Connecting cables, universal

FESTO

★	Festo Core Range Solves the majority of your automation tasks	With the Festo Core Range, we have selected the most important products and functions from our broad product catalogue, and added the quickest delivery.
Worldwide:	Quickest delivery – wherever, whenever	The Core Range offers you the best value for your automation tasks.
Simply good:	Expected high Festo quality	
Fast:	Easy and fast to select	

Just look for the star!

Key features

Cable characteristic

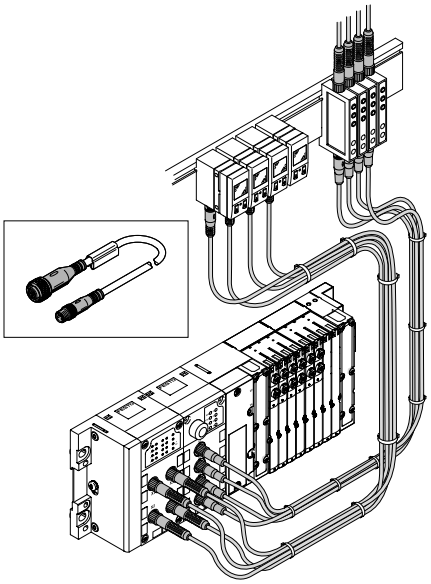
The connecting cables NEBU can be configured and ordered using a modular system. A range of characteristics can therefore be defined.

These include, for example:
- Electrical connection
- Cable characteristic
- Length
- Number of pins/wires

The cable characteristic indicates the resistance of the connecting cable to the mechanical load.

There are three qualities:
- Standard
- Suitable for energy chains
- Suitable for robot applications

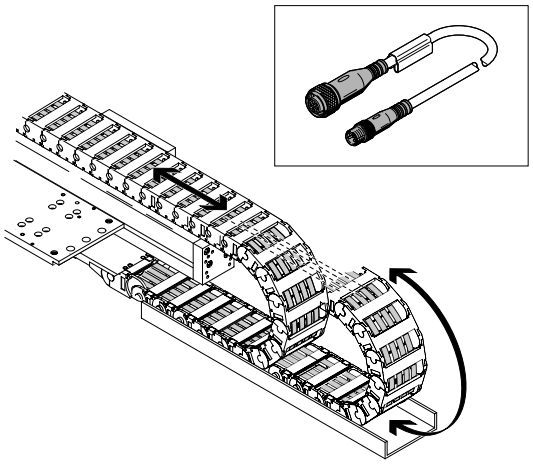
Cable characteristic: standard	Code K



Standard applications are characterised by fixed cable installation or small to medium mechanical loads.
The connecting cable can even be used for simple applications with energy chains with larger radii.
The cable sheath of the connecting cables is made of polyurethane, is free of halogen, oil resistant and optimised for installation in contact with pneumatic tubing; free of phosphoric acid ester.

- The connecting cable is tested for resistance to bending according to the Festo standard; test conditions are available on request.
- The connecting cable has been tested on an energy chain over 5 million cycles and at a bending radius of 75 mm.

Cable characteristic: suitable for energy chains	Code E



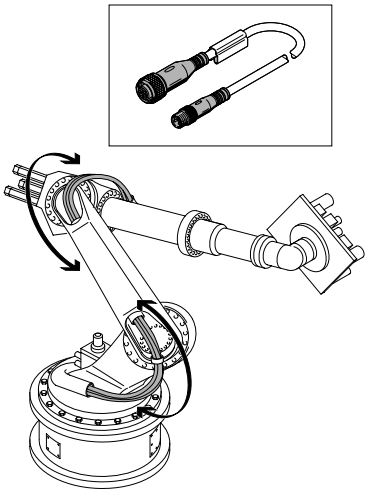
Energy chain applications involve high mechanical loads, particularly if very small radii are required.
The connecting cable can be used in an environment where it is constantly subjected to bending.
The cable sheath of the connecting cables is made of polyurethane, is free of halogen, oil resistant and optimised for installation in contact with pneumatic tubing; free of phosphoric acid ester.

- The connecting cable is tested for resistance to bending according to the Festo standard; test conditions are available on request.
- The connecting cable has been tested on an energy chain over 5 million cycles and at a bending radius of 75 mm.
- The connecting cable has been tested on an energy chain over 5 million cycles and at a bending radius of 28 mm.

Key features

Cable characteristic

Cable characteristic: suitable for robot applications — Code R



Robot applications involve high mechanical loads that are primarily caused by torsion (twisting).
The cable sheath of the connecting cables is made of polyurethane, is free of halogen, oil resistant and optimised for installation in contact with pneumatic tubing; free of phosphoric acid ester.

- The connecting cable is tested for resistance to bending according to the Festo standard; test conditions are available on request.
- The connecting cable has been tested on an energy chain over 5 million cycles and at a bending radius of 75 mm.
- The connecting cable has been tested on an energy chain over 5 million cycles and at a bending radius of 28 mm.
- The connecting cable has been tested for torsional resistance over more than 0.3 million cycles at ±270°/0.1 m.

Version Connection technology

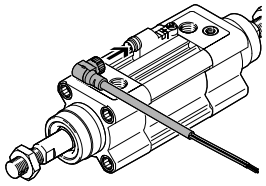
The type of plug for the connecting cable can be selected (e.g. angled or straight).

The rotatable version is a special type: with an angled socket, the cable outlet can be rotated 360° in increments of 15°.

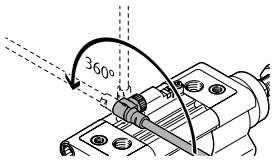
Benefit:
The cable outlet can be rotated to the optimum position in tight installation conditions.
The position of the rotatable plug should not be constantly adjusted.

Mounting

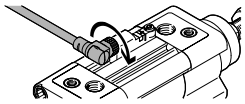
Observe the orientation of the pins.



Connect the plug to the socket.



Adjust the cable outlet



Tighten the union nut

Product range overview

Function	Version	Type	Connection technology (right)	Cable characteristic	Length	→ Page/ Internet
Electrical connecting cable	**Electrical connection (left), open cable end**					
	5-pin	NEBU-LE	Plug	Standard, suitable for energy chains, suitable for robot applications	0.1 ... 30 m	6
	Electrical connection (left), socket M8					
	3-pin	NEBU-M8 SIM-M8	Plug, open cable end	Standard, suitable for energy chains, suitable for robot applications	0.1 ... 30 m	11
	4-pin	NEBU-M8 SIM-M8	Plug, open cable end	Standard, suitable for energy chains, suitable for robot applications	0.1 ... 30 m	18
	Electrical connection (left), socket M12					
	5-pin	NEBU-M12G5 NEBU-M12W5 SIM-M12	Plug, open cable end	Standard, suitable for energy chains, suitable for robot applications	0.1 ... 30 m	24
	8-pin	NEBU-M12-W8 SIM-M12-8 KM12-8	Plug, open cable end	Standard	2 m, 5 m, 10 m, 15 m, 20 m, 25 m	32
	Electrical connection (left), socket G7/8					
	5-pin	NEBU-G78	Open cable end	Standard	2 m	37
	Electrical connection (left), snap-locking					
	3-pin	SIM-K	Open cable end	Standard	2.5 m, 5 m, 10 m	39
	4-pin	SIM-K-4	Open cable end	Standard	2.5 m, 5 m	42

Type codes

001	Series	
NEBU	Connecting cable, universal	

002	Connection technology left, field device side	
LE	Open end	
M8	Socket M8x1 A-coded, EN 61076-2-104	
M12	Socket M12x1 A-coded, EN 61076-2-101	
G78	7/8"	

003	Cable outlet left	
	None	
G	Straight	
R	Rotating	
W	Angled	

004	Number of pins/wires on the left	
3	3	
4	4	
5	5	
8	8	

005	Display	
	None	
L	LED signal status, DC	
N	LED switching state, NPN	
P	LED switching state, PNP	
P2	2x LED, PNP	

006	Cable characteristic	
K	Standard	
E	Suitable for energy chains	
R	Suitable for robot applications	

007	Cable length [m]	
0.1	0.1	
0.5	0.5	
1	1	
1.5	1.5	
2	2	
2.5	2.5	
3	3	
3.5	3.5	
5	5	
7	7	
7.5	7.5	
9	9	
10	10	
15	15	
30	30	

008	Cable identification	
	With label holder	
N	Without label holder	

009	Wire cross section [mm²]	
	Standard	
Q8	1	

010	Connection technology right, controller side	
LE	Open end	
M8	Plug M8x1 A-coded, EN 61076-2-104	
M12	Plug M12x1 A-coded, EN 61076-2-101	

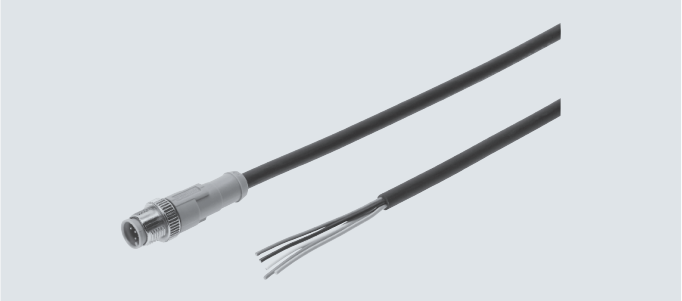
011	Plug	
	None	
G	Straight	
W	Angled	

012	Number of pins/wires on the right	
2	2	
3	3	
4	4	
5	5	
8	8	

Datasheet

Connecting cable
NEBU-LE

- Connecting cable for connecting inputs/outputs
- Pre-assembled at one end
- Cable lengths 0.1 … 30 m
- 3, 4, 5 wires
- Plug M8 or M12



General technical data	
Conforms to standard	EN 61076-2-104
	EN 61076-2-101
	Wire colours and connection numbers to EN 60947-5-2
Cable designation	With 2x inscription label holders
Degree of protection to EN 60529	IP65, IP68, IP69K
Note on degree of protection	In assembled state

Technical data – Electrical connection 1			
Function	Field device side		
Connection type	Cable		
Connection technology	Open end		
Number of pins/wires	3	4	5
Assigned pins/wires	3	4	5

Technical data – Electrics						
Electrical connection 2		Plug M8x1		Plug M12x1		
		3-pin	4-pin	3-pin	4-pin	5-pin
Operating voltage range	[V DC]	0 … 60	0 … 30	0 … 250	0 … 250	0 … 60
	[V AC]	0 … 60	0 … 30	0 … 250	0 … 250	0 … 60
Surge resistance	[kV]	1.5	0.8	2.5	2.5	1.5
Current rating	[A]	3	3	4	4	4

Technical data – Cable							
Electrical connection 2				Plug M8x1		Plug M12x1		
				3-pin	4-pin	3-pin	4-pin	5-pin
Cable characteristic		Code -K-		Standard				
		Code -E-		Suitable for energy chains				
		Code -R-		Suitable for robot applications				
Cable test conditions				Bending strength: to Festo standard				
				Test conditions on request				
	Cable characteristic	Standard		Energy chain: 5 million cycles, bending radius 75 mm				
		Suitable for energy chains		Energy chain: 5 million cycles, bending radius 28 mm				
		Suitable for robot applications		Energy chain: 5 million cycles, bending radius 28 mm Torsional resistance more than 300000 cycles, ±270°/0.1 m				
Cable diameter			[mm]	3.8	4.5	3.8	4.5	4.5
Cable diameter tolerance			[mm]	±0.1		±0.1		
Cable composition			[mm²]	3x 0.25	4x 0.25	3x 0.25	4x 0.25	5x 0.25
Nominal conductor cross section			[mm²]	0.25		0.25		
Bending radius, fixed cable installation			[mm]	12	14	12	14	14
Bending radius, flexible cable installation			[mm]	39	46	39	46	46

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Technical data – Electrical connection 2						
Function	Controller side					
Design	Round					
Connection type	Plug					
Cable outlet	Straight					
Connection technology	M8x1, A-coded to EN 61076-2-104		M12x1, A-coded to EN 61076-2-101			
Number of pins/wires	3	4	3	4	5	
Assigned pins/wires	3	4	3	4	5	
Type of mounting	Screw lock					

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Insulating sheath	PP
Screw lock	Nickel-plated brass
Note on materials	RoHS-compliant
	Halogen-free
	Free of phosphoric acid ester
Special characteristics	Oil-resistant
PWIS conformity	VDMA24364-B2-L

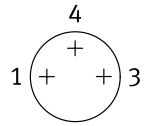
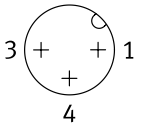
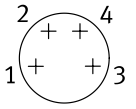
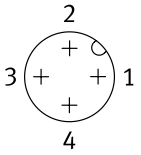
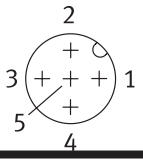
Operating and environmental conditions			
Ambient temperature	Cable characteristic: standard	[°C]	–25 ... +70
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–25 ... +80
Ambient temperature with flexible cable installation	Cable characteristic: standard	[°C]	–5 ... +70
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–5 ... +80
Corrosion resistance class CRC[1]			2
CE marking (see declaration of conformity)[2]	All types		To EU Low Voltage Directive
			To EU RoHS Directive
	Electrical connection 2 M8x1, 4-pin		–
			To EU RoHS Directive
UKCA marking (see declaration of conformity)[2]			To UK regulations for electrical equipment
			To UK RoHS instructions
Pollution degree			3

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

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/nebu → Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Datasheet

Circuitry (socket view)

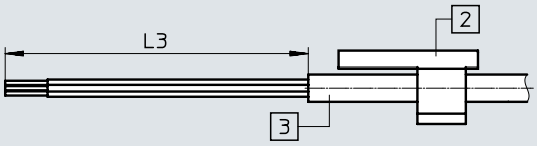
Electrical connection 1	Pin	Wire colour[1)]	Pin	Electrical connection 2	
Electrical connection, open cable end, 3-wire – plug, 3-pin				**Plug M8**	**Plug M12**
–	1	BN	1		
	2	WH	–		
	3	BU	3		
	4	BK	4		
Electrical connection, open cable end, 4-wire – plug, 4-pin				**Plug M8**	**Plug M12**
–	1	BN	1		
	2	WH	2		
	3	BU	3		
	4	BK	4		
Electrical connection, open cable end, 5-wire – plug, 5-pin, M12					**Plug M12**
–	–	BN	1		
	–	WH	2		
	–	BU	3		
	–	BK	4		
	–	GY	5		

1) To IEC 757

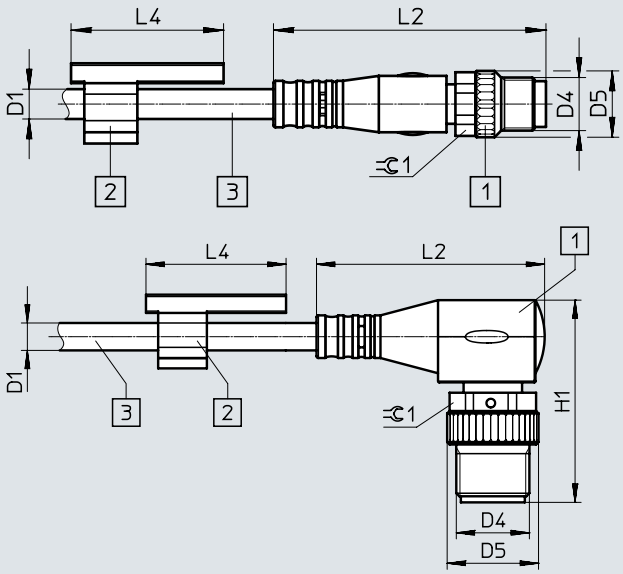
Datasheet

Dimensions Download CAD data ➔ www.festo.com

Connection technology, left



Connection technology, right



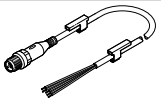
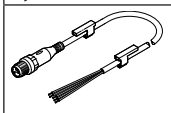
[1] Plug
[2] Inscription label holder
[3] Cable, length 0.1 ... 30 m depending on the order

Connection technology, left	L3
–	
Open end	50

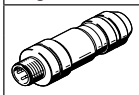
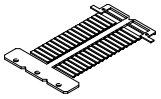
Connection technology, right	D1 ø	D4	D5 ø	L2	L4	H1	=C1
3-pin							
Straight plug	3.8	M8x1	10	41.1	23	–	9
	3.8	M12x1	15	54.5	23	–	13
Angled plug	3.8	M8x1	10	26.9	23	24	9
	3.8	M12x1	15	37.5	23	33.2	13
4-pin, 5-pin							
Straight plug	4.5	M12x1	15	54.5	23	–	13
Angled plug	4.5	M12x1	15	37.5	23	33.2	13

Datasheet

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Open cable end, 3-wire – plug, 3-pin, M12							
	Standard	1	Straight	Without inscription label holder	35	**8091515**	**NEBU-LE3-K-1-N-M12G3**
Open cable end, 5-wire – plug, 5-pin, M12							
	Standard	1	Straight	–	41	**569840**	**NEBU-LE5-K-1-M12G5**

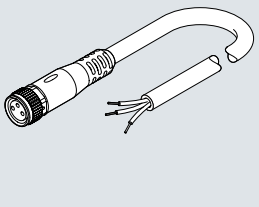
Ordering data – Accessories

Designation			Part no.	Type
Plug				
	Plugs for self-assembly		–	→ Internet: necu
			–	→ Internet: sea
Inscription labels				
	Inscription label holder 23 mm for inscription labels, pack of 34, in frame		**541598**	**ASLR-L-423**
Safety clip				
	Prevents the screw lock from being released easily (without a tool), to be fastened securely to the cable	For M12	**548068**	**NEAU-M12-GD**
Inscription label holders				
	For identifying connecting cables	For cable diameter 3.3 ... 4.8 mm	**8078307**	**NEAU-LH-3**

Datasheet

Connecting cable
NEBU-M8
SIM-M8

- Connecting cable for connecting inputs/outputs
- Pre-assembled at one end, pre-assembled at both ends
- Cable lengths 0.1 … 30 m
- 3 wires
- Socket M8x1, 3-pin



General technical data

Type		NEBU	SIM
Conforms to standard	Cable characteristic: standard, suitable for use with energy chains	EN 61076-2-104	–
		EN 61076-2-101	–
		Wire colours and connection numbers to EN 60947-5-2	–
	Cable characteristics: Suitable for robot applications	Wire colours and connection numbers to EN 60947-5-2	–
		–	EN 61076-2-104
		–	EN 61984
Based on standard	Cable outlet on the left, rotatable	EN 61076-2-104	–
Cable designation		With 2x inscription label holders	–
Degree of protection		IP65, IP68, IP69K	IP65, IP68
Note on degree of protection		In assembled state	–

Technical data – Electrical connection 1

Type	NEBU	SIM
Function	Field device side	Field device side
Design	Round	Round
Connection type	Socket	Socket
Cable outlet	Straight, angled	Straight, angled
Connection technology	M8x1, A-coded to EN 61076-2-104	M8x1, A-coded to EN 61076-2-104
Number of pins/wires	3	3
Assigned pins/wires	3	3
Type of mounting	Screw lock	–

Technical data – Electrics

Type			NEBU	SIM
Operating voltage range	Without switching status indication	[V DC]	0 … 60	0 … 60
		[V AC]	0 … 60	0 … 60
	With switching status indication	[V DC]	10 … 30	10 … 30
	Electrical connection 2 M8x1, 4-pin	[V DC]	0 … 30	–
		[V AC]	0 … 30	–
Surge resistance	Connection technology not rotatable, without switching status indication	[kV]	1.5	1.5
	Connection technology rotatable	[kV]	0.8	–
	With switching status indication	[kV]	0.8	0.8
Acceptable current load at 40°C	Connection technology not rotatable	[A]	3	4
	Connection technology rotatable	[A]	0.5	–

Datasheet

Technical data – Cable

Type				NEBU	SIM
Cable characteristic		Code -K-		Standard	–
		Code -E-		Suitable for energy chains	–
		Code -R-		Suitable for robot applications	–
				–	Standard
Cable test conditions				Bending strength: to Festo standard	Bending strength: to Festo standard
				Test conditions on request	Test conditions on request
	Cable characteristic	Standard		Energy chain: 5 million cycles, bending radius 75 mm	Energy chain: 5 million cycles, bending radius 75 mm
		Suitable for energy chains		Energy chain: 5 million cycles, bending radius 28 mm	–
		Suitable for robot applications		Energy chain: 5 million cycles, bending radius 28 mm	–
				Torsional resistance more than 300000 cycles, ±270°/0.1 m	–
Cable diameter			[mm]	3.8	3.8
Cable diameter tolerance			[mm]	±0.1	–
Cable composition			[mm^2]	3x 0.25	3x 0.25
Nominal conductor cross section			[mm^2]	0.25	0.25
Bending radius, fixed cable installation			[mm]	12	–
Bending radius, flexible cable installation			[mm]	39	–

Technical data – Electrical connection 2

Type	NEBU				SIM
Function	Controller side				
Connection type	Cable	Plug		Plug	Cable
Design	–	Round		Round	–
Cable outlet	–	Straight, angled		Straight, angled	–
Connection technology	Open end	M8x1, A-coded to EN 61076-2-104		M12x1, A-coded to EN 61076-2-101	Open end
Number of pins/wires	3	3	4	3	3
Assigned pins/wires	3	3	3	3	3
Type of mounting	–	Screw lock		Screw lock	–

Datasheet

Materials			
Type		NEBU	SIM
Housing		TPE-U(PUR)	TPE-U(PU)
Housing colour		Black	Black
Cable sheath		TPE-U(PUR)	TPE-U(PU)
Cable sheath colour		Grey	Grey
Insulating sheath		PP	PP
Wire insulation colour code		–	Blue, brown, black
Screw lock		Nickel-plated brass	–
Union nut		–	Nickel-plated brass
Seals		–	NBR
Pin contacts		–	Gold-plated brass
Note on materials		RoHS-compliant	RoHS-compliant
		Halogen-free	Halogen-free
		Free of phosphoric acid ester	Free of phosphoric acid ester
Special characteristics	Cable characteristic: standard, suitable for energy chains, suitable for robot applications	Oil-resistant	–
PWIS conformity		VDMA24364-B2-L	VDMA24364-B2-L

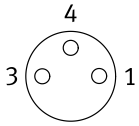
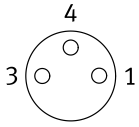
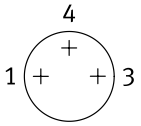
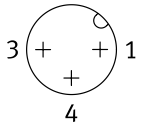
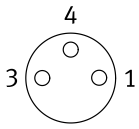
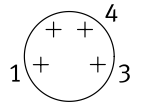
Operating and environmental conditions				
Type			NEBU	SIM
Ambient temperature	Cable characteristic: standard	[°C]	–25 … +70	–25 … +80
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–25 … +80	–
Ambient temperature with flexible cable installation	Cable characteristic: standard	[°C]	–5 … +70	–5 … +80
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–5 … +80	–
Corrosion resistance class CRC[1]			2	2
CE marking (see declaration of conformity)[2]	All types		To EU RoHS Directive	To EU RoHS Directive
	Without switching status indication		To EU Low Voltage Directive	To EU Low Voltage Directive
	With switching status indication		–	–
	Electrical connection 2 M8x1, 4-pin		–	–
UKCA marking (see declaration of conformity)[2]	All types		To UK RoHS instructions	To UK RoHS instructions
	Without switching status indication		To UK regulations for electrical equipment	To UK regulations for electrical equipment
	With switching status indication		–	–
	Electrical connection 2 M8x1, 4-pin		–	–
Pollution degree			3	3

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

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/nebu → Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

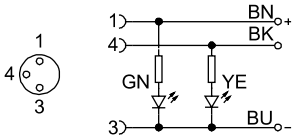
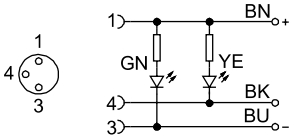
Datasheet

Circuitry (socket view)

Electrical connection 1	Pin	Wire colour[1)]	Pin	Electrical connection 2	
Electrical connection, socket, 3-pin, M8 – open cable end					
	1	BN	–	–	
	3	BU	–		
	4	BK	–		
Electrical connection, socket, 3-pin, M8 – plug, 3-pin				**Plug M8**	**Plug M12**
	1	BN	1		
	3	BU	3		
	4	BK	4		
Electrical connection, socket, 3-pin, M8 – plug, 4-pin, M8				**Plug M8**	
	1	BN	1		
	–	–	2		
	3	BU	3		
	4	BK	4		

1) To IEC 757

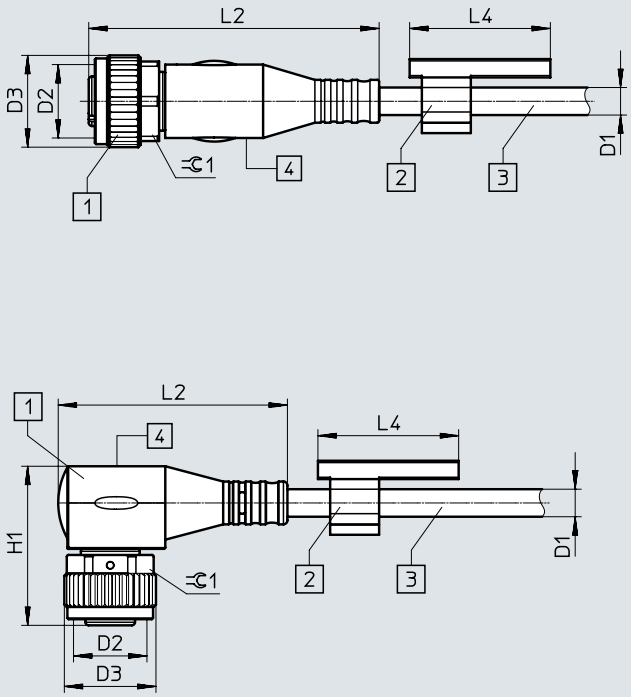
Circuitry, switching status indication

Display of code P, for PNP N/O contact	Display of code N, for NPN N/O contact
	

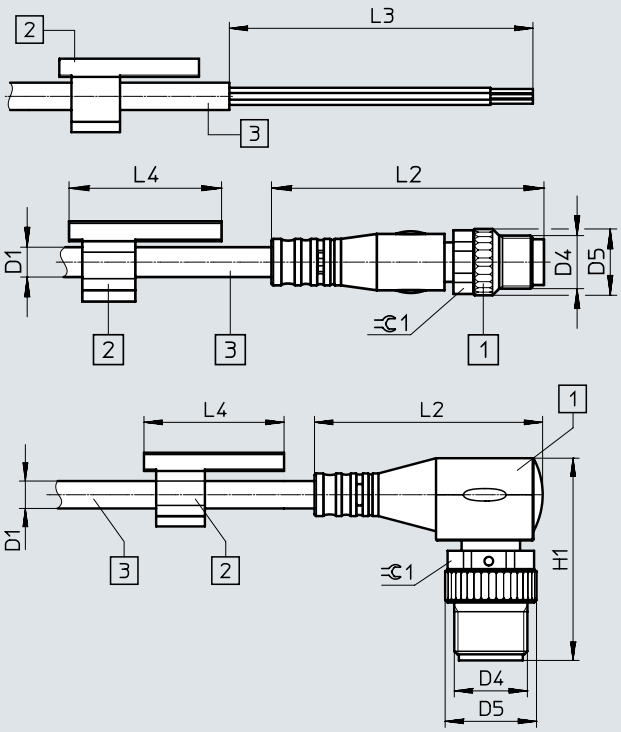
Datasheet

Dimensions Download CAD data ➔ www.festo.com

Connection technology, left



Connection technology, right



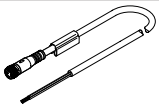
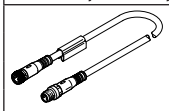
[1] Socket M8x1
[2] Inscription label holder
[3] Cable, length 0.1 ... 30 m depending on the order
[4] Display field with version P, N

Connection technology, left	D1 ø	D2	D3 ø	L2	L4	H1	=C1
NEBU							
Straight socket	3.8	M8x1	10	34.6	23	–	9
Angled socket	3.8	M8x1	10	26.9	23	17	9
Rotatable socket	3.8	M8x1	10	20.9	23	16.3	9
SIM							
Straight socket	3.8	M8x1	10	34.6	–	–	9
Angled socket	3.8	M8x1	10	26.9	–	17	9

Connection technology, right	D1 ø	D4	D5 ø	L2	L3	L4	H1	=C1
NEBU								
Open end	3.8	–	–	–	50	23	–	–
Straight plug	3.8	M8x1	10	41.1	–	23	–	9
	3.8	M12x1	15	54.5	–	23	–	13
Angled plug	3.8	M8x1	10	26.9	–	23	24	9
	3.8	M12x1	15	37.5	–	23	33.2	13
SIM								
Open end	3.8	–	–	–	50	–	–	–

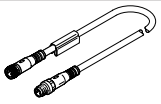
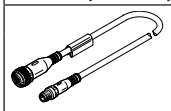
Datasheet

Ordering data

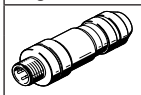
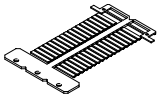
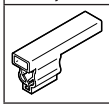
	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 3-pin, M8 – open cable end							
	Standard	2.5	Straight	–	64	★ 541333	NEBU-M8G3-K-2.5-LE3
					–	159420	SIM-M8-3GD-2.5-PU
			Angled	–	64	★ 541338	NEBU-M8W3-K-2.5-LE3
					–	159422	SIM-M8-3WD-2.5-PU
				Rotatable socket	64	8001660	NEBU-M8R3-K-2.5-LE3
				For NPN N/O contact, switching status indication yellow, ready status indication green	64	541336	NEBU-M8W3N-K-2.5-LE3
					–	159426	SIM-M8-3WD-2.5-NSL-PU
				For PNP N/O contact, switching status indication yellow, ready status indication green	64	541337	NEBU-M8W3P-K-2.5-LE3
					–	159424	SIM-M8-3WD-2.5-PSL-PU
		5	Straight	–	123	★ 541334	NEBU-M8G3-K-5-LE3
					–	159421	SIM-M8-3GD-5-PU
			Angled	–	123	★ 541341	NEBU-M8W3-K-5-LE3
					–	159423	SIM-M8-3WD-5-PU
				Rotatable socket	123	8001661	NEBU-M8R3-K-5-LE3
				For NPN N/O contact, switching status indication yellow LED, ready status indication green LED	123	541339	NEBU-M8W3N-K-5-LE3
					–	159427	SIM-M8-3WD-5-NSL-PU
				For PNP N/O contact, switching status indication yellow LED, ready status indication green LED	123	541340	NEBU-M8W3P-K-5-LE3
					–	159425	SIM-M8-3WD-5-PSL-PU
		10	Straight	–	242	★ 541332	NEBU-M8G3-K-10-LE3
				–	–	192964	SIM-M8-3GD-10-PU
			Angled	–	242	★ 541335	NEBU-M8W3-K-10-LE3
				–	–	192965	SIM-M8-3WD-10-PU
	Suitable for energy chains	5	Straight	–	123	569843	NEBU-M8G3-K-5-LE3
		10	Straight	–	242	569842	NEBU-M8G3-K-10-LE3
	Suitable for robot applications	2.5	Straight	–	64	569845	NEBU-M8G3-R-2.5-LE3
			Angled	–	64	569847	NEBU-M8W3-R-2.5-LE3
		5	Straight	–	123	569846	NEBU-M8G3-R-5-LE3
		10	Straight	–	242	8003129	NEBU-M8G3-R-10-LE3
Socket, 3-pin, M8 – plug, 3-pin, M8							
	Standard	0.5	Straight – straight	–	22	★ 541346	NEBU-M8G3-K-0.5-M8G3
		1			33	★ 541347	NEBU-M8G3-K-1-M8G3
		1.5			45	8003133	NEBU-M8G3-K-1.5-M8G3
		2			57	8003131	NEBU-M8G3-K-2-M8G3
		2.5			69	★ 541348	NEBU-M8G3-K-2.5-M8G3
		3			80	8003132	NEBU-M8G3-K-3-M8G3
		5			128	★ 541349	NEBU-M8G3-K-5-M8G3
		10			246	569844	NEBU-M8G3-K-10-M8G3
	Suitable for energy chains	3.5	Straight – straight	–	92	559364	NEBU-M8G3-E-3.5-M8G3

Datasheet

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 3-pin, M8 – plug, 4-pin, M8							
	Standard	2.5	Straight – straight	–	69	**554037**	**NEBU-M8G3-K-2.5-M8G4**
Socket, 3-pin, M8 – plug, 3-pin, M12							
	Standard	0.5	Straight – straight	–	29	**8000209**	**NEBU-M8G3-K-0.5-M12G3**
		1	Straight – straight	Without inscription label holder	39	**8091512**	**NEBU-M8G3-K-1-N-M12G3**

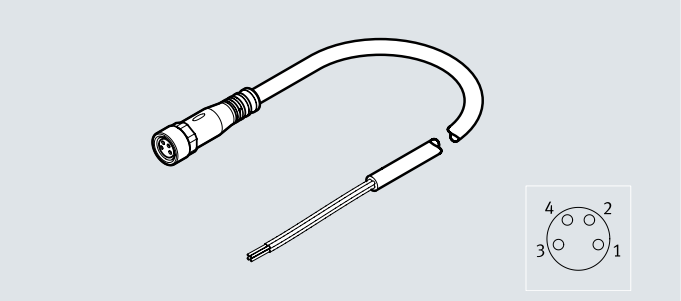
Ordering data – Accessories

Designation			Part no.	Type
Plug				
	Plugs for self-assembly		–	→ Internet: necu
			–	→ Internet: sea
Inscription labels				
	Inscription labels 23 mm for holder, pack of 34, in frame		**541598**	**ASLR-L-423**
Inscription label holders				
	For identifying connecting cables	For cable diameter 3.3 ... 4.8 mm	**8078307**	**NEAU-LH-3**
Safety clip				
	Prevents the screw lock from being released easily (without a tool), to be fastened securely to the cable	For M8	**548067**	**NEAU-M8-GD**
		For M12	**548068**	**NEAU-M12-GD**

Datasheet

Connecting cable
NEBU-M8
SIM-M8

- Connecting cable for connecting inputs/outputs
- Pre-assembled at one end, pre-assembled at both ends
- Cable lengths 0.1 … 30 m
- 2, 3 or 4 wires
- Socket M8x1, 4-pin



General technical data

Type		NEBU	SIM
Conforms to standard	Cable characteristic: standard, suitable for use with energy chains	EN 61076-2-104	–
		EN 61076-2-101	–
		Wire colours and connection numbers to EN 60947-5-2	–
	Cable characteristics: Suitable for robot applications	Wire colours and connection numbers to EN 60947-5-2	–
		–	EN 61076-2-104
		–	EN 61984
Based on standard	Cable outlet on the left, rotatable	EN 61076-2-104	–
Cable designation		With 2x inscription label holders	–
Degree of protection		IP65, IP68, IP69K	IP65, IP68
Note on degree of protection		In assembled state	–

Technical data – Electrical connection 1

Type	NEBU	SIM
Function	Field device side	Field device side
Design	Round	Round
Connection type	Socket	Socket
Cable outlet	Straight, angled	Straight, angled
Connection technology	M8x1, A-coded to EN 61076-2-104	M8x1, A-coded to EN 61076-2-104
Number of pins/wires	4	4
Assigned pins/wires	2 | 3 | 4	4
Type of mounting	Screw lock	–

Technical data – Electrics

Type			NEBU	SIM
Operating voltage range	Without switching status indication	[V DC]	0 … 30	0 … 30
		[V AC]	0 … 30	0 … 30
	With switching status indication	[V DC]	21.6 … 30	–
		[V AC]	21.6 … 30	–
Surge resistance		[kV]	0.8	0.8
Acceptable current load at 40°C		[A]	3	4

Datasheet

Technical data – Cable

Type				NEBU			SIM
				Electrical connection 2			
				2-pin	3-pin	4-pin	
Cable characteristic		Code -K-		Standard			–
		Code -E-		Suitable for energy chains			–
		Code -R-		Suitable for robot applications			–
				–			Standard
Cable test conditions				Bending strength: to Festo standard			Bending strength: to Festo standard
				Test conditions on request			Test conditions on request
	Cable characteristic	Standard		Energy chain: 5 million cycles, bending radius 75 mm			Energy chain: 5 million cycles, bending radius 75 mm
		Suitable for energy chains		Energy chain: 5 million cycles, bending radius 28 mm			–
		Suitable for robot applications		Energy chain: 5 million cycles, bending radius 28 mm			–
				Torsional resistance more than 300000 cycles, ±270°/0.1 m			–
Cable diameter	Without switching status indication		[mm]	–	3.8	4.5	4.5
	With switching status indication		[mm]	3.4	3.4	3.4	–
Cable diameter tolerance			[mm]	±0.1			–
Cable composition	Without switching status indication		[mm^2]	–	3x 0.25	4x 0.25	4x 0.25
	With switching status indication		[mm^2]	2x 0.25	2x 0.25	2x 0.25	–
Nominal conductor cross section			[mm^2]	0.25			0.25
Bending radius, fixed cable installation	Without switching status indication		[mm]	–	12	14	–
	With switching status indication		[mm]	11	11	11	–
Bending radius, flexible cable installation	Without switching status indication		[mm]	–	39	46	–
	With switching status indication		[mm]	35	35	35	–

Technical data – Electrical connection 2

Type		NEBU				SIM
Function		Controller side				
Connection type		Cable	Plug		Plug	Cable
Design		–	Round		Round	–
Cable outlet		–	Straight, angled		Straight, angled	–
Connection technology		Open end	M8x1, A-coded to EN 61076-2-104		M12x1, A-coded to EN 61076-2-101	Open end
Number of pins/wires		4	3	4	4	4
Assigned pins/wires	Without switching status indication	4	3	4	4	4
	With switching status indication	2	3	4	2	–
Type of mounting		–	Screw lock		Screw lock	–

Datasheet

Materials			
Type		NEBU	SIM
Housing		TPE-U(PUR)	TPE-U(PU)
Housing colour		Black	Black
Cable sheath	Cable characteristic: standard, suitable for energy chains, suitable for robot applications	TPE-U(PUR)	TPE-U(PU)
Cable sheath colour		Grey	Grey
Insulating sheath	Cable characteristic: suitable for energy chains, suitable for robot applications, standard	PP	PP
Wire insulation colour code		–	Blue, brown, black, white
Screw lock		Nickel-plated brass	–
Union nut		–	Nickel-plated brass
Seals		–	NBR
Pin contacts		–	Gold-plated brass
Note on materials	All types	RoHS-compliant	RoHS-compliant
	Cable characteristic: standard, suitable for energy chains, suitable for robot applications	Halogen-free	Halogen-free
		Free of phosphoric acid ester	Free of phosphoric acid ester
Special characteristics	Cable characteristic: standard, suitable for energy chains, suitable for robot applications	Oil-resistant	–
PWIS conformity		VDMA24364-B2-L	VDMA24364-B2-L

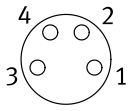
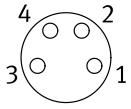
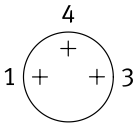
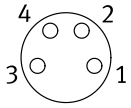
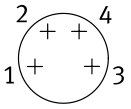
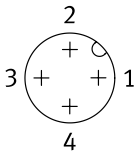
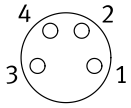
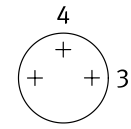
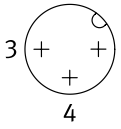
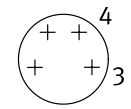
Operating and environmental conditions				
Type			NEBU	SIM
Ambient temperature	Cable characteristic: standard	[°C]	–25 ... +70	–25 ... +80
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–25 ... +80	–
Ambient temperature with flexible cable installation	Cable characteristic: standard	[°C]	–5 ... +70	–5 ... +80
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–5 ... +80	–
Corrosion resistance class CRC[1]			2	2
CE marking (see declaration of conformity)[2]			To EU RoHS Directive	To EU RoHS Directive
	Electrical connection 2: • Plug M8, 3-pin, without switching status indication • Plug M12, 4-pin		To EU Low Voltage Directive	–
UKCA marking (see declaration of conformity)[2]			To UK RoHS instructions	To UK RoHS instructions
	Electrical connection 2: • Plug M8, 3-pin, without switching status indication • Plug M12, 4-pin		To UK regulations for electrical equipment	–
Pollution degree			3	3

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

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/nebu ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Datasheet

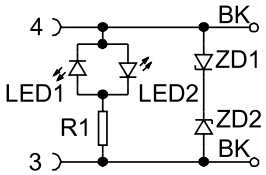
Circuitry (socket view)

Socket	Pin	Wire colour[1)]	Pin	Plug
Electrical connection, socket, 4-pin, M8 – open cable end				
	1	BN	–	–
	2	WH	–	
	3	BU	–	
	4	BK	–	
Electrical connection, socket, 4-pin, M8 – plug, 3-pin				**Plug M8**
	1	BN	1	
	2	WH	–	
	3	BU	3	
	4	BK	4	
Electrical connection, socket, 4-pin, M8 – plug, 4-pin				**Plug M8** / **Plug M12**
	1	BN	1	 
	2	WH	2	
	3	BU	3	
	4	BK	4	
Electrical connection, socket, 4-pin, M8, with display of code L				**Plug M8, 3 pin** / **Plug M12, 3-pin**
	1	–	1	 
	2	–	2	
	3	BK	3	
	4	BK	4	
				Plug M8, 4 pin / **Open cable end**
				 –

1) To IEC 757

Circuitry, switching status indication

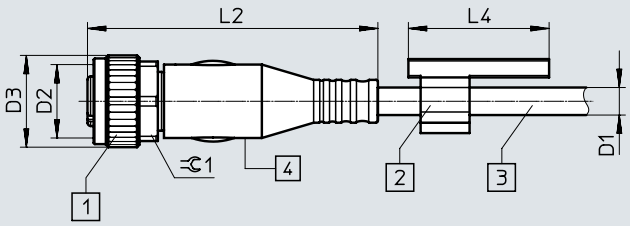
Display of code L

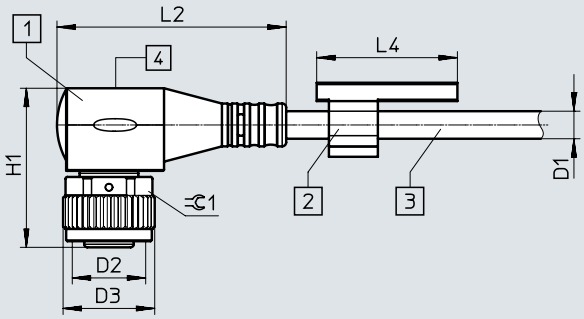


Datasheet

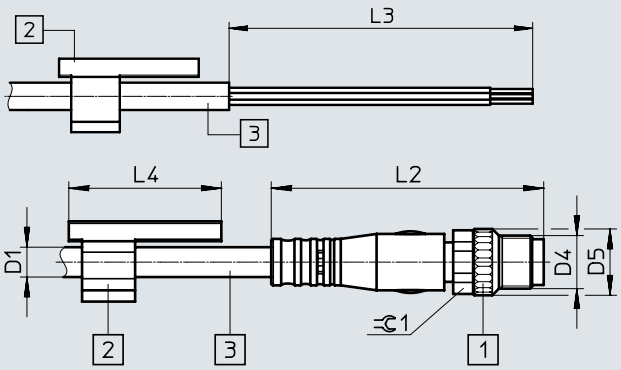
Dimensions Download CAD data ➔ www.festo.com

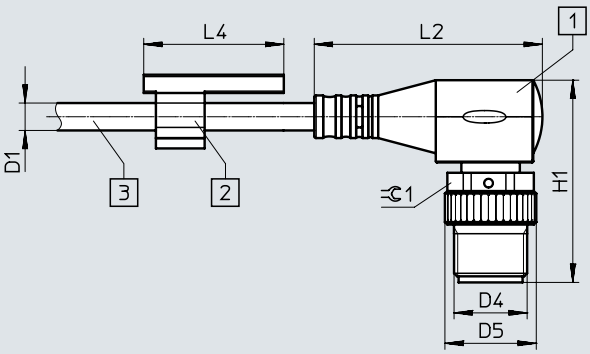
Connection technology, left





Connection technology, right





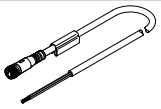
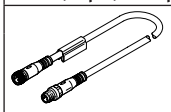
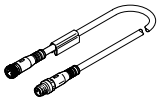
[1] Socket M8x1
[2] Inscription label holder
[3] Cable, length 0.1 ... 30 m depending on the order
[4] Display field with version L

Connection technology, left	D1 ø	D2	D3 ø	L2	L4	H1	⌀1
NEBU, electrical connection 2, 3-pin							
Straight socket	3.8	M8x1	10	34.6	23	–	9
Angled socket	3.8	M8x1	10	26.9	23	17	9
Rotatable socket	3.8	M8x1	10	20.9	23	16.3	9
NEBU, electrical connection 2, 4-pin							
Straight socket	4.5	M8x1	10	34.6	23	–	9
Angled socket	4.5	M8x1	10	26.9	23	17	9
NEBU with LED signal status indication, DC							
Straight socket	3.4	M8x1	10	34.6	23	–	9
Angled socket	3.4	M8x1	10	26.9	23	17	9
SIM							
Straight socket	4.5	M8x1	10	34.6	–	–	9
Angled socket	4.5	M8x1	10	26.9	–	17	9

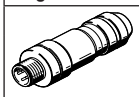
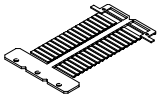
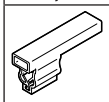
Connection technology, right	D1 ø	D4	D5 ø	L2	L3	L4	H1	⌀1
NEBU, electrical connection 2, 3-pin								
Straight plug	3.8	M8x1	10	41.1	–	23	–	9
Angled plug	3.8	M8x1	10	26.9	–	23	24	9
NEBU, electrical connection 2, 4-pin								
Open end	4.5	–	–	–	50	23	–	–
Straight plug	4.5	M8x1	10	41.1	–	23	–	9
	4.5	M12x1	15	54.5	–	23	–	13
Angled plug	4.5	M8x1	10	26.9	–	23	24	9
	4.5	M12x1	15	37.5	–	23	33.2	13
NEBU with LED signal status indication, DC								
Straight plug	3.4	M8x1	10	41.1	–	23	–	9
	3.4	M12x1	15	54.5	–	23	–	13
Angled plug	3.4	M8x1	10	26.9	–	23	24	9
	3.4	M12x1	15	37.5	–	23	33.2	13
SIM								
Open end	4.5	–	–	–	50	–	–	–

Datasheet

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 4-pin, M8 – open cable end							
	Standard	2.5	Straight	–	72	**541342**	**NEBU-M8G4-K-2.5-LE4**
					–	**158960**	**SIM-M8-4GD-2.5-PU**
			Angled	–	72	**541344**	**NEBU-M8W4-K-2.5-LE4**
					–	**158962**	**SIM-M8-4WD-2.5-PU**
		5	Straight	–	138	**541343**	**NEBU-M8G4-K-5-LE4**
					–	**158961**	**SIM-M8-4GD-5-PU**
			Angled	–	138	**541345**	**NEBU-M8W4-K-5-LE4**
					–	**158963**	**SIM-M8-4WD-5-PU**
		9	Straight	–	245	**8003130**	**NEBU-M8G4-K-9-LE4**
		10	Angled	–	272	**575833**	**NEBU-M8W4-K-10-LE4**
Socket, 4-pin, M8 – plug, 4-pin, M8							
	Standard	2.5	Straight – straight	–	76	**554035**	**NEBU-M8G4-K-2.5-M8G4**
	Suitable for robot applications	2	Straight – straight	–	63	**556946**	**NEBU-M8G4-R-2-M8G4**
Socket, 4-pin, M8 – plug, 4-pin, M12							
	Standard	1	Straight – straight	Without inscription label holder	42.5	**8091513**	**NEBU-M8G4-K-1-N-M12G4**

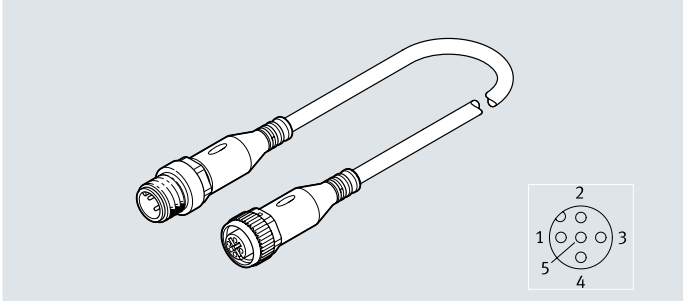
Ordering data – Accessories

Designation			Part no.	Type
Plug				
	Plugs for self-assembly		–	→ Internet: necu
			–	→ Internet: sea
Inscription labels				
	Inscription labels 23 mm for holder, pack of 34, in frame		**541598**	**ASLR-L-423**
Inscription label holders				
	For identifying connecting cables	For cable diameter 3.3 ... 4.8 mm	**8078307**	**NEAU-LH-3**
Safety clip				
	Prevents the screw lock from being released easily (without a tool), to be fastened securely to the cable	For M8	**548067**	**NEAU-M8-GD**
		For M12	**548068**	**NEAU-M12-GD**

Datasheet

Connecting cable
NEBU-M12
SIM-M12

- Connecting cable for connecting inputs/outputs
- Pre-assembled at one end, pre-assembled at both ends
- Cable lengths 0.1 ... 30 m
- 2, 3, 4 or 5 wires
- M12x1, 5-pin



General technical data

Type		NEBU	SIM
Conforms to standard		EN 61076-2-101	EN 61076-2-101
		EN 61076-2-104	–
		Wire colours and connection numbers to EN 60947-5-2	–
		–	EN 61984
	NEBU-M12G5-...-Q8N-LE5	IEC 61010-1	–
Cable designation		With 2x inscription label holders	–
	NEBU-M12G5-...-Q8N-M12G5	Without inscription label holder	–
	NEBU-M12G5-K-1-N-M12G3	Without inscription label holder	–
Degree of protection		IP65, IP68, IP69K	IP65, IP68
Note on degree of protection		In assembled state	–

Technical data – Electrical connection 1

Type	NEBU				SIM		
Function	Field device side				Field device side		
Design	Round				Round		
Connection type	Socket				Socket		
Cable outlet	Straight, angled				Straight, angled		
Connection technology	M12x1, A-coded to EN 61076-2-101				M12x1, A-coded		
Number of pins/wires	5				5		
Assigned pins/wires	2	3	4	5	3	4	5
Type of mounting	Screw lock				–		

Datasheet

Technical data – Electrics				
			Without switching status indication	With switching status indication
Operating voltage range	Electrical connection 2 Plug M8, 3-pin	[V DC]	0 ... 60	10 ... 30
		[V AC]	0 ... 60	–
	Electrical connection 2 Plug M8, 4-pin	[V DC]	0 ... 30	10 ... 30
		[V AC]	0 ... 30	–
	Electrical connection 2 Plug M12, 3-pin	[V DC]	0 ... 250	10 ... 30
		[V AC]	0 ... 250	–
	Electrical connection 2 Plug M12, 4-pin	[V DC]	0 ... 250	10 ... 30
		[V AC]	0 ... 250	–
	Electrical connection 2 Plug M12, 5-pin	[V DC]	0 ... 60	–
		[V AC]	0 ... 60	–
	Electrical connection 2 Open end, 3-wire	[V DC]	0 ... 250	10 ... 30
		[V AC]	0 ... 250	–
	Electrical connection 2 Open end, 4-wire	[V DC]	0 ... 250	10 ... 30
		[V AC]	0 ... 250	–
	Electrical connection 2 Open end, 5-wire	[V DC]	0 ... 60	–
		[V AC]	0 ... 60	–
Surge resistance	Electrical connection 2 Plug M8, 3-pin	[kV]	1.5	0.8
	Electrical connection 2 Plug M8, 4-pin	[kV]	0.8	0.8
	Electrical connection 2 Plug M12, 3-pin	[kV]	2.5	0.8
	Electrical connection 2 Plug M12, 4-pin	[kV]	2.5	0.8
	Electrical connection 2 Plug M12, 5-pin	[kV]	1.5	–
	Electrical connection 2 Open end, 3-wire	[kV]	2.5	0.8
	Electrical connection 2 Open end, 4-wire	[kV]	2.5	0.8
	Electrical connection 2 Open end, 5-wire	[kV]	1.5	–
Acceptable current load at 40°C		[A]	4	4
	Electrical connection 2 Plug M8	[A]	3	–

Datasheet

Technical data – Cable

Type				NEBU			SIM		
				Electrical connection 2			Electrical connection 2		
				3-pin	4-pin	5-pin	3-wire	4-wire	5-wire
Cable characteristic		Code -K-		Standard			–		
		Code -E-		Suitable for energy chains			–		
		Code -R-		Suitable for robot applications			–		
				–			Standard		
Cable test conditions				Bending strength: to Festo standard			Bending strength: to Festo standard		
				Test conditions on request			Test conditions on request		
	Cable characteristic	Standard		Energy chain: 5 million cycles, bending radius 75 mm			Energy chain: 5 million cycles, bending radius 75 mm		
		Suitable for energy chains		Energy chain: 5 million cycles, bending radius 28 mm			–		
			Code -Q8N-	Energy chain: 5 million cycles, bending radius 75 mm			–		
		Suitable for robot applications		Energy chain: 5 million cycles, bending radius 28 mm			–		
				Torsional resistance more than 300000 cycles, ±270°/0.1 m			–		
Cable diameter			[mm]	3.8	4.5	4.5	3.8	4.5	4.5
		Code -Q8N-	[mm]	–	–	7	–		
Cable diameter tolerance			[mm]	±0.1			–		
Cable composition			[mm²]	3x 0.25	4x 0.25	5x 0.25	3x 0.25	4x 0.25	5x 0.25
		Code -Q8N-	[mm²]	–	–	5 x 1	–		
Nominal conductor cross section			[mm²]	0.25	0.25	0.25	0.25		
		Code -Q8N-	[mm²]	–	–	1	–		
Bending radius, fixed cable installation			[mm]	12	14	14	–		
		Code -Q8N-	[mm]	–	–	21	–		
Bending radius, flexible cable installation			[mm]	39	46	46	–		
		Code -Q8N-	[mm]	–	–	71	–		

Technical data – Electrical connection 2

Type		NEBU								SIM		
Function		Controller side										
Connection type		Cable			Plug		Plug			Cable		
Design		–			Round		Round			–		
Cable outlet		–			Straight, angled		Straight, angled			–		
Connection technology		Open end			M8x1, A-coded to EN 61076-2-104		M12x1, A-coded to EN 61076-2-101			Open end		
Number of pins/wires		3	4	5	3	4	3	4	5	3	4	5
Assigned pins/wires	Without switching status indication	3	4	5	3	4	3	4	5	–	–	–
	With switching status indication	3	4	–	3	4	3	4	–	–	–	–
Wire ends	Code -Q8N-	Sheath removed, cut off bluntly			–	–	–	–	–	–	–	–
Type of mounting		–	–	–	Screw lock					–	–	–

Datasheet

Materials		
Type	NEBU	SIM
Housing	TPE-U(PUR)	TPE-U(PU)
Housing colour	Black	Black
Cable sheath	TPE-U(PUR)	TPE-U(PU)
Cable sheath colour	Grey	Grey
Insulating sheath	PP	PP
Wire insulation colour code	–	Blue, brown, black
	–	Blue, brown, black, white
	–	Blue, brown, grey, black, white
Seals	NBR	NBR
Pin contacts	Gold-plated copper alloy	Gold-plated brass
Screw lock	Nickel-plated brass	–
Union nut	–	Nickel-plated brass
Note on materials	RoHS-compliant	RoHS-compliant
	Halogen-free	Halogen-free
	Free of phosphoric acid ester	Free of phosphoric acid ester
Special characteristics	Oil-resistant	–
PWIS conformity	VDMA24364-B2-L	VDMA24364-B2-L

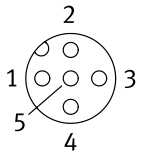
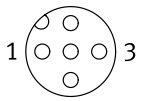
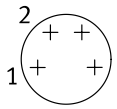
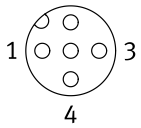
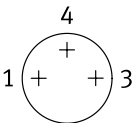
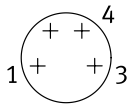
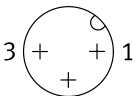
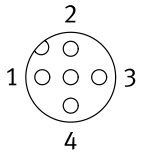
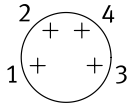
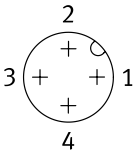
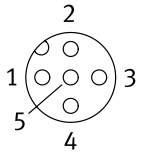
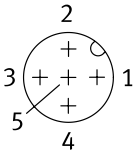
Operating and environmental conditions			NEBU	SIM
Ambient temperature	Cable characteristic: standard	[°C]	–25 … +70	–25 … +80
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–25 … +80	–
Ambient temperature with flexible cable installation	Cable characteristic: standard	[°C]	–5 … +70	–5 … +80
	Cable characteristic: suitable for energy chains, suitable for robot applications	[°C]	–5 … +80	–
Corrosion resistance class CRC[1)]			2	2
CE marking (see declaration of conformity)[2)]	Without switching status indication		To EU Low Voltage Directive	To EU Low Voltage Directive
	With switching status indication		–	–
	With plug M8, 4-pin		–	–
			To EU RoHS Directive	To EU RoHS Directive
UKCA marking (see declaration of conformity)[2)]	Without switching status indication		To UK regulations for electrical equipment	To UK regulations for electrical equipment
	With switching status indication		–	–
	With plug M8, 4-pin		–	–
			To UK RoHS instructions	To UK RoHS instructions
Pollution degree			3	3

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

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/nebu → Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Datasheet

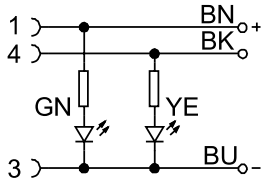
Circuitry (socket view)

Socket	Pin	Wire colour[1]			Pin	Plug
Electrical connection, socket, 5-pin, M12 – open cable end						**Open cable end**
		3-wire	4-wire	5-wire		–
	1	BN	BN	BN	–	
	2	–	WH	WH	–	
	3	BU	BU	BU	–	
	4	BK	BK	BK	–	
	5	–	–	GY	–	
Electrical connection, socket, 5-pin, M12 – cable, 2-wire – plug, 4-pin						**Plug M8**
	1	BN			1	
	2	–			–	
	3	BU			2	
	4	–			–	
	5	–			–	
Electrical connection, socket, 5-pin, M12 – cable, 3-wire – plug, 3-pin/4-pin						**Plug M8** / **Plug M12**
	1	BN			1	  
	2	–			–	
	3	BU			3	
	4	BK			4	
	5	–			–	
Electrical connection, socket, 5-pin, M12 – plug, 4-pin						**Plug M8** / **Plug M12**
	1	BN			1	 
	2	WH			2	
	3	BU			3	
	4	BK			4	
	5	–			–	
Electrical connection, socket, 5-pin, M12 – plug, 5-pin						**Plug M12**
	1	BN			1	
	2	WH			2	
	3	BU			3	
	4	BK			4	
	5	GY			5	

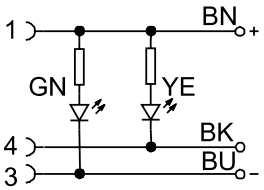
1) To IEC 757

Circuitry, switching status indication

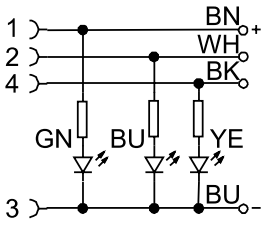
Display of code -P-



Display of code N



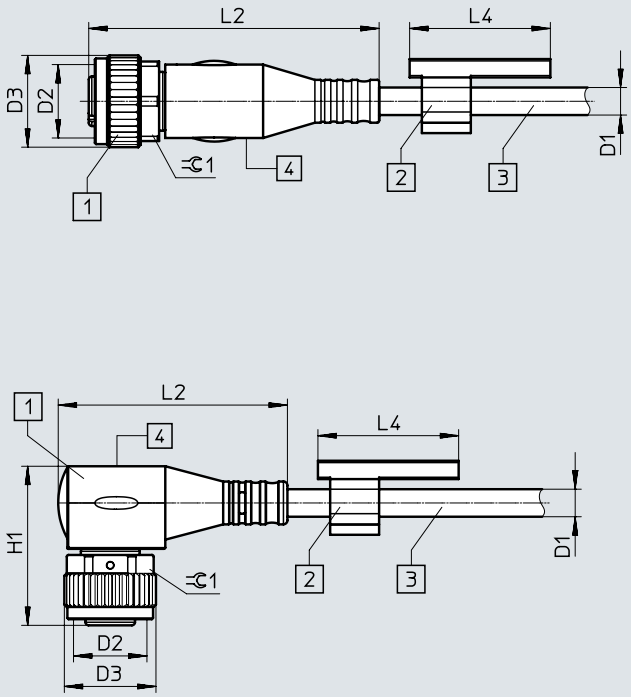
Display of code -P2



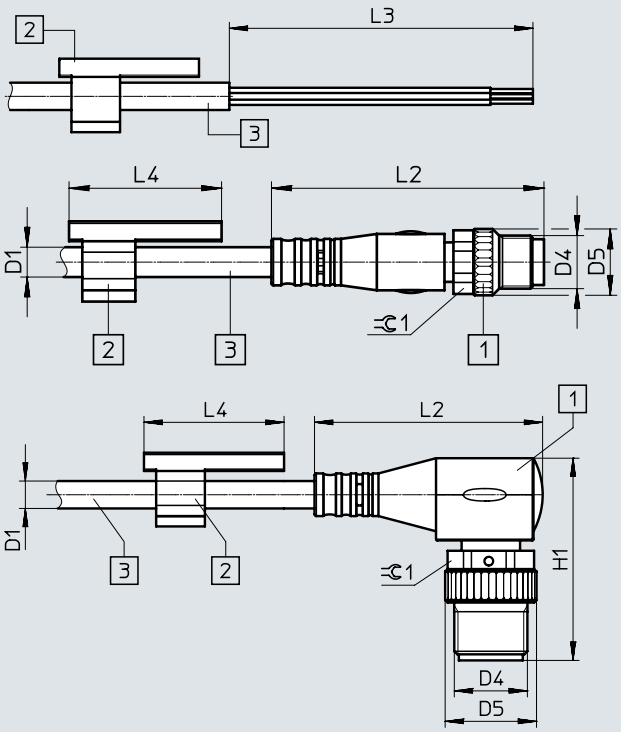
Datasheet

Dimensions Download CAD data ➔ www.festo.com

Connection technology, left



Connection technology, right



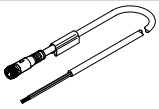
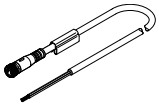
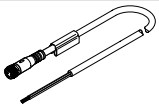
[1] Socket M12x1
[2] Inscription label holder
[3] Cable, length 0.1 ... 30 m depending on the order
[4] Display field with version P, N or P2

Connection technology, left	D1 ø	D2	D3 ø	L2	L4	H1	⫧1
NEBU, electrical connection 2, 3-pin							
Straight socket	3.8	M12x1	15	47.5	23	–	13
Angled socket	3.8	M12x1	15	37.5	23	26	13
NEBU, electrical connection 2, 4-pin and 5-pin							
Straight socket	4.5	M12x1	15	47.5	23	–	13
Angled socket	4.5	M12x1	15	37.5	23	26	13
NEBU-M12G5-...-Q8N							
Straight socket	7	M12x1	15	47.5	–	–	13
SIM							
Straight socket	4.5	M12x1	15	47.5	–	–	13
Angled socket	4.5	M12x1	15	37.5	–	26	13

Connection technology, right	D1 ø	D4	D5 ø	L2	L3	L4	H1	⫧1
NEBU, electrical connection 2, 3-pin								
Open end	3.8	–	–	–	50	23	–	–
Straight plug	3.8	M8x1	10	41.1	–	23	–	9
	3.8	M12x1	15	54.5	–	23	–	13
Angled plug	3.8	M8x1	10	26.9	–	23	24	9
	3.8	M12x1	15	37.5	–	23	33.2	13
NEBU, electrical connection 2, 4-pin and 5-pin								
Open end	4.5	–	–	–	50	23	–	–
Straight plug	4.5	M8x1	10	41.1	–	23	–	9
	4.5	M12x1	15	54.5	–	23	–	13
Angled plug	4.5	M8x1	10	26.9	–	23	24	9
	4.5	M12x1	15	37.5	–	23	33.2	13
NEBU-M12G5-...-Q8N								
Open end	7	–	–	–	50	–	–	–
Straight plug	7	M12x1	15	54.5	–	–	–	13
SIM								
Open end	4.5	–	–	–	50	–	–	–
SIM, 3-wire								
Open end	3.8	–	–	–	50	–	–	–

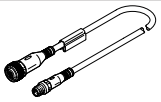
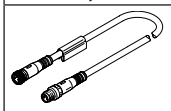
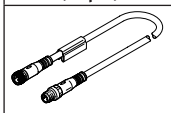
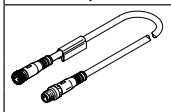
Datasheet

Ordering data

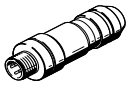
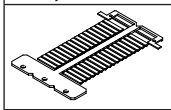
	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 5-pin, M12 – open cable end, 3-wire							
	Standard	2.5	Straight	–	69	★ 541363	NEBU-M12G5-K-2.5-LE3
					–	159428	SIM-M12-3GD-2.5-PU
				Switching status indication, for PNP N/O contact	70	541366	NEBU-M12W5P-K-2.5-LE3
			Angled	–	70	541367	NEBU-M12W5-K-2.5-LE3
					–	159430	SIM-M12-3WD-2.5-PU
				Switching status indication, for NPN N/O contact	70	541365	NEBU-M12W5N-K-2.5-LE3
				For PNP N/O contact, switching status indication yellow, ready status indication green	–	159432	SIM-M12-3WD-2.5-PSL-PU
		5	Straight	–	128	★ 541364	NEBU-M12G5-K-5-LE3
					–	159429	SIM-M12-3GD-5-PU
			Angled	–	129	541370	NEBU-M12W5-K-5-LE3
					–	159431	SIM-M12-3WD-5-PU
				Switching status indication, for NPN N/O contact	130	541368	NEBU-M12W5N-K-5-LE3
				Switching status indication, for PNP N/O contact	130	541369	NEBU-M12W5P-K-5-LE3
				For PNP N/O contact, switching status indication yellow, ready status indication green	–	159433	SIM-M12-3WD-5-PSL-PU
Socket, 5-pin, M12 – open cable end, 4-wire							
	Standard	2.5	Straight	–	77	★ 550326	NEBU-M12G5-K-2.5-LE4
			Angled	–	78	550325	NEBU-M12W5-K-2.5-LE4
		5	Straight	–	143	★ 541328	NEBU-M12G5-K-5-LE4
					–	164259	SIM-M12-4GD-5-PU
			Angled	–	144	541329	NEBU-M12W5-K-5-LE4
					–	164258	SIM-M12-4WD-5-PU
		7	Straight	–	197	8003134	NEBU-M12G5-K-7-LE4
		10	Angled	–	278	569841	NEBU-M12W5-K-10-LE4
Socket, 5-pin, M12 – open cable end, 5-wire							
	Standard	2.5	Straight	–	78	541330	NEBU-M12G5-K-2.5-LE5
					–	175715	SIM-M12-5GD-2.5-PU
			Angled	–	79	567843	NEBU-M12W5-K-2.5-LE5
		5	Straight	–	146	541331	NEBU-M12G5-K-5-LE5
					–	175716	SIM-M12-5GD-5-PU
			Angled	–	147	567844	NEBU-M12W5-K-5-LE5
		10	Straight	–	283	554038	NEBU-M12G5-K-10-LE5
	Suitable for energy chains	5	Straight	Nominal conductor cross section 1 mm²	422	8078303	NEBU-M12G5-E-5-Q8N-LE5
		10			822	8078304	NEBU-M12G5-E-10-Q8N-LE5

Datasheet

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 5-pin, M12 – plug, 4-pin, M8							
	Standard	2.5	Straight – straight	–	81	**554036**	**NEBU-M12G5-K-2.5-M8G4**
	Suitable for energy chains		Straight – straight	Cable, 2-wire	74	**554034**	**NEBU-M12G5-E-2.5-W2-M8G4-V1**
				Cable, 3-wire	74	**554033**	**NEBU-M12G5-E-2.5-W3-M8G4-V2**
Socket, 5-pin, M12 – plug, 3-pin, M12							
	Standard	1	Straight – straight	Without inscription label holder	44	**8091511**	**NEBU-M12G5-K-1-N-M12G3**
Socket, 5-pin, M12 – plug, 4-pin, M12							
	Standard	0.5	Straight – straight	–	36	**8000208**	**NEBU-M12G5-K-0.5-M12G4**
Socket, 5-pin, M12 – plug, 5-pin, M12							
	Standard	0.5	Straight – angled	–	37	**8003617**	**NEBU-M12G5-K-0.5-M12W5**
			Angled – angled	–	38	**570733**	**NEBU-M12W5-K-0.5-M12W5**
		2	Straight – angled	–	77	**8003618**	**NEBU-M12G5-K-2-M12W5**
			Angled – angled	–	78	**570734**	**NEBU-M12W5-K-2-M12W5**
	Suitable for energy chains	5	Straight – straight	Nominal conductor cross section 1 mm²	434	**574321**	**NEBU-M12G5-E-5-Q8N-M12G5**
		7.5	Straight – straight	Nominal conductor cross section 1 mm²	635	**574322**	**NEBU-M12G5-E-7.5-Q8N-M12G5**
		10	Straight – straight	Nominal conductor cross section 1 mm²	835	**574323**	**NEBU-M12G5-E-10-Q8N-M12G5**

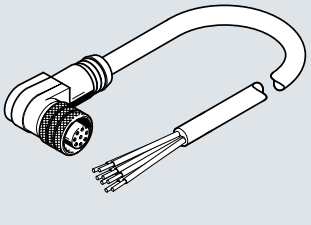
Ordering data – Accessories

Designation			Part no.	Type
Plug				
	Plugs for self-assembly		–	→ Internet: necu
			–	→ Internet: sea
Inscription labels				
	Inscription labels 23 mm for holder, pack of 34, in frame		**541598**	**ASLR-L-423**
Inscription label holders				
	For identifying connecting cables	For cable diameter 3.3 ... 4.8 mm	**8078307**	**NEAU-LH-3**
Safety clip				
	Prevents the screw lock from being released easily (without a tool), to be fastened securely to the cable	For M8	**548067**	**NEAU-M8-GD**
		For M12	**548068**	**NEAU-M12-GD**

Datasheet

Plug socket with cable
NEBU-M12
SIM-M12-8
KM12-8

- Pre-assembled at one end, pre-assembled at both ends
- Cable lengths 2 m, 5 m, 10 m, 15 m, 20 m and 25 m
- 8 wires
- Socket M12x1, 8-pin



General technical data

Type	NEBU	SIM	KM12
Conforms to standard	EN 61076-2-101	EN 61076-2-101	–
	–	DIN 47100	–
Cable designation	Without inscription label holder	Without inscription label holder	Without inscription label holder
Degree of protection	IP67	IP67	IP67
Note on degree of protection	In assembled state	In assembled state	In assembled state

Technical data – Electrical connection 1

Type	NEBU	SIM	KM12
Function	Field device side		
Design	Round		
Connection type	Socket		
Cable outlet	Angled	Straight	Straight
Connection technology	M12x1, A-coded to EN 61076-2-101		
Number of pins/wires	8		
Assigned pins/wires	8		
Type of mounting	Screw lock		
Contact durability	–	–	50

Technical data – Electrics

Type		NEBU	SIM	KM12
Nominal operating voltage	[V DC]	–	–	30
Operating voltage range	[V DC]	0 ... 30	0 ... 30	0 ... 30
	[V AC]	0 ... 30	0 ... 30	0 ... 30
Surge resistance	[kV]	0.8	0.8	0.8
Acceptable current load at 40°C	[A]	2	2	2

Technical data – Cable

Type			NEBU	SIM	KM12
Cable characteristic			Standard	Standard	Standard
			–	–	Test conditions on request
Bending radius	Fixed cable installation	[mm]	≥32	≥32	≥32
	Flexible cable installation	[mm]	≥66	≥66	≥64
Cable diameter		[mm]	6.3	6.3	6.2
Cable diameter tolerance		[mm]	±0.2	±0.2	±0.2
Cable composition		[mm^2]	8x 0.25		
			Shielded		
Nominal conductor cross section		[mm^2]	0.25		

Datasheet

Technical data – Electrical connection 2				
Type		NEBU	SIM	KM12
Function		Controller side		
Connection type		Cable	Cable	Plug
Design		–	–	Round
Cable outlet		–	–	Straight
Connection technology		Open end	Open end	M12x1, A-coded, to EN 61076-2-101
Number of pins/wires		8	8	8
Assigned pins/wires		8	8	8
Wire ends		Tin-plated	Tin-plated	
Type of mounting		–	–	Screw lock

Materials				
Type		NEBU	SIM	KM12
Housing		TPE-U(PUR)	TPE-U(PUR)	–
Housing colour		–	–	–
Cable sheath		TPE-U(PUR)	TPE-U(PUR)	TPE-U(PUR)
Cable sheath colour		Grey	Grey	Grey
Insulating sheath		PP	PP	PP
		–	–	TPE-U(PUR)
Screw lock		–	Nickel-plated brass	Nickel-plated brass
		–	–	Chrome-plated brass
Union nut		Nickel-plated brass	–	–
Seals		NBR	FPM	NBR
Pin contacts		Gold-plated brass	Bronze, gold-plated	Nickel-plated and gold-plated brass
Note on materials		RoHS-compliant	RoHS-compliant	RoHS-compliant
PWIS conformity		VDMA24364-B2-L	VDMA24364-B2-L	VDMA24364-B2-L

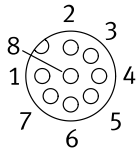
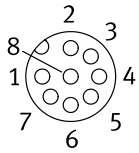
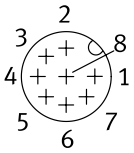
Operating and environmental conditions					
Type			NEBU	SIM	KM12
Ambient temperature		[°C]	–25 … +80	–25 … +80	–25 … +80
	With flexible cable installation	[°C]	–5 … +80	–5 … +80	0 … +80
Corrosion resistance class CRC[1]			2	2	2
CE marking (see declaration of conformity)[2]			To EU RoHS Directive	To EU EMC Directive	To EU RoHS Directive
UKCA marking (see declaration of conformity)[2]			To UK RoHS instructions	To UK RoHS instructions	To UK RoHS instructions
Pollution degree			3	3	3

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

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/nebu → Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Datasheet

Circuitry (socket view)

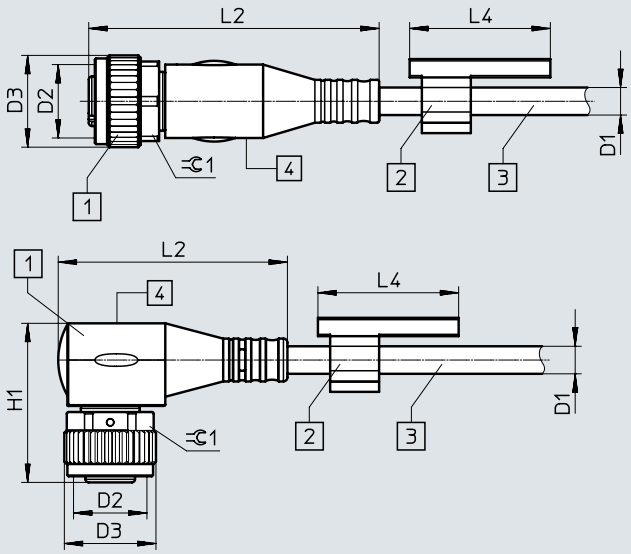
Socket	Pin	Wire colour[1)]	Pin	Plug
Electrical connection, socket, 8-pin, M12 – open cable end				
	1	WH	–	–
	2	BN	–	
	3	GN	–	
	4	YE	–	
	5	GY	–	
	6	RS	–	
	7	BU	–	
	8	RD	–	
Electrical connection, socket, 8-pin, M12 – plug, 8-pin				
	1	WH	1	
	2	BN	2	
	3	GN	3	
	4	YE	4	
	5	GY	5	
	6	RS	6	
	7	BU	7	
	8	RD	8	
	Housing	Shielding	Housing	

1) To IEC 757

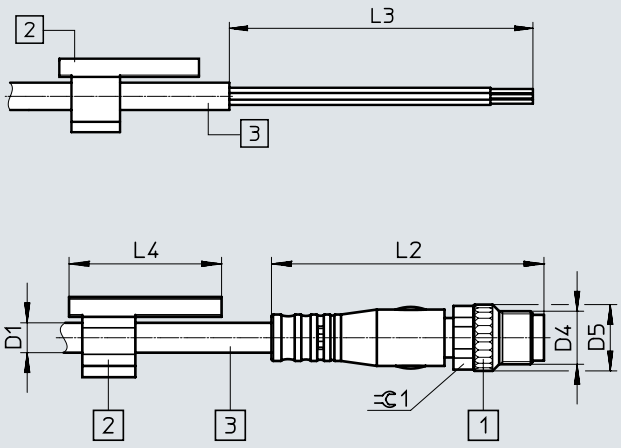
Datasheet

Dimensions Download CAD data ➔ www.festo.com

Connection technology, left



Connection technology, right



[1] Socket M12x1

[2] Inscription label holder, must be ordered separately as an accessory

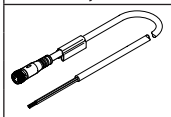
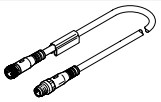
[3] Cable, length 2 m, 5 m, 10 m, 15 m, 20 m, 25 m depending on the order

Connection technology, left	D1 ø	D2	D3 ø	L2	L4	H1	⊂1
NEBU							
Angled socket	6.3	M12x1	14.5	33.5	–	26.2	–
SIM							
Straight socket	6.2	M12x1	14.5	–	–	–	–
KM12							
Straight socket	6.2	M12x1	–	–	–	–	–

Connection technology, right	D1 ø	D4	D5 ø	L2	L3	L4	⊂1
NEBU							
Open end	6.3	–	–	–	70	–	–
SIM							
Open end	6.2	–	–	–	70	–	–
KM12							
Straight plug	6.2	M12x1	14.6	–	–	–	–

Datasheet

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 8-pin, M12 – open cable end, 8-wire							
	Standard	2	Angled	–	125	**542256**	**NEBU-M12W8-K-2-N-LE8**
			Straight	–	–	**525616**	**SIM-M12-8GD-2-PU**
		5	Angled	–	292	**542257**	**NEBU-M12W8-K-5-N-LE8**
			Straight	–	343	**525618**	**SIM-M12-8GD-5-PU**
		10	Angled	–	570	**570007**	**NEBU-M12W8-K-10-N-LE8**
			Straight	–	–	**570008**	**SIM-M12-8GD-10-PU**
		15	Angled	–	848	**8048086**	**NEBU-M12W8-K-15-N-LE8**
			Straight	–	–	**5105631**	**SIM-M12-8GD-15-PU**
		20	Straight	–	–	**5105632**	**SIM-M12-8GD-20-PU**
		25	Straight	–	–	**5105633**	**SIM-M12-8GD-25-PU**
Socket, 8-pin, M12 – plug, 8-pin, M12							
	–	2	Straight – straight	–	140	**525617**	**KM12-8GD8GS-2-PU**

Datasheet

Power supply socket
NEBU-G78W5

- Connecting cable for power supply
- Pre-assembled at one end
- Cable lengths 2 m
- 5 wires
- Socket G7/8, 5-pin

General technical data	
Based on standard	NFPA/T3.5.29 R1-2007
Cable designation	Without inscription label holder
Degree of protection	IP65, IP67
Note on degree of protection	In assembled state

Technical data – Electrical connection 1	
Function	Field device side
Design	Round
Connection type	Socket
Cable outlet	Angled
Note on cable outlet	Not according to industry standard, matched to CPX protective hood
Connection technology	G7/8 coded to NFPA/T3.5.29 R1-2007
Number of pins/wires	5
Assigned pins/wires	5
Type of mounting	Screw lock
Contact durability	100

Technical data – Electrics		
Operating voltage range	[V DC]	0 ... 300
	[V AC]	0 ... 300
Surge resistance	[kV]	4
Acceptable current load at 40°C	[A]	9

Technical data – Cable		
Cable characteristic		Standard
Cable test conditions		Test conditions on request
Bending radius, fixed cable installation	[mm]	≥65
Cable diameter	[mm]	8.7
Cable diameter tolerance	[mm]	±0.2
Cable composition	[mm^2]	5x 1.5
Nominal conductor cross section	[mm^2]	1.5

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

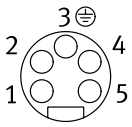
Datasheet

Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Cable sheath	TPE-U(PUR)
Cable sheath colour	Black
Screw lock	Nickel-plated brass
Pin contacts	Gold-plated brass
Note on materials	RoHS-compliant
PWIS conformity	VDMA24364-B2-L

Operating and environmental conditions		
Ambient temperature	[°C]	–20 ... +80
Corrosion resistance class CRC[1]		1
CE marking (see declaration of conformity)[2]		To EU Low Voltage Directive
UKCA marking (see declaration of conformity)[2]		To UK regulations for electrical equipment
Pollution degree		3

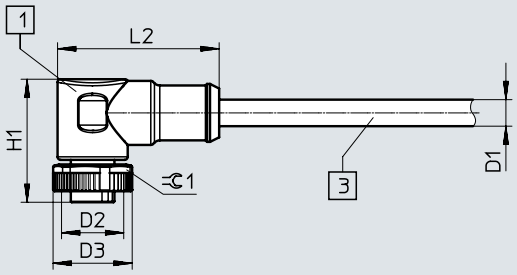
1) More information www.festo.com/x/topic/kbk
2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/nebu ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Circuitry (socket view)

Socket	Pin	Wire colour[1]	Pin	Plug
Electrical connection, socket, 5-pin, G7/8 – open cable end				
	1	BK	–	–
	2	BU	–	
	3	GN YE	–	
	4	BN	–	
	5	WH	–	

1) To IEC 757

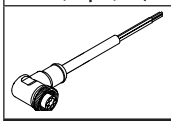
Dimensions Download CAD data ➔ www.festo.com



[1] Socket G7/8
[3] Cable, length 2 m

	D1 ⌀	D2	D3 ⌀	L2	H1	SW1
NEBU-G78W5	8.7	7/8"	26	53	40.4	24

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 5-pin, G7/8 – open cable end							
	Standard	2	Angled	–	300	**573855**	**NEBU-G78W5-K-2-N-LE5**

Datasheet

Connecting cable
SIM-K

- Connecting cable for low-voltage applications
- Easy-to-clean design
- Pre-assembled at one end
- Cable lengths 2.5 m, 5 m and 10 m
- 3 wires
- Mounting via snap-locking

General technical data	
Conforms to standard	EN 61076-2-104
	EN 61984
	Wire colours and connection numbers to EN 60947-5-2
Cable designation	Without inscription label holder
Degree of protection	IP65, IP67
Note on degree of protection	In assembled state

Technical data – Electrical connection 1	
Function	Field device side
Design	Round
Connection type	Socket
Cable outlet	Straight, angled
Connection technology	M8 snap-locking A-coded to EN 61076-2-104
Number of pins/wires	3
Assigned pins/wires	3
Type of mounting	Snap-locking
Contact durability	100

Technical data – Electrics		
Operating voltage range	[V DC]	0 ... 60
	[V AC]	0 ... 60
Surge resistance	[kV]	1.5
Acceptable current load at 40°C	[A]	3

Technical data – Cable			
Cable characteristic			Standard
Cable test conditions			Bending strength: to Festo standard
			Test conditions on request
			Energy chain: 5 million cycles, bending radius 28 mm
Bending radius	Fixed cable installation	[mm]	≥23
	Flexible cable installation	[mm]	≥46
Cable diameter		[mm]	4.5
Cable diameter tolerance		[mm]	±0.1
Cable composition		[mm²]	3x 0.25
Nominal conductor cross section		[mm²]	0.25

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Cable
Connection technology	Open end
Number of pins/wires	3
Assigned pins/wires	3
Wire ends	Wire end sleeve

Datasheet

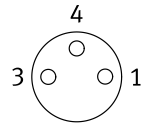
Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Insulating sheath	PP
Seals	NBR
Pin contacts	Gold-plated brass
Note on materials	RoHS-compliant
	Halogen-free
PWIS conformity	VDMA24364-B2-L

Operating and environmental conditions			
Ambient temperature		[°C]	–25 ... +70
	With flexible cable installation	[°C]	–5 ... +70
Storage temperature		[°C]	–25 ... +70
Corrosion resistance class CRC[1]			4
CE marking (see declaration of conformity)[2]			To EU Low Voltage Directive
			To EU RoHS Directive
UKCA marking (see declaration of conformity)[2]			To UK regulations for electrical equipment
			To UK RoHS instructions
Pollution degree			3

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

2) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/sim ➔ Support/Downloads.
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Circuitry (socket view)

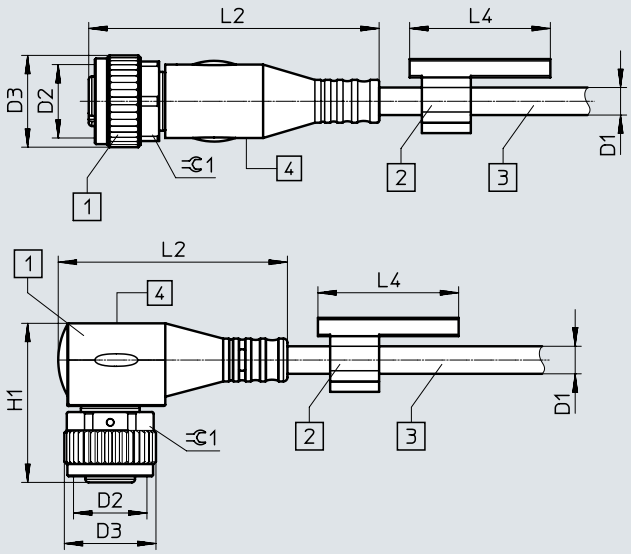
Socket	Pin	Wire colour[1]	Pin	Plug
Electrical connection, socket, 3-pin, snap-locking – open cable end				
	1	BN	–	–
	3	BU	–	
	4	BK	–	

1) To IEC 757

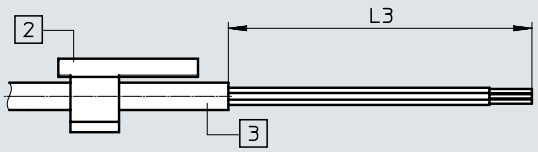
Datasheet

Dimensions Download CAD data ➔ www.festo.com

Connection technology, left



Connection technology, right

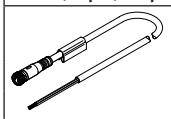


[1] Socket
[2] Inscription label holder, must be ordered separately as an accessory
[3] Cable, length 2.5 m, 5 m, 10 m depending on the order

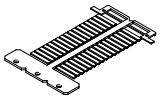
Connection technology, left	D1 ⌀	D2	D3 ⌀	L2	L4	H1	⌀1
Straight socket	4.5	–	8.5	33.6	–	–	–
Angled socket	4.5	8.3	8.5	26.1	–	18.4	–

Connection technology, right	D1 ⌀	L3
Open end	4.5	50

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [m]	Part no.	Type
Socket, 3-pin, snap-locking – open cable end							
	Standard	2.5	Straight	–	–	**164257**	**SIM-K-GD-2.5-PU**
			Angled	–	–	**164255**	**SIM-K-WD-2.5-PU**
		5	Straight	–	–	**164256**	**SIM-K-GD-5-PU**
			Angled	–	–	**164254**	**SIM-K-WD-5-PU**
		10	Straight	–	–	**192962**	**SIM-K-GD-10-PU**
			Angled	–	–	**192963**	**SIM-K-WD-10-PU**

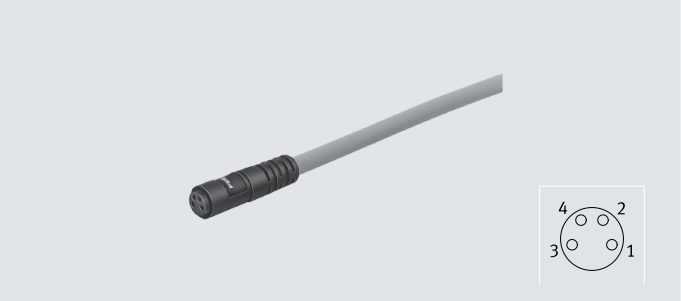
Ordering data – Accessories

Designation		Part no.	Type
Inscription labels			
	Inscription labels 23 mm for holder, pack of 34, in frame	**541598**	**ASLR-L-423**
Inscription label holders			
	For identifying connecting cables, For cable diameter 4.2 ... 5.6 mm	**8143238**	**NEAU-LH-4**

Datasheet

Connecting cable
SIM-K

- Connecting cable for low-voltage applications
- Easy-to-clean design
- Pre-assembled at one end
- Cable lengths 2.5 m and 5 m
- 4 wires
- Mounting via snap-locking



General technical data	
Conforms to standard	EN 61076-2-104
	EN 61984
	Wire colours and connection numbers to EN 60947-5-2
Cable designation	Without inscription label holder
Degree of protection	IP65, IP67
Note on degree of protection	In assembled state

Technical data – Electrical connection 1	
Function	Field device side
Design	Round
Connection type	Socket
Cable outlet	Straight, angled
Connection technology	M8 snap-locking A-coded to EN 61076-2-104
Number of pins/wires	4
Assigned pins/wires	4
Type of mounting	Snap-locking
Contact durability	100

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]	3

Technical data – Cable			
Cable characteristic			Standard
Cable test conditions			Bending strength: to Festo standard
			Test conditions on request
			Energy chain: 5 million cycles, bending radius 28 mm
Bending radius	Fixed cable installation	[mm]	≥23
	Flexible cable installation	[mm]	≥46
Cable diameter		[mm]	4.5
Cable diameter tolerance		[mm]	±0.1
Cable composition		[mm²]	4x 0.25
Nominal conductor cross section		[mm²]	0.25

Technical data – Electrical connection 2	
Function	Controller side
Connection type	Cable
Connection technology	Open end
Number of pins/wires	4
Assigned pins/wires	4
Wire ends	Wire end sleeve

Datasheet

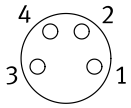
Materials	
Housing	TPE-U(PUR)
Housing colour	Black
Cable sheath	TPE-U(PUR)
Cable sheath colour	Grey
Insulating sheath	PP
Seals	NBR
Pin contacts	Gold-plated brass
Note on materials	RoHS-compliant
	Halogen-free
PWIS conformity	VDMA24364-B2-L

Operating and environmental conditions			
Ambient temperature		[°C]	–25 ... +70
	With flexible cable installation	[°C]	–5 ... +70
Storage temperature		[°C]	–25 ... +70
Corrosion resistance class CRC[1]			4
CE marking (see declaration of conformity)[2]			To EU RoHS Directive
UKCA marking (see declaration of conformity)[2]			To UK RoHS instructions
Pollution degree			3

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

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

Circuitry (socket view)

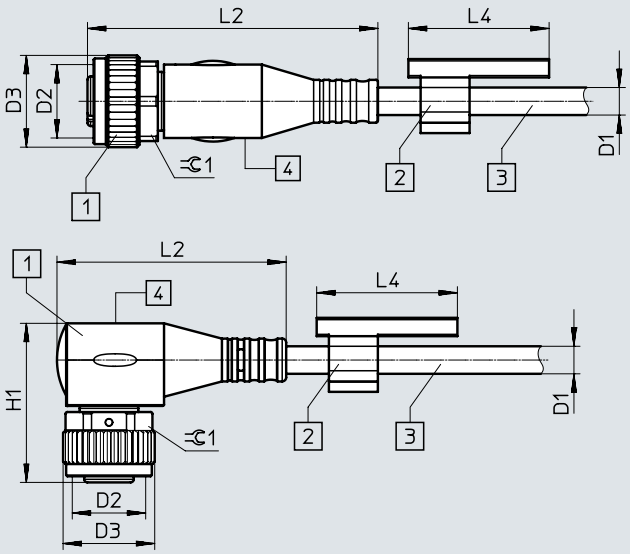
Socket	Pin	Wire colour[1]	Pin	Plug
Electrical connection, socket, 4-pin, snap-locking – open cable end				
	1	BN	–	–
	2	WH	–	
	3	BU	–	
	4	BK	–	

1) To IEC 757

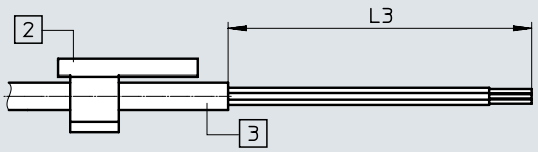
Datasheet

Dimensions Download CAD data ➔ www.festo.com

Connection technology, left



Connection technology, right

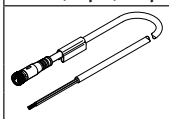


[1] Socket
[2] Inscription label holder, must be ordered separately as an accessory
[3] Cable, length 2.5 m, 5 m depending on the order

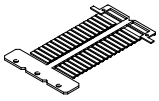
Connection technology, left	D1 ⌀	D2	D3 ⌀	L2	L4	H1	⌀1
Straight socket	4.5	–	8.5	33.6	–	–	–
Angled socket	4.5	–	8.3	26.1	–	18.4	–

Connection technology, right	D1 ⌀	L3
Open end	4.5	50

Ordering data

	Cable characteristic	Cable length [m]	Outlet orientation	Special features	Product weight [g]	Part no.	Type
Socket, 4-pin, snap-locking – open cable end							
	Standard	2.5	Straight	–	–	**164250**	**SIM-K-4-GD-2.5-PU**
			Angled	–	–	**164252**	**SIM-K-4-WD-2.5-PU**
		5	Straight	–	–	**164251**	**SIM-K-4-GD-5-PU**
			Angled	–	–	**164253**	**SIM-K-4-WD-5-PU**

Ordering data – Accessories

Designation		Part no.	Type
Inscription labels			
	Inscription labels 23 mm for holder, pack of 34, in frame	**541598**	**ASLR-L-423**
Inscription label holders			
	For identifying connecting cables, For cable diameter 4.2 ... 5.6 mm	**8143238**	**NEAU-LH-4**

Ordering data – Modular product system

Ordering table

		Conditions	Code	Enter code
Module no.	**539052**			
Function	Connecting cable		**NEBU**	NEBU
Connection technology, left	Open end	[1]	**-LE**	
	Socket with connecting thread M8		**-M8**	
	Socket with connecting thread M12, A-coded		**-M12**	
Socket design	Without (only in the case of open end as connection technology on the left)			
	Straight		**G**	
	Angled		**W**	
	Rotatable	[2]	**R**	
Number of pins/wires (left)	3-pin (suitable for open end, plug M8)		**3**	
	4-pin (suitable for open end, plug M8)		**4**	
	5-pin (suitable for 3, 4 and 5-pin plug M12)		**5**	
Display	Without LED, DC (standard)			
	LED, NPN	[3]	**N**	
	LED, DC	[4]	**L**	
	2x LED, PNP	[5]	**P2**	
Cable characteristic	Standard		**-K**	
	Suitable for energy chains		**-E**	
	Suitable for robot applications		**-R**	
Cable length	0.1 … 30 m (0.1 … 2.5 m in 0.1 m increments, 2.5 … 30 m in 0.5 m increments)		**-...**	
Wire cross section	0.25 mm^2 (standard)			
	1.00 mm^2	[6]	**Q8**	
Cable colour	Grey (standard)			
Cable designation	With inscription label holder (standard)			
	Without inscription label holder		**-N**	
Connection technology, right	Open end (not possible in the case of open end as connection technology on the left)	[1]	**-LE**	
	Plug with connecting thread M8		**-M8**	
	Plug with connecting thread M12, A-coded		**-M12**	
Plug design	Without (only in the case of open end as connection technology on the right)			
	Straight		**G**	
	Angled		**W**	
Number of pins/wires (right)	2-pin	[7]	**2**	
	3-pin (suitable for M8/M12 socket)	[8]	**3**	
	4-pin (suitable for M8/M12 socket)	[8]	**4**	
	5-pin (suitable for M12 socket)	[8] [9]	**5**	

1) LE With open end LE the number of pins/wires of the open end must be less than or equal to the number of pins of the opposite side.
2) R Can only be combined with M8 (connection technology, left), 3-pin (pins/wires on the left), without display, standard wire cross section.
3) N Can only be combined with M8 connection technology on the left and socket design W with 3 PINS/wires (on the left), or with M12 connection technology on the left and socket design W with 5 PINS/wires (on the left) and 3 PINS/wires (on the right).
4) L Can only be combined with M8 connection technology on the left and 4 PINS/wires (on the left) and M8 connection technology on the right with 3 or 4 PINS/wires (on the left) or M12 connection technology on the right with 2 PINS/wires (on the left) or LE connection technology on the right with 2 PINS/wires (on the left).
Can only be combined with cable characteristic K.
5) P2 Can only be combined with M12 connection technology on the left and socket design W with 4 PINS/wires (on the right).
6) Q8 Can only be combined with M12 connection technology on the left and socket design G with 5 PINS/wires (on the left), and with M12 connection technology on the right and plug design G with 5 PINS/wires (on the left).
Can only be combined with cable characteristic E.
7) 2 Can only be combined with M12 or LE connection technology on the right and L display.
Can only be combined with cable characteristic K.
8) 3, 4, 5
With LE connection technology on the left, the number of wires (on the left) is copied over.
9) 5 Can only be combined with M12 or LE connection technology on the left.

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