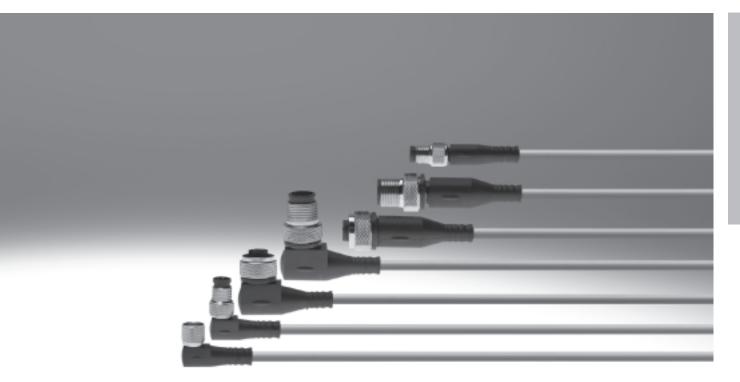
## Electrical connection technology



## Electrical connection technology

**FESTO** 

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### Connecting cables NEBU, plug sockets with cable SIM

Product overview

Draduct avantion



- Connecting cables for standard, drag chain and robot applications
- Versions with switching status display
- Welding field immune designs
- Easy-to-clean designs approved for use in the food and packaging sector
- Cable length 0.1 ... 25 m freely selectable

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Detailed product information

→ www.festo.com/catalogue/nebu

Design	Туре	Electrical connection	า	Number of wires	Cable length	→ Page	
u u u u u u u u u u u u u u u u u u u		Left	Right		[m]		
Basic version	NEBU-M5	Socket M5x0.5	Open end	3	5	264	
			Plug M8x1	3	1		
			Plug M12x1	4	1		
	NEBU-M8	3U-M8 Socket M8x1	Open end	3,4	0.1 25	264	
			Plug M8x1				
			Plug M12x1				
	NEBU-M12	Socket M12x1	Open end	3, 4, 5	0.1 25	264	
			Plug M8x1				
			Plug M12x1				
	SIM-M12-8	Socket M12x1	Open end	8	2;5	269	
	KSMH-1-M8-2-M8	Socket M8x1	Plug M8x1	4	2		
	KM12-8	Socket M12x1	Plug M12x1	8	2		
With switching status	NEBU-M8	Socket M8x1	Open end	3	0.1 25	264	
display			Plug M8x1				
			Plug M12x1				
	NEBU-M12	Socket M12x1	Open end	3	0.1 25	264	
			Plug M8x1				
			Plug M12x1				
Welding field immune	SIM-M12-RS	Socket M12x1	Open end	3	3	269	
With clip-on socket	SIM-K	Socket, clip-on	Open end	3	2.5; 5; 10	269	
				4	2.5; 5		
For food industry, easy	SIM-K-CDN	Socket, clip-on	Open end	3	2.5; 5	269	
to clean							

## Connecting cables NEBU, plug sockets with cable SIM

tions.

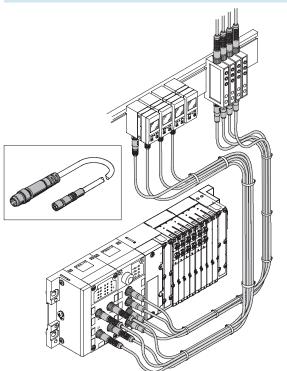
standard, drag chain or robot applica-

Key features

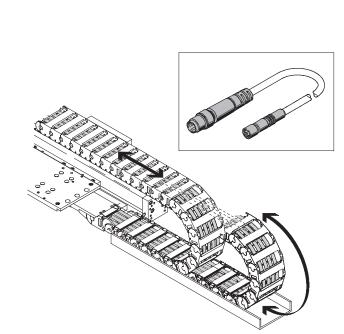
### Cable qualitys

The sensor cables can be configured using the modular system. You can choose from qualitys that are suited to

### Standard application



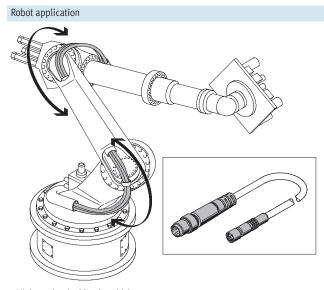
• Standard applications are characterised by fixed cable installation or low to average mechanical loads.



• High mechanical loads occur in drag chain applications, particu-

Drag chain application

larly when very small radii are required.



• High mechanical loads, which are primarily caused by torsion, occur in robot applications.

# Connecting cables NEBU Type codes

Minimized principality   Socket with connecting thread, A coded   Socket with connecting thread, A coded   Socket with connecting thread, A coded   With Argied   Number of pins/wires (left)   3 3-pin (fitting for M8 plug)   4 4-pin (fitting for M8 plug)   5 5-pin (fitting for M8 plug)   5 5-pin (fitting for M8 plug)   6 Stratagen   Without LED (standard)   P LED, NPN   Cable equality  Cable equative virie cross section  Cable cross section  Cable cross section  Cable cross section  Cable mathemative virie cross section  Cable cross section  Singht cross section  Si			NEBL	- M12	W	5	Р	7-	K	] – [	2.5	1- [	7-6	LE	3	]
NEBU Connecting cable   Connecting cable   Connecting thread   MS Socket with connecting thread   MS Socket design   G Straight   Mapled Socket design   3 3-pin (fitting for MS, plug)   4 4-pin fitting for MS, plug)   5 Spin (fitting for MS, plug)   4 4-pin fitting for MS, plug)   5 Spin (fitting for MS, plug)   6 Straight   7 Without IED (standard)   P LED, PMP   N LED, PMP   Attenative wire cross section   - 0.25 mm² (tarnatud)   2 Out- 25 m   Attenative wire cross section   - 0.25 mm² (tarnatud)   3 0.1 - 25 m   Attenative wire cross section   - 0.25 mm² (tarnatud)   M With inscription label holder (standard)   M12 Socket with connecting thread, A coded   Pub designation   - O.25 mm² (tarnatud)   Cable designation   - O.25 mm² (tarnatud)   M12 Socket with connecting thread, A coded   M12 Socket with connecting thread, A coded   M12 Socket with connecting thread, A coded   M12 Socket with connecting thread, A coded <td< th=""><th>Functio</th><th>n</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>] ]</th><th></th><th></th><th>7</th><th></th><th></th><th></th></td<>	Functio	n								] ]			7			
Connection, left  Connection, left  Socket with connecting thread  A-reade  Socket with connecting thread  Socket with connecting thread  A-reade  Socket with connecting thread  Socket with connecting thread  A-reade  Socket with connecting thread  A-reade  Socket with connecting thread  Socket with connecting thread  A-reade  Namber of pins/wires (right)  Socket with connecting thread  A-reade  Socket with connecting thread  A-rea																
MS       Socket with connecting thread         WB       Socket with connecting thread         WB       Socket with connecting thread         Socket with connecting thread       Socket with connecting thread         Socket design       Socket with connecting thread         G       Straight       Angled         Number of pins/wires (left)       Socket with connecting thread         3       3-pin (fitting for M8 plug)         4       4-pin (fitting for M8 plug)         5       5-pin (fitting for M8 plug)         4       4-pin (fitting for M8 plug)         5       5-pin (fitting for M8 plug)         6       Straight         7       Without LED (standard)         P       LED, PNP         N       With socket with connecting thread         0.1.1 - 25 m       Cable designation         -       Q.5 St	NEDU	Connecting cable														
Mile       Socket with connecting thread         M122       Socket with connecting thread, A coded         Socket design       Image: Connecting thread, A coded         Socket design       Image: Connecting thread, A coded         W       Angled         Number of pins/wires (left)       Image: Connecting thread, A coded         3       3 pin (fitting for M8 plug)         4       4-pin (fitting for M8 plug)         5       5 pin (fitting for M8 plug)         6       Statage: Connecting thread         P       LED, NPN         Cable quality       Cable continue         K       Statable for robots         Cable costing       Cable costing         -       0.25 mm² (standard)         -       With inscription label holder (standard)         Number of pins/wites (fight)       Mile socket with connecting thread         M2       Socket with connecting thread         M2       Socket with connecting thread         M3       Spin (fitting for M8/M12 socket)         3       Spin (fitting for M8/M12 socket) <th>Connec</th> <th>tion, left</th> <th></th>	Connec	tion, left														
Mile       Socket with connecting thread         M122       Socket with connecting thread, A coded         Socket design       Image: Connecting thread, A coded         Socket design       Image: Connecting thread, A coded         W       Angled         Number of pins/wires (left)       Image: Connecting thread, A coded         3       3 pin (fitting for M8 plug)         4       4-pin (fitting for M8 plug)         5       5 pin (fitting for M8 plug)         6       Statage: Connecting thread         P       LED, NPN         Cable quality       Cable continue         K       Statable for robots         Cable costing       Cable costing         -       0.25 mm² (standard)         -       With inscription label holder (standard)         Number of pins/wites (fight)       Mile socket with connecting thread         M2       Socket with connecting thread         M2       Socket with connecting thread         M3       Spin (fitting for M8/M12 socket)         3       Spin (fitting for M8/M12 socket) <th>M5</th> <th>Socket with connecting thread</th> <th></th> <th></th> <th>J</th> <th></th>	M5	Socket with connecting thread			J											
M12       Socket with connecting thread, A-coded         Socket design	M8															
G       Straight         W       Angled         Number of pins/wires (left)         3       3-pin (fitting for M8 plug)         4       4-pin (fitting for M3 plug)         5       5-pin (fitting for M3 plug)         6       Straight	M12		ed													
G       Straight         W       Angled         Number of pins/wires (left)         3       3-pin (fitting for M8 plug)         4       4-pin (fitting for M3 plug)         5       5-pin (fitting for M3 plug)         6       Straight																
W       Angled         Number of pins/wires (left)		-														
Number of pins/wires (left)         3       3-pin (fitting for M3 plug)         4       4-pin (fitting for M3 plug)         5       5-pin (fitting for M3 plug)         5       5-pin (fitting for M3 plug)         6       Suitable for drag chain         7       With out inscription label holder         Cable designation       -         0.1	G															
3       3 pin (fitting for M8 plug)         4       +pin (fitting for 3, 4- and 5-pin M12 plug)         Display	W	Angled														
3       3 pin (fitting for M8 plug)         4       +pin (fitting for 3, 4- and 5-pin M12 plug)         Display	Numbe	r of pins/wires (left)														
4       4 pin (fitting for M8 plug)         5       5-pin (fitting for 3-, A- and 5-pin M12 plug)         Display							]									
5 5-pin (fitting for 3, 4- and 5-pin M12 plug)   Display   -   Without LED (standard)   P   LED, PNP   N   LED, NPN   Cable quality   K   Standard   E   Sutable for robots   Cable length   0.1 25   0.1 25 m   Cable designation   -   0.25 mm <sup>2</sup> (standard)   Q3   0.14 mm <sup>2</sup> Cable designation   -   With inscription label holder (standard)   N   Without inscription label holder   Connection, right   LE   Qpen end   M12   Socket with connecting thread   M12   Socket fitting for MS/M12 socket)   4   4. pin (fitting for MS/M12 socket)	4															
Display Dis	5		2 plug)													
-       Without LED (standard)         P       LED, PNP         N       LED, NPN         Cable quality		5 p (	2 prog)													
P       LED, PNP         N       LED, NPN         Cable quality	Display	·														
N       LED, NPN         Cable quality	-	Without LED (standard)														
Cable quality         Cable quality         K       Standard         E       Suitable for drag chain         R       Suitable for robots         Cable length       0.1 25 m         0.1 25 0.1 25 m       Image: Cable length and the length and	Р	LED, PNP														
K Standard   E Suitable for drag chain   R Suitable for robots     Cable length   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25     0.1 26     0.1 27     Cable designation     12   0 Open end   Mas   Socket with con	Ν	LED, NPN														
K Standard   E Suitable for drag chain   R Suitable for robots     Cable length   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25   0.1 25     0.1 26     0.1 27     Cable designation     12   0 Open end   Mas   Socket with con		•														
E Suitable for drag chain   R Suitable for robots   Cable length 0.1 25 m   0.1 25 0.1 25 m   Atternative wire cross section   - 0.25 mm² (standard)   Q3 0.14 mm²   Cable designation   - With inscription label holder (standard)   N Without inscription label holder   Connection, right   LE Open end   M8 Socket with connecting thread   M12 Socket with connecting thread, A-coded   Plug design   G Straight   W Angled   Number of pins/wires (right)   3 3-pin (fitting for M8/M12 socket)   4 4-pin (fitting for M8/M12 socket)	Cable q															
R Suitable for robots   Cable length   0.1 25 <t< th=""><th>К</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	К															
Cable length         0.1 25         0.1 25         0.1 25         0.1 25 m         Alternative wire cross section         -         0.25 mm² (standard)         Q3       0.14 mm²         Cable designation         -         With inscription label holder (standard)         N         Without inscription label holder         Connection, right         LE         Open end         M8         Socket with connecting thread         M12         Socket with connecting thread, A coded         Plug design         G         Straight         W         Angled	E															
0.1 25 0.1 25 m   Alternative wire cross section   - 0.25 mm² (standard)   Q3 0.14 mm²    Cable designation  - <ul> <li>With inscription label holder (standard)</li> <li>N</li> <li>Without inscription label holder</li> </ul> Connection, right  LE  Open end  M8  Socket with connecting thread M12  Socket with connecting thread, A-coded  Plug design  G  Straight  W  Angled  Number of pins/wires (right)  3  3  -pin (fitting for M8/M12 socket)  4  4  4 -pin (fitting for M8/M12 socket)	R	Suitable for robots														
0.1 25 0.1 25 m   Alternative wire cross section   - 0.25 mm² (standard)   Q3 0.14 mm²    Cable designation  - <ul> <li>With inscription label holder (standard)</li> <li>N</li> <li>Without inscription label holder</li> </ul> Connection, right  LE  Open end  M8  Socket with connecting thread M12  Socket with connecting thread, A-coded  Plug design  G  Straight  W  Angled  Number of pins/wires (right)  3  3  -pin (fitting for M8/M12 socket)  4  4  4 -pin (fitting for M8/M12 socket)	Cable le	ength														
Alternative wire cross section         -       0.25 mm² (standard)         Q3       0.14 mm²         Cable designation         -       With inscription label holder (standard)         N       Without inscription label holder         -       With out inscription label holder         -       Without inscription label holder         -       Open end         M8       Socket with connecting thread, Ac coded         Plug design												J				
<ul> <li>0.25 mm<sup>2</sup> (standard)</li> <li>Q3 0.14 mm<sup>2</sup></li> <li>Cable designation</li> <li>With inscription label holder (standard)</li> <li>N Without inscription label holder</li> <li>Connection, right</li> <li>LE Open end</li> <li>M8 Socket with connecting thread</li> <li>M12 Socket with connecting thread, A-coded</li> <li>Plug design</li> <li>G Straight</li> <li>W Angled</li> <li>Number of pins/wires (right)</li> <li>3 3-pin (fitting for M8/M12 socket)</li> <li>4 4-pin (fitting for M8/M12 socket)</li> </ul>	0.1 2	5 0.1 25 111														
Q3       0.14 mm <sup>2</sup> Cable designation	Alterna	tive wire cross section														
Cable designation         -       With inscription label holder (standard)         N       Without inscription label holder         Connection, right         LE       Open end         M8       Socket with connecting thread         M12       Socket with connecting thread, A-coded         Plug design	-	0.25 mm <sup>2</sup> (standard)														
<ul> <li>With inscription label holder (standard)</li> <li>N</li> <li>Without inscription label holder</li> </ul> Connection, right LE Open end M8 Socket with connecting thread M12 Socket with connecting thread, A-coded Plug design G Straight W Angled Number of pins/wires (right) 3 3-pin (fitting for M8/M12 socket) 4 4-pin (fitting for M8/M12 socket)	Q3	0.14 mm <sup>2</sup>														
<ul> <li>With inscription label holder (standard)</li> <li>N</li> <li>Without inscription label holder</li> </ul> Connection, right LE Open end M8 Socket with connecting thread M12 Socket with connecting thread, A-coded Plug design G Straight W Angled Number of pins/wires (right) 3 3-pin (fitting for M8/M12 socket) 4 4-pin (fitting for M8/M12 socket)																
N Without inscription label holder   Connection, right   LE Open end   M8 Socket with connecting thread   M12 Socket with connecting thread, A-coded     Plug design   G Straight   W Angled     Number of pins/wires (right)   3 3-pin (fitting for M8/M12 socket)   4 4-pin (fitting for M8/M12 socket)	Cable d															
Connection, right         LE       Open end         M8       Socket with connecting thread         M12       Socket with connecting thread, A-coded         Plug design         G       Straight         W       Angled         Number of pins/wires (right)         3       3-pin (fitting for M8/M12 socket)         4       4-pin (fitting for M8/M12 socket)	-		rd)													
LE Open end M8 Socket with connecting thread M12 Socket with connecting thread, A-coded Plug design G Straight W Angled Number of pins/wires (right) 3 3-pin (fitting for M8/M12 socket) 4 4-pin (fitting for M8/M12 socket)	Ν	Without inscription label holder														
LE Open end M8 Socket with connecting thread M12 Socket with connecting thread, A-coded Plug design G Straight W Angled Number of pins/wires (right) 3 3-pin (fitting for M8/M12 socket) 4 4-pin (fitting for M8/M12 socket)	Connect	tion right														
M8       Socket with connecting thread         M12       Socket with connecting thread, A-coded         Plug design         G       Straight         W       Angled         Number of pins/wires (right)         3       3-pin (fitting for M8/M12 socket)         4       4-pin (fitting for M8/M12 socket)																
M12 Socket with connecting thread, A-coded  Plug design G Straight W Angled  Number of pins/wires (right) 3 3-pin (fitting for M8/M12 socket) 4 4-pin (fitting for M8/M12 socket)																
Plug design         G       Straight         W       Angled         Number of pins/wires (right)         3       3-pin (fitting for M8/M12 socket)         4       4-pin (fitting for M8/M12 socket)	1		ed													
G       Straight         W       Angled         Number of pins/wires (right)         3       3-pin (fitting for M8/M12 socket)         4       4-pin (fitting for M8/M12 socket)	1	Sector mar connecting tinead, A cou														
W       Angled         Number of pins/wires (right)         3       3-pin (fitting for M8/M12 socket)         4       4-pin (fitting for M8/M12 socket)	Plug de	sign														
W       Angled         Number of pins/wires (right)         3       3-pin (fitting for M8/M12 socket)         4       4-pin (fitting for M8/M12 socket)	G	Straight													I	
3     3-pin (fitting for M8/M12 socket)       4     4-pin (fitting for M8/M12 socket)	W															
3     3-pin (fitting for M8/M12 socket)       4     4-pin (fitting for M8/M12 socket)																
4 4-pin (fitting for M8/M12 socket)	Numbe												 		 	
	3															
5 5-pin (fitting for M12 socket)	4															
	5	5-pin (fitting for M12 socket)														

3.1

## Connecting cables NEBU Technical data

General technical data

	Electrical connection, left	Socket M5x0.5	Socket M8x1				
	Design						
	Cable length [m]	➔ Ordering data	0.1 25				
	Ready status display <sup>1)</sup>	-	Green LED				
	Switching status display <sup>1)</sup>	-	Yellow LED				
	Cable quality <sup>1)</sup>	Standard	Standard				
logy		-	Suitable for drag chain				
ouų		-	Suitable for robots				
<b>Electrical connection technology</b> Connecting cables	Test conditions for standard cables	Chain link trunking: 5 million cycles	, bending radius 75 mm				
tion S		Resistance to bending: To Festo standard; test conditions on request					
<b>Electrical connect</b> i	Test conditions for suitability for chain link trunking	Chain link trunking: 5 million cycles, bending radius 28 mm					
ng con		Resistance to bending: To Festo standard; test conditions on request					
<b>rical</b> ectii	Test conditions for suitability for robots	Chain link trunking: 5 million cycles, bending radius 28 mm					
onn		Torsional strength: > 300,000 cycle	s, ±270°/0.1 m				
шO		Resistance to bending: To Festo standard; test conditions on request					
3.1							
2.1	Operating and environmental conditions						
	Ambient temperature [°C]	-25 +70	-25 +80				
	Ambient temperature with flexible [°C]	-5 +70	-5 +80				
	cable installation						
	Protection class	IP65, IP67					

Le

Protection class	IP65, IP67
Materials	
Housing	Polyurethane
Cable sheath	Polyurethane

1 1 100 4

1) If the relevant option is selected → Ordering table 265 and modular products266

Electrical data – Socket M5x0.5											
Electrical connection, left			Straight socket, M5x0.5, 3-pin								
Electrical connection, right			Cable, open end, 3-wire	Straight plug, M8x1, 3-pin Straight plug, M12x1, 4-							
Operating voltage range	rating voltage range AC [V]		125	60	125						
	DC	[V]	125	75	125						

Electrical data – Socket M8x1									
Electrical connection, left <sup>1)</sup>			Socket M8x1, 3-pin, straight or angled	Socket M8x1, 4-pin, straight or angled					
Electrical connection, right <sup>1)</sup>			Plug M8x1 or M12x1	Plug M8x1 or M12x1					
			3-pin, straight or angled	4-pin, straight or angled					
			Open end, 3-wire	Open end, 4-wire					
Operating voltage range	AC	[V]	0 60	0 30					
	DC	[V]	0 60	0 30					

1) Possible combinations → Ordering table 265 and modular products266

Electrical data – Socket M12x1										
Electrical connection, left <sup>1)</sup>			Socket M12x1, 5-pin, straight or an	Socket M12x1, 5-pin, straight or angled						
Electrical connection, right <sup>1)</sup>			Plug M8x1 or M12x1	Plug M8x1 or M12x1	Plug M8x1 or M12x1					
		3-pin, straight or angled	4-pin, straight or angled	5-pin, straight or angled						
			Open end, 3-wire	Open end, 4-wire	Open end, 5-wire					
Operating voltage range	AC	[V]	0 300	0 300	0 60					
	DC	[V]	0 300	0 300	0 60					

1) Possible combinations → Ordering table 265 and modular products 266

### **FESTO**

Socket M12x1

# Connecting cables NEBU Technical data

Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Туре
Straight socket, M5x0.5, 3-pin	Cable, open end, 3-wire	5	539 508	NEBU-M5G4-K-5-Q3-LE3
	Straight plug, M8x1, 3-pin	1	539 510	NEBU-M5G4-K-1-Q3-M8G3
	Straight plug, M12x1, 4-pin	1	539 512	NEBU-M5G4-K-1-Q3-M12G4
Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541 333	NEBU-M8G3-K-2.5-LE3
		5	541 334	NEBU-M8G3-K-5-LE3
		10	541 332	NEBU-M8G3-K-10-LE3
	Straight plug, M8x1, 3-pin	0.5	541 346	NEBU-M8G3-K-0.5-M8G3
		1	541 347	NEBU-M8G3-K-1-M8G3
		2.5	541 348	NEBU-M8G3-K-2.5-M8G3
		5	541 349	NEBU-M8G3-K-5-M8G3
Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541 338	NEBU-M8W3-K-2.5-LE3
		5	541 341	NEBU-M8W3-K-5-LE3
		10	541 335	NEBU-M8W3-K-10-LE3
Straight socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	541 342	NEBU-M8G4-K-2.5-LE4
		5	541 343	NEBU-M8G4-K-5-LE4
Angled socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	541 344	NEBU-M8W4-K-2.5-LE4
		5	541 345	NEBU-M8W4-K-5-LE4
Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541 363	NEBU-M12G5-K-2.5-LE3
		5	541 364	NEBU-M12G5-K-5-LE3
	Cable, open end, 4-wire	2.5	530 326	NEBU-M12G5-K-2.5-LE4
		5	541 328	NEBU-M12G5-K-5-LE4
	Cable, open end, 5-wire	2.5	541 330	NEBU-M12G5-K-2.5-LE5
		5	541 331	NEBU-M12G5-K-5-LE5
Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541 367	NEBU-M12W5-K-2.5-LE3
		5	541 370	NEBU-M12W5-K-5-LE3
	Cable, open end, 4-wire	2.5	530 325	NEBU-M12W5-K-2.5-LE4
		5	541 329	NEBU-M12W5-K-5-LE4

Ordering data – With switching status display										
Electrical connection, left	Electrical connection, right	Switch output	Cable length [m]	Part No.	Туре					
Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	PNP	2.5	541 337	NEBU-M8W5P-K-2.5-LE3					
			5	541 340	NEBU-M8W5P-K-5-LE3					
		NPN	2.5	541 336	NEBU-M8W5N-K-2.5-LE3					
			5	541 339	NEBU-M8W5N-K-5-LE3					
Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	PNP	2.5	541 366	NEBU-M12W5P-K-2.5-LE3					
			5 541 369 NEBU-M		NEBU-M12W5P-K-5-LE3					
		NPN	2.5	541 365	NEBU-M12W5N-K-2.5-LE3					
			5	541 368	NEBU-M12W5N-K-5-LE3					

--Note

Additional variants can be configured and ordered via the NEBU modular product system → 266.

-- Note

Pin allocations and circuit diagrams  $\rightarrow$  www.festo.com

Ordering data – Inscription labels, safety clips									
	Material	Use	Size	Part No.	Туре	PU <sup>1)</sup>			
	Polycarbonate	For insertion in the inscription label holder	18x4 mm	546 111	ASLR-L-418	57			
			23x4 mm	541 598	ASLR-L-423	51			
a for the second se	Polyamide	For protecting push-in connectors from inadvertent disconnection (no tool needed)	M8	548 067	NEAU-M8-GD	1			
			M12	548 068	NEAU-M12-GD	1			

1) Packaging unit in quantity per frame

### **FESTO**

3.1

## Connecting cables NEBU, M8/M12 Ordering data – Modular products

Mandatory	M Mandatory data										
Module No.	Function	Connection, left	Socket design	Number of pins/wires (left)	Display						
539 052	NEBU	M8 M12	G W	3 4 5	– P N						
Order example 539 052	NEBU	– M12	w	5	P						

Or	Ordering table										
			Condi-	Code		Enter					
			tions			code					
Μ	Module No.	539 052									
	Function	Connecting cable		NEBU		NEBU					
				-		-					
	Connection, left	Socket with connecting thread		M8							
		Socket with connecting thread, A-coded		M12							
	Socket design	Straight		G							
		Angled		W							
	Number of pins/wires (left)	3-pin (fitting for M8 plug)		3							
		4-pin (fitting for M8 plug)		4							
		5-pin (fitting for 3-, 4- and 5-pin M12 plug)		5							
0	Display	Without LED (standard)									
		LED, PNP	1	Р							
Ŧ		LED, NPN	1	Ν							

1 P, N

Only in combination with M8 connection technology at left-hand end with socket design W and number of pins/wires (left-hand end) 3

or only in combination with M12 connection technology at left-hand end with socket design W and number of pins/wires (left-hand end) 5 and number of pins/wires (right-hand end) 3.

	Trans	fer	ord	ler	cod	e
1						

Products 2008 - Subject to change - 2007/08

## Connecting cables NEBU, M8/M12 Ordering data – Modular products

→	Mandatory data		O Options	M	0	Μ
	Cable quality	Cable length	Cable designation	Connection, right	Plug design	Number of pins/wires (right)
	K	0.1 25	– N	LE M8	G W	3
	R		14	M12	vv	5
-	E –	3.5 –	N –	M8	G	3

0	rdering table					
M	odule No.	539 052	Condi- tions	Code		Enter code
¥				-		-
Μ	Cable quality	Standard		К		
		Suitable for drag chain		E		
		Suitable for robots		R		
				-		-
	Cable length	0.1 25 m (0.1 2.5 m in 0.1 m increments, 2.5 25 m in 0.5 m increments)				
0	]			-		-
	Cable designation	With inscription label holder (standard)			1	
		Without inscription label holder		N		
Μ	]			-		-
	Connection, right	Open end		LE		
		Plug with connecting thread		M8	1	
		Plug with connecting thread, A-coded		M12		
0	Plug design	Straight	2	G		
		Angled	2	W		
Μ	Number of pins/wires (right)	3-pin (fitting for M8/M12 socket)	3	3		
		4-pin (fitting for M8/M12 socket)	4	4		
		5-pin (fitting for M12 socket)	5	5		

2 G, W Must be selected with M8, M12 connection technology at right-hand end. Not in combination with LE connection technology at right-hand end. 3 **3** Not in combination with M8 connection technology at left-hand end, number of pins/wires (left-hand end) 4 and LE, M12 connection technology at right-hand end.

Not in combination with M8 connection technology at left-hand end, number of pins/wires (left-hand end) 3 and LE, M12 connection technology at right-hand end. Only in combination with LE, M12 connection technology at right-hand end. Not in combination with M8 connection technology at left-hand end and LE, M12 connection technology at right-hand end.

**FESTO** 

Transfer order code

# Plug sockets with cable SIM

		SIM	— M12	]-[]	rs ·	- 3	GD	]–	3	1–	1-[	
_		·						1		1		
Туре												
SIM	Plug socket with cable for sensors											
Flectric	cal connection											
M12	M12x1 locknut											
K	Clip-on plug											
Weldin	g field immunity											
	Basic type, no welding field immunity	<i>y</i>										
RS	Welding field immune											
Numbe	er of wires											
	3-wire						1					
4	4-wire											
8	8-wire											
	tion direction											
GD	In-line											
WD	Angled											
Cable l	ength											
2	2 m									J		
2.5	2.5 m											
3	3 m											
5	5 m											
10	10 m											
Materia	al, cable sheath											
PU	Polyurethane										J	
Easy cl												
	Basic version											

version

CDN Clean Design, suitable for foodstuffs

# Plug sockets with cable SIM, KSMH, KM12 Technical data

Technical data – Connecting cables	M8x1,	M12x1			
Туре			KSMH	KM12	
Cable attribute			Standard		
Electrical connection, left			Straight socket, M8x1, 4-pin	Straight socket, M12x1, 8-pin	
Electrical connection, right			Straight plug, M8x1, 4-pin	Straight plug, M12x1, 8-pin	
Operating voltage range	DC	[V]	≤ 75	≤ 70	
	AC	[V]	≤ 60	≤ 45	
Ambient temperature		[°C]	-5 +70	-25 +80	
Protection class			IP68		

Technical data – Plug sockets with cable M12x1, 8-pin						
Cable attribute			Standard			
Electrical connection, left			Straight socket, M12x1, 8-pin			
Electrical connection, right			Cable, open end, 8-wire			
Operating voltage range	DC	[V]	≤ 70			
	AC	[V]	≤ 45			
Ambient temperature		[°C]	-25 +80			
Protection class			IP68			

Technical data – Plug sockets with cable M12	x1, we	lding field immune
Cable attribute		Standard
Electrical connection, left		Straight or angled socket, M12x1, 3-pin
Electrical connection, right		Cable, open end, 3-wire
Operating voltage range DC [V]	]	≤ 70

	AC [V]	≤ 45
Ambient temperature	[°C]	-25 +80
Ambient temperature with flexible	[°C]	0 +80
cable installation		
Protection class		IP65, IP67

Technical data – Plug sockets with	cable,	clip-on				
Туре			SIM-K	SIM-K-4		
Cable attribute			Standard			
Electrical connection, left			Straight or angled socket, clip-on, 3-pin	Straight or angled socket, clip-on, 4-pin		
Electrical connection, right			Cable, open end, 3-wire	Cable, open end, 4-wire		
Operating voltage range	DC	[V]	≤ 70			
	AC	[V]	≤ 45			
Ambient temperature		[°C]	-40 +70			
Ambient temperature with flexible		[°C]	-5 +70			
cable installation						
Protection class			IP65, IP67			

echnical data – Plug sockets with cable, clip-on, Clean Design					
Cable attribute			Standard		
Electrical connection, left			raight or angled socket, clip-on, 3-pin		
Electrical connection, right			Cable, open end, 3-wire		
Operating voltage range	DC	[V]	≤ 70		
	AC	[V]	≤ 45		
Ambient temperature		[°C]	-30 +70		
Ambient temperature with flexible		[°C]	-5 +70		
cable installation					
Protection class			IP65, IP67, IP69		

# Plug sockets with cable SIM, KSMH, KM12 Technical data

Ordering data

Electrical connection, left	Electrical connection, right
Connecting cable	-
Straight socket, M8x1, 4-pin	Straight plug, M8x1, 4-pin
Straight socket, M12x1, 8-pin	Straight plug, M12x1, 8-pin
Plug socket with cable M12x1, basi	c version
Straight socket, M12x1, 8-pin	Cable, open end, 8-wire
Plug socket with cable M12x1, weld	ling field immune
Straight socket, M12x1, 5-pin	Cable, open end, 3-wire
Angled socket, M12x1, 5-pin	Cable, open end, 3-wire
Plug socket with cable, clip-on, bas	F
Straight socket, clip-on, 3-pin	Cable, open end, 3-wire
Angled socket, clip-on, 3-pin	Cable, open end, 3-wire
	Connecting cable Straight socket, M8x1, 4-pin Straight socket, M12x1, 8-pin Plug socket with cable M12x1, basi Straight socket, M12x1, 8-pin Plug socket with cable M12x1, welc Straight socket, M12x1, 5-pin Angled socket, M12x1, 5-pin

	_	

Ordering data				
Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Туре
Connecting cable				
Straight socket, M8x1, 4-pin	Straight plug, M8x1, 4-pin	2	175 714	KSMH-1-M8-2-M8
Straight socket, M12x1, 8-pin	Straight plug, M12x1, 8-pin	2	525 617	KM12-8GD8GS-2-PU
	· ·	·		
Plug socket with cable M12x1, bas	sic version			
Straight socket, M12x1, 8-pin	Cable, open end, 8-wire	2	525 616	SIM-M12-8GD-2-PU
		5	525 618	SIM-M12-8GD-5-PU
Plug socket with cable M12x1, we	-			
Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	30 450	SIM-M12-RS-3GD-3
Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	30 451	SIM-M12-RS-3WD-3
Plug socket with cable, clip-on, ba				
Straight socket, clip-on, 3-pin	Cable, open end, 3-wire	2.5	164 257	SIM-K-GD-2,5-PU
		5	164 256	SIM-K-GD-5-PU
		10	192 962	SIM-K-GD-10-PU
Angled socket, clip-on, 3-pin	Cable, open end, 3-wire	2.5	164 255	SIM-K-WD-2,5-PU
		5	164 254	SIM-K-WD-5-PU
		10	192 963	SIM-K-WD-10-PU
Straight socket, clip-on, 4-pin	Cable, open end, 4-wire	2.5	164 250	SIM-K-4-GD-2,5-PU
		5	164 251	SIM-K-4-GD-5-PU
Angled socket, clip-on, 4-pin	Cable, open end, 4-wire	2.5	164 252	SIM-K-4-WD-2,5-PU
		5	164 253	SIM-K-4-WD-5-PU
Plug socket with cable, clip-on, Cle	ean Design			
Straight socket, clip-on, 3-pin	Cable, open end, 3-wire	2.5	525 259	SIM-K-GD-2,5-CDN
		5	525 260	SIM-K-GD-5-CDN
Angled socket, clip-on, 3-pin	Cable, open end, 3-wire	2.5	525 261	SIM-K-WD-2,5-CDN
		5	525 262	SIM-K-WD-5-CDN

Ordering data – S	ering data – Safety clip				
	Material	Use	Size	Part No.	Туре
T	Polyamide	For protecting push-in connectors from inadvertent disconnection (no tool needed)	M8	548 067	NEAU-M8-GD
			M12	548 068	NEAU-M12-GD

Products 2008 – Subject to change – 2007/08

# Plug sockets and push-in T-connectors Product overview



- Customised fabrication of cables
- Connection sizes M8 and M12
- Interconnection of signals

Detailed product information → www.festo.com/catalogue/nedu

Product overview						
Variant	Туре	Electrical connection	Electrical connection			
		Left	Right			
Plug	SEA	Straight plug, M8x1, 3-pin	Screw terminals			
			Solder lugs			
Plug socket	SIE	Straight socket, M8x1, 4-pin	Screw terminals			
		Angled socket, M8x1, 4-pin				
Cable socket	NECU	Straight socket, M8x1, 4-pin	Screw terminals			
Push-in T-connector	NEDU	Sockets, M8x1, 3-pin	Plug, M8x1, 4-pin			
			Plug M12x1, 4-pin			
		Sockets, M12x1, 3-pin	Plugs, M12x1, A-coded, 4-pin			

General technical data – SEA		
Туре	SEA-3GS-M8-S	SEA-GS-M8
Operating and environmental conditions		
Ambient temperature [°C]	-40 +85	
Protection class	IP65	IP67
Materials		
Housing	Polyamide	

3.2

# Plug sockets and push-in T-connectors

General technical data – SIE

3.2

Materials Housing

Circuit

Operating and environmental conditions				
Ambient temperature	[°C]	-40 +85		
Protection class		IP67		
Materials				
Housing		Polyamide		
General technical data – NECU				
Operating and environmental conditions				
Ambient temperature	[°C]	-40 +80		
Protection class		IP67		
Materials				
Housing		Polybutene terephthalate		
General technical data – NEDU				
Туре		NEDU-M8D3-M8T4	NEDU-M8D3-M12T4	NEDU-M12D5-M12T4
Operating and environmental conditions				
Ambient temperature	[°C]	-25 +85		
Protection class		IP65, IP67		

Reinforced polyurethane

Э 4

з

2 3

4 3 2

Polyamide

32

	Electrical connection		Operating voltage range		Part No.	Туре
	Left	Right	[V DC]	[V AC]		
Plug SEA						
	Straight plug, M8x1, 3-pin	Screw terminals	≤ 75	≤ 48	192 009	SEA-3GS-M8-S
		Solder lugs	≤ 75	≤ 60	18 696	SEA-GS-M8
			•		ł	
Plug socket S	IE					
	Straight socket, M12x1, 4-pin	Screw terminals	≤ 150	≤ 125	18 494	SIE-GD
	Angled socket, M8x1, 4-pin	_	≤150	≤ 125	12 956	SIE-WD-TR
Cable socket	NECU	·		·		
	Straight socket, M8x1, 4-pin	Screw terminals	0 60	0 60	544 392	NECU-M8G4
0.J						
					•	
Push-in T-cor	nnector NEDU					
	Socket, M8x1, 3-pin	Plug, M8x1, 4-pin	32	32	544 391	NEDU-M8D3-M8T4
		Plug, M12x1, 4-pin	60	60	541 597	NEDU-M8D3-M12T4
021	Socket, M12x1, 3-pin	Plug, M12x1, A-coded, 4-pin	250	250	541 596	NEDU-M12D5-M12T

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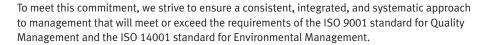
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