

Connecting cables for controllers

FESTO



Product range overview

Function	Design	Type	Connection technology (Electrical connection 2)	Cable characteristic	Length	→ Page/ Internet
Electrical connection 1 plug	M8 plug					
	4-pin A-coded	NEBC-M8	Socket, Sub-D, 9-pin	Suitable for energy chains	1.5 m 2.5 m	6
	4-pin D-coded	NEBC-D8	M8x1 plug, 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
	M9 plug					
	5-pin	NEBC-M9	Open cable end	Suitable for energy chains	2 m 5 m	12
	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	14
	5-pin A-coded	NEBC-M12	M12 plug, 5-pin	Standard	1.5 m	18
	5-pin	NEBC-A1W3	Socket	Standard	0.3 m	20
	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	22
	Sub-D plug					
	15-pin	NEBC-S1H15	Open cable end	Suitable for energy chains	1 m 2.5 m 5 m 10 m	25
	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	28
	RJ45 plug					
	8-pin	NEBC-R3G4	RJ45 plug, 8-pin	Standard Suitable for energy chains	0.2 m 1 m	30
	Plug and socket strip RJ45					
	20-pin	NEBC-R3Z12G20	RJ45 plug and socket strip 12 pins, 2 rows	Standard	5 m 10 m 15 m	33
	USB 2.0 plug, type A					
	4-pin	NEBC-U1G4	USB 2.0 plug, type B	Standard	1.8 m	35
	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	36
		NEBC-U7W10	Socket USB 3.0, type B	Standard	0.45 m	39

Product range overview

Function	Design	Type	Connection technology (Electrical connection 2)	Cable characteristic	Length	→ Page/ Internet
Electrical connection 1 socket	Socket HR25					
	8-pin	NEBC-H25G8	Open cable end	Suitable for energy chains	4.93 m	42
	Socket M12x1					
	5-pin	NEBC-M12G5	Open cable end	Suitable for energy chains	5 m	44
	8-pin	NEBC-M12G8 NEBC-M12W8	M12 plug, 8-pin Open cable end	Suitable for energy chains	2 m	46
					5 m	
					10 m	
					15 m	
	Sub-D socket					
	9-pin	NEBC-S1WA9	Open cable end	Standard	2.5 m 5 m 10 m 0.5 ... 20 m	49

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
LE	Open end
M8	Socket M8x1 A-coded, EN 61076-2-104
M12	Socket M12x1 A-coded, EN 61076-2-101
D8	M8, D-coded, IEC 61076-2-114 ED1
M9	M9
D12	M12, D-coded
F12	M12, Festo-specific encoding
U1	USB, type A
U7	USB 3.0, type B
R3	RJ45
S1	Sub-D socket
P1	Fork spring
R3Z12	RJ45 and socket strip 12-pin
H25	Socket connection pattern H25

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
20	20
25	25

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
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
LE	Open end
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
RS	Round plug
U5	USB 3.0, type A
U7	Plug USB 3.0 type B micro
U2	USB, type B
R3	RJ45
S1	Sub-D

013	Plug
	None
G	Straight
W	Angled

Type codes

014	Number of pins/wires on the right	
3	3	
4	4	
5	5	
8	8	
9	9	
10	10	
15	15	
17	17	
25	25	
26	26	

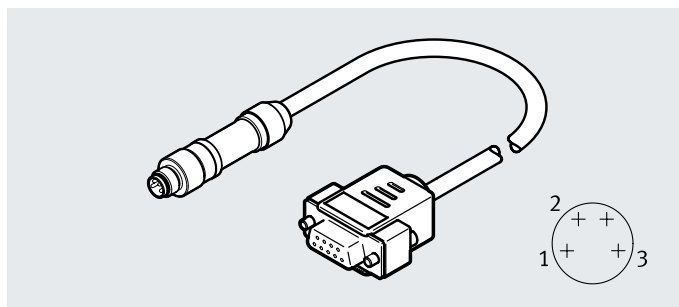
015	Bus protocol/activation	
	None	
ET	EtherNet	
CO	CANopen	
PT	I-Port interface	
RS2	RS232	

016	Degree of protection, electrical system	
	Standard	
S7	IP20	
S1	IP65	
S10	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/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	Rectangular
Connection technology	Sub-D
Number of pins/wires	9
Assigned pins/wires	8
Type of mounting	2x screw 4-40 UNC

Technical data – Electrics

Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	1.5
Acceptable current load 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
Nominal conductor cross section	[mm ²]	0.34

Datasheet

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

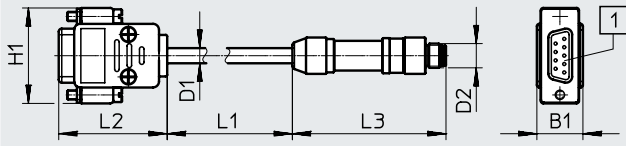
Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +50
Ambient temperature with flexible cable installation	[°C]	0 ... +50
Degree of protection		IP67
Note on degree of protection		In mounted state IP20 for Sub-D socket

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		

1) To IEC 757

Dimensions

Download CAD data → www.festo.com



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

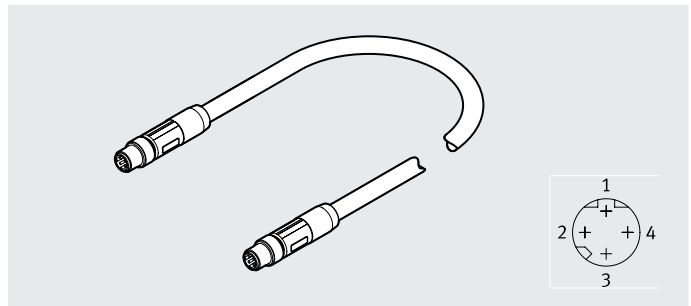
Ordering data

	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

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 automation 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	Controller side	Controller 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/wires	4	4
Assigned pins/wires	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	Controller side	Controller 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/wires	4	4
Assigned pins/wires	4	4
Type of mounting	Screw-type lock with longitudinal knurl	Screw-type lock with longitudinal knurl

Technical data – Electrics		
Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	1.5
Acceptable current load 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
Cable test conditions		Test conditions on request
Cable composition		1 x (4 x AWG22)
Nominal conductor cross section		AWG22
Special characteristics		Oil-resistant

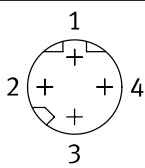
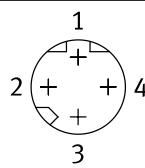
Materials	
Housing	PA, TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Seals	NBR
Pin contacts	Gold-plated copper alloy
Cable sheath	TPE-U(PUR)
Cable sheath colour	Silver-grey with sky blue stripe
Insulating sheath	PP
Note on materials	RoHS-compliant Halogen-free

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 ¹⁾		2
CE marking (see declaration of conformity) ²⁾		To EU RoHS Directive
Degree of protection		IP65 IP67
Note on degree of protection		In mounted state
Certification		c UL us (OL)
Certificate issuing authority		UL E520706

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: www.festo.com/catalogue/... → Support/Downloads.

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

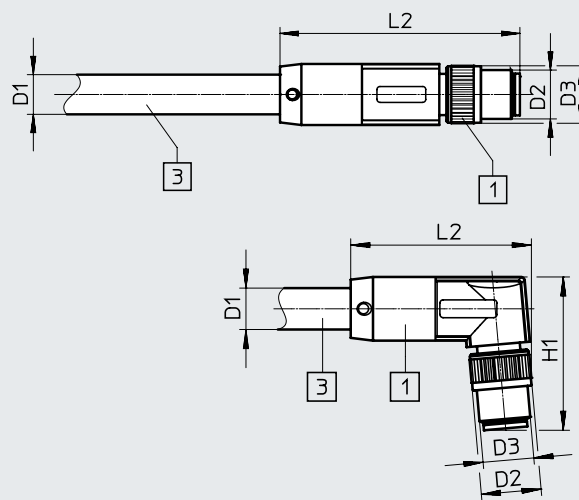
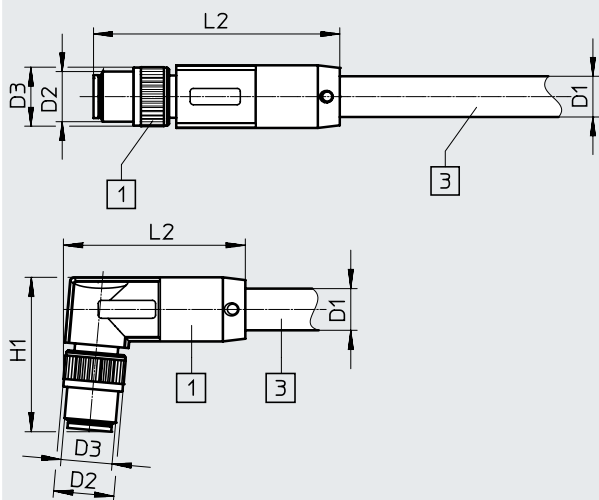
Datasheet

Dimensions

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Connection technology on the left

Connection technology on the right



[1] Plug

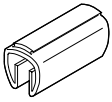
[3] Cable, length 0.3 ... 50 m depending on the order

	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

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	8065124	NEBC-D8W4-ES-0.5-N-S-D8W4-ET
		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		

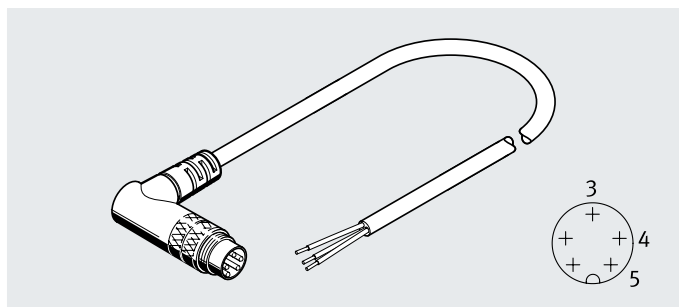
Datasheet

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



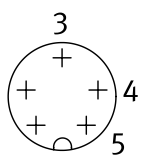
General technical data			
Cable identification	With accessories		
Technical data – Electrical connection 2			
Function	Controller side		
Connection type	Plug		
Cable outlet	Angled		
Design	Round		
Connection technology	M9x0.5		
Number of pins/wires	5		
Assigned pins/wires	3		
Type of mounting	Screw-type 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 – Electrics			
Operating voltage range [V DC]	0 ... 30		
Surge resistance [kV]	0.5		
Acceptable current load at 40°C [A]	1.6		
Note on current rating at 40°C	2.3 A for 0.34 mm ² 3.6 A for 0.49 mm ²		
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 [mm ²]	2x0.25 + 2x0.34 + 0.49		
	Shielded		
Nominal conductor cross section [mm ²]	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	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

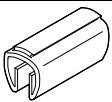
Operating and environmental conditions		
Ambient temperature	[°C]	-20 ... +80
Ambient temperature with flexible cable installation	[°C]	-5 ... +80
Corrosion resistance class CRC ¹⁾		1
Degree of protection		IP65
		IP67
Note on degree of protection		In mounted state

- 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 covers, in the non-visible interior area, or 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

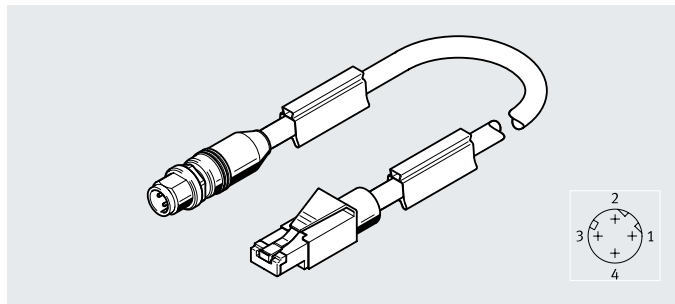
Ordering data	Cable length	Weight	Part no.	Type
	[m]	[g]		
M9x0.5 plug – open cable end	2	108	563711	NEBC-M9W5-K-2-N-LE3
	5	250	563712	NEBC-M9W5-K-5-N-LE3

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

Datasheet

Connecting cable NEBC-D12G4

- M12 connecting cable, 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/wires	4
Assigned pins/wires	4
Type of mounting	Screw-type lock with hex A/F 13 mm and longitudinal knurl

Technical data – Electrical connection 2			
Function	Controller side	Controller side	Controller side
Connection type	Plug	Plug	Cable
Cable outlet	Straight	Straight	Straight
Design	Round	Rectangular	–
Connection technology	M12x1, D-coded to EN 61076-2-101	RJ45 to IEC 60603-7-3	Open end
Number of pins/wires	4	8	4
Assigned pins/wires	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 – Electrics				
		M12x1 plug, 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		
Note on surge resistance		Due to screening, a leakage flow of up to 20 mA is permissible.		
Acceptable current load at 40°C	[A]	4	1.3	4
Pollution degree		3	3	3

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
Cable test conditions		Energy chain: 2 million cycles, bending radius 100 mm
		Bending strength: to Festo standard
		Test conditions on request
Cable composition	[mm ²]	4 x 0.34 (star quad)
Nominal conductor cross section	[mm ²]	0.34
		AWG22
Special characteristics		Oil-resistant

Materials			
	M12x1 plug, 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	Free of copper and PTFE		
	RoHS-compliant		

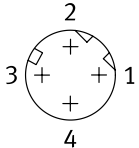
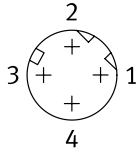
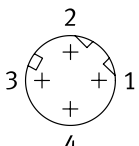
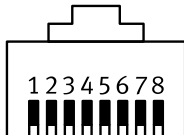
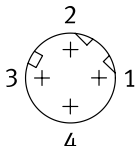
Operating and environmental conditions			
	M12x1 plug, D-coded	RJ45 plug	Open cable end
Ambient temperature	[°C]	-25 ... +80	
Ambient temperature with flexible cable installation	[°C]	-20 ... +60	
Storage temperature	[°C]	-25 ... +80	
Corrosion resistance class CRC ¹⁾		1	
CE marking (see declaration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

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 covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

2) Additional information: www.festo.com/catalogue/... → Support/Downloads.

Datasheet

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	

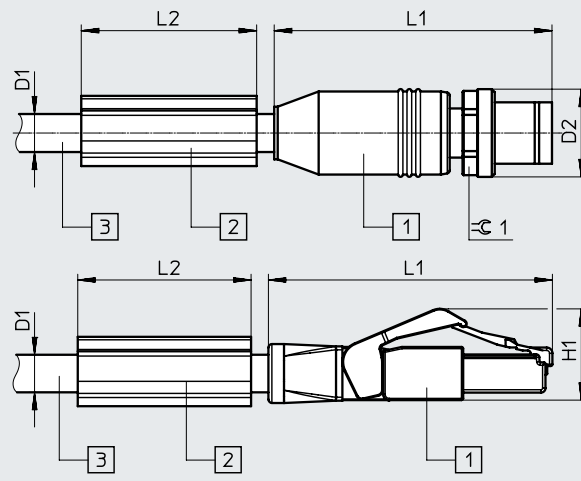
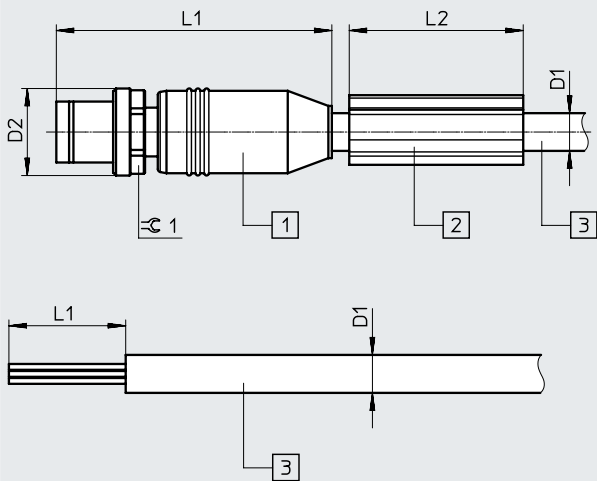
1) To IEC 757

Dimensions

Download CAD data → www.festo.com

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	D2	L1	L2	≈C1
M12x1 plug	6.7	15	47.5	30	13
Open end	6.7	-	20	-	-

Connection technology on the right	D1	D2	L1	L2	H1	≈C1
M12x1 plug	6.7	15	47.5	30	-	13
RJ45 plug	6.7	-	49	30	15.8	-

Datasheet

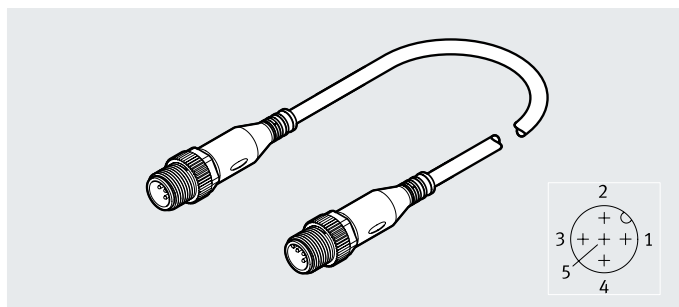
Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight plug, M12x1, 4-pin, D-coded	Straight plug, M12x1, 4-pin, D-coded	0.5	64.0	8040446	NEBC-D12G4-ES-0.5-S-D12G4-ET
		1	98.5	8040447	NEBC-D12G4-ES-1-S-D12G4-ET
		3	211.0	8040448	NEBC-D12G4-ES-3-S-D12G4-ET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

Ordering data – Accessories				
	Electrical connection 1	Electrical connection 2	Part no.	Type
Control 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

Datasheet

Connecting cable NEBC-M12G

- M12 connecting cable, 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/wires	5
Assigned pins/wires	5
Type of mounting	Screw-type lock

Technical data – Electrical connection 2

Function	Controller side
Connection type	Plug
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 – Electrics

Operating voltage range	[V DC]	0 ... 30
	[V AC]	0 ... 30
Surge resistance	[kV]	0.8
Acceptable current load at 40°C	[A]	4
Pollution degree		3

Technical data – Cable

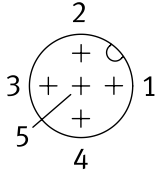
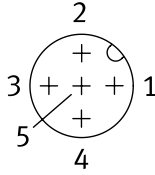
Cable diameter	[mm]	5
Cable characteristic		Standard
Cable test conditions		Test conditions on request
Cable composition	[mm ²]	4x0.34
		Shielded
Nominal conductor cross section	[mm ²]	0.34

Datasheet

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated brass
Material of pin contacts	Gold-plated bronze
	Gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Light grey
Insulating sheath	PVC
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +70
Ambient temperature with flexible cable installation	[°C]	-5 ... +70
Corrosion resistance class CRC ¹⁾		2
Degree of protection		IP65
		IP67
Note on degree of protection		In mounted 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 (plug view)				
	Pin	Wire colour ¹⁾	Pin	Electrical connection 2
	1	BN	1	
	2	WH	4	
	3	BU	3	
	4	BK	2	
	5	Shielding	5	

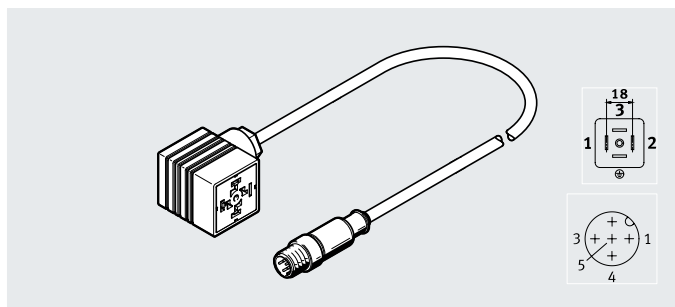
1) To IEC 757

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	8085741	NEBC-M12G5-S-1.5-N-M12G5

Datasheet

Connecting cable NEBC-A1W3

- M12 connecting cable, 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	Rectangular	Rectangular
Connection technology	Connection pattern type A to EN 175301-803	Plug pattern P1
Number of pins/wires	3	4
Assigned pins/wires	3	4
Type of mounting	Central screw M3	Central screw M3

Technical data – Electrical connection 2

Type	NEBC-A1W3	NEBC-P1W4
Function	Controller side	Controller 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/wires	5	5
Assigned pins/wires	4	4
Type of mounting	–	Screw-type lock

Technical data – Electrics

Type	NEBC-A1W3	NEBC-P1W4
Operating voltage range	[V DC]	0 ... 60
	[V AC]	0 ... 60
Acceptable current load 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
Bending radius, fixed cable installation	[mm]	≥90
Minimum cable bending radius	[mm]	90
Cable test conditions		Test conditions on request
Cable composition	[mm ²]	4x0.34
Nominal conductor cross section	[mm ²]	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
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 ¹⁾	0
Degree of protection	IP65
Note on degree of protection	In mounted state

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

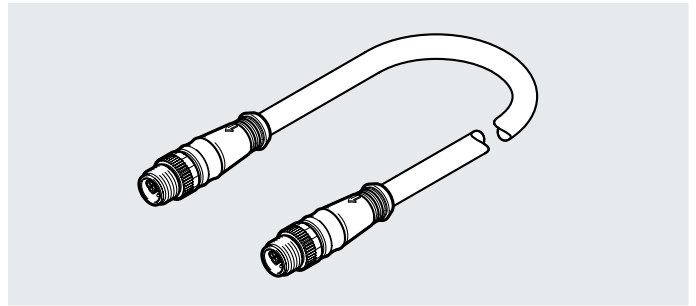
No corrosion stress. Applies to small, visually unimportant standards-based parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

Ordering data					
Electrical connection 2	Electrical connection 1	Cable length [m]	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	549294	NEBC-A1W3-K-0.3-N-M12G5
	Angled socket, plug pattern P1	0.3	188	549293	NEBC-P1W4-K-0.3-N-M12G5

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/wires	8
Assigned pins/wires	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/wires	8
Assigned pins/wires	8
Type of mounting	Screw-type lock, size 14, with longitudinal knurl

Technical data – Electrics		
Operating voltage range	[V]	0 ... 30
Surge resistance	[kV]	0.8
Acceptable current load at 40°C	[A]	7
Note on current rating	[A]	1.5 A for conductor cross section 0.14 mm ²
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	
Cable test conditions		Test conditions on request	
Cable composition	[mm ²]	(1x(4x0.14)) + 4x0.75	
Nominal conductor 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 class CRC ¹⁾		1
Degree of protection		IP65 IP67
Note on degree of protection		In mounted state
Certification		c UL us - Recognized (OL)

1)

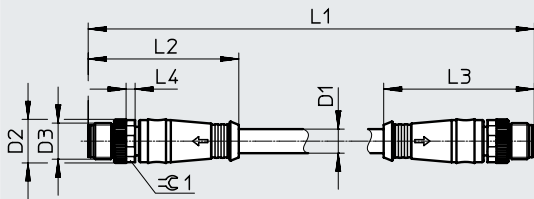
Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

Datasheet

Dimensions

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	D1 ∅	D2 ∅	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				

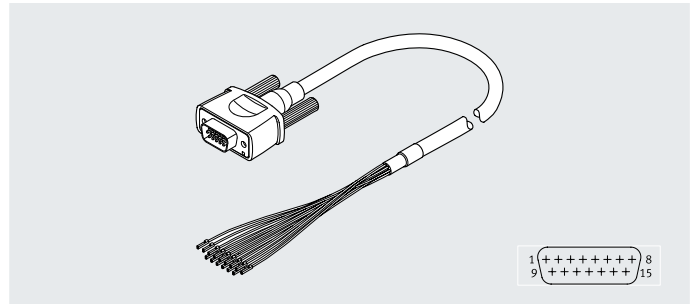
Ordering data

	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

Datasheet

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 identification	Without inscription label holder

Technical data – Electrical connection 1	
Function	Field device side
Connection type	Plug
Cable outlet	Straight
Design	Rectangular
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 – Electrics		
Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 30
Pollution degree		3

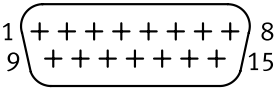
Technical data – Cable		
Cable diameter	[mm]	6.6
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥33
Cable composition	[mm ²]	18x0.14
Nominal conductor cross section	[mm ²]	0.14

Datasheet

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 mounted state

1) Additional information: www.festo.com/catalogue/... → Support/Downloads.

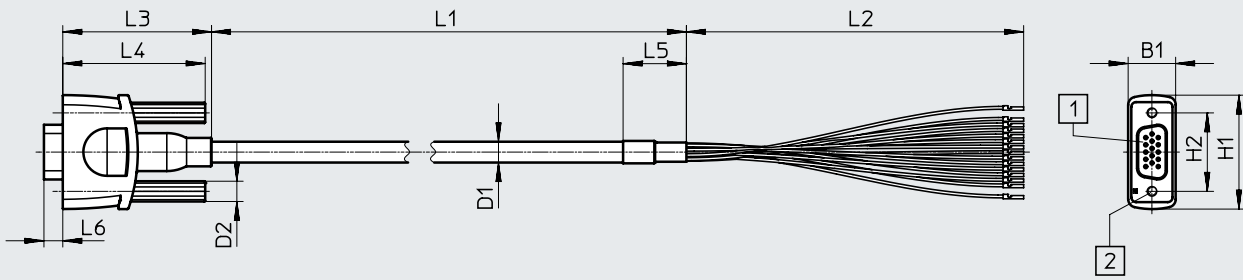
Circuitry (plug view)			
	Pin	Wire colour ¹⁾	
	1	WH	Open end
	2	BN	Open end
	3	GN	Open end
	4	YE	Open end
	5	GY	Open end
	6	PK	Open end
	7	BU	Open end
	8	RD	Open end
	9	BK	Open end
	10	VT	Open end
	11	GY PK	Open end
	12	RD BU	Open end
	13	GN WH	Open end
	14	BN GN	Open end
	15	YE WH	Open end

1) To IEC 757

Datasheet

Dimensions

Download CAD data → www.festo.com



[1] Sub-D plug, 15-pin

[2] Screw 4-40 UNC

	B1	D1 ∅	D2 ∅	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					

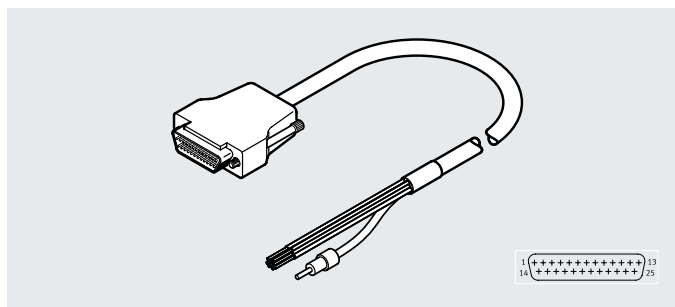
Ordering data

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

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	Rectangular	–	Rectangular
Connection technology	Sub-D	Sub-D	Sub-D
Number of pins/wires	25	25	25
Assigned pins/wires	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	Controller side	–	Controller side
Connection type	Socket	Cable	Cable
Cable outlet	Straight	–	–
Design	Rectangular	–	–
Connection technology	Sub-D	Open end	Open end
Wire ends	–	–	Wire end sleeve Pin terminal
Number of pins/wires	25	25	26
Assigned pins/wires	25	–	26
Type of mounting	2x screw 4-40 UNC	–	–

Technical data – Electrics			
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
Acceptable current load at 40°C [A]	1	–	3.9
Surge resistance [kV]	–	–	0.8
Shielding	–	–	Yes

Datasheet

Technical data – Cable				
Type		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
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
Cable test conditions		–	–	Bending strength: to Festo standard
Cable composition	[mm ²]	Shielded	Shielded	5x(2x0.25) + 16x0.25
Nominal conductor cross section	[mm ²]	–	–	0.25
Connection cross section	[mm ²]	–	–	0.25

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	–	PVC
Cable sheath colour		Grey	Grey	Grey
Insulating sheath		–	–	PVC
Note on materials		–	Contains paint-wetting impairment substances	–
		RoHS-compliant	RoHS-compliant	RoHS-compliant
PWIS conformity		VDMA24364 zone III	–	VDMA24364-B2-L

Operating and environmental conditions				
Type		NEBC- ... -S1G25	NEBC- ... -LE25	NEBC- ... -LE26
Ambient temperature	[°C]	0 ... +70	–	–30 ... +80
Ambient temperature with flexible cable installation	[°C]	–	–	–5 ... +80
Corrosion resistance class CRC ¹⁾		0	0	0
CE marking (see declaration of conformity ²⁾)		To EU RoHS Directive	To EU RoHS Directive	To EU RoHS Directive
Degree of protection		IP40	IP40	IP20
Note on degree of protection		In mounted state	In mounted state	In mounted state

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based 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.

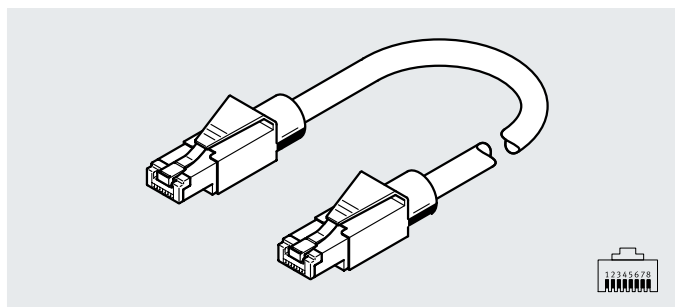
2) Additional information: www.festo.com/catalogue/... → Support/Downloads.

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	–	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

Datasheet

Connecting cable NEBC-R3

- RJ45 connecting cable
- 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	Rectangular	Rectangular
Connection technology	RJ45 to IEC 60603-7-3	RJ45
Number of pins/wires	8	8
Assigned pins/wires	4	8
Type of mounting	Snap-locking	–

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

Technical data – Electrics		
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 screening, a leakage flow of up to 20 mA is permissible.	–
Acceptable current load at 40°C [A]	1.3	1.5
Pollution degree	3	2
Shielding	–	Yes

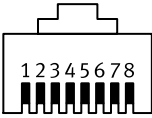
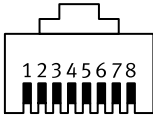
Datasheet

Technical data – Cable		NEBC-R3G4	NEBC-R3G8
Type			
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	–
Cable test conditions		Energy 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]	4 x 0.34 (star quad)	4 x 2 x 0.16
Nominal conductor cross section	[mm ²]	0.34	0.16
		AWG22	–
Special characteristics		Oil-resistant	–

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

- 1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standards-based 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 covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).
- 2) Additional information: www.festo.com/catalogue/... → Support/Downloads.

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	
				

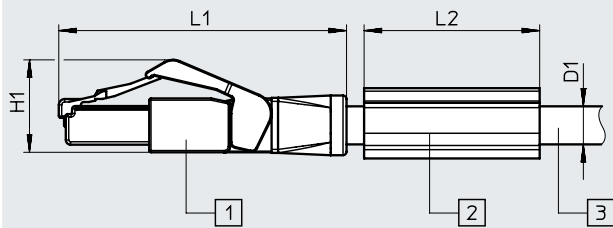
1) To IEC 757

Datasheet

Dimensions

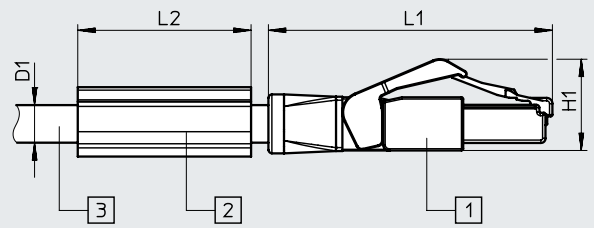
Download CAD data → www.festo.com

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	89.5	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

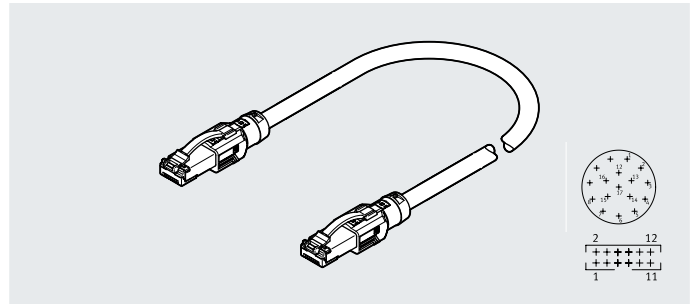
Ordering data – Accessories

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

Datasheet

Connecting cable NEBC-R3Z12G20

- Connecting cable RJ45 plug 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	Rectangular
Connection technology	RJ45 and socket strip 12 pins, 2 rows
Number of pins/wires	20
Assigned pins/wires	14
Type of mounting	Screw-type lock

Technical data – Electrical connection 2

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

Technical data – Electrics

Nominal operating voltage	[V DC]	24
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	6
Acceptable current load 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
Cable test conditions		Test conditions on request
Cable composition	[mm ²]	4x(1x0.128) + 10x0.128
Nominal conductor cross section	[mm ²]	0.128

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

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 ¹⁾		0
CE marking (see declaration of conformity) ²⁾		To EU Low Voltage Directive
Degree of protection		IP65
Note on degree of protection		In mounted state

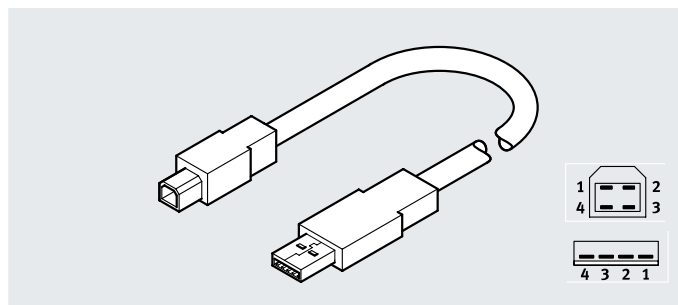
- 1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standards-based parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.
- 2) Additional information: 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	8126916	NEBC-R3Z12G20-KH-5-N-SBS-RSG17-ET-S1
		10	1300	8126917	NEBC-R3Z12G20-KH-10-N-SBS-RSG17-ET-S1
		15	1900	8126918	NEBC-R3Z12G20-KH-15-N-SBS-RSG17-ET-S1

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	Rectangular
Connection technology	USB 2.0 type B
Number of pins/wires	4
Assigned pins/wires	4

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Plug
Cable outlet	Straight
Design	Rectangular
Connection technology	USB 2.0 type A
Number of pins/wires	4
Assigned pins/wires	4

Technical data – Cable	
Cable characteristic	Standard

Materials	
Note on materials	RoHS-compliant
PWIS conformity	VDMA24364 zone III

Operating and environmental conditions	
Corrosion resistance class CRC ¹⁾	0
CE marking (see declaration of conformity) ²⁾	To EU RoHS Directive

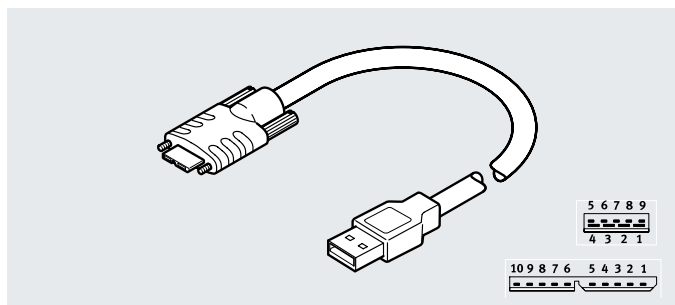
- 1) Corrosion resistance class CRC 0 to Festo standard FN 940070
No corrosion stress. Applies to small, visually unimportant standards-based parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.
- 2) Additional information: 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-U7G10

- USB 3.0 connecting cable
- 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 identification	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	Rectangular
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	Rectangular	
Connection technology	USB 3.0 type A	
Number of pins/wires	9	
Assigned pins/wires	9	
Type of mounting	–	Plug-in

Technical data – Electrics		
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	–
Acceptable current load at 40°C	[A] 1.8	0.9
Pollution degree	1	1

Datasheet

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	[mm ²]	2xAWG22 + 2x(2xAWG26)C + 1x(2xAWG28)	–
		Shielded	–
Nominal conductor cross section	[mm ²]	0.08	–
	[mm ²]	0.128	–
	[mm ²]	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

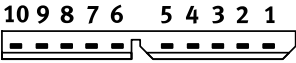
Operating and environmental conditions			
Type		NEBC-U7G10-KS	NEBC-U7G10-EH
Ambient temperature	[°C]	–20 ... +80	–5... +50
Ambient temperature with flexible cable installation	[°C]	–20 ... +80	–5... +50
Storage temperature	[°C]	–	–40 ... +90
Corrosion resistance class CRC ¹⁾		0	0
CE marking (see declaration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

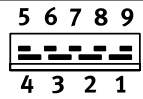
1) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based 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.

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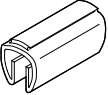
Datasheet

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

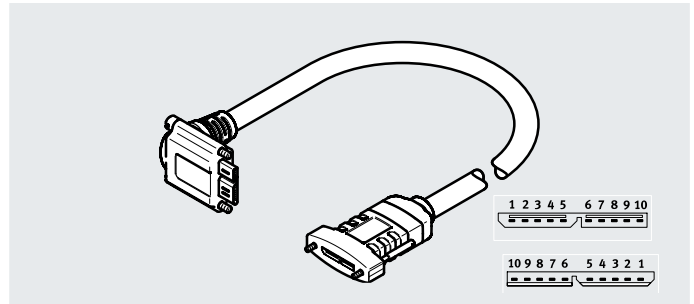
Ordering data						
Electrical connection 1	Electrical connection 2	Cable characteristic	Cable length [m]	Weight [g]	Part no.	Type
USB 3.0 type B	USB 3.0 type A	Standard	5	422	8072582	NEBC-U7G10-KS-5-N-S-U5G9
		Suitable for energy chains	15	444	8093271	NEBC-U7G10-EH-15-N-S-U5G9
		Suitable for energy chains	30	645	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

Datasheet

Connecting cable NEBC-U7W10

- USB 3.0 connecting cable
- Type B micro to type B micro
- Cable length 0.45 m



General technical data

Transmission characteristics	According to system communication AP
Cable identification	Without inscription label holder

Technical data – Electrical connection 1

Function	Field device side
Connection type	Plug
Cable outlet	Angled
Design	Rectangular
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

Function	Controller side
Connection type	Socket
Cable outlet	Straight
Design	Rectangular
Connection technology	USB 3.0 type B micro
Number of pins/wires	10
Assigned pins/wires	9
Type of mounting	2x threaded bush M2x0.4

Technical data – Electrics

Operating voltage range	[V DC]	0 ... 30
	[V AC]	0 ... 30
Surge resistance	[kV]	1
Acceptable current load at 40°C	[A]	1.4
Shielding		Yes
Pollution degree		1

Datasheet

Technical data – Cable		
Cable diameter	[mm]	6.2
Cable characteristic		Standard
Bending radius, fixed cable installation	[mm]	≥62
Bending radius, flexible cable installation	[mm]	≥62
Cable test conditions		Test conditions on request
Cable composition	[mm ²]	2xAWG22 + 2x(2xAWG26)C + 1x(2xAWG28)
Nominal conductor cross section	[mm ²]	0.32

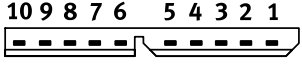
Materials	
Cable sheath	PVC
Cable sheath colour	Black
Housing	PVC
Housing colour	Black
Note on materials	RoHS-compliant
	Contains paint-wetting impairment substances

Operating and environmental conditions		
Ambient temperature	[°C]	-10... +80
Ambient temperature with flexible cable installation	[°C]	-10... +80
Storage temperature	[°C]	-10 ... +80
Corrosion resistance class CRC ¹⁾		0
Degree of protection		IP20
Note on degree of protection		In mounted state

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based 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.

Datasheet

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	Shielding	7	
	9	VT	8	
	10	OG	9	
	Shielding	Shielding	Shielding	

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 B	Standard	0.45	35	8093270	NEBC-U7W10-KS-0.5-N-SB-U7G10

Datasheet

Connecting cable NEBC-H25G8

- Connecting cable, 8-pin
- Cable length 4.93 m



General technical data

Cable identification	Without inscription label holder
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Technical data – Electrical connection 1

Function	Field device side
Connection type	Socket
Cable outlet	Straight
Design	Round
Connection technology	HR25
Number of pins/wires	8
Assigned pins/wires	4
Type of mounting	Screw-type lock

Technical data – Electrical connection 2

Function	Controller side
Connection type	Cable
Connection technology	Open end
Wire ends	Cut off bluntly
Number of pins/wires	4
Assigned pins/wires	4

Technical data – Electrics

Operating voltage range	[V DC]	0 ... 42
	[V AC]	0 ... 30
Surge resistance	[kV]	3
Acceptable current load at 40°C	[A]	1
Shielding		Yes
Pollution degree		1

Technical data – Cable

Cable diameter	[mm]	4.6
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable installation	[mm]	≥18.4
Bending radius, flexible cable installation	[mm]	≥34.5
Cable test conditions		Test conditions on request
Cable composition	[mm ²]	4x0.14
Nominal conductor cross section	[mm ²]	0.14

Datasheet

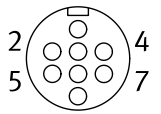
Materials	
Housing	Nickel-plated brass
Housing colour	Silver
Cable sheath	PVC
Cable sheath colour	Grey
Insulating sheath	PPS
Note on materials	Contains paint-wetting impairment substances RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	-10 ... +60
Ambient temperature with flexible cable installation	[°C]	-5 ... +60
Storage temperature	[°C]	-10 ... +60
Corrosion resistance class CRC ¹⁾		0
CE marking (see declaration of conformity) ²⁾		To EU EMC Directive ²⁾
		To EU RoHS Directive
Degree of protection		Depending on the connection block
Note on degree of protection		Depending on the connection block

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based 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: www.festo.com/catalogue/... → Support/Downloads.

Circuitry (plug view)			
	Pin	Wire colour ¹⁾	
	1	-	-
	2	GN	Open end
	3	-	-
	4	BN	Open end
	5	YE	Open end
	6	-	-
	7	WH	Open end
	8	-	-

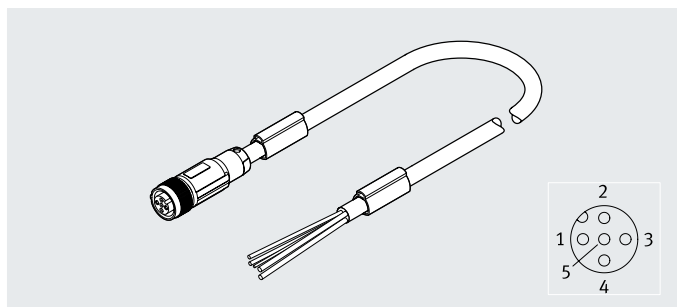
1) To IEC 757

Ordering data					
Electrical connection 1	Electrical connection 2	Cable length [m]	Weight [g]	Part no.	Type
Straight socket, HR25	Open end	4.93	160	8132476	NEBC-H25G8-ES-5-N-B-LE4

Datasheet

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 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/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	Stripped
Number of pins/wires	5
Assigned pins/wires	5

Technical data – Electrics

Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	2
Acceptable current load 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	[mm ²]	(2x0.34) + (2x0.25) + 0.34	
		Shielded	
Nominal conductor cross section	[mm ²]	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

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 mounted 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

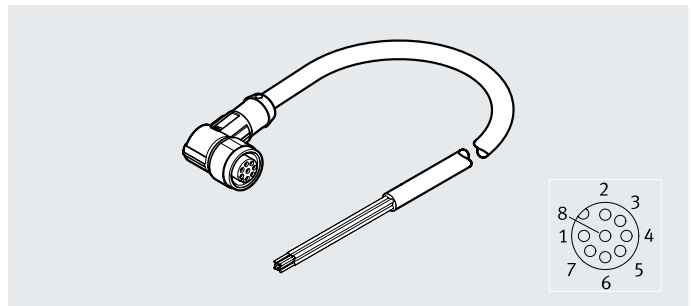
1) To IEC 757

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

Datasheet

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 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/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	–	Stripped
Number of pins/wires	8	8
Assigned pins/wires	8	8

Technical data – Electrics		
Operating voltage range	[V DC]	0 ... 30
Operating voltage range	[V AC]	0 ... 30
Surge resistance	[kV]	0.8
Acceptable current load 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
Nominal conductor cross section	[mm ²]	0.25

Datasheet

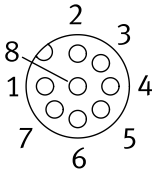
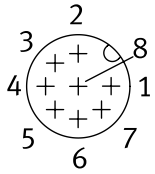
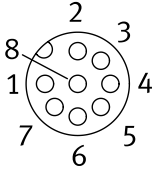
Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated die-cast zinc
Seals	NBR
Pin contacts	Brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Silver-grey
Insulating sheath	PP
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	-25 ... +90
Ambient temperature with flexible cable installation	[°C]	-25 ... +90
Corrosion resistance class 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 mounted 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: www.festo.com/catalogue/... → Support/Downloads.

Circuitry (plug view)				
	Pin	Wire colour ¹⁾	Pin	
Electrical connection, socket, M12x1, 8-pin – plug, M12x1, 8-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				
	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

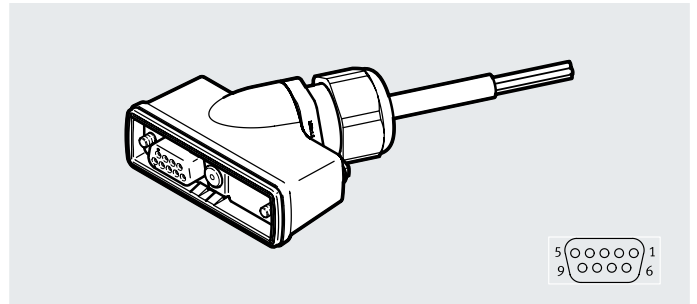
Datasheet

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
	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	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 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

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	Rectangular
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 – Electrics

Operating voltage range	[V DC]	0 ... 30
Acceptable current load 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 composition	[mm ²]	5x0.5
Nominal conductor cross section	[mm ²]	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

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 ¹⁾	3
Degree of protection	IP65
	IP67
	IP69K
Note on degree of protection	In mounted 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