

Easy connection of control components



Embedded Controls



Input/Output modules



Input/Output modules



Signal converters



Modular controllers

Connecting cables

Examples of type codes

NEBU - M8 G 3 - K - 2.5 - - - M8 G 4 - -

SIM - K - - - GD - 2.5 - - - PU - -

Function	
NEBU	Connecting cable
Connection technology, left-hand end	
LE	Open end
M5	Socket with connecting thread
M8	Socket with connecting thread
M12	Socket with connecting thread, A-coded

Socket design	
	Open end
G	Straight
W	Angled

Number of pins/wires (left-hand end)	
3, 4, 5	3-, 4-, 5-pin

Display	
	Without LED (standard)
P	LED, PNP
N	LED, NPN
L	LED, DC
P2	2 x LED, PNP

Cable characteristics	
P	Basic
K	Standard
E	Suitable for use with energy chains
R	Suitable for robot applications

Cable length	
0.1 ... 30	0.1 ... 30 m

Alternative wire cross section	
	Standard (designated version)
Q3	Cross section 3 (0.14 mm²)

Alternative number of cores	
	Standard (designated version)
W2	2 wires
W3	3 wires

Cable designation	
	With inscription label holder (standard)
N	Without inscription label holder

Connection technology, right-hand end	
LE	Open end
M8	Plug with connecting thread
M12	Plug with connecting thread, A-coded

Plug design	
	Open end
G	Straight
W	Angled

Number of pins/wires (right-hand end)	
2, 3, 4, 5	2-, 3-, 4-, 5-pin

Alternative pin assignment	
	Standard assignment
V1	Connection Pin 1-1, 3-2
V2	Connection Pin 1-1, 3-3, 4-4

Type	
SIM	Connecting cable
Electrical connection	
M8	Socket with connecting thread
M12	Socket with connecting thread, A-coded
K	Clip-on plug

Welding field immunity	
	Basic type, no welding field immunity
RS	Welding field immune

Number of wires	
	3-wire
3	3-wire

Connection direction	
GD	In-line
WD	Lateral

Cable length	
2.5	2.5 m
3	3 m

Switching status display	
	PNP or NPN
PS	PNP
NS	NPN

Display	
L	LED

Cable sheath materials	
PU	Polyurethane
	Polyvinyl chloride

Ease of cleaning	
	Basic version
CDN	Clean Design, suitable for the food industry

Incidentally
We would be happy to connect your controllers, motor controllers and motors (servomotors, stepper motors and linear motors) with motor and encoder cables.



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Electrical connecting cables and plug combinations

Always well connected!

FESTO

Electrical connecting
cables and plug
combinations

Tailored to applications with sensors and actuators



Proximity switch and position sensors



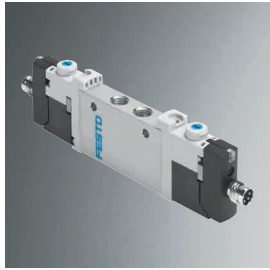
Pressure and flow sensors



Optical sensors



Inductive sensors



Individual valves

Technical data NEBU

M5

NEBU-M5G4-K-...3

M8

NEBU-M8G3-K-...3

NEBU-M8W4-K-...4

M12

NEBU-M12G5-K-...3

NEBU-M12W5-K-...3

LE

NEBU-LE3-K-...3

SIM

SIM-K-GD-...-PU

SIM-M12-R5-...GD-3

SIM-K-WD-...-CDN

KM

KMYZ-9-24-...-LED-PUR-B

KMEB-1-24-...-LED

Electric

Type	NEBU-M5	NEBU-LE	NEBU-M8	NEBU-M12				
General technical data								
Conforms to	EN 61076-2-105	EN 61076-2-101 EN 61076-2-104	EN 61076-2-104	EN 61076-2-101				
	EN 61984							
Cable characteristics NEBU-...-E/NEBU-...-R	–	Halogen-free cable, oil resistant						
Cable length	[m]	0.1 ... 30						
Electronic components								
Cable composition	[mm ²]	3/4 x 0.14	3/4/5 x 0.25	3 x 0.25	4 x 0.25	3 x 0.25	4 x 0.25	5 x 0.25
Operating voltage range* [V AC/DC]	0 ... 30	0 ... 250	0 ... 60	0 ... 30	0 ... 250	0 ... 250	0 ... 250	0 ... 60
* depending on the combination of connection technology								

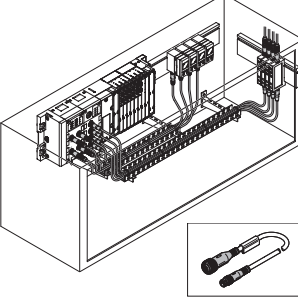
Display/operation	...P-...	...N-...	...L-...	...P2-...
Display	LED, PNP	LED, NPN	LED, DC	2 x LED, PNP
Ready status display	Green LED	Green LED	–	Green LED
Switching status display	Yellow LED	Yellow LED	Yellow LED	Yellow LED, Blue LED

Environment

Type		NEBU-...-P	NEBU-...-K	NEBU-...-E	NEBU-...-R
Cable quality		Basic	Standard	Drag chain	Robot
Cable sheath materials *		PVC-P	TPE-U(PU)		
Immissions/emissions					
Ambient temperature	[°C]	-25 ... +70	-25 ... +70	-25 ... +80	-25 ... +80
Ambient temperature with flexible cable	[°C]	-5 ... +80	-5 ... +70	-5 ... +80	-5 ... +80
Protection class		IP65, IP68			
Media compatibility					
Acids, for example phosphoric acid	+	–	–	–	–
Lyes, for example caustic soda	+	–	–	–	–
Disinfectants, for example sodium hypochlorite	+	–	–	–	–
Polar solvents, for example esters, ketones, alcohols	–	•	•	•	•
Fuels	–	+	+	+	+
Aliphatic hydrocarbons, for example fats and oils	•	+	+	+	+
Aromatic hydrocarbons	–	–	–	–	–
Brake fluids	•	–	–	–	–
Cooling lubricants	•	+	+	+	+
Water (60 °C/ hydrolysis)	+	+	+	+	+
+ resistant					
• limitedly suitable					
– not resistant					
* TPE-U(PU): polyurethane					

Applications/Cable characteristics

Basic

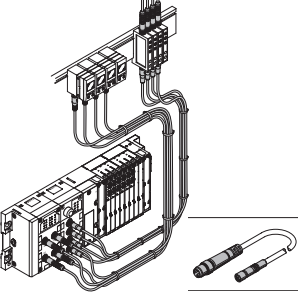


Applications
Static installation, no or small mechanical load

Properties of basic cable
Price-optimised cable for simple, mainly static applications, UL certification in preparation

Test conditions for basic cables
Resistance to bending: to Festo standard; Test conditions on request

Standard

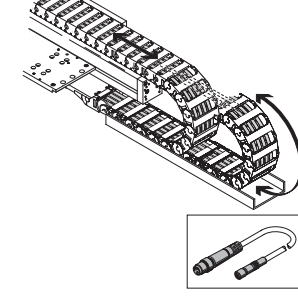


Applications
Small to medium mechanical load, energy chains with large radius ≥ 75 mm

Properties of standard cable
High oil resistance, good reverse bending properties, suitable for use with energy chains, UL certification in preparation

Test conditions for standard cables
Resistance to bending: to Festo standard; Test conditions on request
Energy chain: 5 million cycles, bending radius 75 mm

Drag chain

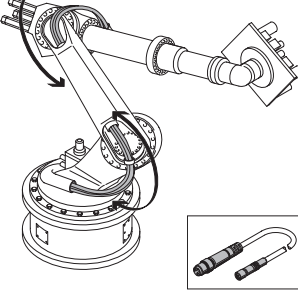


Applications
Energy chain applications involve high mechanical loads, particularly if very small energy chain radii are required

Properties of energy chain cable
Very high oil resistance, very good reverse bending properties, suitable for use with energy chains, halogen-free, UL certification in preparation

Test conditions for energy chain cables
Resistance to bending: to Festo standard; Test conditions on request
Energy chain: 5 million cycles, bending radius 28 mm

Robot



Applications
Robot applications involve high mechanical loads that are primarily caused by torsion

Properties of robot cable
Very high oil resistance, very good bending and torsion properties, suitable for use with energy chains, halogen-free, UL certification in preparation

Test conditions for energy chain cables
Resistance to bending: to Festo standard; Test conditions on request
Energy chain: 5 million cycles, bending radius 28 mm
Torsional strength: 300,000 cycles, ±270 °, test length 0.1 m

NEBU-...3-P-...-M8G3

NEBU-...4-K-...-M8W4

NEBU-...3-K-...-M12G3

NEBU-...5-E-...-M12W5

NEBU-...3-R-...-LE3