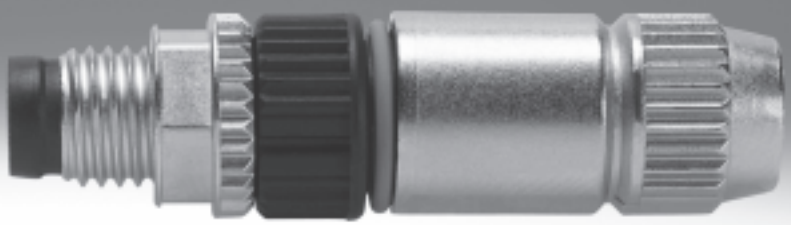
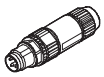
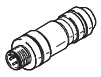
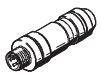
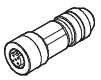
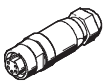
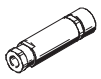
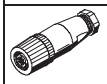
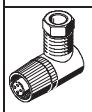
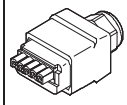
Universal plug connectors, for self-assembly

FESTO



Universal plug connectors, for self-assembly

Product range overview

Version	Type	Connector type	Electrical connection	Design	Bus protocol/ activation	→ Page/ Internet
Harax® quick connection						
	NECU-S-...-HX	Plug	M8x1, 3-pin M8x1, 4-pin M12x1, 3-pin, A-coded M12x1, 4-pin, A-coded	Straight	–	3
Screw terminal						
	NECU-S-M8G4	Plug	M8x1, 4-pin	Straight	–	5
	NECU-...-D12...-C2	Plug	M12x1, 4-pin, D-coded	Straight	Ethernet	6
	NECU-...-S-B12G5	Plug	M12x1, 5-pin, B-coded	Straight	–	7
	NECU-...-B12G5	Socket	M12x1, 5-pin, B-coded	Straight	–	8
	NECU-G78...-C2	Socket	G7/8", 4-pin G7/8", 5-pin	Straight	–	9
Cable connector						
	NECU-M8G4	Socket	M8x1, 4-pin	Straight	–	10
	SIE-GD	Socket	M12x1, 4-pin	Straight	–	11
	SIE-WD-TR	Socket	M12x1, 4-pin	Angled	–	12
Spring-loaded terminal						
	NECU-...-PPG5	Socket	AIDA push-pull, 5-pin	Straight	–	13

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Universal plug connectors NECU, for self-assembly

Technical data

FESTO

Plug NECU-S-...-HX

Reconnectable M8 and M12 round plug connectors with Harax® quick connection technology for low-voltage applications.

General technical data					
Type NECU-S-		M8G3-HX	M8G4-HX	M12G3-HX-Q7	M12G4-HX-Q7
Electrical connection		Plug M8x1, 3-pin, straight, insulation displacement connector	Plug M8x1, 4-pin, straight, insulation displacement connector	Plug M12x1, A-coded, 3-pin, straight, insulation displacement connector	Plug M12x1, A-coded, 4-pin, straight, insulation displacement connector
Operating voltage range	[V DC]	0 ... 32		0 ... 48	
	[V AC]	0 ... 32		0 ... 48	
Surge capacity	[kV]	0.8			
Acceptable current load at 40 °C	[A]	4		6	
Based on standard		EN 61076-2-101			
		EN 61984			
Cable diameter	[mm]	2.5 ... 5.1		4.7 ... 6.0	
Individual wire diameter	[mm]	≥0.1			
Connection cross section	[mm²]	0.14 ... 0.34		0.34 ... 0.75	
Wire diameter	[mm]	0.9 ... 1.6		1.6 ... 2.0	
Wire insulation		PP		–	
		PVC		PVC	
		TPE-E		–	
Connection frequency		3			
Max. tightening torque of locking clip	[Nm]	0.3		0.5	
Protection class		IP65/IP67			

Materials	
Housing	PA
	Nickel-plated die-cast zinc
Seals	FPM
	PUR
Pin contact	Gold-plated
Note on materials	Free of copper and PTFE
	RoHS-compliant

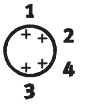
Plug symbols

M8x1

Plug, 3-pin

	Pin	Wire colour
	1	Brown
	3	Blue
	4	Black

Plug, 4-pin

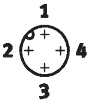
	Pin	Wire colour
	1	Brown
	2	White
	3	Blue
	4	Black

M12x1

Plug, 3-pin

	Pin	Wire colour
	1	Brown
	3	Blue
	4	Black

Plug, 4-pin

	Pin	Wire colour
	1	Brown
	2	White
	3	Blue
	4	Black

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Universal plug connectors NECU, for self-assembly

Technical data

Operating and environmental conditions	
Ambient temperature [°C]	–25 ... +85
Corrosion resistance class CRC[1)]	1
Degree of contamination	3
Certification	cULus recognized (OL)

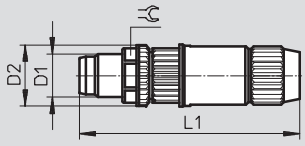
1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Compatibility matrix

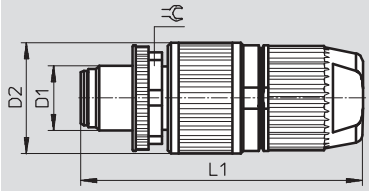
Type NECU-S-	M8G3-HX	M8G4-HX	M12G3-HX-Q7	M12G4-HX-Q7
Sensors				
NEBU/SIM	■	■	–	–
SM...-8/M	■	■	–	–
SM...-10/M	–	–	–	–
SM...-10	–	–	–	–
Valves				
KME-1	–	–	■	■
KMEB-3	–	–	■	■
KMEB-1	–	–	■	■
KMC-1	–	–	■	■
KMF-1	–	–	■	■
KMV-1	–	–	■	■
KMYZ-2/3/7/9	■	■	–	–
NEBV-M8W4L	■	■	–	–
KMYZ-1	■	■	■	■
NEBV-H1G2	■	■	■	■
KMEB-2	–	–	■	■

Dimensions Download CAD data ➔ **www.festo.com**

NECU-S-M8G...



NECU-S-M12G...



Type	D1	D2	L1	⌀
NECU-S-M8G	M8x1	11.5	40.8	9
NECU-S-M12G	M12x1	20.5	52.2	17

Ordering data

Electrical connection	Weight [g]	Part No.	Type
Plug M8x1, 3-pin, straight, insulation displacement connector	7.8	**562024**	**NECU-S-M8G3-HX**
Plug M8x1, 4-pin, straight, insulation displacement connector	7.8	**562025**	**NECU-S-M8G4-HX**
Plug M12x1, A-coded, 3-pin, straight, insulation displacement connector	32.8	**564946**	**NECU-S-M12G3-HX-Q7**
Plug M12x1, A-coded, 4-pin, straight, insulation displacement connector	33.3	**564947**	**NECU-S-M12G4-HX-Q7**

Universal plug connectors NECU, for self-assembly

Technical data

FESTO

Plug NECU-S-M8G4

- Plug
- 4-pin
- Can be assembled with any cable length

General technical data		
Electrical connection		Plug M8x1, 4-pin, straight, screw terminal
Plug coding		Coded via contact arrangement
Operating voltage range	[V DC]	0 ... 30
	[V AC]	0 ... 30
Surge capacity	[kV]	0.8
Acceptable current load	[A]	4
Based on standard		EN 61076-2-101
		EN 61984
Transmission characteristics		DIN EN 50173 / CAT 5
Permissible cable ∅	[mm]	3.5 ... 5.0
Connection cross section	[mm^2]	0.14 ... 0.5
Type of mounting		Via knurled nut
Protection class		IP67

Materials	
Pin contact	Gold-plated brass
Union nut	Nickel-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–25 ... +85
Degree of contamination		3

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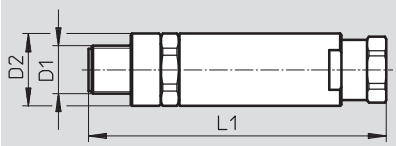
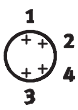
NECU-S-M8G4-C2



Pin allocation



Type	D1	D2	L1
NECU-S-M8G4-C2	M8	12	49.6

Ordering data		
Electrical connection	Part No.	Type
Plug M8x1, 4-pin, straight	**1068198**	**NECU-S-M8G4-C2**

Universal plug connectors NECU, for self-assembly

Technical data

Plug NECU-...-D12...-C2

- Plug for power supply
- 4-pin
- Can be assembled with any cable lengths
- With screw terminal

General technical data		
Electrical connection		Plug M12x1, round plug connector, 4-pin, straight, suitable for self-assembly, screw terminal, can be screened
Plug coding		D, for Ethernet
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge capacity	[kV]	2.5
Acceptable current load	[A]	4
Based on standard		EN 61076-2-101
		EN 61984
Transmission characteristics		DIN EN 50173 / CAT 5
Permissible cable ∅	[mm]	6.0 ... 8.0
Connection cross section	[mm^2]	0.14 ... 0.75
Protection class		IP65/IP67

Materials	
Housing	Nickel-plated die-cast zinc
Pin contact	Gold-plated brass
Note on materials	Free of copper and PTFE
	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–40 ... +85
Corrosion resistance class CRC[1)]		1
Degree of contamination		3
CE mark (see declaration of conformity)		To EU Low Voltage Directive

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

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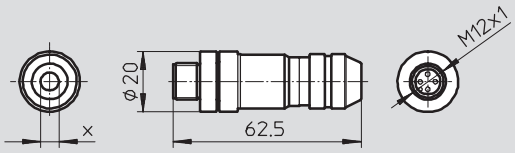

x Cable diameter 6.0 ... 8.0 mm

Ordering data

Electrical connection	Weight [g]	Part No.	Type
Plug M12x1, round plug connector, 4-pin, straight, suitable for self-assembly, screw terminal, can be screened	47	**543109**	**NECU-M-S-D12G4-C2-ET**

Universal plug connectors NECU, for self-assembly

Technical data

FESTO

Plug NECU-S-B12G5

- Plug
- 5-pin
- Can be assembled with any cable length

General technical data		
Electrical connection		Plug M12x1, 5-pin, straight, screw terminal
Plug coding		B, for Profibus
Operating voltage range	[V DC]	0 ... 60
	[V AC]	0 ... 60
Surge capacity	[kV]	1.5
Acceptable current load	[A]	4
Based on standard		EN 61076-2-101
		EN 61984
Transmission characteristics		DIN EN 50173 / CAT 5
Permissible cable ∅	[mm]	6 ... 8
Connection cross section	[mm^2]	0.14 ... 0.75
Protection class		IP65/IP67

Materials	
Housing	Nickel-plated die-cast zinc
Pin contact	Gold-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–25 ... +85
Degree of contamination		3
CE mark (see declaration of conformity)		To EU Low Voltage Directive

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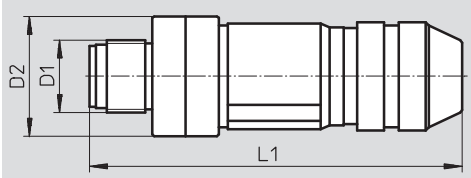
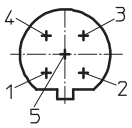
NECU-M-S-B12G5



Pin allocation



Type	D1	D2	L1
NECU-M-S-B12G5	M12	20	62.5

Ordering data		
Electrical connection	Part No.	Type
Plug M12x1, 5-pin, straight	**1066354**	**NECU-M-S-B12G5-C2-PB**

New

Universal plug connectors NECU, for self-assembly

Technical data

Socket NECU-B12G5

- Socket
- 5-pin
- Can be assembled with any cable length

General technical data		
Electrical connection		Socket M12x1, 5-pin, straight, screw terminal
Plug coding		B, for Profibus
Operating voltage range	[V DC]	0 ... 60
	[V AC]	0 ... 60
Surge capacity	[kV]	1.5
Acceptable current load	[A]	4
Based on standard		EN 61076-2-101
		EN 61984
Transmission characteristics		DIN EN 50173 / CAT 5
Permissible cable ∅	[mm]	6 ... 8
Connection cross section	[mm²]	0.14 ... 0.75
Protection class		IP65/IP67

Materials	
Housing	Nickel-plated die-cast zinc
Pin contact	Gold-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–25 ... +85
Degree of contamination		3
CE mark (see declaration of conformity)		To EU Low Voltage Directive

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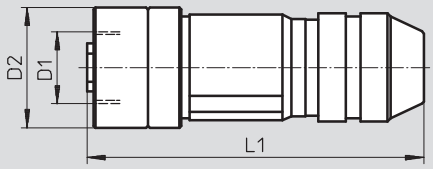
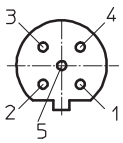
NECU-M-B12G5



Pin allocation



Type	D1	D2	L1
NECU-M-B12G5	M12	20	56

Ordering data		
Electrical connection	Part No.	Type
Socket M12x1, 5-pin, straight	**1067905**	**NECU-M-B12G5-C2-PB**

Universal plug connectors NECU, for self-assembly

Technical data

Power supply socket
NECU-G78...-C2

- Power supply socket for fieldbus connection
- 4-pin and 5-pin
- Can be assembled with any cable lengths
- With screw terminal
- Wire cross section of up to 2 mm^2

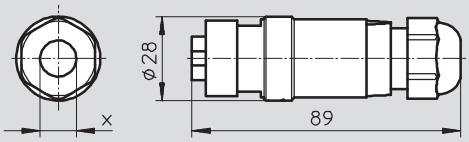
General technical data			
Type		NECU-G78G4-C2	NECU-G78G5-C2
Electrical connection		Socket 7/8", round plug connector, 4-pin, straight, suitable for self-assembly, screw terminal	Socket 7/8", round plug connector, 5-pin, straight, suitable for self-assembly, screw terminal
Plug coding		ODVA AutoSIG	NFPA/T3.5.29 R1-2003
Operating voltage range	[V DC]	0 ... 250	
	[V AC]	0 ... 250	
Surge capacity	[kV]	2.5	
Acceptable current load	[A]	8	10
Based on standard		EN 61984	
Permissible cable ∅	[mm]	5.0 ... 12.0	
Connection cross section	[mm^2]	0.25 ... 2.0	
Protection class		IP65/IP67/IP68	

Materials	
Housing	PA (colour: black)
Seals	NBR
Pin contact	Gold-plated copper base alloy
Union nut	Nickel-plated brass
Note on materials	Free of copper and PTFE
	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–40 ... +80
Corrosion resistance class CRC[1)]		1
Degree of contamination		3
CE mark (see declaration of conformity)		To EU Low Voltage Directive
Certification		CSA C/US (OL)

1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Dimensions Download CAD data ➔ **www.festo.com**



x Cable diameter 5.0 ... 12.0 mm

Ordering data			
Electrical connection	Weight [g]	Part No.	Type
Socket 7/8", round plug connector, 4-pin, straight, suitable for self-assembly, screw terminal	49	**543108**	**NECU-G78G4-C2**
Socket 7/8", round plug connector, 5-pin, straight, suitable for self-assembly, screw terminal	51	**543107**	**NECU-G78G5-C2**

Universal plug connectors NECU, for self-assembly

Technical data

Cable socket NECU-M8G4

- Socket for power supply
- 4-pin
- Can be assembled with any cable lengths
- With cable connector PG7

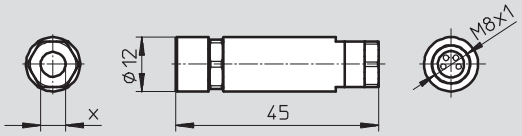
General technical data		
Electrical connection		Socket M8x1, 4-pin, straight
Operating voltage range	[V DC]	0 ... 30
	[V AC]	0 ... 30
Surge capacity	[kV]	0.8
Acceptable current load	[A]	3
Based on standard		EN 61984
Permissible cable ∅	[mm]	3.5 ... 5.0
Connection cross section	[mm^2]	0.14 ... 0.5
Connection frequency		500
Type of mounting		Via knurled nut
Mounting position		Any
Max. tightening torque of plug	[Nm]	0.3
Protection class		IP67

Materials	
Housing	PBT (colour: black)
	Nickel-plated die-cast zinc
Pin contact	Gold-plated brass
Union nut	Nickel-plated brass
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–40 ... +80
Storage temperature	[°C]	–40 ... +80
Corrosion resistance class CRC[1)]		2
Degree of contamination		3

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Dimensions Download CAD data ➔ **www.festo.com**



x Cable diameter 3.5 ... 5.0 mm

Ordering data			
Electrical connection	Weight [g]	Part No.	Type
Socket M8x1, 4-pin, straight	9.5	**544392**	**NECU-M8G4**

Universal plug connectors SIE, for self-assembly

Technical data

Sensor socket SIE-GD

- Reconnectable for low-voltage applications
- 4-pin
- Can be assembled with any cable lengths
- With cable connector PG7

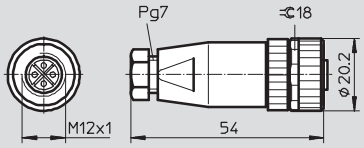
General technical data		
Electrical connection		Straight socket M12x1, 4-pin
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge capacity	[kV]	2.5
Acceptable current load at 40 °C	[A]	4
Conforms to		EN 61076-2-101
		EN 61984
Permissible cable ∅	[mm]	4 ... 6
Connection cross section	[mm²]	0.25 ... 0.75
Connection frequency		50
Type of mounting		Via knurled nut
Max. tightening torque	[Nm]	0.5
Protection class		IP67

Materials	
Housing	PA
Union nut	PA
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–25 ... +85
Corrosion resistance class CRC[1)]		4
Degree of contamination		3
CE mark (see declaration of conformity)		To EU Low Voltage Directive

1) Corrosion resistance class 4 according to Festo standard 940 070
Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

Dimensions Download CAD data ➔ **www.festo.com**



Ordering data		
Electrical connection	Part No.	Type
Straight socket M12x1, 4-pin	**18494**	**SIE-GD**

Universal plug connectors SIE, for self-assembly

Technical data

Angled socket SIE-WD-TR

- Reconnectable for low-voltage applications
- 4-pin
- Can be assembled with any cable lengths

General technical data		
Electrical connection		Angled socket M12x1, 4-pin
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge capacity	[kV]	2.5
Acceptable current load at 40 °C	[A]	4
Conforms to		EN 61076-2-101
		EN 61984
Permissible cable ∅	[mm]	4 ... 6
Connection cross section	[mm²]	0.25 ... 0.75
Connection frequency		50
Type of mounting		Via knurled nut
Max. tightening torque	[Nm]	0.5
Protection class		IP67

Materials	
Housing	PA
Union nut	PA
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–25 ... +85
Corrosion resistance class CRC[1)]		4
Degree of contamination		3
CE mark (see declaration of conformity)		To EU Low Voltage Directive

1) Corrosion resistance class 4 according to Festo standard 940 070
Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

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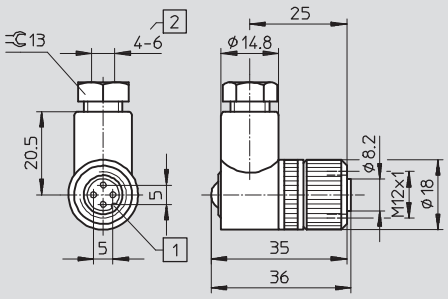

1 Contact set can be repositioned by 4x90°
2 Cable ∅

Ordering data			
	Electrical connection	Part No.	Type
Angled socket	Angled socket M12x1, 4-pin	**12956**	**SIE-WD-TR**

Universal plug connectors NECU, for self-assembly

Technical data

FESTO

Socket NECU-PPG5

- Power supply socket
- 5-pin
- Can be assembled with any cable length

General technical data		
Electrical connection		Socket AIDA push-pull, 5-pin, straight, spring-loaded terminal
Plug coding		Black insulator
Operating voltage range	[V DC]	0 ... 24
Surge capacity	[kV]	2.5
Acceptable current load	[A]	16
Based on standard		EN 61984
Permissible cable ∅	[mm]	9 ... 13
Connection cross section	[mm^2]	0.75 ... 2.5
Protection class		IP65/IP67

Materials	
Housing	Nickel-plated die-cast zinc
Housing colour	Silver
Seals	NBR, TPE
Pin contact	Nickel-plated and gold-plated copper based alloy
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–40 ... +100
Degree of contamination		3
Fire protection classification to UL 94		V-0

Ordering data		
Electrical connection	Part No.	Type
Socket AIDA push-pull, 5-pin, straight	**563059**	**NECU-M-PPG5-C1**

Universal plug connectors SIE, for self-assembly

Accessories

Operational status indicator
SIE-LP-LED-GR
Indicates the ready status of
a proximity sensor SIE connected
via the angled socket SIE-WD-TR
by illuminating a green LED

Ordering data			
Operating voltage range [V DC]	Ambient temperature [°C]	Part No.	Type
10 … 30	–25 … +70	**12957**	**SIE-LP-LED-GR**