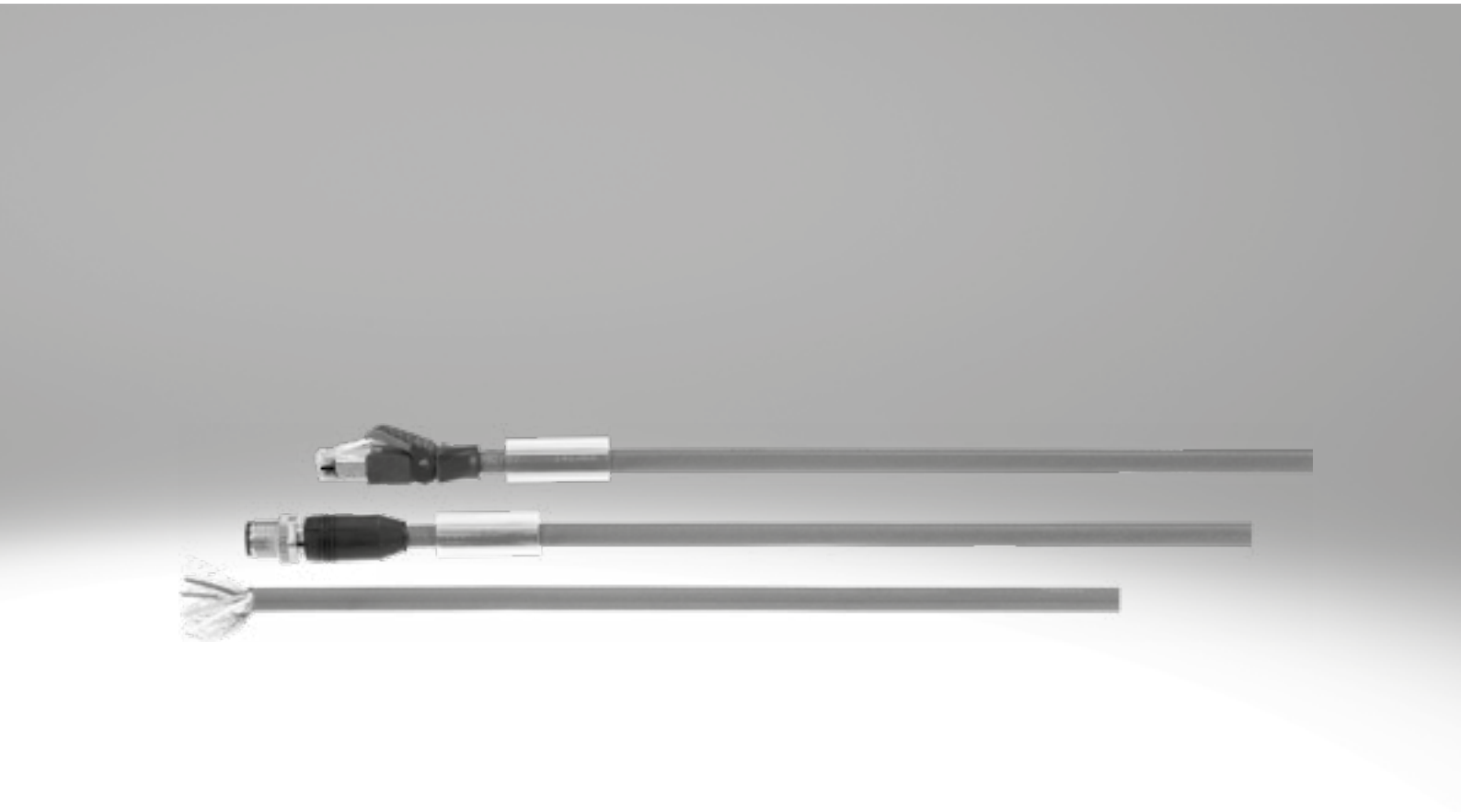
Connecting cables for controllers



Product range overview

Function	Design	Type	Connection technology (Electrical connection 2)	Cable characteristic	Length	→ Page/ Internet
Electrical connection 1 plug	**Plug M8**					
	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	8
	M9 plug					
	5-pin	NEBC-M9	Open cable end	Suitable for energy chains	2 m 5 m	11
	M12 plug					
	4-pin D-coded	NEBC-D12	M12 plug, 4-pin RJ45 plug, 8-pin Open cable end	Basic Suitable for energy chains	0.5 m 1 m 3 m 5 m 10 m	13
	5-pin	NEBC-A1W3	Socket	Standard	0.3 m	16
	8-pin Festo-specific coding	NEBC-F12	M12 plug, 8-pin	Standard	0.25 m 0.5 m 1 m 1.5 m 2 m 3 m	18
	Sub-D plug					
	9-pin	KDI	Sub-D socket, 9-pin	–	3 m	21
	15-pin	NEBC-S1H15	Open cable end	Suitable for energy chains	1 m 2.5 m 5 m 10 m	23
	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	26
	RJ45 plug					
	8-pin	NEBC-R3G4	RJ45 plug, 8-pin	Standard Suitable for energy chains	0.2 m 1 m	28
	USB 2.0 plug, type A					
	4-pin	NEBC-U1G4	USB 2.0 plug, type B	Standard	1.8 m	31
	USB 3.0 plug, type B					
	10-pin	NEBC-U7G10	USB 3.0 plug, type A	Standard Suitable for energy chains	5 m 15 m 30 m	32
Electrical connection 1 socket	**Socket M12x1**					
	5-pin	NEBC-M12G5	Open cable end	Suitable for energy chains	5 m	35
	8-pin	NEBC-M12G8 NEBC-M12W8	M12 plug, 8-pin Open cable end	Suitable for energy chains	2 m 5 m 10 m 15 m	37
	Sub-D socket					
	9-pin	NEBC-S1WA9	Open cable end	Standard	2.5 m 5 m 10 m 0.5 ... 20 m	40

Type codes

001	Series	
KDI	Programming cable	

002	Use	
PPA	Programming cable	

003	Cable length [m]	
2.5	2.5	
3	3	

004	Connection technology	
BU	Socket, sub-D, both sides	

005	Number of pins/wires on the left	
9	9	

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	
M8	Socket M8x1 A-coded, EN 61076-2-104	
D8	M8, D-coded, IEC 61076-2-114 ED1	
M9	M9	
M12	Socket M12x1 A-coded, EN 61076-2-101	
D12	M12, D-coded	
F12	M12, Festo-specific encoding	
U1	USB, type A	
U7	USB 3.0, type B	
R3	RJ45	
S1	Sub-D	
S2	SCSI	
P1	Fork spring	
LE	Open end	

004	Cable outlet left	
	None	
G	Straight	
H	Straight, 3-row	
W	Angled	
WA	Angled 45°	

005	Number of pins/wires on the left	
3	3	
4	4	
5	5	
8	8	
9	9	
10	10	
15	15	
25	25	
36	36	

006	Additional socket functions	
	None	
HS	With seal	

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

008	Cable design	
	Standard	
S	With shielding	
H	Hybrid cable	

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	
30	30	

010	Cable identification	
	With label holder	
N	Without label holder	

011	Type of connector	
	Standard	
B	Socket	
SB	Plug/socket	
S	Plug at both ends	

012	Connection technology right, controller side	
D8	M8, D-coded, IEC 61076-2-114 ED1	
M12	Plug M12x1 A-coded, EN 61076-2-101	
F12	M12, 4 wires	
D12	M12, D-coded	
U5	USB 3.0, type A	
U2	USB, type B	
R3	RJ45	
S1	Sub-D	
C2	Screw terminal	
LE	Open end	

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	
15	15	
25	25	
26	26	
36	36	

Type codes

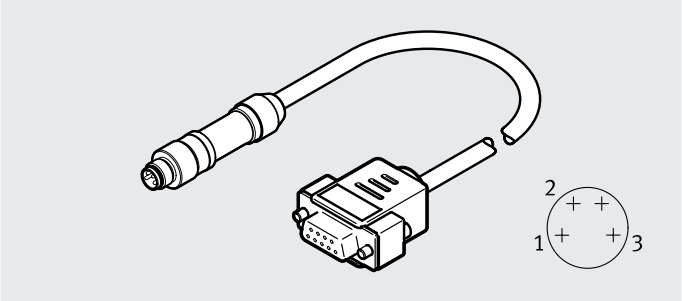
015	Bus protocol/activation	
	None	
ET	EtherNet	
CO	CANopen	
PT	I-Port interface	
RS2	RS232	

016	Degree of protection, electrical system	
	Standard	
S7	IP20	
S10	IP65/IP67/IP69K	

Data sheet

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 inscription	Via 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/wires	4
Assigned pins/wires	3
Type of mounting	Screw-type lock

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Socket
Cable outlet	Straight
Design	Angular
Connection technology	Sub-D
Number of pins/wires	9
Assigned pins/wires	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

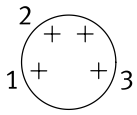
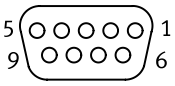
Technical data – Cable		
Cable diameter	[mm]	4.6
Cable diameter tolerance	[mm]	±0.1
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥24
Bending radius, flexible cable installation	[mm]	≥47
Cable test conditions		Test conditions on request
Cable composition	[mm^2]	3x0.34
Conductor nominal cross section	[mm^2]	0.34

Data sheet

Materials	
Cable sheath	TPE-U(PUR)
Cable sheath colour	Black
Note on materials	Contains paint-wetting impairment substances
	RoHS-compliant

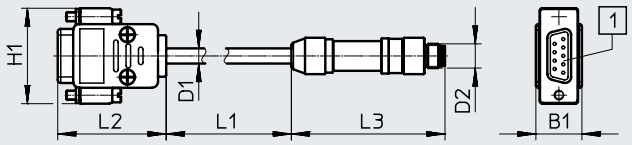
Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +50
Ambient temperature with flexible cable installation	[°C]	0 ... +50
Degree of protection		IP67
Note on degree of protection		In assembled state
		IP20 for Sub-D socket

Circuitry (socket/plug view)

Electrical connection 1	Pin	Wire colour[1]		Pin	Electrical connection 2
	1	BN		5	
	2	BK		2	
	3	BU		3	
	4	n.c.	Bridge to pin 4 and 6	1	
	-	-	Bridge to pin 1 and 6	4	
	-	-	Bridge to pin 1 and 4	6	
	-	-	Bridge to pin 8	7	
	-	-	Bridge to pin 7	8	
	-	-	n.c.	9	
	Housing	Shielding		Housing	

1) To IEC 757

Dimensions Download CAD data ➔ www.festo.com



	B1	D1 ø	D2	H1	L1	L2	L3
NEBC-F12G8-KH-0.25-N-S-F12G8	15.2	4.6	M8x1	31.5	1500	35.8	50.7
NEBC-F12G8-KH-0.5-N-S-F12G8					2500		

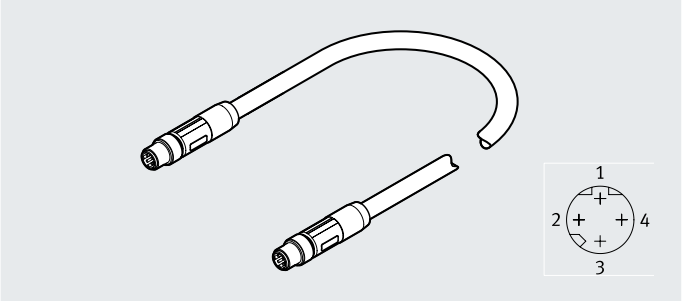
Ordering data

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

Data sheet

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 automation system CPX-AP-I



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

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

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Plug
Cable outlet	Straight
Design	Round
Connection technology	M8x1, D-coded to EN 61076-2-114
Number of pins/wires	4
Assigned pins/wires	4
Type of mounting	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 present
Shielding		Yes
Pollution degree		3

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
Cable test conditions		Test conditions on request
Cable composition		1 x (4 x AWG22)
Conductor nominal cross section		AWG22
Special characteristics		Oil-resistant

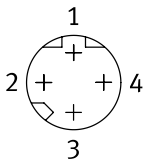
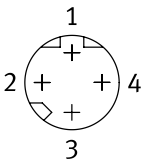
Data sheet

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

Operating and environmental conditions		
Ambient temperature	[°C]	–20 … +60
Ambient temperature with flexible cable installation	[°C]	–5 … +60
Storage temperature		–40 … +70
Corrosion resistance CRC[1)]		2
Degree of protection		IP65
		IP67
Note on degree of protection		In assembled state

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Circuitry (socket/plug view)

Electrical connection 1	Pin	Wire colour[1)]	Pin	Electrical connection 2
	1	BL	1	
	2	OR	2	
	3	WH	3	
	4	YE	4	
	Housing	Shielding	Housing	

1) To IEC 757

Dimensions

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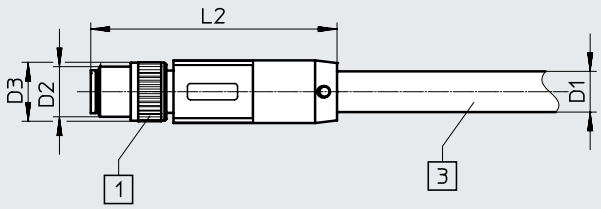
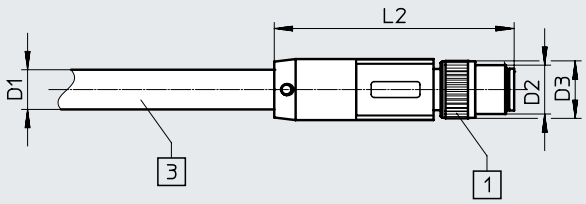
Connection technology on the left



[1] Plug

Connection technology on the right



[3] Cable, length 0.3 … 15 m depending on the order

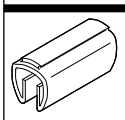
	D1 Ø	D2	D3 Ø	L2
NEBC-D8G4-...-D8G4-ET	6.3	M8x1	10	39.3

Data sheet

Ordering data

	Cable length [m]	Weight [g]	Part no.	Type
Plug M8x1 – plug M8x1	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**

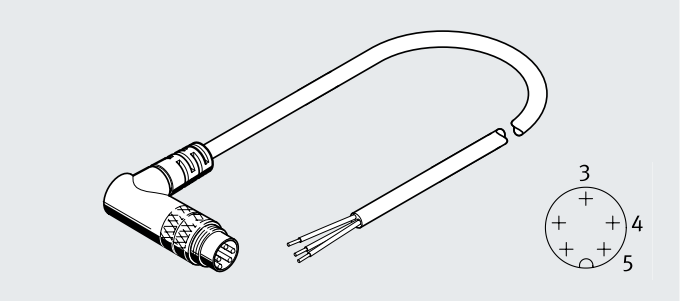
Ordering data – Accessories

			Part no.	Type
	Inscription labels for attachment to a cable with diameter 5 … 8 mm	11x20 mm	**33361**	**KM-BZ**

Data sheet

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 inscription	Via accessories

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Plug
Cable outlet	Angled
Design	Round
Connection technology	M9x0.5
Number of pins/wires	5
Assigned pins/wires	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 end sleeve
Number of pins/wires	5
Assigned pins/wires	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 mm²
		3.6 A for 0.49 mm²
Pollution degree		1

Technical data – Cable				
Cable diameter	[mm]	5.5		
Cable characteristic		Suitable for energy chains		
Bending radius, flexible cable installation	[mm]	≥75		
Cable test conditions		Test conditions on request		
Cable composition	[mm²]	2x0.25 + 2x0.34 + 0.49		
		Shielded		
Conductor nominal cross section	[mm²]	0.25	0.34	0.49

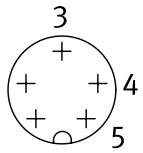
Data sheet

Materials	
Housing	PA, PBT, TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Pin contacts	Gold-plated bronze
	Gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Light grey
Insulating sheath	TPE-U(PUR)
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–20 ... +80
Ambient temperature with flexible cable installation	[°C]	–5 ... +80
Corrosion resistance CRC[1)]		1
Degree of protection		IP65
		IP67
Note on degree of protection		In assembled state

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Circuitry (socket/plug view)

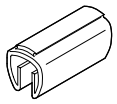
Electrical connection 2	Pin	Wire colour[1)]	Electrical connection 1
	1	n.c.	–
	2	n.c.	–
	3	GN	Open end
	4	WH	Open end
	5	BN	Open end

1) To IEC 757

Ordering data

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

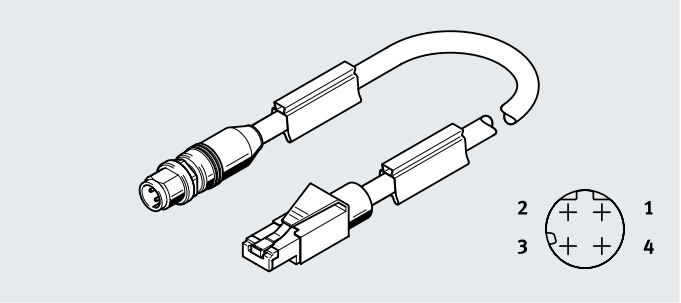
Ordering data – Accessories

			Part no.	Type
	Inscription labels for attachment to a cable with diameter 5 ... 8 mm	11x20 mm	**33361**	**KM-BZ**

Data sheet

Connecting cable NEBC-D12G4

- M12 connecting cable, 4-pin
- D-coded
- Cable lengths: 0.5 … 10 m
- Ethernet-compatible



General technical data			
		Plug M12x1, D-coded	RJ45 plug
Conforms to standard		EN 61076-2-101	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	
Ethernet cable specification		Type: CAT.5	

Technical data – Electrical connection 1		
Connection type		Plug
Cable outlet		Straight
Connection technology		M12x1, D-coded
Number of pins/wires		4

Technical data – Electrical connection 2			
Connection type		Plug	Cable
Cable outlet		Straight	–
Connection technology		RJ45	Open end
Wire ends		–	Cut off bluntly, sheath removed
Number of pins/wires		4	4

Technical data – Electrical components				
		Plug M12x1, D-coded	RJ45 plug	Open cable end
Operating voltage range	[V DC]	0 … 30	0 … 30	0 … 30
	[V AC]	–	–	0 … 30
Surge resistance	[kV]	0.8	0.8	0.8
Current rating at 40°C	[A]	4	1.76	4
Pollution degree		3	3	3

Technical data – Cable		
Cable diameter	[mm]	6.7
Cable characteristic		Suitable for energy chains
Minimum cable bending radius	[mm]	100
Cable test conditions		Cable chain: 2 million cycles, bending radius 100 mm
		Bending strength: to Festo standard
		Test conditions on request
Cable composition	[mm^2]	2x(2x0.34)
Conductor nominal cross section	[mm^2]	0.34
Special characteristics		Oil-resistant

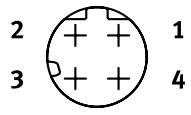
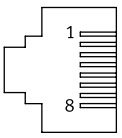
Data sheet

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		
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	Free of copper and PTFE		
	RoHS-compliant		

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		
Corrosion resistance CRC[1)]		1		
Degree of protection		IP65	IP20	IP65
		IP67	–	IP67
Certification		–	–	c UL us – Listed (OL)

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Circuitry (plug view)

Pin	Wire colour[1)]	Pin	
Electrical connection, plug, M12x1, 4-pin – plug, M12x1, 4-pin			
1	YE	1	
2	WH	2	
3	OG	3	
4	BU	4	
Electrical connection, plug, M12x1, 4-pin – plug, RJ45, 8-pin			
1	YE	1	
2	WH	3	
3	OG	2	
4	BU	6	
–	–	4	
–	–	5	
–	–	7	
–	–	8	
Electrical connection, plug, M12x1, 4-pin – open cable end			
1	YE	Open end	
2	WH	Open end	
3	OG	Open end	
4	BU	Open end	

1) To IEC 757

Data sheet

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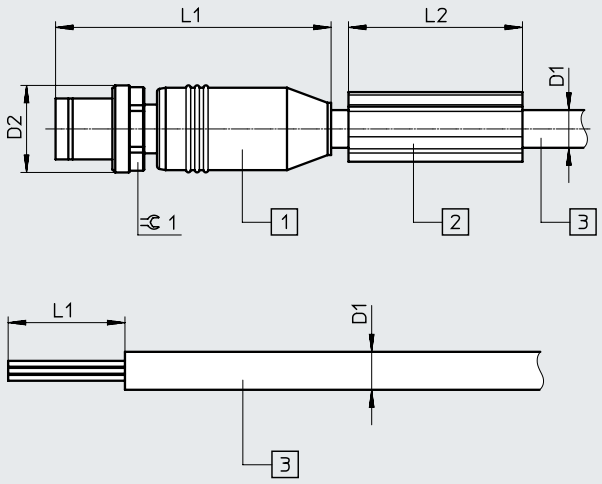
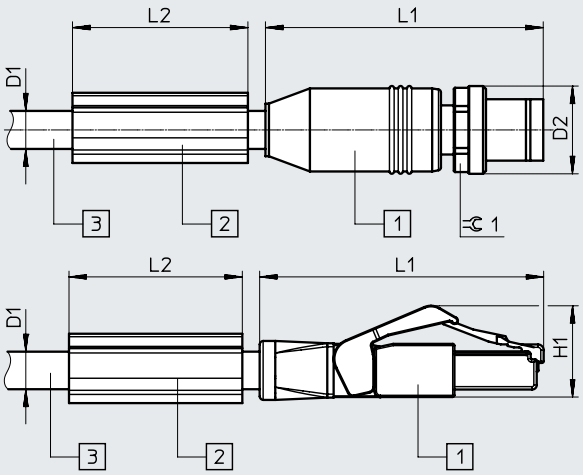
Connection technology on the left



Connection technology on the right



[1] Plug
[2] Inscription label holder
[3] Cable, length 0.5 ... 10 m depending on the order

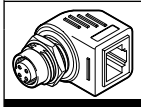
Connection technology on the left	D1 ø	D2 ø	L1	L2	⊂1
Plug M12x1	6.7	15	47.5	30	13
Open end	6.7	–	20	–	–

Connection technology on the right	D1	D2	L1	L2	H1	⊂1
Plug M12x1	6.7	15	47.5	30	–	13
RJ45 plug	6.7	–	49	30	15.8	–

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	57	**8040446**	**NEBC-D12G4-ES-0.5-S-D12G4-ET**
		1	93	**8040447**	**NEBC-D12G4-ES-1-S-D12G4-ET**
		3	223	**8040448**	**NEBC-D12G4-ES-3-S-D12G4-ET**
		5	350	**8040449**	**NEBC-D12G4-ES-5-S-D12G4-ET**
		10	679	**8040450**	**NEBC-D12G4-ES-10-S-D12G4-ET**
	Straight plug, RJ45, 8-pin	1	89	**8040451**	**NEBC-D12G4-ES-1-S-R3G4-ET**
		3	219	**8040452**	**NEBC-D12G4-ES-3-S-R3G4-ET**
		5	347	**8040453**	**NEBC-D12G4-ES-5-S-R3G4-ET**
		10	674	**8040454**	**NEBC-D12G4-ES-10-S-R3G4-ET**
	Open end, 4-wire	5	341	**8040456**	**NEBC-LE4-ES-5-D12G4-ET**

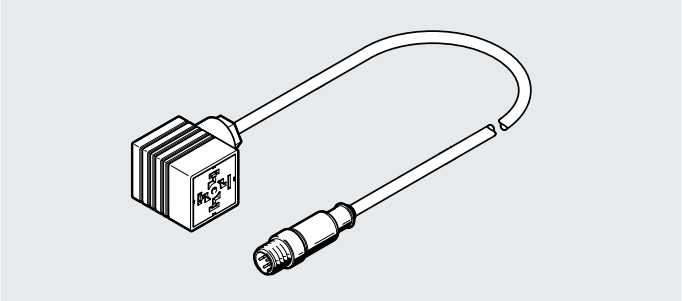
Ordering data – Accessories

	Electrical connection 1	Electrical connection 2	Part no.	Type
Cabinet through-feed				
	Straight socket, 4-pin, M12x1, D-coded	Straight socket, 4-pin, M12x1, D-coded	**8040459**	**NEFU-D12G4-D12DG4**
		Angled socket, 8-pin, RJ45	**8040457**	**NEFU-D12G4-R3DW4**

Data sheet

Connecting cable NEBC-A1W3

- M12 connecting cable, 5-pin
- Cable length: 0.3 m



General technical data	
Based on standard	EN 61076-2-101

Technical data – Electrical connection 1	
Function	Field device side
Connection type	Socket
Cable outlet	Angled
Design	Square design

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Plug
Cable outlet	Straight
Design	Round
Connection technology	M12x1
Number of pins/wires	5

Technical data – Electrical components	
Protective earth connection	Present

Technical data – Cable		
Cable diameter	[mm]	5.9
Permissible cable diameter	[mm]	5.7 ... 6.1
Minimum cable bending radius	[mm]	90
Cable composition	[mm^2]	4x0.34
Conductor nominal cross section	[mm^2]	0.34

Materials	
Housing colour	Black
Cable sheath	TPE-U(PUR), PVC
Cable sheath colour	Grey

Data sheet

Operating and environmental conditions		
Ambient temperature	[°C]	–25 … +80
Ambient temperature with flexible cable installation	[°C]	–20 … +60
Corrosion resistance CRC[1)]		0
Degree of protection		IP65

1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

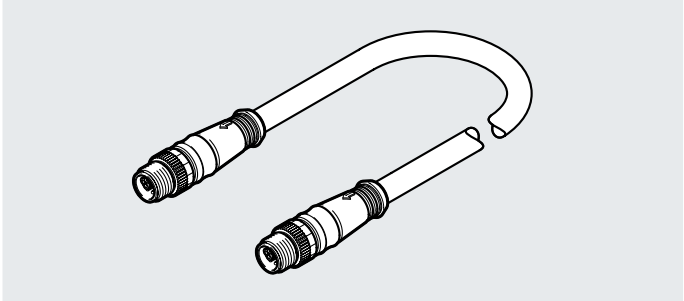
Ordering data

Electrical connection 2	Electrical connection 1	Cable length [m]	Part no.	Type
Straight plug, M12x1, 5-pin	Angled socket	0.3	**549294**	**NEBC-A1W3-K-0.3-N-M12G5**
			549293	**NEBC-P1W4-K-0.3-N-M12G5**

Data sheet

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 inscription	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/wires	8
Assigned pins/wires	8
Type of mounting	Screw-type lock, size 14 mm, 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/wires	8
Assigned pins/wires	8
Type of mounting	Screw-type lock, size 14 mm, 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^2
Pollution degree		3

Data sheet

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	
Cable test conditions		Test conditions on request	
Cable composition	[mm^2]	(1x(4x0.14)) + 4x0.75	
Conductor nominal cross section	[mm^2]	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

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 CRC[1)]		1
Degree of protection		IP65
		IP67
Note on degree of protection		In assembled state
Certification		c UL us – Recognised (OL)

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Data sheet

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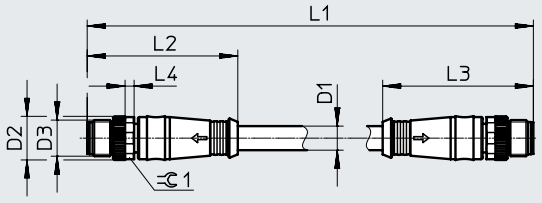


	D1 ø	D2 ø	D3	L1	L2	L3	L4	⊂1
NEBC-F12G8-KH-0.25-N-S-F12G8	8	15	M12x1	250	50	50	3	14
NEBC-F12G8-KH-0.5-N-S-F12G8				500				
NEBC-F12G8-KH-1-N-S-F12G8				1000				
NEBC-F12G8-KH-1.5-N-S-F12G8				1500				
NEBC-F12G8-KH-2-N-S-F12G8				2000				
NEBC-F12G8-KH-3-N-S-F12G8				3000				

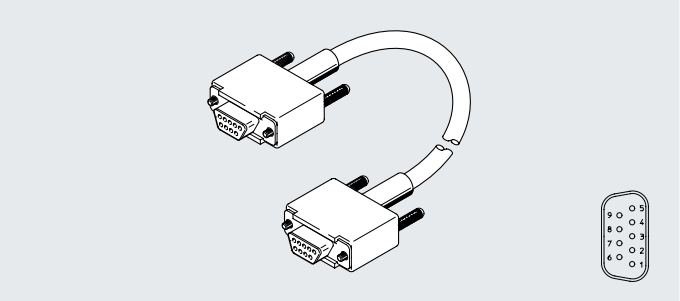
Ordering data

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

Data sheet

Connecting cable KDI

- Connecting cable (programming cable) for different applications
- Pre-assembled at both ends
- Cable length: 3 m



General technical data	
Cable inscription	Via accessories

Technical data – Electrical connection 1	
Function	Controller side
Connection type	Plug
Cable outlet	Straight
Connection technology	Sub-D
Number of pins/wires	9
Assigned pins/wires	3
Type of mounting	Screws 4-40 UNC

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Socket
Cable outlet	Straight
Connection technology	Sub-D
Number of pins/wires	9
Assigned pins/wires	7
Type of mounting	Screws 4-40 UNC

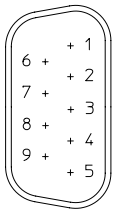
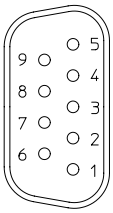
Technical data – Cable		
Cable composition	[mm^2]	9x0.22
		Shielded

Materials	
Housing	PBT
Contacts	Gold-plated copper alloy
Union nut	Nickel-plated brass
Cable sheath	PVC

Operating and environmental conditions		
Ambient temperature	[°C]	–30 ... +80
Ambient temperature for flexible cable installation	[°C]	–10 ... +80

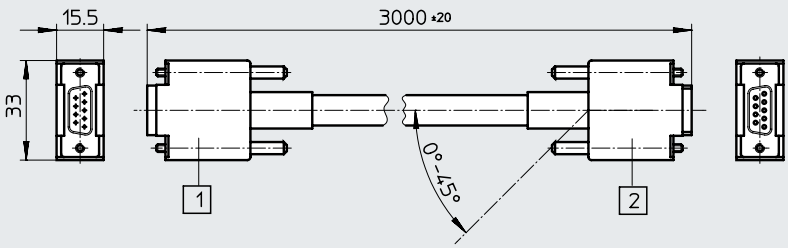
Data sheet

Circuitry (socket/plug view)

Electrical connection 1	Pin	Wire colour[1)]		Pin	Electrical connection 2
	1	n.c.	Bridge to pin 6	1	
	2	BN		3	
	3	GN		2	
	4	n.c.		4	
	5	WH		5	
	6	n.c.	Bridge to pin 1	6	
	7	n.c.	Bridge to pin 8	7	
	8	n.c.	Bridge to pin 7	8	
	9	n.c.		9	
	Housing	Shielding		–	

1) To IEC 757

Dimensions Download CAD data ➔ www.festo.com



[1] Straight socket, 9-pin, Sub-D

[2] Straight plug, 9-pin, Sub-D

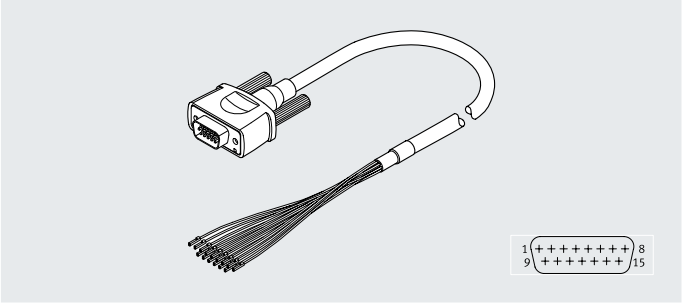
Ordering data

	Cable length [m]	Weight [g]	Part no.	Type
Sub-D plug, 9-pin – Sub-D socket, 9-pin	3	156	**151915**	**KDI-PPA-3-BU9**

Data sheet

Connecting cable NEBC-S1H15

- Sub-D connecting cable, 15-pin
- Cable lengths: 1 m, 2.5 m, 5 m and 10 m



General technical data	
Conforms to standard	DIN 47100
Cable inscription	Without inscription label holder

Technical data – Electrical connection 1	
Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Angular
Connection technology	Sub-D
Number of pins/wires	15
Assigned pins/wires	15
Type of mounting	2x screw 4-40 UNC

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Cable
Connection technology	Open end
Wire ends	Wire end sleeve
Number of pins/wires	15
Assigned pins/wires	15

Technical data – Electrical components		
Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 30
Pollution degree		3

Technical data – Cable		
Cable diameter	[mm]	6.6
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥33
Cable composition	[mm^2]	18x0.14
Conductor nominal cross section	[mm^2]	0.14

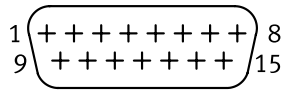
Data sheet

Materials	
Cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–30 ... +80
Ambient temperature with flexible cable installation	[°C]	–30 ... +80
CE marking (see declaration of conformity)[1]		To EU Low Voltage Directive
Degree of protection		IP50
Note on degree of protection		In assembled state

1) Additional information is available at www.festo.com/sp → Certificates.

Circuitry (plug view)

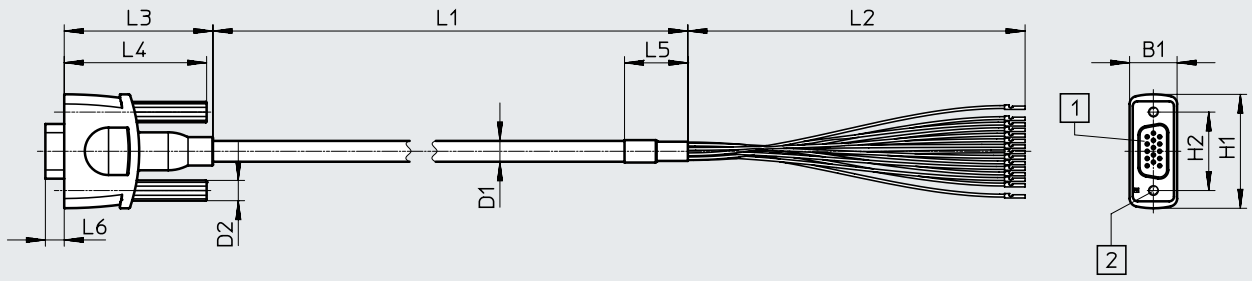


Pin	Wire colour[1]	
1	WH	Open end
2	BN	Open end
3	GN	Open end
4	YE	Open end
5	GY	Open end
6	PK	Open end
7	BU	Open end
8	RD	Open end
9	BK	Open end
10	VT	Open end
11	GY PK	Open end
12	RD BU	Open end
13	GN WH	Open end
14	BN GN	Open end
15	YE WH	Open end

1) To IEC 757

Data sheet

Dimensions Download CAD data ➔ www.festo.com



[1] Sub-D plug, 15-pin

[2] Screw 4-40 UNC

	B1	D1 ø	D2 ø	H1	H2	L1	L2	L3	L4	L5	L6
NEBC-F12G8-KH-1-N-S-F12G8	15	6.6	6.4	36	24.8	1000	100	47	45	20	6
NEBC-F12G8-KH-1.5-N-S-F12G8						2500					
NEBC-F12G8-KH-2-N-S-F12G8						5000					
NEBC-F12G8-KH-3-N-S-F12G8						10000					

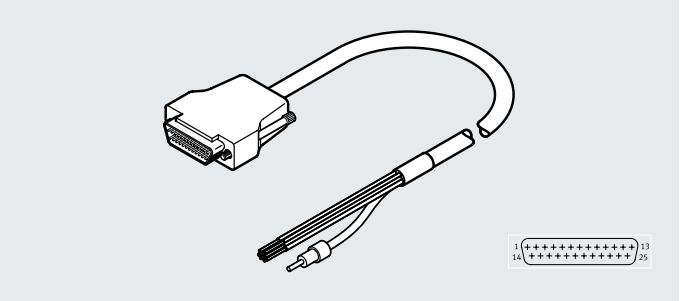
Ordering data

Electrical connection 1	Electrical connection 2	Cable length [m]	Part no.	Type
Straight plug, Sub-D, 15-pin	Open cable end	1	**2307459**	**NEBC-S1H15-E-1.0-N-LE15**
		2.5	**2052917**	**NEBC-S1H15-E-2.5-N-LE15**
		5	**2052918**	**NEBC-S1H15-E-5.0-N-LE15**
		10	**2052919**	**NEBC-S1H15-E-10.0-N-LE15**

Data sheet

Connecting cable NEBC-S1G25

- Sub-D connecting cable, 25-pin
- Cable lengths: 1 m, 2 m, 2.5 m, 3.2 m, 5 m and 10 m



Technical data – Electrical connection 1	
Connection type	Plug
Cable outlet	Straight
Connection technology	Sub-D
Number of pins/wires	25

Technical data – Electrical connection 2			
Type	NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Connection type	Socket	Cable	Cable
Cable outlet	Straight	–	–
Connection technology	Sub-D	Open end	Open end
Number of pins/wires	25	25	26

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

Technical data – Cable				
Type		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Cable diameter	[mm]	7	7	10.8
Cable diameter tolerance	[mm]	–	–	±0.2
Minimum cable bending radius	[mm]	–	–	220
Cable composition	[mm^2]	Shielded	Shielded	5x(2x0.25) + 16x025
Connection cross section	[mm^2]	–	–	0.25

Data sheet

Materials

Type	NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Housing	–	–	Die-cast zinc
Housing colour	Grey	Grey	–
Pin contacts	–	–	Tin-plated copper alloy
			Nickel-plated and gold-plated
Cable sheath	–	–	PVC
Cable sheath colour	Grey	Grey	Grey
Insulating sheath	–	–	PVC
Note on materials	Contains paint-wetting impairment substances	Contains paint-wetting impairment substances	–
	RoHS-compliant	RoHS-compliant	RoHS-compliant

Operating and environmental conditions

Type		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Ambient temperature	[°C]	–	–	–30 ... +80
Ambient temperature with flexible cable installation	[°C]	–	–	–5 ... +80
Corrosion resistance CRC[1)]		0	0	0
Degree of protection		IP40	IP40	IP20

1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

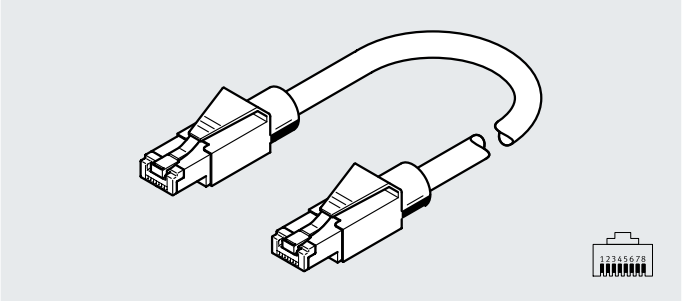
Ordering data

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	–	**8001374**	**NEBC-S1G25-K-1.0-N-S1G25**
			2	–	**8001375**	**NEBC-S1G25-K-2.0-N-S1G25**
			5	–	**8001376**	**NEBC-S1G25-K-5.0-N-S1G25**
	Open cable end	25-wire	3.2	–	**8001373**	**NEBC-S1G25-K-3.2-N-LE25**
		26-wire	2.5	570	**552254**	**NEBC-S1G25-K-2.5-N-LE26**

Data sheet

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
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	–
Ethernet cable specification	Type: CAT.5	–
Cable inscription	–	Without inscription label holder

Technical data – Electrical connection 1		
Type	NEBC-R3G4	NEBC-R3G8
Function	–	Field device side
Connection type	Plug	Plug
Cable outlet	Straight	Straight
Design	–	Angular
Connection technology	RJ45	RJ45
Number of pins/wires	8	8
Assigned pins/wires	4	8

Technical data – Electrical connection 2		
Type	NEBC-R3G4	NEBC-R3G8
Function	–	Controller side
Connection type	Plug	Plug
Cable outlet	Straight	Straight
Design	–	Angular
Connection technology	RJ45	RJ45
Number of pins/wires	8	8
Assigned pins/wires	4	8

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
Current rating at 40°C	[A]	1.76	1.5
Pollution degree		3	2
Shielding		–	Yes

Data sheet

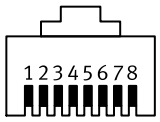
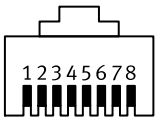
Technical data – Cable			
Type		NEBC-R3G4	NEBC-R3G8
Cable diameter	[mm]	6.7	5
Cable characteristic		Suitable for energy chains	Standard
Minimum cable bending radius	[mm]	100	–
Bending radius, fixed cable installation	[mm]	–	24
Cable test conditions		Cable chain: 2 million cycles, bending radius 100 mm	–
		Bending strength: to Festo standard	–
		Test conditions on request	Test conditions on request
Cable composition	[mm^2]	2x(2x0.34)	4 x 2 x 0.16
Conductor nominal cross section	[mm^2]	0.34	0.16
Special characteristics		Oil-resistant	–

Materials		
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	Free of copper and PTFE	–
	RoHS-compliant	RoHS-compliant

Operating and environmental conditions			
Type		NEBC-R3G4	NEBC-R3G8
Ambient temperature	[°C]	–25 ... +80	–20 ... +60
Ambient temperature with flexible cable installation	[°C]	–20 ... +60	–
Corrosion resistance CRC[1)]		1	0
Degree of protection		IP20	IP20
Note on degree of protection		–	In assembled state

1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.
Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Circuitry (plug view)

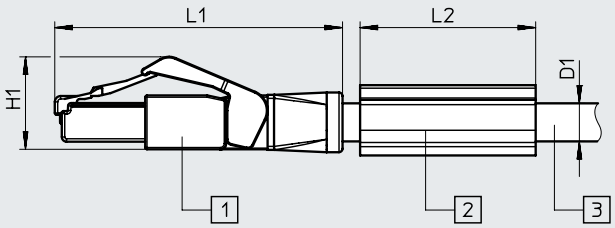
	Pin	Wire colour[1)]	Pin	
NEBC-R3G4				
	1	YE	1	
	2	OG	2	
	3	WH	3	
	4	–	4	
	5	–	5	
	6	BU	6	
	7	–	7	
	8	–	8	

1) To IEC 757

Data sheet

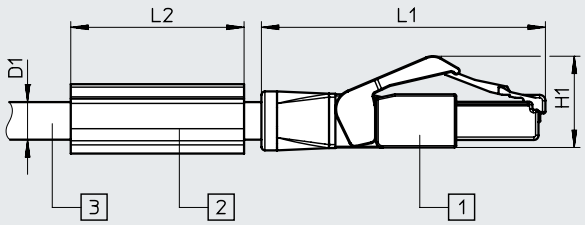
Dimensions Download CAD data ➔ www.festo.com

Connection technology on the left



[1] Plug
[2] Inscription label holder

Connection technology on the right



[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
4 assigned pins/wires					
Straight plug, RJ45	Straight plug, RJ45	1	87	**8040455**	**NEBC-R3G4-ES-1-S-R3G4-ET**
8 assigned pins/wires					
Straight plug, RJ45	Straight plug, RJ45	0.2	15	**8082383**	**NEBC-R3G8-KS-0.2-N-S-R3G8-ET**

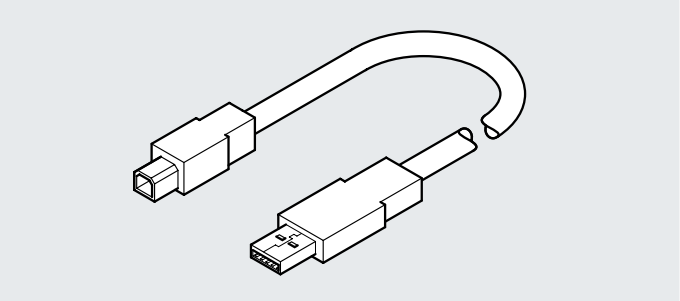
Ordering data – Accessories

	Electrical connection 1	Electrical connection 2	Part no.	Type
Cabinet through-feed				
	Straight socket, 4-pin, M12x1, D-coded	Angled socket, 8-pin, RJ45	**8040457**	**NEFU-D12G4-R3DW4**

Data sheet

Connecting cable NEBC-U1G4

- Connecting cable USB 2.0
- Type A and type B
- Cable length: 1.8 m
- Suitable for CMMPAS
- Backwards compatible with USB 1.1



Technical data – Electrical connection 1	
Connection type	Plug
Cable outlet	Straight
Connection technology	USB 2.0 type A
Number of pins/wires	4

Technical data – Electrical connection 2	
Connection type	Plug
Cable outlet	Straight
Connection technology	USB 2.0 type B
Number of pins/wires	4

Materials	
Note on materials	Contains paint-wetting impairment substances
	RoHS-compliant

Operating and environmental conditions	
Corrosion resistance CRC[1)]	0

1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

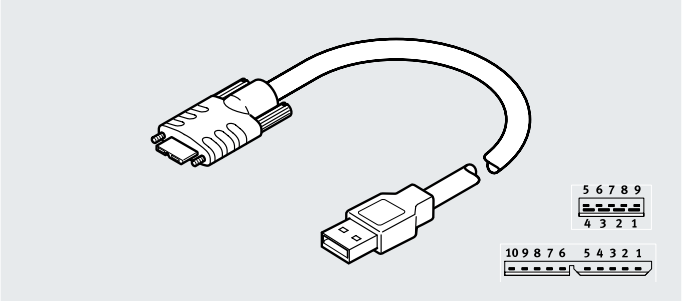
Ordering data

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**

Data sheet

Connecting cable NEBC-U7G10

- Connecting cable USB 3.0
- Type B micro to type A
- Cable length: 5 m, 15 m, 30 m



General technical data		
Type	NEBC-U7G10-KS	NEBC-U7G10-EH
Cable inscription	Without inscription label holder	Without inscription label holder
Additional functions	–	Hybrid cable

Technical data – Electrical connection 1	
Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Angular
Connection technology	USB 3.0 type B micro
Number of pins/wires	10
Assigned pins/wires	9
Type of mounting	2x screws M2x0.4

Technical data – Electrical connection 2		
Type	NEBC-U7G10-KS	NEBC-U7G10-EH
Function	Controller side	
Connection type	Plug	
Cable outlet	Straight	
Design	Angular	
Connection technology	USB 3.0 type A	
Number of pins/wires	9	
Assigned pins/wires	9	
Type of mounting	–	Plug-in

Technical data – Electrical components			
Type		NEBC-U7G10-KS	NEBC-U7G10-EH
Operating voltage range (UB)	[V DC]	0 ... 30	4.75 ... 5.25
Nominal operating voltage (Unom)	[V DC]	–	5
Surge resistance	[kV]	0.3	–
Current rating at 40°C	[A]	1.8	0.9
Pollution degree		1	1

Data sheet

Technical data – Cable			
Type		NEBC-U7G10-KS	NEBC-U7G10-EH
Cable diameter	[mm]	6.2	3.1
Cable diameter tolerance	[mm]	–	±0.2
Cable characteristic		Standard	Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥125	≥20
Bending radius, flexible cable installation	[mm]	≥125	≥10
Cable test conditions		Test conditions on request	–
Cable composition	[mm²]	2xAWG22 + 2x(2xAWG26)C + 1x(2xAWG28)	–
		Shielded	–
Conductor nominal cross section	[mm²]	0.08	–
	[mm²]	0.128	–
	[mm²]	0.324	–

Materials		
Type	NEBC-U7G10-KS	NEBC-U7G10-EH
Cable sheath	PVC	PVC
Cable sheath colour	Black	Black
Housing	–	Anodised wrought aluminium alloy
Housing colour	–	Silver
Note on materials	Halogen-free	–
	RoHS-compliant	RoHS-compliant
	–	Contains paint-wetting impairment substances

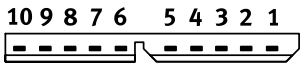
Operating and environmental conditions			
Type		NEBC-U7G10-KS	NEBC-U7G10-EH
Ambient temperature	[°C]	–20 … +80	–5 … +50
Ambient temperature with flexible cable installation	[°C]	–20 … +80	–5 … +50
Storage temperature	[°C]	–	–40 … +90
Corrosion resistance CRC[1)]		0	0
CE marking (see declaration of conformity)[2)]		–	To EU EMC Directive[2)]
Degree of protection		IP20	IP20
Note on degree of protection		In assembled state	In assembled state

1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

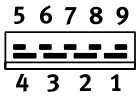
2) Additional information is available at www.festo.com/sp → Certificates.

Data sheet

Circuitry (plug view)



Pin	Wire colour[1)]	Pin
1	RD	1
2	WH	2
3	GN	3
4	n.c	–
5	BK	4
6	BU	5
7	YE	6
8	GND-DRAIN	7
9	VT	8
10	OG	9
Housing	Shielding	Housing

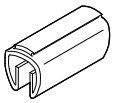


1) To IEC 757

Ordering data

Electrical connection 1	Electrical connection 2	Cable characteristic	Cable length [m]	Weight [g]	Part no.	Type
USB 3.0 type B	USB 3.0 type A	Standard	5	282	**8072582**	**NEBC-U7G10-KS-5-N-S-U5G9**
		Suitable for energy chains	15	444	**8093271**	**NEBC-U7G10-EH-15-N-S-U5G9**
		Suitable for energy chains	30	530	**8093272**	**NEBC-U7G10-EH-30-N-S-U5G9**

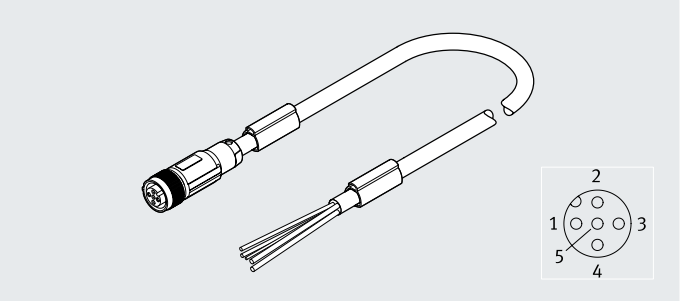
Ordering data – Accessories

			Part no.	Type
	Inscription labels for attachment to a cable (type KS) with diameter 5 ... 8 mm	11x20 mm	**33361**	**KM-BZ**

Data sheet

Connecting cable NEBC-M12G5

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



General technical data	
Protocol	CANopen
	DeviceNet
Cable inscription	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/wires	5
Assigned pins/wires	5
Type of mounting	Screw-type lock

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Cable
Connection technology	Open end
Wire ends	Sheath removed
Number of pins/wires	5
Assigned pins/wires	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

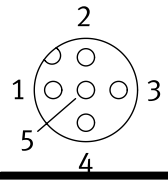
Technical data – Cable			
Cable diameter	[mm]	6.7	
Cable diameter tolerance	[mm]	±0.3	
Cable characteristic		Suitable for energy chains	
Bending radius, fixed cable installation	[mm]	≥35	
Bending radius, flexible cable installation	[mm]	≥70	
Cable test conditions		Test conditions on request	
Cable composition	[mm²]	(2x0.34) + (2x0.25) + 0.34	
		Shielded	
Conductor nominal cross section	[mm²]	0.25	0.34

Data sheet

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

Operating and environmental conditions		
Ambient temperature	[°C]	–25 ... +80
Ambient temperature with flexible cable installation	[°C]	–20 ... +60
Degree of protection		IP65
		IP67
Note on degree of protection		In assembled state

Circuitry (plug view)



Pin	Wire colour[1)]	
1	–	Open end
2	RD	Open end
3	BK	Open end
4	WH	Open end
5	BU	Open end

1) To IEC 757

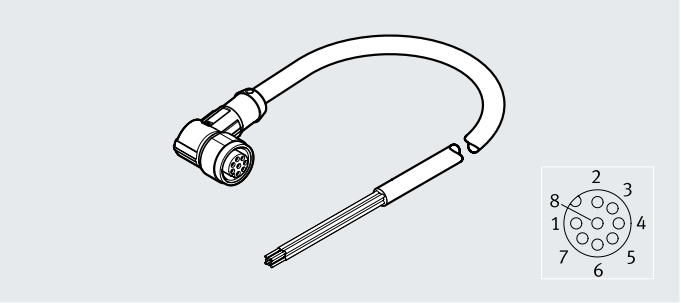
Ordering data

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	**8074191**	**NEBC-M12G5-ES-5-LE5-CO**

Data sheet

Connecting cable NEBC-M12G8
NEBC-M12W8

- M12 connecting cable, 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 inscription	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/wires	8	8
Assigned pins/wires	8	8
Type of mounting	Screw-type lock	Screw-type lock

Technical data – Electrical connection 2		
Type	NEBC-...-M12G8	NEBC-...-LE8
Function	Controller side	Controller side
Connection type	Plug	Cable
Cable outlet	Straight	–
Design	Round	–
Connection technology	M12x1, A-coded to EN 61076-2-101	Open end
Wire ends	–	Sheath removed
Number of pins/wires	8	8
Assigned pins/wires	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
Cable test conditions		Test conditions on request
Cable composition	[mm^2]	8x0.25
Conductor nominal cross section	[mm^2]	0.25

Data sheet

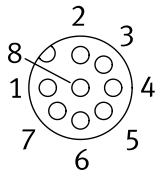
Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated, die-cast zinc
Seals	NBR
Pin contacts	Brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Silver-grey
Insulating sheath	PP
Note on materials	RoHS-compliant

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

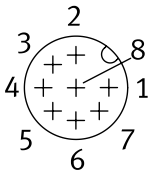
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.
2) Additional information is available at www.festo.com/sp ➔ Certificates.

Circuitry (plug view)

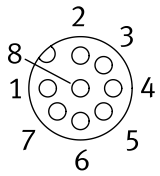
Electrical connection, socket, M12x1, 8-pin – plug, M12x1, 8-pin



Pin	Wire colour[1)]	Pin
1	–	1
2	–	2
3	–	3
4	–	4
5	–	5
6	–	6
7	–	7
8	–	8



Electrical connection, socket, M12x1, 8-pin – open cable end



Pin	Wire colour[1)]	
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

Data sheet

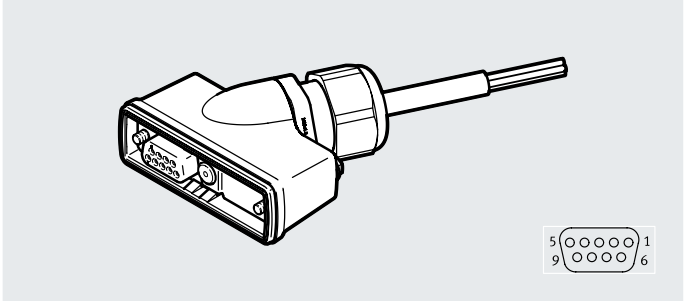
Ordering data

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	**8094480**	**NEBC-M12G8-E-2-N-B-LE8**
		5	249	**8094477**	**NEBC-M12G8-E-5-N-B-LE8**
		10	489	**8094482**	**NEBC-M12G8-E-10-N-B-LE8**
		15	729	**8094475**	**NEBC-M12G8-E-15-N-B-LE8**
Angled socket, M12x1, 8-pin, A-coded to EN 61076-2-101	Open end	2	105	**8094476**	**NEBC-M12W8-E-2-N-B-LE8**
		5	249	**8094478**	**NEBC-M12W8-E-5-N-B-LE8**
		10	489	**8094481**	**NEBC-M12W8-E-10-N-B-LE8**
		15	729	**8094479**	**NEBC-M12W8-E-15-N-B-LE8**
Straight socket, M12x1, 8-pin, A-coded to EN 61076-2-101	Straight plug, M12x1, 8-pin, A-coded to EN 61076-2-101	2	112	**8080782**	**NEBC-M12G8-E-2-N-M12G8**
		5	256	**8080783**	**NEBC-M12G8-E-5-N-M12G8**
		10	496	**8080784**	**NEBC-M12G8-E-10-N-M12G8**
		15	736	**8080785**	**NEBC-M12G8-E-15-N-M12G8**
Angled socket, M12x1, 8-pin, A-coded to EN 61076-2-101	Straight plug, M12x1, 8-pin, A-coded to EN 61076-2-101	2	112	**8080786**	**NEBC-M12W8-E-2-N-M12G8**
		5	256	**8080787**	**NEBC-M12W8-E-5-N-M12G8**
		10	496	**8080788**	**NEBC-M12W8-E-10-N-M12G8**
		15	736	**8080789**	**NEBC-M12W8-E-15-N-M12G8**

Data sheet

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 inscription	Without inscription label holder
Contact durability	50

Technical data – Electrical connection 1	
Function	Field device side
Connection type	Socket
Cable outlet	Angled
Design	Angular
Connection technology	Sub-D
Number of pins/wires	9
Assigned pins/wires	5
Type of mounting	2x screw 4-40 UNC
	With seal

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Cable
Connection technology	Open end
Number of pins/wires	5

Technical data – Electrical components		
Operating voltage range	[V DC]	0 … 30
Current rating at 40°C	[A]	5.2
Protective earth connection		Not present
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 composition	[mm²]	5x0.5
Conductor nominal cross section	[mm²]	0.5
Special characteristics		Easy to clean

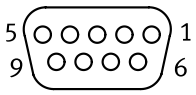
Data sheet

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

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 CRC[1)]		3
Degree of protection		IP65
		IP67
		IP69K
Note on degree of protection		In assembled state

1) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

Circuitry (socket view)



Pin	Wire colour[1)]	
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	**2376018**	**NEBC-C-S1WA9HS-K-2.5-N-B-LE5-PT-S10**
		5	600	**2376019**	**NEBC-C-S1WA9HS-K-5-N-B-LE5-PT-S10**
		10	1120	**2376020**	**NEBC-C-S1WA9HS-K-10-N-B-LE5-PT-S10**
		0.5 … 20	–	**4106124**	**NEBC-C-S1WA9HS-K- … -N-B-LE5-PT-S10**