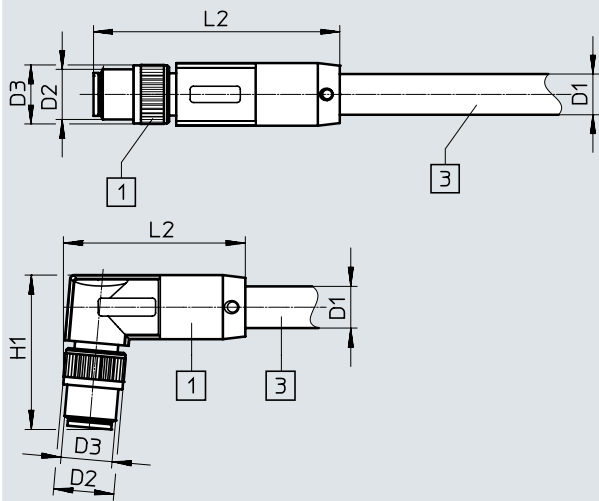
## Datasheet

### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Connection technology, left

Connection technology, right



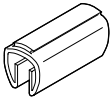
[1] Plug

[3] Cable, length 0.3 ... 50 m depending on the order

	D1	D2	D3	H1	L2
	∅		∅		
NEBC-D8G4-...-D8G4-ET	6.3	M8x1	10	-	39.3
NEBC-D8W4-...-D8W4-ET	6.5	M8x1	10	24	28.4

## Datasheet

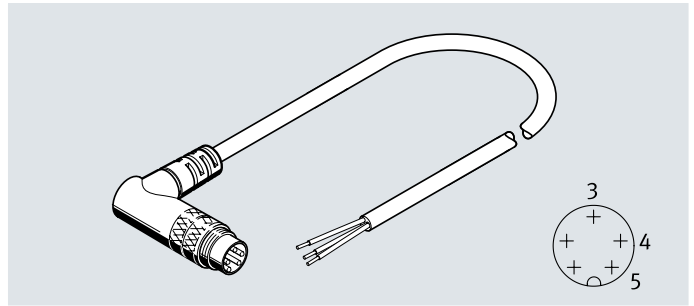
Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight plug, M8x1, 4-pin, D-coded to EN 61076-2-114	Straight plug, M8x1, 4-pin, D-coded to EN 61076-2-114	0.3	31	★ 8082902	NEBC-D8G4-ES-0.3-N-S-D8G4-ET
		0.5	43	8065123	NEBC-D8G4-ES-0.5-N-S-D8G4-ET
		1	70	8065125	NEBC-D8G4-ES-1-N-S-D8G4-ET
		2	129	8065127	NEBC-D8G4-ES-2-N-S-D8G4-ET
		5	305	★ 8065129	NEBC-D8G4-ES-5-N-S-D8G4-ET
		7.5	445	8065131	NEBC-D8G4-ES-7.5-N-S-D8G4-ET
		10	590	8065133	NEBC-D8G4-ES-10-N-S-D8G4-ET
		15	875	8065135	NEBC-D8G4-ES-15-N-S-D8G4-ET
		20	1172	8146031	NEBC-D8G4-ES-20-N-S-D8G4-ET
		25	1462	8146032	NEBC-D8G4-ES-25-N-S-D8G4-ET
		30	1752	8146033	NEBC-D8G4-ES-30-N-S-D8G4-ET
		40	2332	8146034	NEBC-D8G4-ES-40-N-S-D8G4-ET
		50	2912	8146035	NEBC-D8G4-ES-50-N-S-D8G4-ET
		Angled plug, M8x1, 4-pin, D-coded to EN 61076-2-114	Angled plug, M8x1, 4-pin, D-coded to EN 61076-2-114	0.5	46
1	75			8065126	NEBC-D8W4-ES-1-N-S-D8W4-ET
2	133			8065128	NEBC-D8W4-ES-2-N-S-D8W4-ET
5	306			8065130	NEBC-D8W4-ES-5-N-S-D8W4-ET
7.5	446			8065132	NEBC-D8W4-ES-7.5-N-S-D8W4-ET
10	594			8065134	NEBC-D8W4-ES-10-N-S-D8W4-ET
15	875			8065136	NEBC-D8W4-ES-15-N-S-D8W4-ET
20	1177			8146036	NEBC-D8W4-ES-20-N-S-D8W4-ET
25	1467			8146037	NEBC-D8W4-ES-25-N-S-D8W4-ET
30	1757			8146038	NEBC-D8W4-ES-30-N-S-D8W4-ET
40	2337			8146039	NEBC-D8W4-ES-40-N-S-D8W4-ET
50	2917	8146040	NEBC-D8W4-ES-50-N-S-D8W4-ET		

Ordering data – Accessories			
		Part no.	Type
	Inscription labels for attaching to a cable with diameter 5 ... 8 mm	11x20 mm	33361 KM-BZ

## Datasheet

### Connecting cable NEBC-M9W5

- Connecting cable with 5-pin plug M9x0.5
- Pre-assembled at one end
- Cable lengths: 2 m and 5 m
- Suitable for CPX-CM-HPP



#### General technical data

Cable identification	With accessories
----------------------	------------------

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Plug
Cable outlet	Angled
Design	Round
Connection technology	M9x0.5
Number of pins/cores	5
Assigned pins/cores	3
Type of mounting	Screw-type lock

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Cable
Connection technology	Open end
Wire ends	Wire ferrule
Number of pins/cores	5
Assigned pins/cores	3

#### Technical data – Electrical components

Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	0.5
Current rating at 40 °C	[A]	1.6
Note on current rating at 40 °C		2.3 A for 0.34 mm <sup>2</sup>
		3.6 A for 0.49 mm <sup>2</sup>
Pollution degree		1
Shielding		Yes

#### Technical data – Cable

Cable diameter	[mm]	5.5		
Cable characteristic		Suitable for energy chains		
Bending radius, flexible cable installation	[mm]	≥75		
Test conditions, cable		Test conditions on request		
Cable structure	[mm <sup>2</sup> ]	2x0.25 + 2x0.34 + 0.49		
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.25	0.34	0.49

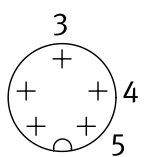
## Datasheet

Materials	
Housing	PA, PBT, TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Pin contacts	Bronze, gold-plated
	Gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Light grey
Insulating sheath	TPE-U(PUR)
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions	
Ambient temperature [°C]	-20 ... +80
Ambient temperature with flexible cable installation [°C]	-5 ... +80
Corrosion resistance class CRC <sup>1)</sup>	1
CE marking (see declaration of conformity) <sup>2)</sup>	To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK RoHS regulations
Degree of protection	IP65
	IP67
Note on degree of protection	In mounted state

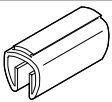
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Circuitry (socket/plug view)			
Electrical connection 2	Pin	Wire colour <sup>1)</sup>	Electrical connection 1
	1	n.c.	-
	2	n.c.	-
	3	GN	Open end
	4	WH	Open end
	5	BN	Open end

1) To IEC 757

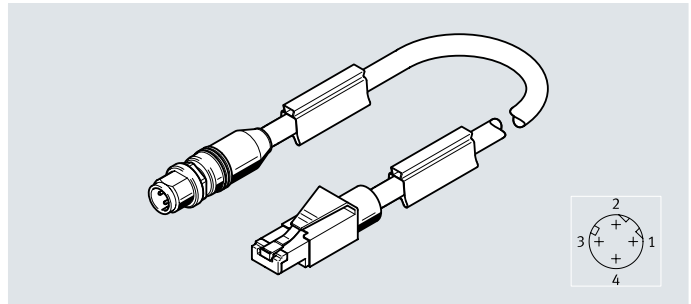
Ordering data				
	Cable length [m]	Weight [g]	Part no.	Type
Plug M9x0.5 – open cable end	2	108	<b>563711</b>	<b>NEBC-M9W5-K-2-N-LE3</b>
	5	250	<b>563712</b>	<b>NEBC-M9W5-K-5-N-LE3</b>

Ordering data – Accessories				
			Part no.	Type
	Inscription labels for attaching to a cable with diameter 5 ... 8 mm	11x20 mm	<b>33361</b>	<b>KM-BZ</b>

## Datasheet

### Connecting cable NEBC-D12G4

- Connecting cable M12, 4-pin
- D-coded
- Cable lengths 0.5 ... 10 m
- Ethernet-compatible



#### General technical data

Transmission characteristics	In accordance with category 5, EN 50173, class D In accordance with category 5, ISO/IEC 11801, class D
Ethernet cable specification	Type: CAT.5
Cable identification	With inscription label holder
Contact durability	50

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Round
Connection technology	M12x1, D-coded to EN 61076-2-101
Number of pins/cores	4
Assigned pins/cores	4
Type of mounting	Screw-type lock with 13 mm hex and longitudinal knurl

#### Technical data – Electrical connection 2

Function	Control side	Control side	Control side
Connection type	Plug	Plug	Cable
Cable outlet	Straight	Straight	Straight
Design	Round	Square	–
Connection technology	M12x1, D-coded to EN 61076-2-101	RJ45 to IEC 60603-7-3	Open end
Number of pins/cores	4	8	4
Assigned pins/cores	4	4	4
Type of mounting	Screw-type lock with hex A/F 13 mm and longitudinal knurl	Snap-locking	–
Wire ends	–	–	Stripped
	–	–	Cut off bluntly

#### Technical data – Electrical components

	Plug M12x1, D-coded	RJ45 plug	Open cable end
Operating voltage range	[V DC]	0 ... 30	0 ... 30
	[V AC]	–	0 ... 30
Surge resistance [kV]	0.8		
Note on surge resistance	Due to shielding, a leakage flow of up to 20 mA is permissible.		
Current rating at 40 °C [A]	4	1.3	4
Pollution degree	3	3	3
Shielding	Yes	Yes	Yes

## Datasheet

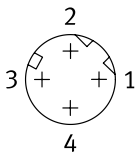
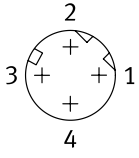
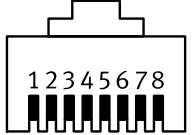
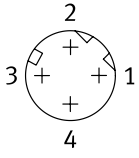
Technical data – Cable		
Cable diameter	[mm]	6.7
Cable diameter tolerance	[mm]	±0.3
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥40
Bending radius, flexible cable installation	[mm]	≥100
Test conditions, cable		Energy chain: 2 million cycles, bending radius 100 mm
		Bending strength: to Festo standard
		Test conditions on request
Cable structure	[mm <sup>2</sup> ]	4x0.34
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.34
		AWG22
Special characteristics		Oil-resistant

Materials			
	Plug M12x1, D-coded	RJ45 plug	Open cable end
Housing	TPE-U(PUR)	PA, TPE-U(PUR), nickel-plated brass	TPE-U(PUR)
Housing colour	Black		
Screw-type lock	Nickel-plated die-cast zinc		
Threaded sleeve	Die-cast zinc		
Pin contacts	Gold-plated brass		
Cable sheath	TPE-U(PUR)		
Cable sheath colour	Green		
Insulating sheath	PE		
Note on materials	RoHS-compliant		
LABS (PWIS) conformity	VDMA24364-B2-L		

Operating and environmental conditions			
	Plug M12x1, D-coded	RJ45 plug	Open cable end
Ambient temperature	[°C]	–25 ... +80	
Ambient temperature with flexible cable installation	[°C]	–20 ... +60	
Storage temperature	[°C]	–25 ... +80	
Corrosion resistance class CRC <sup>1)</sup>		1	
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive	
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations	
Degree of protection		IP65	
		IP67	
Certification	–	–	c UL us - Listed (OL)
Certificate-issuing authority	–	–	UL E474609

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Datasheet

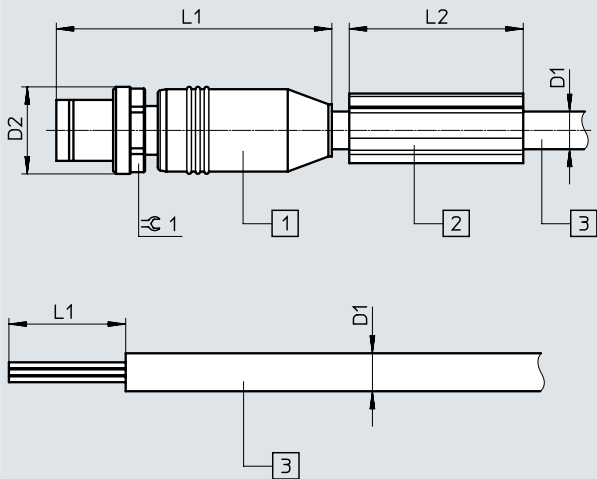
Wiring (plug view)		Pin	Wire colour <sup>1)</sup>	Pin
<b>Electrical connection, plug, M12x1, 4-pin – plug, M12x1, 4-pin</b>				
	1		YE	1
	2		WH	2
	3		OG	3
	4		BU	4
<b>Electrical connection, plug, M12x1, 4-pin – plug, RJ45, 8-pin</b>				
	1		YE	1
	2		WH	3
	3		OG	2
	4		BU	6
	-		-	4
	-		-	5
	-		-	7
	-		-	8
				
<b>Electrical connection, plug, M12x1, 4-pin – open cable end</b>				
	1		YE	Open end
	2		WH	Open end
	3		OG	Open end
	4		BU	Open end

1) To IEC 757

Dimensions

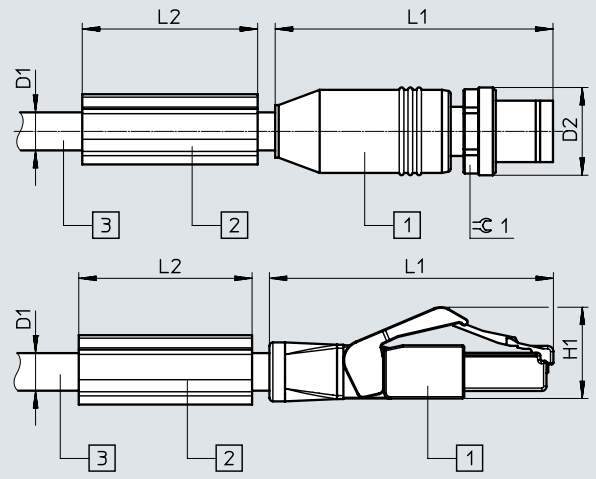
Download CAD data → [www.festo.com](http://www.festo.com)

Connection technology, left



- [1] Plug
- [2] Inscription label holder

Connection technology, right



- [3] Cable, length 0.5 ... 10 m depending on the order


Connection technology, left	D1 ∅	D2 ∅	L1	L2	≅1
Plug M12x1	6.7	15	47.5	30	13
Open end	6.7	-	20	-	-

Connection technology, right	D1	D2	L1	L2	H1	≅1
Plug M12x1	6.7	15	47.5	30	-	13
RJ45 plug	6.7	-	49	30	15.8	-



## Datasheet

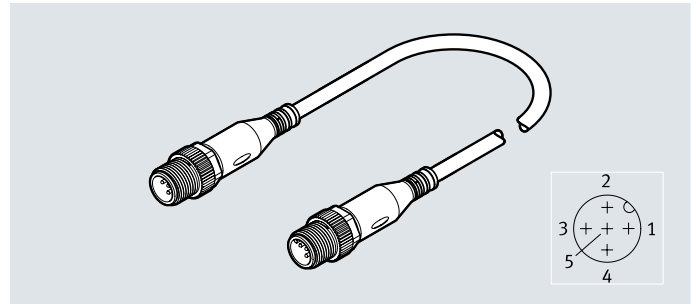
Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight plug, M12x1, 4-pin, D-coded	Straight plug, M12x1, 4-pin, D-coded	0.5	64.0	<b>8040446</b>	<b>NEBC-D12G4-ES-0.5-S-D12G4-ET</b>
		1	98.5	<b>8040447</b>	<b>NEBC-D12G4-ES-1-S-D12G4-ET</b>
		3	211.0	<b>8040448</b>	<b>NEBC-D12G4-ES-3-S-D12G4-ET</b>
		5	331.5	<b>8040449</b>	<b>NEBC-D12G4-ES-5-S-D12G4-ET</b>
		10	680.0	<b>8040450</b>	<b>NEBC-D12G4-ES-10-S-D12G4-ET</b>
	Straight plug, RJ45, 8-pin	1	93.5	<b>8040451</b>	<b>NEBC-D12G4-ES-1-S-R3G4-ET</b>
		3	219.5	<b>8040452</b>	<b>NEBC-D12G4-ES-3-S-R3G4-ET</b>
		5	350.0	<b>8040453</b>	<b>NEBC-D12G4-ES-5-S-R3G4-ET</b>
		10	679.5	<b>8040454</b>	<b>NEBC-D12G4-ES-10-S-R3G4-ET</b>
	Open end, 4-core	5	343.0	<b>8040456</b>	<b>NEBC-LE4-ES-5-D12G4-ET</b>

Ordering data – Accessories				
	Electrical connection 1	Electrical connection 2	Part no.	Type
<b>Control cabinet through-feed</b>				
	Straight socket, 4-pin, M12x1, D-coded	Straight socket, 4-pin, M12x1, D-coded	<b>8040459</b>	<b>NEFU-D12G4-D12DG4</b>
		Angled socket, 8-pin, RJ45	<b>8040457</b>	<b>NEFU-D12G4-R3DW4</b>

## Datasheet

### Connecting cable NEBC-M12G

- Connecting cable M12, 5-pin
- A-coded
- Cable length 1.5 m
- Suitable for CPX-IOT



#### General technical data

Cable identification	With accessories
Contact durability	500

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Round
Connection technology	M12x1, A-coded to EN 61076-2-101
Number of pins/cores	5
Assigned pins/cores	5
Type of mounting	Screw-type lock

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Plug
Cable outlet	Straight
Design	Round
Connection technology	M12x1, A-coded to EN 61076-2-101
Number of pins/cores	5
Assigned pins/cores	5
Type of mounting	Screw-type lock

#### Technical data – Electrical components

Operating voltage range	[V DC]	0 ... 30
	[V AC]	0 ... 30
Surge resistance	[kV]	0.8
Current rating at 40 °C	[A]	4
Pollution degree		3
Shielding		Yes

#### Technical data – Cable

Cable diameter	[mm]	5
Cable characteristic		Standard
Test conditions, cable		Test conditions on request
Cable structure	[mm <sup>2</sup> ]	4x0.34
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.34

## Datasheet

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Pin contacts material	Gold-plated bronze
	Gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Light grey
Insulating sheath	PVC
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +70
Ambient temperature with flexible cable installation	[°C]	-5 ... +70
Corrosion resistance class CRC <sup>1)</sup>		2
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations
Degree of protection		IP65
		IP67
Note on degree of protection		In mounted state

- 1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)  
 2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Wiring (plug view)				
	Pin	Wire colour <sup>1)</sup>	Pin	Electrical connection 2
	1	BN	1	
	2	WH	4	
	3	BU	3	
	4	BK	2	
	5	Shielding	5	

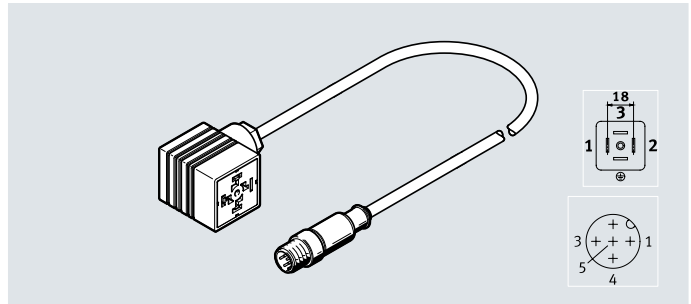
1) To IEC 757

Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight plug, M12x1, 5-pin, A-coded to EN 61076-2-101	Straight plug, M12x1, 5-pin, A-coded to EN 61076-2-101	1.5	163	<b>8085741</b>	<b>NEBC-M12G5-S-1.5-N-M12G5</b>

## Datasheet

### Connecting cable NEBC-A1W3

- Connecting cable M12, 5-pin
- Cable length 0.3 m



#### General technical data

Based on standard	EN 61076-2-101
Cable identification	Without inscription label holder

#### Technical data – Electrical connection 1

Type	NEBC-A1W3	NEBC-P1W4
Function	Field device side	Field device side
Connection type	Socket	Socket
Cable outlet	Angled	Angled
Design	Square	Square
Connection technology	Connection pattern type A to EN 175301-803	Plug pattern P1
Number of pins/cores	3	4
Assigned pins/cores	3	4
Type of mounting	Central screw M3	Central screw M3

#### Technical data – Electrical connection 2

Type	NEBC-A1W3	NEBC-P1W4
Function	Control side	Control side
Connection type	Plug	Plug
Cable outlet	Straight	Straight
Design	Round	Round
Connection technology	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101
Number of pins/cores	5	5
Assigned pins/cores	4	4
Type of mounting	–	Screw-type lock

#### Technical data – Electrical components

Type	NEBC-A1W3	NEBC-P1W4
Operating voltage range	[V DC]	0 ... 60
	[V AC]	0 ... 60
Current rating at 40 °C	[A]	4
Surge resistance	[kV]	1.5
Protective earth connection	Available	Available
Pollution degree	3	3
Shielding	Yes	Yes

#### Technical data – Cable

Type	NEBC-A1W3	NEBC-P1W4
Cable diameter	[mm]	5.9
Permissible cable diameter	[mm]	5.7 ... 6.1
Cable characteristic	Standard	Standard
Bending radius, fixed cable installation	[mm]	≥90
Minimum cable bending radius	[mm]	90
Test conditions, cable	Test conditions on request	–
Cable structure	[mm <sup>2</sup> ]	4x0.34
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.34

## Datasheet

Materials	
Housing	PA TPE-U(PUR)
Housing colour	Black
Cable sheath	PVC TPE-U(PUR)
Cable sheath colour	Grey
Insulating sheath	PVC
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +80
Ambient temperature with flexible cable installation	[°C]	-5 ... +70
Corrosion resistance class CRC <sup>1)</sup>		0
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations
Degree of protection		IP65
Note on degree of protection		In mounted state

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

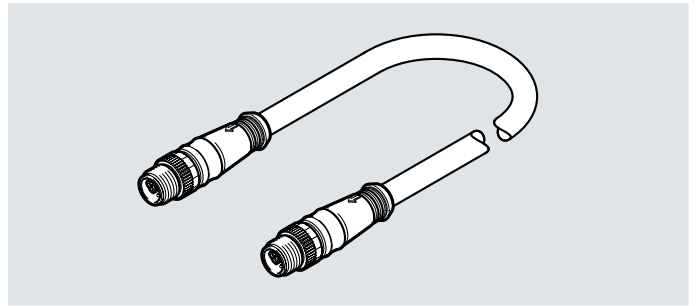
2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Ordering data						
Electrical connection 2	Electrical connection 1	Cable length [m]	Weight [g]	Part no.	Type	
Straight plug, M12x1, A-coded, 5-pin	Angled socket, plug pattern type A to EN 175301-803	0.3	188	<b>549294</b>	<b>NEBC-A1W3-K-0.3-N-M12G5</b>	
	Angled socket, plug pattern P1	0.3	188	<b>549293</b>	<b>NEBC-P1W4-K-0.3-N-M12G5</b>	

## Datasheet

### Connecting cable NEBC-F12G8

- Hybrid cable for common transmission of bus signal and power supply
- Hybrid plug M12, 8-pin
- Pre-assembled at both ends
- Cable lengths 0.25 ... 3 m



#### General technical data

Based on standard	Dimensions to EN 61076-2-101
Cable identification	Without inscription label holder
Contact durability	100

#### Technical data – Electrical connection 1

Function	Field device side, controller side
Connection type	Hybrid plug
Cable outlet	Straight
Design	Round
Connection technology	M12x1, with Festo specific coding
Number of pins/cores	8
Assigned pins/cores	8
Type of mounting	Screw-type lock, size 14, with longitudinal knurl

#### Technical data – Electrical connection 2

Function	Field device side, controller side
Connection type	Hybrid plug
Cable outlet	Straight
Design	Round
Connection technology	M12x1, with Festo specific coding
Number of pins/cores	8
Assigned pins/cores	8
Type of mounting	Screw-type lock, size 14, with longitudinal knurl

#### Technical data – Electrical components

Operating voltage range	[V]	0 ... 30
Surge resistance	[kV]	0.8
Current rating at 40 °C	[A]	7
Note on current rating	[A]	1.5 A for conductor cross section 0.14 mm <sup>2</sup>
Pollution degree		3

## Datasheet

Technical data – Cable			
Cable diameter	[mm]	8	
Cable diameter tolerance	[mm]	±0.2	
Cable characteristic		Standard	
Bending radius, fixed cable installation	[mm]	≥24	
Bending radius, flexible cable installation	[mm]	≥56	
Test conditions, cable		Test conditions on request	
Cable structure	[mm <sup>2</sup> ]	(1x(4x0.14)) + 4x0.75	
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.14	0.75
Special characteristics		Oil-resistant	

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Pin contacts	Gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Light grey
Insulating sheath	PP
Note on materials	RoHS-compliant Halogen-free
LABS (PWIS) conformity	VDMA24364-B2-L

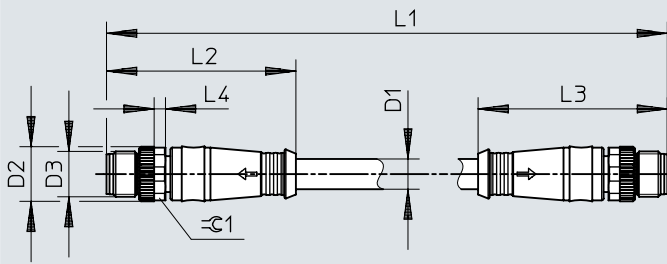
Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +70
Ambient temperature with flexible cable installation	[°C]	-5 ... +70
Storage temperature	[°C]	-40 ... +70
Corrosion resistance class CRC <sup>1)</sup>		1
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations
Degree of protection		IP65 IP67
Note on degree of protection		In mounted state

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

## Datasheet

### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



	D1 ∅	D2 ∅	D3	L1	L2	L3	L4	≅C1
NEBC-F12G8-KH-0.25-N-S-F12G8	8	15	M12x1	250	50	50	3	14
NEBC-F12G8-KH-0.5-N-S-F12G8				500				
NEBC-F12G8-KH-1-N-S-F12G8				1000				
NEBC-F12G8-KH-1.5-N-S-F12G8				1500				
NEBC-F12G8-KH-2-N-S-F12G8				2000				
NEBC-F12G8-KH-3-N-S-F12G8				3000				

### Ordering data

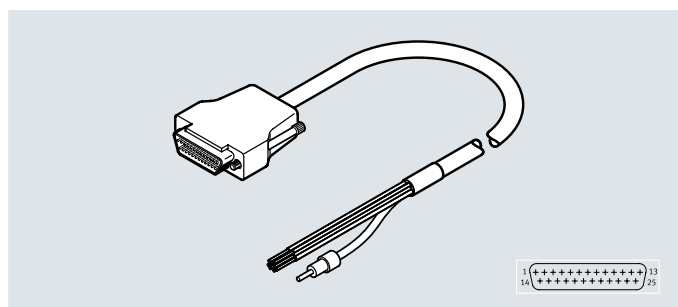
	Cable length [m]	Weight [g]	Part no.	Type
Hybrid plug, M12x1, with Festo specific coding, 8-pin	0.25	47	<b>564189</b>	<b>NEBC-F12G8-KH-0.25-N-S-F12G8</b>
	0.5	69	<b>564190</b>	<b>NEBC-F12G8-KH-0.5-N-S-F12G8</b>
	1	113	<b>564191</b>	<b>NEBC-F12G8-KH-1-N-S-F12G8</b>
	1.5	154	<b>564192</b>	<b>NEBC-F12G8-KH-1.5-N-S-F12G8</b>
	2	200	<b>576015</b>	<b>NEBC-F12G8-KH-2-N-S-F12G8</b>
	3	280	<b>576636</b>	<b>NEBC-F12G8-KH-3-N-S-F12G8</b>



## Datasheet

## Connecting cable NEBC-S1G25

- Sub-D connecting cable, 25-pin
- Cable lengths 1 m, 2 m, 2.5 m, 3.2 m and 5 m



General technical data			
Type	NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Cable identification	Without inscription label holder	–	Without inscription label holder
Mounting position	–	–	Any

Technical data – Electrical connection 1			
Type	NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Function	Field device side	–	Field device side
Connection type	Plug	Plug	Plug
Cable outlet	Straight	Straight	Straight
Design	Square	–	Square
Connection technology	Sub-D	Sub-D	Sub-D
Number of pins/cores	25	25	25
Assigned pins/cores	25	–	25
Type of mounting	2x screw 4-40 UNC	–	2x screw 4-40 UNC

Technical data – Electrical connection 2			
Type	NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Function	Control side	–	Control side
Connection type	Socket	Cable	Cable
Cable outlet	Straight	–	–
Design	Square	–	–
Connection technology	Sub-D	Open end	Open end
Wire ends	–	–	Wire ferrule Pin terminal
Number of pins/cores	25	25	26
Assigned pins/cores	25	–	26
Type of mounting	2x screw 4-40 UNC	–	–

Technical data – Electrical components			
Type	NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Nominal operating voltage [V DC]	24	–	24
Operating voltage range [V DC]	–	–	0 ... 30
Current rating [A]	–	–	3.9
Current rating at 40 °C [A]	1	–	3.9
Surge resistance [kV]	–	–	0.8
Shielding	Yes	Yes	Yes

## Datasheet

Technical data – Cable		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Type				
Cable diameter	[mm]	7	7	10.8
Cable diameter tolerance	[mm]	–	–	±0.2
Cable characteristic		Standard	–	Standard
Bending radius, fixed cable installation	[mm]	–	–	≥220
Minimum cable bending radius	[mm]	–	–	220
Test conditions, cable		–	–	Bending strength: to Festo standard
Cable structure	[mm <sup>2</sup> ]	–	–	5x(2x0.25) + 16x0.25
Nominal conductor cross-section	[mm <sup>2</sup> ]	–	–	0.25
Connection cross-section	[mm <sup>2</sup> ]	–	–	0.25

Materials		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Type				
Housing		–	–	Die-cast zinc
Housing colour		Grey	Grey	–
Pin contacts		–	–	Tin-plated copper alloy Nickel-plated and gold-plated
Cable sheath		PVC	–	PVC
Cable sheath colour		Grey	Grey	Grey
Insulating sheath		–	–	PVC
Note on materials		RoHS-compliant	RoHS-compliant	RoHS-compliant
LABS (PWIS) conformity		VDMA24364 zone III	VDMA24364 zone III	VDMA24364-B2-L

Operating and environmental conditions		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Type				
Ambient temperature	[°C]	0 ... +70	–	–30 ... +80
Ambient temperature with flexible cable installation	[°C]	–	–	–5 ... +80
Corrosion resistance class CRC <sup>1)</sup>		0	0	0
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive	To EU RoHS Directive	To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations	To UK RoHS regulations	To UK RoHS regulations
Degree of protection		IP40	IP40	IP40
Note on degree of protection		In mounted state	In mounted state	In mounted state

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

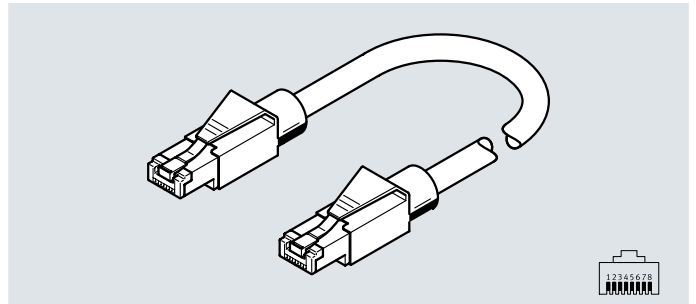
2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Ordering data		Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight plug, Sub-D, 25-pin	Straight socket, Sub-D	25-pin	1	–	<b>8001374</b>	<b>NEBC-S1G25-K-1.0-N-S1G25</b>	
			2	–	<b>8001375</b>	<b>NEBC-S1G25-K-2.0-N-S1G25</b>	
			5	–	<b>8001376</b>	<b>NEBC-S1G25-K-5.0-N-S1G25</b>	
	Open cable end	25-core	3.2	–	<b>8001373</b>	<b>NEBC-S1G25-K-3.2-N-LE25</b>	
		26-core	2.5	570	<b>552254</b>	<b>NEBC-S1G25-K-2.5-N-LE26</b>	

## Datasheet

### Connecting cable NEBC-R3

- Connecting cable RJ45
- Cable length 0.2 m and 1 m
- Ethernet-compatible



General technical data		
Type	NEBC-R3G4	NEBC-R3G8
Transmission characteristics	In accordance with category 5, EN 50173, class D	–
	In accordance with category 5, ISO/IEC 11801, class D	–
Ethernet cable specification	Type: CAT.5	–
Cable identification	With inscription label holder	Without inscription label holder
Contact durability	50	–

Technical data – Electrical connection 1		
Type	NEBC-R3G4	NEBC-R3G8
Function	Field device side	Field device side
Connection type	Plug	Plug
Cable outlet	Straight	Straight
Design	Square	Square
Connection technology	RJ45 to IEC 60603-7-3	RJ45
Number of pins/cores	8	8
Assigned pins/cores	4	8
Type of mounting	Snap-locking	–

Technical data – Electrical connection 2		
Type	NEBC-R3G4	NEBC-R3G8
Function	Control side	Control side
Connection type	Plug	Plug
Cable outlet	Straight	Straight
Design	Square	Square
Connection technology	RJ45 to IEC 60603-7-3	RJ45
Number of pins/cores	8	8
Assigned pins/cores	4	8
Type of mounting	Snap-locking	–

Technical data – Electrical components		
Type	NEBC-R3G4	NEBC-R3G8
Operating voltage range [V DC]	0 ... 30	0 ... 50
Surge resistance [kV]	0.8	2.5
Note on surge resistance	Due to shielding, a leakage flow of up to 20 mA is permissible.	–
Current rating at 40 °C [A]	1.3	1.5
Pollution degree	3	2
Shielding	Yes	Yes

## Datasheet

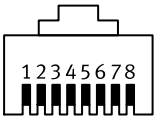
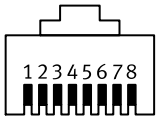
Technical data – Cable		NEBC-R3G4	NEBC-R3G8
Type		NEBC-R3G4	NEBC-R3G8
Cable diameter	[mm]	6.7	5
Cable diameter tolerance	[mm]	±0.3	
Cable characteristic		Suitable for energy chains	Standard
Bending radius, fixed cable installation	[mm]	≥40	24
Bending radius, flexible cable installation	[mm]	≥100	–
Test conditions, cable		Energy chain: 2 million cycles, bending radius 100 mm	–
		Bending strength: to Festo standard	–
		Test conditions on request	Test conditions on request
Cable structure	[mm <sup>2</sup> ]	4x0.34	4 x 2 x 0.16
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.34	0.16
		AWG22	–
Special characteristics		Oil-resistant	–

Materials		NEBC-R3G4	NEBC-R3G8
Type		NEBC-R3G4	NEBC-R3G8
Housing		PA, nickel-plated brass	PVC
Housing colour		Black	Grey
Pin contacts		Gold-plated brass	–
Cable sheath		TPE-U(PUR)	PVC
Cable sheath colour		Green	Grey
Insulating sheath		PE	PVC
Note on materials		RoHS-compliant	RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B2-L	VDMA24364-B2-L

Operating and environmental conditions		NEBC-R3G4	NEBC-R3G8
Type		NEBC-R3G4	NEBC-R3G8
Ambient temperature	[°C]	–25 ... +80	–20 ... +60
Ambient temperature with flexible cable installation	[°C]	–20 ... +60	–
Corrosion resistance class CRC <sup>1)</sup>		1	0
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive	To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations	To UK RoHS regulations
Degree of protection		IP20	IP20
Note on degree of protection		–	In mounted state

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Wiring (plug view)		Pin	Wire colour <sup>1)</sup>	Pin
<b>NEBC-R3G4</b>				
	1	YE	1	
	2	OG	2	
	3	WH	3	
	4	–	4	
	5	–	5	
	6	BU	6	
	7	–	7	
	8	–	8	
				

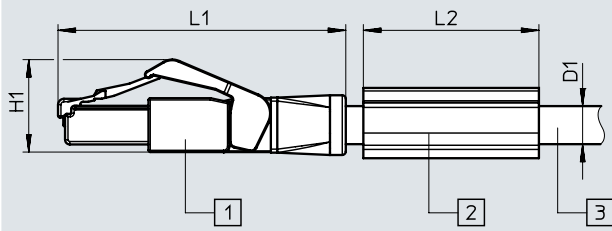
1) To IEC 757

## Datasheet

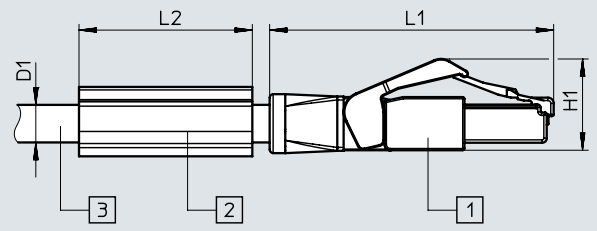
### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Connection technology, left



Connection technology, right



- [1] Plug
- [2] Inscription label holder

- [3] Cable, length depending on the order


Type	D1 ∅	L1	L2	H1
NEBC-R3G4	6.7	49	30	15.8

Type	D1 ∅	L1	L2	H1
NEBC-R3G4	6.7	49	30	15.8

### Ordering data

Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
<b>4 assigned pins/core</b>					
Straight plug, RJ45	Straight plug, RJ45	1	89.5	<b>8040455</b>	<b>NEBC-R3G4-ES-1-S-R3G4-ET</b>
<b>8 assigned pins/cores</b>					
Straight plug, RJ45	Straight plug, RJ45	0.2	15	★ <b>8082383</b>	<b>NEBC-R3G8-KS-0.2-N-S-R3G8-ET</b>

### Ordering data – Accessories

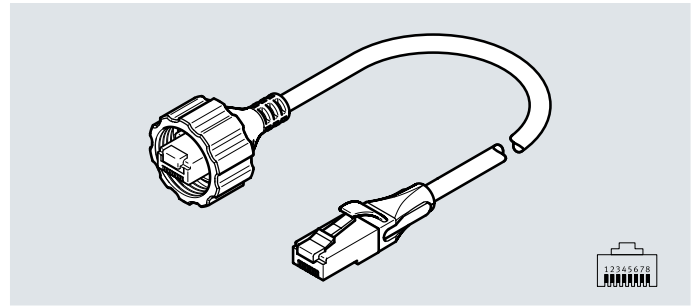
	Electrical connection 1	Electrical connection 2	Part no.	Type
<b>Control cabinet through-feed</b>				
	Straight socket, 4-pin, M12x1, D-coded	Angled socket, 8-pin, RJ45	<b>8040457</b>	<b>NEFU-D12G4-R3DW4</b>

## Connection cables for controls, plug RJ45 with screw-type lock

### Datasheet

#### Connecting cable NEBC-R3G8M22

- Connecting cable RJ45
- Cable length 5 m
- With screw-type lock
- Ethernet-compatible
- For operator unit CDPX



#### General technical data

Conforms to standard	IEC 60603-7-3
Transmission characteristics	In accordance with category 5, EN 50173, class D
	In accordance with category 5, ISO/IEC 11801, class D
Cable identification	Without inscription label holder

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Square
Connection technology	RJ45
Number of pins/cores	8
Assigned pins/cores	8
Type of mounting	Screw-type lock
Tightening torque [Nm]	3

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Plug
Cable outlet	Straight
Design	Square
Connection technology	RJ45
Number of pins/cores	8
Assigned pins/cores	8
Type of mounting	Snap-locking

#### Technical data – Electrical components

Operating voltage range [V DC]	0 ... 60
Current rating at 40 °C [A]	1
Shielding	Yes

#### Technical data – Cable

Cable diameter [mm]	6.7
Cable diameter tolerance [mm]	±0.3
Cable characteristic	For static applications
Bending radius, fixed cable installation [mm]	≥30

## Datasheet

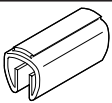
Materials	
Housing	PC
Housing colour	Transparent
Screw-type lock	High-alloy stainless steel
Seals	TPE-V
Pin contacts	Nickel-plated and gold-plated brass
Cable sheath	PVC
Cable sheath colour	Black
Insulating sheath	PVC
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions	
Ambient temperature [°C]	-20 ... +55
Storage temperature [°C]	-20 ... +70
Corrosion resistance class CRC <sup>1)</sup>	4
CE marking (see declaration of conformity) <sup>2)</sup>	To EU EMC Directive
	To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK EMC regulations
	To UK RoHS regulations
Degree of protection	IP20; IP66; IP67
Note on degree of protection	In mounted state
Certification	c UL us - Listed (OL)
	RCM
Certificate-issuing authority	UL E239998

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

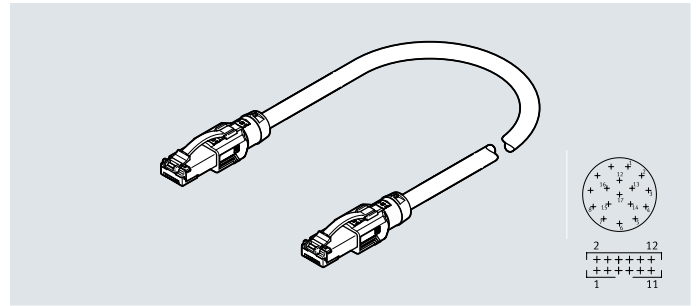
Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight plug, RJ45 with screw-type lock	Straight plug, RJ45 with snap-locking	5	440	<b>8155228</b>	<b>NEBC-R3G8M22-P-5-NS-R3G8</b>

Ordering data – Accessories				
			Part no.	Type
	Inscription labels for attaching to a cable with diameter 5 ... 8 mm	11x20 mm	<b>33361</b>	<b>KM-BZ</b>

## Datasheet

### Connecting cable NEBC- R3Z12G20

- Connecting cable plug RJ45 and socket strip
- Cable length 5 m, 10 m and 15 m
- Suitable for operator unit CDSA



#### General technical data

Cable identification	Without inscription label holder
----------------------	----------------------------------

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug and socket strip
Cable outlet	Straight
Design	Square
Connection technology	RJ45 and socket strip 12 pins, 2 rows
Number of pins/cores	20
Assigned pins/cores	14
Type of mounting	Screw-type lock

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Hybrid plug
Cable outlet	Straight
Design	Round
Connection technology	-
Number of pins/cores	17
Assigned pins/cores	14
Type of mounting	Threaded

#### Technical data – Electrical components

Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	6
Current rating at 40 °C	[A]	11.7
Shielding		No
Pollution degree		3



## Datasheet

Technical data – Cable		
Cable diameter	[mm]	8
Cable diameter tolerance	[mm]	±1
Cable characteristic		Standard
Bending radius, fixed cable installation	[mm]	≥130
Bending radius, flexible cable installation	[mm]	≥130
Test conditions, cable		Test conditions on request
Cable structure	[mm <sup>2</sup> ]	4x(1x0.128) + 10x0.128
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.128

Materials	
Cable sheath	TPE-U(PUR)
Cable sheath colour	Red
Insulating sheath	PP
Note on materials	RoHs-compliant
LABS (PWIS) conformity	VDMA24364 zone III

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +40
Ambient temperature with flexible cable installation	[°C]	0 ... +40
Storage temperature	[°C]	-20 ... +70
Corrosion resistance class CRC <sup>1)</sup>		0
CE marking (see declaration of conformity) <sup>2)</sup>		To EU Low Voltage Directive
Degree of protection		IP65
Note on degree of protection		In mounted state

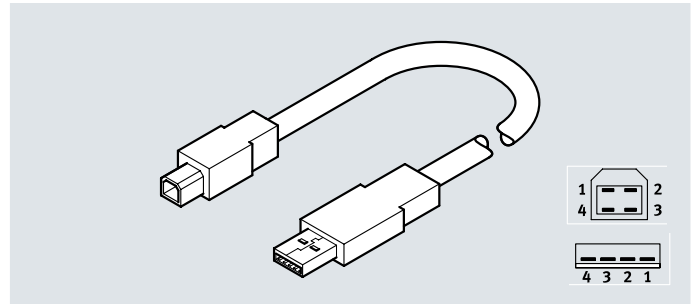
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Ordering data						
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type	
RJ45 and socket strip 12 pins, 2 rows	Hybrid plug	5	680	<b>8126916</b>	<b>NEBC-R3Z12G20-KH-5-N-SBS-RSG17-ET-S1</b>	
		10	1300	<b>8126917</b>	<b>NEBC-R3Z12G20-KH-10-N-SBS-RSG17-ET-S1</b>	
		15	1900	<b>8126918</b>	<b>NEBC-R3Z12G20-KH-15-N-SBS-RSG17-ET-S1</b>	

## Datasheet

- Connecting cable NEBC-U1G4**
- USB 2.0 connecting cable
  - Type A and type B
  - Cable length 1.8 m
  - Suitable for CMMPAS
  - Backwards compatible to USB 1.1



### General technical data

Cable identification	Without inscription label holder
Mounting position	Any

### Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Square
Connection technology	USB 2.0 type B
Number of pins/cores	4
Assigned pins/cores	4

### Technical data – Electrical connection 2

Function	Control side
Connection type	Plug
Cable outlet	Straight
Design	Square
Connection technology	USB 2.0 type A
Number of pins/cores	4
Assigned pins/cores	4

### Technical data – Cable

Cable characteristic	Standard
----------------------	----------

### Materials

Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364 zone III

### Operating and environmental conditions

Corrosion resistance class CRC <sup>1)</sup>	0
CE marking (see declaration of conformity) <sup>2)</sup>	To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK RoHS regulations

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

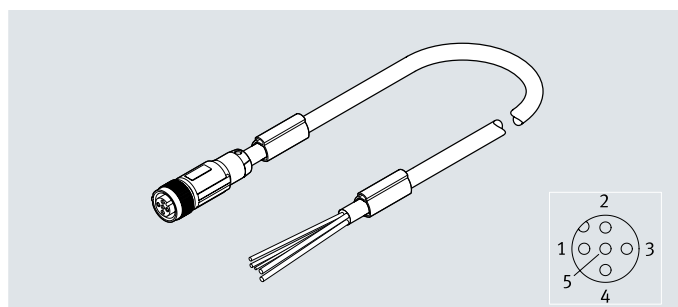
### Ordering data

Electrical connection 1	Electrical connection 2	Cable length [m]	Part no.	Type
Straight plug, USB 2.0 Type A, 4-pin	Straight plug, USB 2.0 Type B, 4-pin	1.8	1501332	NEBC-U1G4-K-1.8-N-U2G4

## Datasheet

### Connecting cable NEBC-M12G5

- Connecting cable M12, 5-pin
- A-coded
- Cable length 5 m
- Suitable for CANopen and DeviceNet®



#### General technical data

Protocol	CANopen DeviceNet®
Cable identification	With 2x inscription label holders
Contact durability	100

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Socket
Cable outlet	Straight
Design	Round
Connection technology	M12x1, A-coded to EN 61076-2-101
Number of pins/cores	5
Assigned pins/cores	5
Type of mounting	Screw-type lock

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Cable
Connection technology	Open end
Wire ends	Stripped
Number of pins/cores	5
Assigned pins/cores	5

#### Technical data – Electrical components

Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	2
Current rating at 40 °C	[A]	4
Pollution degree		3
Shielding		Yes

#### Technical data – Cable

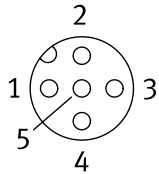
Cable diameter	[mm]	6.7	
Cable diameter tolerance	[mm]	±0.3	
Cable characteristic		Suitable for energy chains	
Bending radius, fixed cable installation	[mm]	≥35	
Bending radius, flexible cable installation	[mm]	≥70	
Test conditions, cable		Test conditions on request	
Cable structure	[mm <sup>2</sup> ]	(2x0.34) + (2x0.25) + 0.34	
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.25	0.34

## Datasheet

Materials	
Housing	TPE-U(PUR) reinforced
Housing colour	Black
Screw-type lock	Nickel-plated die-cast zinc
Seals	NBR
Pin contacts	Nickel-plated and gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Reddish purple
Insulating sheath	PE
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +80
Ambient temperature with flexible cable installation	[°C]	-20 ... +60
CE marking (see declaration of conformity) <sup>1)</sup>		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>1)</sup>		To UK RoHS regulations
Degree of protection		IP65 IP67
Note on degree of protection		In mounted state

1) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Wiring (plug view)			
	Pin	Wire colour <sup>1)</sup>	
	1	–	Open end
	2	RD	Open end
	3	BK	Open end
	4	WH	Open end
	5	BU	Open end

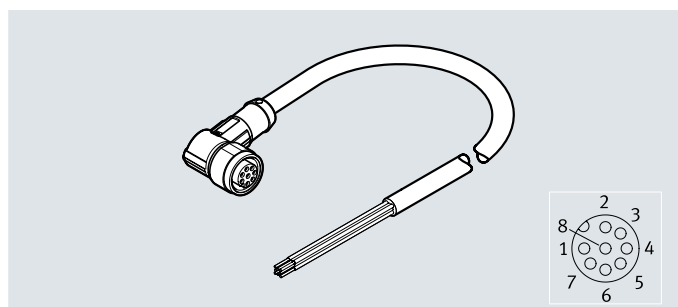
1) To IEC 757

Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight socket, M12x1, 5-pin, A-coded to EN 61076-2-101	Open end	5	310.7	<b>8074191</b>	<b>NEBC-M12G5-ES-5-LE5-CO</b>

## Datasheet

### Connecting cable NEBC-M12G8 NEBC-M12W8

- Connecting cable M12, 8-pin
- A-coded
- Cable length 2 m, 5 m, 10 m and 15 m
- Suitable for controllers with degree of protection IP65/67.



#### General technical data

Based on standard	EN 61076-2-101
Cable identification	Without inscription label holder

#### Technical data – Electrical connection 1

Type	NEBC-M12G8	NEBC-M12W8
Function	Field device side	Field device side
Connection type	Socket	Socket
Cable outlet	Straight	Angled
Design	Round	Round
Connection technology	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101
Number of pins/cores	8	8
Assigned pins/cores	8	8
Type of mounting	Screw-type lock	Screw-type lock

#### Technical data – Electrical connection 2

Type	NEBC-...-M12G8	NEBC-...-LE8
Function	Control side	Control side
Connection type	Plug	Cable
Cable outlet	Straight	–
Design	Round	–
Connection technology	M12x1, A-coded to EN 61076-2-101	Open end
Wire ends	–	Stripped
Number of pins/cores	8	8
Assigned pins/cores	8	8

#### Technical data – Electrical components

Operating voltage range	[V DC]	0 ... 30
Operating voltage range	[V AC]	0 ... 30
Surge resistance	[kV]	0.8
Current rating at 40 °C	[A]	2
Pollution degree		3
Shielding		No

#### Technical data – Cable

Cable diameter	[mm]	6
Cable diameter tolerance	[mm]	±0.2
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥30
Bending radius, flexible cable installation	[mm]	≥30
Test conditions, cable		Test conditions on request
Cable structure	[mm <sup>2</sup> ]	8x0.25
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.25

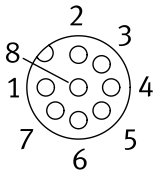
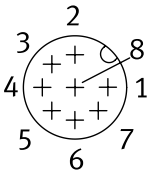
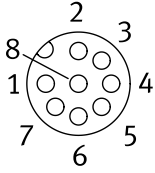
## Datasheet

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated die-cast zinc
Seals	NBR
Pin contacts	Brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Silver-grey
Insulating sheath	PP
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +90
Ambient temperature with flexible cable installation	[°C]	-25 ... +90
Corrosion resistance class CRC <sup>1)</sup>		2
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations
Degree of protection		IP65 IP67
Note on degree of protection		In mounted state
Certification		c UL us - Listed (OL)
Certificate-issuing authority		UL E474609

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Wiring (plug view)				
	Pin	Wire colour <sup>1)</sup>	Pin	
<b>Electrical connection, socket, M12x1, 8-pin – plug, M12x1, 8-pin</b>				
	1	-	1	
	2	-	2	
	3	-	3	
	4	-	4	
	5	-	5	
	6	-	6	
	7	-	7	
	8	-	8	
<b>Electrical connection, socket, M12x1, 8-pin – open cable end</b>				
	1	WH	Open end	
	2	BN	Open end	
	3	GN	Open end	
	4	YE	Open end	
	5	GY		
	6	PK		
	7	BU		
	8	RD		

1) To IEC 757

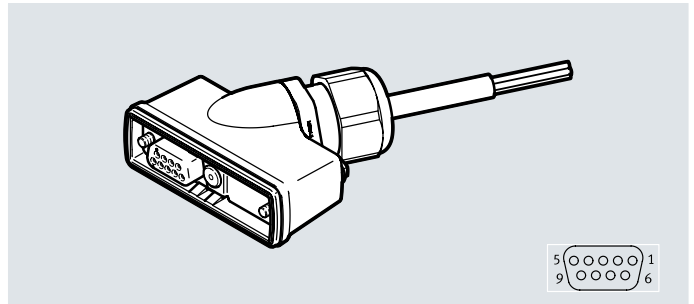
## Datasheet

<b>Ordering data</b>						
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type	
Straight socket, M12x1, 8-pin, A-coded to EN 61076-2-101	Open end	2	105	<b>8094480</b>	<b>NEBC-M12G8-E-2-N-B-LE8</b>	
		5	249	<b>8094477</b>	<b>NEBC-M12G8-E-5-N-B-LE8</b>	
		10	489	<b>8094482</b>	<b>NEBC-M12G8-E-10-N-B-LE8</b>	
		15	729	<b>8094475</b>	<b>NEBC-M12G8-E-15-N-B-LE8</b>	
	Straight plug, M12x1, 8-pin, A-coded to EN 61076-2-101	2	112	<b>8080782</b>	<b>NEBC-M12G8-E-2-N-M12G8</b>	
		5	256	<b>8080783</b>	<b>NEBC-M12G8-E-5-N-M12G8</b>	
		10	496	<b>8080784</b>	<b>NEBC-M12G8-E-10-N-M12G8</b>	
		15	736	<b>8080785</b>	<b>NEBC-M12G8-E-15-N-M12G8</b>	
	Angled socket, M12x1, 8-pin, A-coded to EN 61076-2-101	Open end	2	105	<b>8094476</b>	<b>NEBC-M12W8-E-2-N-B-LE8</b>
			5	249	<b>8094478</b>	<b>NEBC-M12W8-E-5-N-B-LE8</b>
10			489	<b>8094481</b>	<b>NEBC-M12W8-E-10-N-B-LE8</b>	
15			729	<b>8094479</b>	<b>NEBC-M12W8-E-15-N-B-LE8</b>	
Straight plug, M12x1, 8-pin, A-coded to EN 61076-2-101		2	112	<b>8080786</b>	<b>NEBC-M12W8-E-2-N-M12G8</b>	
		5	256	<b>8080787</b>	<b>NEBC-M12W8-E-5-N-M12G8</b>	
		10	496	<b>8080788</b>	<b>NEBC-M12W8-E-10-N-M12G8</b>	
		15	736	<b>8080789</b>	<b>NEBC-M12W8-E-15-N-M12G8</b>	

## Datasheet

### Connecting cable NEBC-S1WA9

- Sub-D connecting cable, 9-pin
- Cable lengths 0.5 ... 20 m
- Suitable for valve terminal MPA-C



#### General technical data

Protocol	I-Port
Based on standard	DIN 47100
Cable identification	Without inscription label holder
Contact durability	50

#### Technical data – Electrical connection 1

Function	Field device side
Connection type	Socket
Cable outlet	Angled
Design	Square
Connection technology	Sub-D
Number of pins/cores	9
Assigned pins/cores	5
Type of mounting	2x screw 4-40 UNC With seal

#### Technical data – Electrical connection 2

Function	Control side
Connection type	Cable
Connection technology	Open end
Number of pins/cores	5

#### Technical data – Electrical components

Operating voltage range	[V DC]	0 ... 30
Current rating at 40 °C	[A]	5.2
Protective earth connection		Not provided
Pollution degree		3

#### Technical data – Cable

Cable diameter	[mm]	6.5
Cable diameter tolerance	[mm]	±0.1
Cable characteristic		Standard
Bending radius, fixed cable installation	[mm]	≥26
Bending radius, flexible cable installation	[mm]	≥78
Cable structure	[mm <sup>2</sup> ]	5x0.5
Nominal conductor cross-section	[mm <sup>2</sup> ]	0.5
Special characteristics		Easy to clean



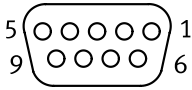
## Datasheet

Materials	
Housing	Reinforced PA
Housing colour	Grey
Screws	Stainless steel
Pin contacts	Gold-plated bronze
Cable sheath	PVC
Cable sheath colour	Grey
Insulating sheath	PVC
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	-5 ... +60
Ambient temperature with flexible cable installation	[°C]	-5 ... +60
Storage temperature	[°C]	-20 ... +40
Corrosion resistance class CRC <sup>1)</sup>		3
CE marking (see declaration of conformity) <sup>2)</sup>		To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		To UK RoHS regulations
Degree of protection		IP65
		IP67
		IP69K
Note on degree of protection		In mounted state

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

2) More information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Wiring (socket view)			
	Pin	Wire colour <sup>1)</sup>	
	1	BK	Open end
	2	GY	Open end
	3	BU	Open end
	4	WH	Open end
	5	BN	Open end
	6	n.c.	-
	7	n.c.	-
	8	n.c.	-
	9	n.c.	-

1) To IEC 757

Ordering data						
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type	
Straight socket, Sub-D, 9-pin	Open cable end	2.5	300	<b>2376018</b>	<b>NEBC-C-S1WA9HS-K-2.5-N-B-LE5-PT-S10</b>	
		5	600	<b>2376019</b>	<b>NEBC-C-S1WA9HS-K-5-N-B-LE5-PT-S10</b>	
		10	1120	<b>2376020</b>	<b>NEBC-C-S1WA9HS-K-10-N-B-LE5-PT-S10</b>	
		0.5 ... 20	-	<b>4106124</b>	<b>NEBC-C-S1WA9HS-K- ... -N-B-LE5-PT-S10</b>	