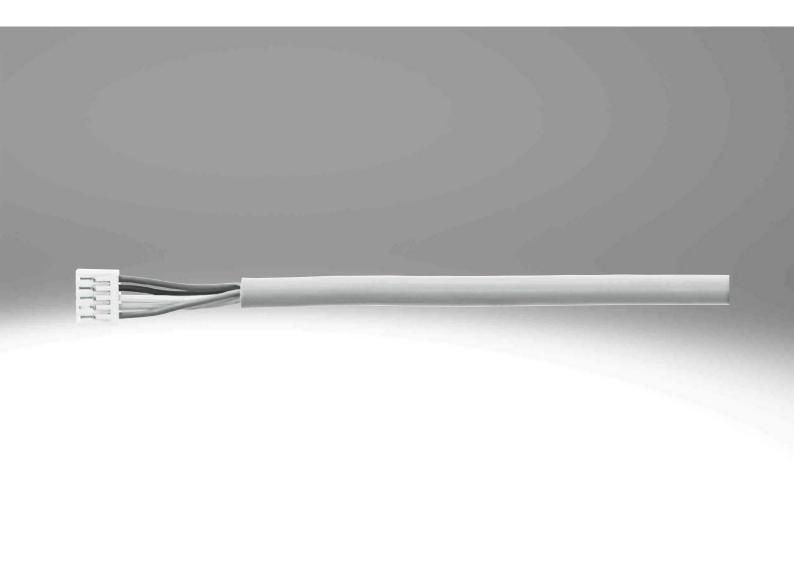
Connecting cables NEBS, for sensors

FESTO



Connecting cables NEBS, for sensors

Product range overview

Function	Design	Туре	Connection technology (Electrical connection 2)	Cable characteristic	Length	→ Page/ Internet
Connecting	Electrical conn	ection 1: socket, rectang	ular design L1 (circuit board connector)			
cable	4-pin	NEBS-L1G4	Plug M12, 4-pin	Standard	1 m	4
			Open cable end		2.5 m	
					5 m	
	Electrical conn	ection 1: socket M12				
	5-pin	NEBS-M12G5	Open cable end	Suitable for energy chains	5 m	8
					10 m	
					15 m	
	12-pin	NEBS-M12G12	Socket M12, 12-pin	Basic	0.5 m	10
			Open cable end		2 m	
					5 m	
					10 m	
	Electrical conn	ection 1: plug M12				
	12-pin	NEBS-SM12G12	Plug M12, 12-pin	Suitable for energy chains	0.3 m	13
			Open cable end		0.5 m	
					5 m	
	Electrical conn	nection 1: plug M16				
	24-pin	NEBS-SM16G24	Open cable end	Standard	5 m	17
					10 m	

Type codes

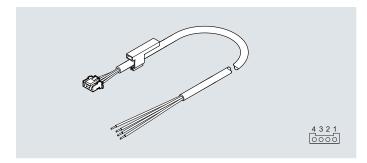
001	Series					
NEBS	Connecting cable for sensors					
002	Connection technology left, field device side					
M12	Socket M12x1 A-coded, EN 61076-2-101	Socket M12x1 A-coded, EN 61076-2-101				
SM12	Plug M12x1 A-coded					
SM16	Plug M16					
L1	PCB plug connector					
003	Cable outlet left					
G	Straight					
004	Number of pins/wires on the left					
4	4					
4 5	4 5					
5	5					
5	12					
5 12 24	5 12 24					
5 12 24	5 12 24 Cable characteristic					
5 12 24	5 12 24 Cable characteristic Standard					
5 12 24 005 K E	5 12 24 Cable characteristic Standard Suitable for energy chains					

007	Cable length [m]	
0.3	0.3	
0.5	0.5	
1	1	
2	2	
2.5	2.5	
5	5	
10	10	
15	15	
008	Cable identification	
	With label holder	
N	Without label holder	
	Terrore and the second sections	
009	Connection technology right, controller side	
M12	Plug M12x1 A-coded, EN 61076-2-101	
SM12	Socket, M12, A-coded	
LE	Open end	
010	Plug/socket	
1	None	
G	None Straight	
G		
	Straight	
011	Straight Number of pins/wires on the right	

24

Connecting cable NEBS-L1G4

- Pre-assembled at one or both ends
- Cable lengths 1 m, 2.5 m and 5 m
- 4 wires
- Socket, rectangular design L1



General technical data						
Туре	NEBSM12G4	NEBSLE4				
Cable designation	Without inscription label holder	With inscription label holder				
Contact durability	100	100				

Technical data – Electrical connection 1					
Туре	NEBSM12G4	NEBSLE4			
Function	Field device side	Field device side			
Connection type	Socket	Socket			
Cable outlet	Straight	Straight			
Design	Angular	Angular			
Connection technology	Plug pattern L1J	Plug pattern L1J			
Number of pins/wires	4	4			
Assigned pins/wires	4	4			
Type of mounting	Snap-locking	Snap-locking			

Technical data – Electrical connection 2					
Туре	NEBSM12G4	NEBSLE4			
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	-	Cut off bluntly			
Number of pins/wires	4	4			
Assigned pins/wires	4	4			
Type of mounting	Screw-type lock with hex A/F 13 mm and longitudinal knurl	-			

Fechnical data — Electrical properties					
Operating voltage range	[V DC]	030			
Surge resistance	[kV]	0.8			
Current rating at 40°C	[A]	1			
Pollution degree		2			

Technical data – Cable						
Туре		NEBSM12G4	NEBSLE4			
Cable diameter	[mm]	4.5	4.1			
Cable diameter tolerance	[mm]	±0.1	±0.2			
Cable characteristic		Standard	Standard			
Cable test conditions		Test conditions on request	Test conditions on request			
Bending radius, fixed cable	[mm]	≥14	≥13			
installation						
Bending radius, flexible cable	[mm]	≥46	≥42			
installation						
Cable composition	[mm ²]	4x0.25	4x0.17			
Conductor nominal cross section	[mm ²]	0.25	0.17			

Materials		
Туре	NEBSM12G4	NEBSLE4
Housing	PA	PA
	TPE-U(PUR)	
Housing colour	Black	White
	White	
Screw-type lock	Nickel-plated brass	-
Pin contacts	Tin-plated bronze	Tin-plated bronze
	Gold-plated brass	-
Cable sheath	TPE-U(PUR)	PVC
Cable sheath colour	Grey	Grey
Insulating sheath	PP	PVC
Note on materials	RoHS-compliant	RoHS-compliant
	Halogen-free	-
PWIS conformity	VDMA24364-B2-L	-

Operating and environmental conditions						
Туре	NEBSM12G4	NEBSLE4				
Ambient temperature [°C]	-20 +60	-20 +60				
Ambient temperature with [°C]	-5 +60	-5 +60				
flexible cable installation						
Storage temperature [°C]	-20 +60	-20 +60				
Corrosion resistance class CRC ¹⁾	2	4				
CE marking (see declaration of conformity) ²⁾	To EU RoHS Directive	To EU RoHS Directive				
UKCA marking (see declaration of conformity) ²⁾	To UK RoHS instructions	To UK RoHS instructions				
Degree of protection	IP65	IP40				
	IP67					
	IP69K					
Note on degree of protection	When mounted	When mounted				
	IP40 for plug pattern L1J					

¹⁾ Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment. Corrosion resistance class CRC 4 to Festo standard FN 940070

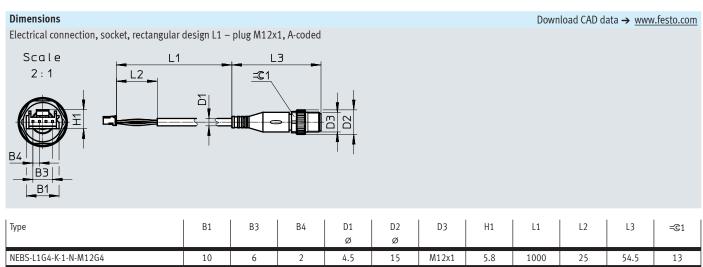
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by tests (

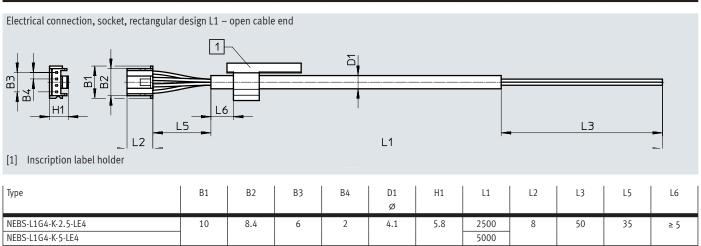
also FN 940082), using appropriate media.

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

Circuitry (socket view)							
Electrical connection 1	Pin	Wire colour ¹⁾	Pin	Electrical connection 2			
Electrical connection, socket, rectangular design L1 – open cable end							
4 3 2 1	1	BN	-	_			
	2	ВК	-				
	3	WH	-				
	4	BU	-				

¹⁾ To IEC 757





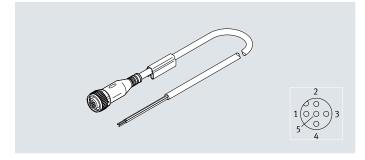
Ordering data									
Electrical connection		Cable length	Weight	Part no.	Type				
Connection 1 Connection 2			[m]	[g]					
Socket, rectangular design L1 4-pin		Plug M12x1, A-coded	4-pin	1	40	8091514	NEBS-L1G4-K-1-N-M12G4		
		Open end	4-wire	2.5	53	572576	NEBS-L1G4-K-2.5-LE4		
				5	106	572577	NEBS-L1G4-K-5-LE4		

Ordering data – Accessor	ies				
	Use	Size	Part no.	Туре	PU ¹⁾
	Inscription label for insertion in label holder	23x4 mm	541598	ASLR-L-423	30

¹⁾ Packaging unit

Connecting cable NEBS-M12G5

- Pre-assembled at one end
- \bullet Cable lengths 5 m, 10 m and 15 m $\,$
- 5 wires
- Socket M12x1



General technical data		
Cable designation	With 2x inscription label holders	

echnical data – Electrical connection 1			
Function	Field device side		
Design	Round		
Connection type	Socket		
Cable outlet	Straight		
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	Cut off bluntly		
Number of pins/wires	5		
Assigned pins/wires	5		

Technical data – Electrical properties			
Operating voltage range	[V DC]	060	
	[V AC]	048	
Surge resistance	[kV]	1.5	
Current rating at 40°C	[A]	4	
Screening		Yes	
Pollution degree		3	

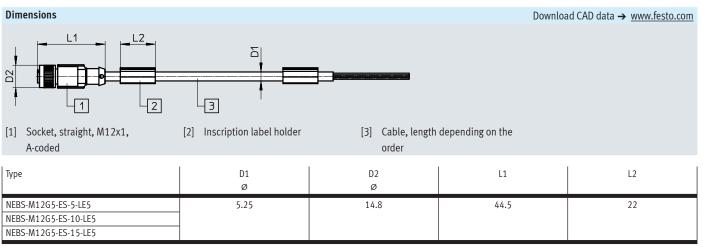
Technical data – Cable		
Cable diameter	[mm]	5.25
Cable diameter tolerance	[mm]	±0.2
Cable composition	[mm ²]	5x0.34
		Shielded
Conductor nominal cross section	[mm ²]	0.34
Cable characteristic		Suitable for energy chains
Cable test conditions		Test conditions on request
Bending radius, fixed cable	[mm]	≥26
installation		
Bending radius, flexible cable installation	[mm]	≥52

Materials				
Seals	NBR			
Pin contacts	Nickel-plated and gold-plated bronze			
Cable sheath	TPE-U(PUR)			
Cable sheath colour	Black			
Insulating sheath	PP			
Note on materials	RoHS-compliant			
PWIS conformity	VDMA24364-B2-L			

perating and environmental conditions			
Ambient temperature [°C]	-40 +80		
Ambient temperature with [°C]	-25 +60		
flexible cable installation			
CE marking (see declaration of conformity) ¹⁾	To EU RoHS Directive		
UKCA marking (see declaration of conformity) ¹⁾	To UK RoHS instructions		
Degree of protection	IP65		
	IP67		
Note on degree of protection	When mounted		

 $^{1) \}quad \text{Additional information: www.festo.com/catalogue/...} \rightarrow \text{Support/Downloads}.$

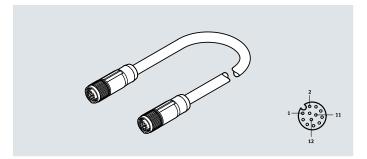
Circuitry (socket view) Electrical connection 1				
Electrical connection 1	Pin	Wire colour ¹⁾	Pin	Electrical connection 2
2	1	BN	-	-
	2	WH	-	
1 (0 0 0)3	3	BU	-	
10000	4	BK	-	
5	5	GY	-	
4				



Ordering data							
Electrical connection				Cable length	Weight	Part no.	Туре
Connection 1		Connection 2		[m]	[g]		
Socket, straight design	5-pin	Open end	5-wire	5	276	8030962	NEBS-M12G5-ES-5-LE5
				10	528	8030963	NEBS-M12G5-ES-10-LE5
				15	828	8097576	NEBS-M12G5-ES-15-LE5

Connecting cable NEBS-M12G12

- Pre-assembled at one or both ends
- Cable lengths 0.5 m, 2 m, 5 m and 10 m
- 12 wires
- Socket M12x1



General technical data					
Cable designation	/ith inscription label holder				
Technical data – Electrical connection 1	Technical data – Electrical connection 1				
Connection type Socket					

Fechnical data — Electrical connection 1				
Connection type	Socket			
Cable outlet	Straight			
Connection technology	M12x1, A-coded			
Number of pins/wires	12			

Technical data – Electrical connection 2		
Connection type	Socket	Cable
Cable outlet	Straight	-
Connection technology	M12x1, A-coded	Open end
Number of pins/wires	12	12

Technical data – Electrical properties			
Electrical connection 2		Socket, M12x1, A-coded	Cable, open end
Nominal operating voltage	[V DC]	30	30
Operating voltage range	[V DC]	0 30	0 30
Surge resistance	[kV]	0.8	0.8
Current rating at 40°C	[A]	1.5	1.5
Pollution degree		3	3

Technical data – Cable		
Cable diameter	[mm]	8.5
Cable diameter tolerance	[mm]	±0.2
Cable composition	[mm ²]	12x0.14
		Shielded
Conductor nominal cross section	[mm ²]	0.14
Cable characteristic		Basic
Minimum cable bending radius	[mm]	85
Bending radius, fixed cable	[mm]	42.5
installation		
Cable test conditions		Bending strength: to Festo standard

Materials	
Screw-type lock	Die-cast zinc
Seals	NBR
Pin contacts	Nickel-plated and gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Black
Note on materials	RoHS-compliant RoHS-compliant
PWIS conformity	VDMA24364-B2-L

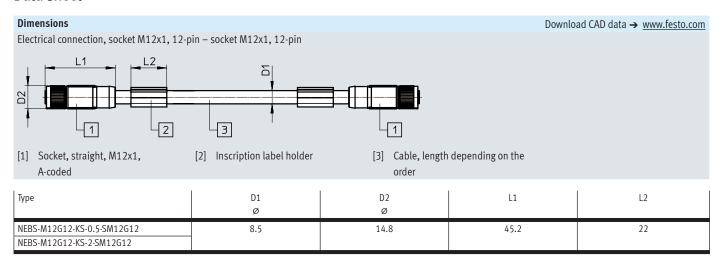
Operating and environmental conditions		
Ambient temperature [°C]	-30 +80	
Ambient temperature with [°C]	-25+80	
flexible cable installation		
CE marking (see declaration of conformity) ²⁾	To EU RoHS Directive	
UKCA marking (see declaration of conformity) ²⁾	To UK RoHS instructions	
Degree of protection	IP67	
Corrosion resistance class CRC ¹⁾	0	

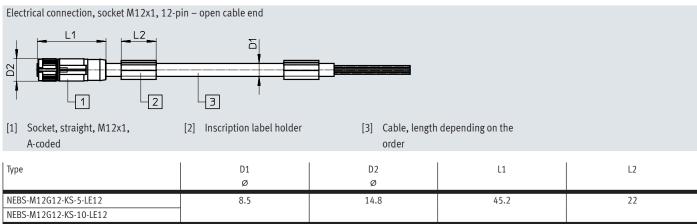
¹⁾ Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually irrelevant 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: www.festo.com/catalogue/... \rightarrow Support/Downloads.

Circuitry (socket view)				
Electrical connection 1	Pin	Wire colour ¹⁾	Pin	Electrical connection 2
Electrical connection, socket M12x	1, 12-pin – open cable end			
2	1	BN	-	-
	2	BU	-	
	3	WH	-	
	4	GN	-	
$1 - \left(\begin{array}{cccccccccccccccccccccccccccccccccccc$	5	PK	-	
	6	YE	-	
	7	BK	_	
	8	GY	-	
12	9	RD	-	
	10	VT	-	
	11	GY PK	-	
	12	RD BU	-	
Electrical connection, socket M12x	1, 12-pin – socket M12x1, 12-pi	n		
2	1	BN	1	2
	2	BU	2]
	3	WH	3	
	4	GN	4	
$\begin{vmatrix} 1 & 6 & 6 & 6 \\ 0 & 6 & 6 \end{vmatrix} - 11$	5	PK	5	$\begin{array}{c c} 1 & \begin{array}{c} 0 & 0 & 0 \\ \hline \end{array} & \begin{array}{c} 0 & 0 \\ \hline \end{array} & \begin{array}{c} 0 \\ \end{array} & \begin{array}{$
	6	YE	6	
	7	BK	7	
	8	GY	8	7
12	9	RD	9	12
	10	VT	10	7
	11	GY PK	11	
	12	RD BU	12	

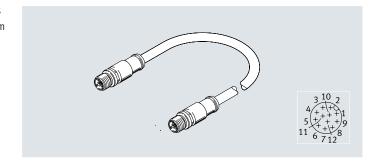




Ordering data							
Electrical connection				Cable length	Weight	Part no.	Туре
Connection 1 Connection 2		[m]	[g]				
Socket, straight design	12-pin	Socket, straight design	12-pin	0.5	87	3056124	NEBS-M12G12-KS-0.5-SM12G12
				2	223	3058527	NEBS-M12G12-KS-2-SM12G12
		Open end	12-wire	5	492	3058614	NEBS-M12G12-KS-5-LE12
				10	945	2912452	NEBS-M12G12-KS-10-LE12

Connecting cable NEBS-SM12G12

- Pre-assembled at one or both ends
- Cable lengths 0.3 m, 0.5 m and 5 m
- 12 wires
- Plug M12x1



General technical data	
Conforms to standard	EN 61076-2-101
Cable designation	With accessories

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	12	
Assigned pins/wires	12	
Type of mounting	Screw-type lock with hexagon A/F 13 mm	

Technical data – Electrical connection 2			
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	-	Cut off bluntly	
Number of pins/wires	12	12	
Assigned pins/wires	12	12	
Type of mounting	Screw-type lock with hexagon A/F 13 mm	-	

Technical data – Electrical properties		
Operating voltage range	[V DC]	0 30
	[V AC]	030
Surge resistance	[kV]	0.5
Current rating at 40°C	[A]	1.5
Pollution degree		3
Contact durability		100

Technical data – Cable		
Cable diameter	[mm]	6.5
Cable composition	[mm ²]	12x0.25
Conductor nominal cross section	[mm ²]	0.25
Cable characteristic		Suitable for energy chains
Bending radius, fixed cable	[mm]	≥32
installation		
Bending radius, flexible cable	[mm]	≥65
installation		
Cable test conditions		Test conditions on request

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Screw-type lock	Nickel-plated, die-cast zinc
Pin contacts	Gold-plated brass
Cable sheath	TPE-U(PUR)
Cable sheath colour	Black
Note on materials	RoHS-compliant

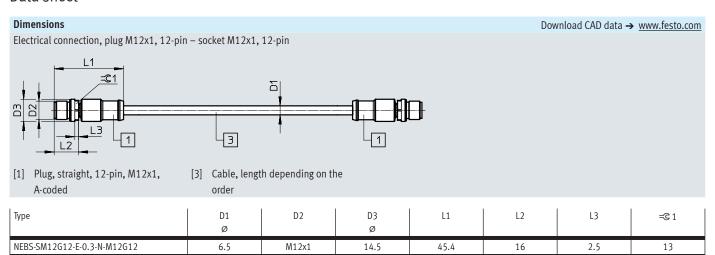
Operating and environmental conditions		
Ambient temperature [°C]	−5 +70	
Ambient temperature with [°C]	-5 +70	
flexible cable installation		
Degree of protection	IP67	
Note on degree of protection	When mounted	
Corrosion resistance class CRC ¹⁾	1	
CE marking (see declaration of conformity) ²⁾	To EU RoHS Directive	
UKCA marking (see declaration of conformity) ²⁾	To UK RoHS instructions	
PWIS conformity	VDMA24364-B2-L	

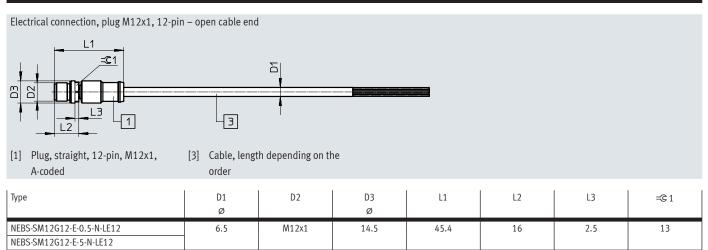
¹⁾ Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry indoor 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).

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

Circuitry (plug view)	1 1	4)	1	I-v
Electrical connection 1	Pin	Wire colour ¹⁾	Pin	Electrical connection 2
Electrical connection, plug M12x1	, 12-pin – open cable end			
3 10 a	1	BN	-	-
3^{10} 2	2	BU	-	
4/+\+\	3	WH	-	
_ / + + + \1	4	GN	_	
5\\\dagger^+++\/9	5	PK	_	
11 + + 8	6	YE	-	
$\frac{11}{6} \frac{6}{712} \frac{1}{12}$	7	BK	_	
, 17	8	GY	-	
	9	RD	-	
	10	VT	-	
	11	GY PK	-	
	12	RD BU	_	1
Electrical connection, plug M12x1	, 12-pin – plug M12x1, 12-pin			
10	1	BN	1	10
$3 \stackrel{10}{\cancel{-}} 2$	2	BU	2	$\frac{1}{3}$ $\frac{10}{2}$ 2
Δ/+/+	3	WH	3	Δ (+\+\
⁻ / + + + \1	4	GN	4	7 + + \1
5 + + +/9	5	PK	5	1 5\ / + +/ 9
11 7 + + 8	6	YE	6	11 2 + + 8
$\frac{11}{6} \underbrace{6712}_{712}$	7	ВК	7	$\frac{11}{6} \underbrace{6712}_{712}$
/ 12	8	GY	8	7 12
	9	RD	9	1
	10	VT	10	1
	11	GY PK	11	1
	12	RD BU	12	1



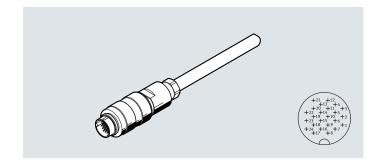


Ordering data						
Electrical connection				Cable length	Part no.	Туре
Connection 1		Connection 2		[m]		
Plug, straight design	12-pin	Plug, straight design	12-pin	0.3	3947404	NEBS-SM12G12-E-0.3-N-M12G12
		Open end	12-wire	0.5	3947401	NEBS-SM12G12-E-0.5-N-LE12
				5	3947395	NEBS-SM12G12-E-5-N-LE12

Ordering data – Accessories						
			Part no.	Туре		
	Inscription labels for attachment to a cable with diameter 5 8 mm 11	1x20 mm	33361	KM-BZ		

Connecting cable NEBS-SM16G24

- Connecting cable for Checkbox CHB-C
- Pre-assembled at one end
- Cable lengths 5 m and 10 m
- 25 wires
- Plug M16x0.75



General technical data		
Based on standard	EN 61076-2-106	
Conforms to standard	DIN 47100	
Cable designation	Without inscription label holder	

Technical data – Electrical connection 1		
Function	Field device side	
Connection type	Plug	
Cable outlet	Straight	
Design	Round	
Connection technology	M16x0.75	
Number of pins/wires	24	
Assigned pins/wires	24	
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	25	
Assigned pins/wires	24	

Technical data – Electrical properties		
Operating voltage range	[V DC]	30
Surge resistance	[kV]	0.5
Current rating at 40°C	[A]	
Pollution degree		1

Technical data – Cable		
Cable diameter	[mm]	8.5
Cable composition	[mm ²]	25x0.14
Conductor nominal cross section	[mm ²]	0.14
Cable characteristic		Standard
Bending radius, fixed cable installation	[mm]	≥51
Bending radius, flexible cable installation	[mm]	≥127.5

Materials	
Housing	PA PA
Screw-type lock	Nickel-plated brass
Pin contacts	Gold-plated brass
Cable sheath	PVC
Cable sheath colour	Grey
Insulating sheath	PVC
Note on materials	RoHS-compliant RoHS-compliant
PWIS conformity	VDMA24364-B2-L

Operating and environmental conditions			
Ambient temperature [°C]		-30 +70	
Ambient temperature with [°C]		_5 +70	
flexible cable installation			
CE marking (see declaration of conformity) ¹⁾		To EU RoHS Directive	
UKCA marking (see declaration of conformity) ¹⁾		To UK RoHS instructions	
Degree of protection		IP67	

 $^{1) \}quad \text{Additional information: www.festo.com/catalogue/...} \rightarrow \text{Support/Downloads}.$

Circuitry (plug view)				
Electrical connection 1	Pin	Wire colour ¹⁾	Pin	Electrical connection 2
	1	WH	-	-
$\begin{array}{ c c c c c c } & +21 & +12 \\ & +13 & +4 \\ & +20 & +11 & +3 \\ \hline \end{array}$	2	BN	-	
	3	GN	-	
/ +22 +14 +5 \	4	YE	-	
+19 +10 +2 +23 +15 +6	5	GY	-	
\ 10 0 4	6	PK	-	
$+24 + 16 + 7 + 1 \\ +24 + 17 + 8$	7	BU	-	
TI/ +6	8	RD	-	
	9	BK	-	
	10	VT	-	
	11	GY PK	-	
	12	RD BU	-	
	13	WH GN	-	
	14	BN GN	-	
	15	WH YE	-	
	16	YE BN	-	
	17	WH GY	-	
	18	GY BN	-	
	19	WH PK	-	
	20	PK BN	-	
	21	WH BU	-	
	22	BN BU	-	
	23	WH RD	-	
	24	BN RD	-	
	n.c.	WH BK	-	

Ordering data											
Electrical connection					Weight	Part no.	Type				
Connection 1		Connection 2		[m]	[g]						
Plug, straight design	24-pin	Open end	25-wire	5	745	8048653	NEBS-SM16G24-K-5-N-LE24				
				10	1490	8048654	NEBS-SM16G24-K-10-N-LE24				

Festo - Your Partner in Automation





1 Festo Inc.

5300 Explorer Drive Mississauga, ON L4W 5G4 Canada

Festo Customer Interaction Center

Tel: 1877 463 3786 Fax: 1877 393 3786



2 Festo Pneumatic

Av. Ceylán 3, Col. Tequesquináhuac 54020 Tlalnepantla, Estado de México

Multinational Contact Center

01 800 337 8669



3 Festo Corporation

1377 Motor Parkway Suite 310 Islandia, NY 11749



Regional Service Center

7777 Columbia Road Mason, OH 45040

Festo Customer Interaction Center

1 800 993 3786 1 800 963 3786 customer.service.us@festo.com







www.festo.com/socialmedia

