

Universal plugs, for self-assembly

**FESTO**



Product range overview

Function	Design	Type	Connection technology	Connection cross section [mm <sup>2</sup> ]	Degree of protection	Bus protocol/control	→ Page/Internet
Plug	<b>Round plug M8</b>						
	3-pin	NECU-S-M8G3-HX	Harax <sup>®</sup> quick connector	0.1 ... 0.14 0.14 ... 0.34	IP65, IP67	–	4
	4-pin	NECU-S-M8G4-HX	Harax <sup>®</sup> quick connector	0.14 ... 0.34	IP65, IP67	–	6
		NECU-S-M8G4-C2	Screw terminal	0.14 ... 0.5	IP67	–	6
	<b>Round plug M12, A-coded</b>						
	3-pin	NECU-S-M12G3-HX	Harax <sup>®</sup> quick connector	0.14 ... 0.34 0.34 ... 0.75	IP65, IP67	–	8
	4-pin	NECU-M-S-A12G4	Spring-loaded terminal	0.14 ... 0.5	IP65, IP67	–	10
		NECU-S-M12G4-HX	Harax <sup>®</sup> quick connector	0.14 ... 0.34 0.34 ... 0.75	IP65, IP67	–	10
		NECU-S-M12G4-...-IS	Screw terminal	0.14 ... 0.5 0.75	IP65, IP67	–	10
	5-pin	FBS-M12-5GS	Screw terminal	0.75	IP67	–	14
	<b>Round plug M12, B-coded</b>						
	5-pin	NECU-M-S-B12G5	Screw terminal	0.14 ... 0.75	IP67	PROFIBUS	14
	<b>Round plug M12, D-coded</b>						
	4-pin	NECU-M-S-D12G4	Screw terminal, can be shielded	0.14 ... 0.75	IP67	Ethernet	10
	<b>Square plug</b>						
	4-pin	NECU-S-ECG4	Insulation displacement connector	0.14	IP40	–	16
	7-pin	NECU-L3G7-C1	Spring-loaded terminal	0.2 ... 2.5	–	–	18
	8-pin	NECU-L3G8-C1	Spring-loaded terminal	0.2 ... 2.5	–	–	19
		NECU-L3G8-C2	Screw terminal	0.2 ... 2.5	–	–	19
	<b>Sub-D plug</b>						
	9-pin	NECU-S1W9-C2-APB	IDC terminal	0.08 ... 0.5	IP20	PROFIBUS	21

## Product range overview

Function	Design	Type	Connection technology	Connection cross section [mm <sup>2</sup> ]	Degree of protection	Bus protocol/control	→ Page/Internet
Socket	<b>Round plug M12</b>						
	4-pin	SIE FBSD	Screw terminal	0.25 ... 0.75	IP67	–	23
	5-pin	NECU-M-B12G5 FBSD-GD-9-5POL	Screw terminal	0.14 ... 0.75	IP67	–	25
	<b>Round plug 7/8"</b>						
	4-pin	NECU-G78G4	Screw terminal	Max. 1.5	IP67	–	27
	5-pin	NECU-G78G5	Screw terminal	Max. 1.5	IP67	–	29
	<b>Push-pull plug</b>						
	5-pin	NECU-M-PPG5PP	Spring-loaded terminal	0.75 ... 2.5	IP65, IP67	PROFINET	31
	<b>Sub-D plug</b>						
	9-pin	NECU-S1W9-C2-ACO	Screw terminal, can be shielded	0.14 ... 0.5	IP20	CANopen	33

## Datasheet

**Plug**  
**NECU-S-M8G3**

- Plug
- 3-pin
- Can be assembled with any cable lengths



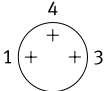
General technical data		NECU-S-M8G3-HX-Q3	NECU-S-M8G3-HX
Type			
Electrical connection		Straight plug, M8x1 3-pin Insulation displacement connector	
Operating voltage range	[V DC]	0 ... 32	
	[V AC]	0 ... 32	
Surge resistance	[kV]	0.8	
Current rating at 40°C	[A]	2	4
Based on standard		EN 61076-2-104	EN 61076-2-104
		EN 61984	EN 61984
Permissible cable ø	[mm]	2.1 ... 3.5	2.5 ... 5.1
Permissible individual wire ø	[mm]	≥ 0.05	≥ 0.1
Connection cross section	[mm <sup>2</sup> ]	0.1 ... 0.14	0.14 ... 0.34
Permissible wire ø	[mm]	0.6 ... 1	0.9 ... 1.6
Permissible insulating sheath		PP	PP
		PVC	PVC
		–	TPE-E
Contact durability		3	3
Max. tightening torque of lock	[Nm]	0.3	0.3
Degree of protection		IP65	IP65
		IP67	IP67

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

Operating and environmental conditions	
Ambient temperature	[°C] –25 ... +85
Corrosion resistance class CRC <sup>1)</sup>	1
Pollution degree	3
Certification	cUL us - Recognized (OL)

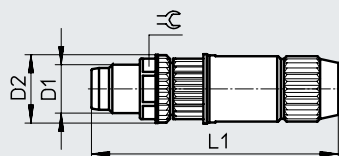
1) Corrosion resistance class 1 to Festo standard FN 940070  
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

## Datasheet

Pin allocation		
M8x1		
3-pin	Pin	Wire colour
	1	Brown
	3	Blue
	4	Black

### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	D1	D2	L1	∟
NECU-S-M8G	M8x1	11.5	40.8	9

### Ordering data

Electrical connection	Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Plug M8x1, 3-pin, straight, insulation displacement connector	0.1 ... 0.14	7.8	<b>564945</b>	<b>NECU-S-M8G3-HX-Q3</b>
	0.14 ... 0.34	7.8	<b>562024</b>	<b>NECU-S-M8G3-HX</b>

## Plug, M8, 4-pin

### Datasheet

#### Plug NECU-S-M8G4

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



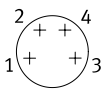
General technical data		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Type		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Electrical connection		Straight plug, M8x1, A-coded to EN 61076-2-104	
		4-pin	
		Insulation displacement connector	Screw terminal
Type of mounting		Screw-type lock with AF9	
Operating voltage range	[V DC]	0 ... 32	0 ... 30
	[V AC]	0 ... 32	0 ... 30
Surge resistance	[kV]	0.8	0.8
Current rating at 40°C	[A]	4	4
Based on standard		EN 61076-2-104	–
		EN 61984	–
Conforms to standard		–	EN 61076-2-104
Transmission characteristics		–	DIN EN 50173/CAT 5
Cable ø	[mm]	2.5 ... 5.1	3.5 ... 5.0
Individual wire ø	[mm]	≥ 0.1	–
Connection cross section	[mm <sup>2</sup> ]	0.14 ... 0.34	0.14 ... 0.5
Wire ø	[mm]	0.9 ... 1.6	–
Permissible insulating sheath		PP	–
		PVC	–
		TPE-E	–
Contact durability		3	100
Degree of protection		IP65	–
		IP67	IP67
Note on degree of protection		–	In assembled state

Materials		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Type		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Housing		PA	PA
		Nickel-plated die-cast zinc	–
Housing colour		–	Black
Screw-type lock		Nickel-plated brass	Nickel-plated brass
Seals		FPM	–
		PUR	–
Pin contact		Gold-plated	Gold-plated brass
Note on materials		Free of copper and PTFE	–
		RoHS-compliant	RoHS-compliant

## Datasheet

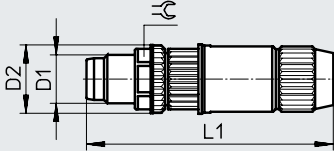
Operating and environmental conditions		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Type		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Ambient temperature	[°C]	-25 ... +85	-25 ... +85
Corrosion resistance class CRC <sup>1)</sup>		1	1
Pollution degree		3	3
Certification		c UL us - Recognized (OL)	-

- 1) Corrosion resistance class 1 to Festo standard FN 940070  
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

Pin allocation		
M8x1		
4-pin	Pin	Wire colour
	1	-
	2	-
	3	-
	4	-

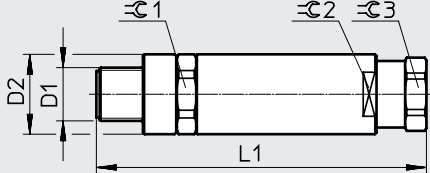
### Dimensions

NECU-S-M8G4-HX



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NECU-S-M8G4-C2



Type	D1	D2	L1	$\varnothing$	$\varnothing 1$	$\varnothing 2$	$\varnothing 3$
NECU-S-M8G4-HX	M8x1	11.5	40.8	9	-	-	-
NECU-S-M8G4-C2	M8x1	12	49.6	-	12	11	10

Ordering data					
Electrical connection		Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
					Plug M8x1, 4-pin, straight
	Screw terminal	0.14 ... 0.5	9.1	<b>1068198</b>	NECU-S-M8G4-C2

## Datasheet

**Plug**  
**NECU-S-M12G3**

- Plug
- 3-pin
- Can be assembled with any cable lengths



General technical data		NECU-S-M12G3-HX	NECU-S-M12G3-HX-Q7
Type			
Electrical connection		Straight plug, M12x1	
		3-pin	
		Insulation displacement connector	
Plug coding		A-coded	
Operating voltage range	[V DC]	0 ... 32	0 ... 48
	[V AC]	0 ... 32	0 ... 48
Surge resistance	[kV]	0.8	0.8
Current rating at 40°C	[A]	4	6
Based on standard		EN 61076-2-101	EN 61076-2-101
		EN 61984	EN 61984
Permissible cable ø	[mm]	2.9 ... 5.1	4.7 ... 6.0
Permissible individual wire ø	[mm]	≥ 0.1	≥ 0.1
Connection cross section	[mm <sup>2</sup> ]	0.14 ... 0.34	0.34 ... 0.75
Permissible wire ø	[mm]	0.9 ... 1.6	1.6 ... 2.0
Permissible insulating sheath		PP	–
		PVC	PVC
		TPE-E	–
Contact durability		3	3
Max. tightening torque of lock	[Nm]	0.5	0.5
Degree of protection		IP65	IP65
		IP67	IP67

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



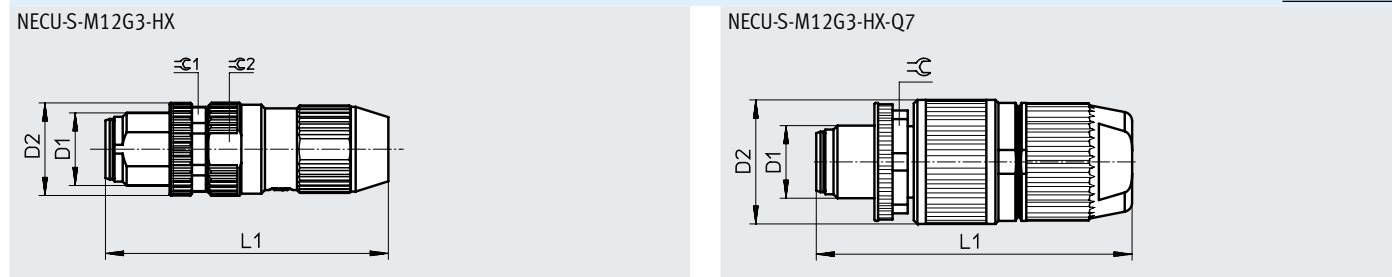
## Datasheet

Operating and environmental conditions	
Ambient temperature [°C]	-25 ... +85
Corrosion resistance class CRC <sup>1)</sup>	1
Pollution degree	3
Certification	c UL us - Recognized (OL)

1) Corrosion resistance class 1 to Festo standard FN 940070  
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

Pin allocation	
M12x1	
3-pin	Pin Wire colour
	1 Brown
	3 Blue
	4 Black

### Dimensions Download CAD data → [www.festo.com](http://www.festo.com)



Type	D1	D2	L1	⌀G	⌀G1	⌀G2
NECU-S-M12G3-HX	M12x1	15.3	46.75	-	13	14
NECU-S-M12G3-HX-Q7	M12x1	20.5	52.2	17	-	-

Ordering data		Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type	
Electrical connection	Plug M12x1, 3-pin, straight	Insulation displacement connector	0.14 ... 0.34	17.5	<b>562027</b>	<b>NECU-S-M12G3-HX</b>
			0.34 ... 0.75	32.8	<b>564946</b>	<b>NECU-S-M12G3-HX-Q7</b>

## Datasheet

### Plug

NECU-M-S-A12G4

NECU-S-M12G4

NECU-M-S-D12G4

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



General technical data		NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Type				
Electrical connection		Straight plug, M12x1		
		4-pin		
		Spring-loaded terminal	Insulation displacement connector	
Plug coding		A-coded		A-coded
Operating voltage range	[V DC]	0 ... 30	0 ... 32	0 ... 48
	[V AC]	–	0 ... 32	0 ... 48
Surge resistance	[kV]	–	0.8	0.8
Current rating at 40°C	[A]	4	4	6
Based on standard		EN 61076-2-101	EN 61076-2-101	EN 61076-2-101
		–	EN 61984	EN 61984
Permissible cable ø	[mm]	4.0 ... 8.0	2.9 ... 5.1	4.7 ... 6.0
Permissible individual wire ø	[mm]	–	≥ 0.1	≥ 0.1
Connection cross section	[mm <sup>2</sup> ]	0.14 ... 0.5	0.14 ... 0.34	0.34 ... 0.75
Permissible wire ø	[mm]	–	0.9 ... 1.6	1.6 ... 2.0
Permissible insulating sheath		–	PP	PVC
		–	PVC	–
		–	TPE-E	–
Contact durability		100	3	3
Max. tightening torque of lock	[Nm]	0.8	0.5	0.5
Degree of protection		IP65	IP65	IP65
		IP67	IP67	IP67

Materials		NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Type				
Housing		–	PA	PA
		Nickel-plated die-cast zinc	Nickel-plated die-cast zinc	Nickel-plated die-cast zinc
Screw-type lock		–	Nickel-plated die-cast zinc	Nickel-plated die-cast zinc
Seals		–	FPM	FPM
		–	PUR	PUR
Pin contact		Gold-plated bronze	Gold-plated	Gold-plated
Note on materials		–	Free of copper and PTFE	Free of copper and PTFE
		RoHS-compliant	RoHS-compliant	RoHS-compliant

Operating and environmental conditions		NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Type				
Ambient temperature	[°C]	–40 ... +85	–25 ... +85	–25 ... +85
Corrosion resistance class CRC <sup>1)</sup>		–	1	1
Pollution degree		3	3	3
Certification		–	c UL us - Recognized (OL)	c UL us - Recognized (OL)

1) Corrosion resistance class 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

## Datasheet

General technical data		NECU-S- M12G4-P1-Q6-IS	NECU-S- M12G4-D-IS	NECU-S M12G4P1S	NECU-S- M12G4-P2-IS	NECU-M-S- D12G4-C2-ET
Operating voltage range	[V DC]	0 ... 30				0 ... 250
	[V AC]	–				0 ... 250
Surge resistance	[kV]	2.5				2.5
Current rating at 40°C	[A]	4				–
Based on standard		EN 61076-2-101				EN 61076-2-101
		EN 61984				EN 61984
Transmission characteristics		–				DIN EN 50173/CAT 5
Permissible cable ø	[mm]	2.5 ... 2.9	2x 3.0 or 2x 5.0	4.0 ... 6.0	6.0 ... 8.0	6.0 ... 8.0
Connection cross section	[mm <sup>2</sup> ]	0.14 ... 0.5	0.75	0.75	0.75	0.14 ... 0.75
Contact durability		50				–
Degree of protection		IP65				–
		IP67				IP67

Technical data – Electrical connection 1		NECU-S- M12G4-P1-Q6-IS	NECU-S- M12G4-D-IS	NECU-S M12G4-P1-IS	NECU-S- M12G4-P2-IS	NECU-M-S- D12G4-C2-ET
Electrical connection 1		–				Straight plug, M12x1, 4-pin, D-coded, can be shielded
Function		Field device side				–
Design		Round				–
Connection type		Plug				–
Cable outlet		Straight				–
Connection technology		M12x1, A-coded				–
Number of pins/wires		4				4
Type of mounting		Screw-type lock with 18 mm hexagon and longitudinal knurl				–

Technical data – Electrical connection 2		NECU-S- M12G4-P1-Q6-IS	NECU-S- M12G4-D-IS	NECU-S M12G4-P1-IS	NECU-S- M12G4-P2-IS	NECU-M-S- D12G4-C2-ET
Electrical connection 2		–				Screw terminal, can be shielded
Connection type		Cable	2x cable	Cable	–	
Connection technology		Screw terminal				–

Materials		NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Housing		PA	Nickel-plated die-cast zinc
Pin contact		Brass	Gold-plated brass
		Coated white bronze	–
Note on materials		–	Free of copper and PTFE
		RoHS-compliant	RoHS-compliant

Operating and environmental conditions		NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Ambient temperature	[°C]	–25 ... +85	–25 ... +85
Corrosion resistance class CRC <sup>1)</sup>		–	1
Pollution degree		3	3
CE marking (see declaration of conformity) <sup>2)</sup>		–	To EU Low Voltage Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		–	To UK regulations for electrical equipment
PWIS conformity		VDMA24364-B2-L	VDMA24364-B2-L

1) Corrosion resistance class 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

## Datasheet

### Pin allocation

M12x1, A-coded

4-pin	Pin	Wire colour
	1	Brown
	2	White
	3	Blue
	4	Black

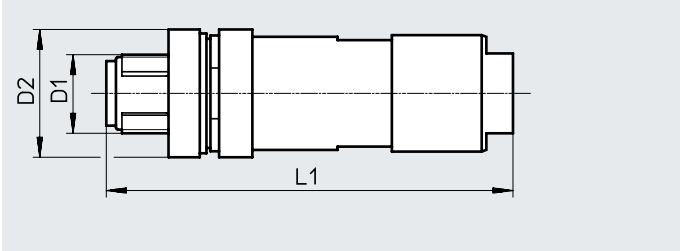
M12x1, D-coded

4-pin	Pin	Wire colour
	1	-
	2	-
	3	-
	4	-

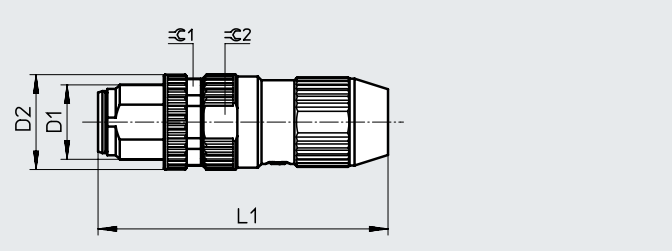
### Dimensions

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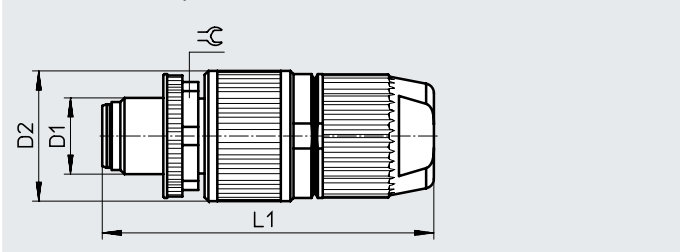
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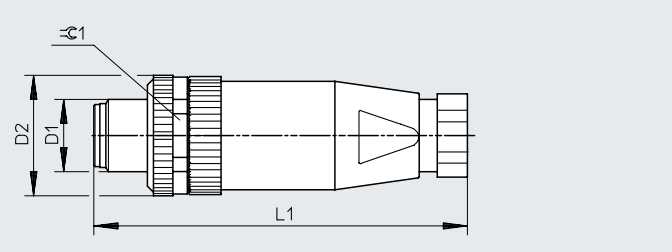
NECU-S-M12G4-HX



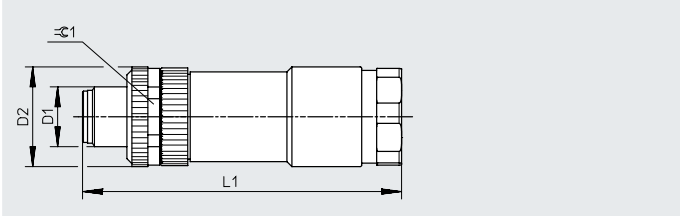
NECU-S-M12G4-HX-Q7



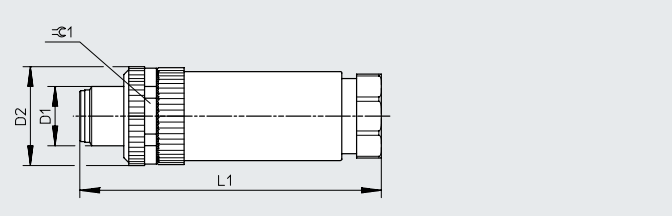
NECU-S-M12G4-P1



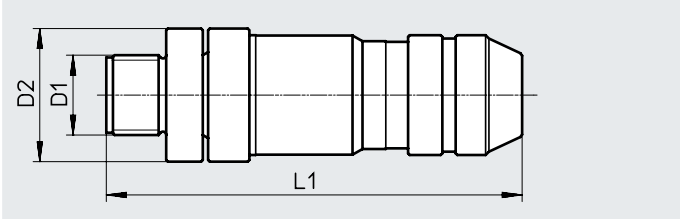
NECU-S-M12G4-D



NECU-S-M12G4-P2



NECU-M-S-D12G4-C2-ET



Type	D1	D2	L1	≅	≅1	≅2
NECU-M-S-A12G4-IS	M12x1	19.2	61.1	-	-	-
NECU-S-M12G4-HX	M12x1	15.3	46.75	-	13	14
NECU-S-M12G4-HX-Q7	M12x1	20.5	52.2	17	-	-
NECU-S-M12G4-P1	M12x1	20	62	-	-	-
NECU-S-M12G4-D	M12x1	20	62.6	-	-	-
NECU-S-M12G4-P2	M12x1	20	59.6	-	-	-
NECU-M-S-D12G4-C2-ET	M12x1	20	62.5	-	-	-

## Datasheet

Ordering data		Electrical connection	Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Plug M12x1, 4-pin, straight, A-coded	Spring-loaded terminal	0.14 ... 0.5	38	<b>575719</b>	<b>NECU-M-S-A12G4-IS</b>	
	Insulation displacement connector	0.14 ... 0.34	17.5	<b>562028</b>	<b>NECU-S-M12G4-HX</b>	
		0.34 ... 0.75	33.3	<b>564947</b>	<b>NECU-S-M12G4-HX-Q7</b>	
	Screw terminal	0.14 ... 0.5	18	<b>570955</b>	<b>NECU-S-M12G4-P1-Q6-IS</b>	
		0.75	24	<b>570956</b>	<b>NECU-S-M12G4-D-IS</b>	
		0.75	17	<b>570953</b>	<b>NECU-S-M12G4-P1-IS</b>	
Plug M12x1, 4-pin, straight, D-coded	Screw terminal, can be shielded	0.14 ... 0.75	44.3	<b>570954</b>	<b>NECU-S-M12G4-P2-IS</b>	
				<b>543109</b>	<b>NECU-M-S-D12G4-C2-ET</b>	

## Datasheet

**Plug**  
**NECU-M-S-B12G5**  
**FBS-M12-5GS**

- Plug
- 5-pin
- B-coded for PROFIBUS
- A-coded for DeviceNet and CANopen
- Can be assembled with any cable lengths



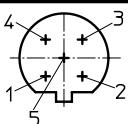
General technical data			
Type		NECU-M-S-B12G5	FBS-M12-5GS
Electrical connection		Straight plug, M12x1	
		5-pin	
		Screw terminal	
		Can be screened	–
Plug coding		B-coded	A-coded
Operating voltage range	[V DC]	0 ... 60	0 ... 60
	[V AC]	0 ... 60	0 ... 60
Surge resistance	[kV]	1.5	1.5
Current rating at 40°C	[A]	4	4
Based on standard		EN 61076-2-101	EN 61076-2-101
		EN 61984	EN 61984
Transmission characteristics		DIN EN 50173/CAT 5	
Permissible cable Ø	[mm]	6 ... 8	6 ... 8
Connection cross section	[mm <sup>2</sup> ]	0.14 ... 0.75	0.75
Cable connector		–	Pg9
Degree of protection		IP67	IP67

Materials			
Type		NECU-M-S-B12G5	FBS-M12-5GS
Housing		Nickel-plated die-cast zinc	Reinforced PA
Housing colour		–	Black
Pin contact		Gold-plated brass	Nickel-plated and gold-plated brass
Union nut		–	Nickel-plated die-cast zinc
Note on materials		Free of copper and PTFE	–
		RoHS-compliant	RoHS-compliant
PWIS conformity		–	VDMA24364-B2-L

Operating and environmental conditions			
Type		NECU-M-S-B12G5	FBS-M12-5GS
Ambient temperature	[°C]	–25 ... +85	–40 ... +85
Corrosion resistance class CRC <sup>1)</sup>		1	1
Pollution degree		3	3
CE marking (see declaration of conformity) <sup>2)</sup>		To EU Low Voltage Directive	To EU Low Voltage Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		–	To UK regulations for electrical equipment

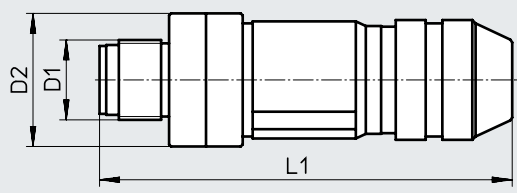
- 1) Corrosion resistance class 1 to Festo standard FN 940070  
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

## Datasheet

Pin allocation		
M12x1		
5-pin	Pin	Wire colour
	1	-
	2	-
	3	-
	4	-
	5	-

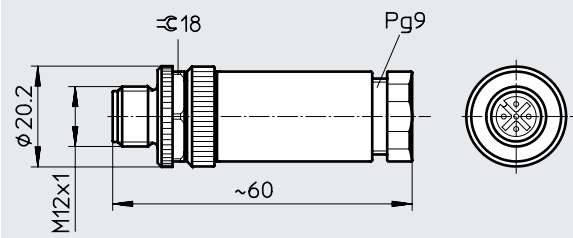
### Dimensions

NECU-M-S-B12G5



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FBS-M12-5GS



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

Ordering data						
Electrical connection			Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Plug M12x1, 5-pin, straight	Screw terminal, can be shielded	B-coded	0.14 ... 0.75	46.1	<b>1066354</b>	<b>NECU-M-S-B12G5-C2-PB</b>
	Screw terminal	A-coded	0.75	23.5	<b>175380</b>	<b>FBS-M12-5GS-PG9</b>

## Datasheet

**Plug**  
**NECU-S-ECG4**

- Plug
- 4-pin
- Insulation displacement connector
- Can be assembled with any cable lengths



### General technical data

Electrical connection	Straight plug, square design	
	4-pin	
	Insulation displacement connector	
Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	0.8
Current rating at 40°C	[A]	3
Permissible individual wire ø	[mm]	≥ 0.07
Connection cross section	[mm <sup>2</sup> ]	0.14
Permissible wire ø	[mm]	0.8 ... 1.0
Permissible insulating sheath	PP	
	PVC	
	TPE-E	
Contact durability	1	
Type of mounting	Latching	
Degree of protection	IP40	

### Materials

Housing	PBT	
	PC	
Pin contact	Gold-plated	
Note on materials	RoHS-compliant	

### Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +60
Corrosion resistance class CRC <sup>1)</sup>	1	
Pollution degree	2	
Certification	c UL us - Recognized (OL)	

1) Corrosion resistance class 1 to Festo standard FN 940070

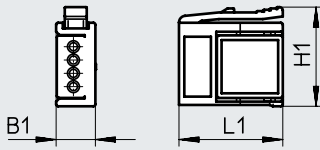
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).



## Datasheet

### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	H1	L1
NECU-S-ECG4	5.9	14.9	15.6

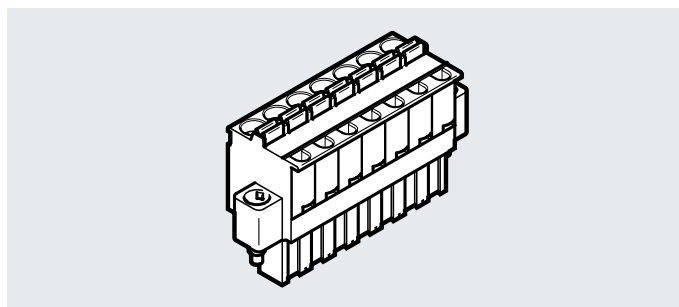
### Ordering data

Electrical connection	Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Straight plug, square design, 4-pin	0.14	3.6	570922	NECU-S-ECG4-HX-Q3

## Datasheet

**Terminal strip**  
**NECU-L3G7**

- Plug
- 7-pin
- Can be assembled with any cable lengths



### General technical data

Electrical connection		Straight plug
		7-pin
		Spring-loaded terminal
Operating voltage range	[V DC]	0 ... 30
Surge resistance	[kV]	4
Current rating at 40°C	[A]	12
Connection cross section	[mm <sup>2</sup> ]	0.2 ... 2.5
Contact durability		100

### Materials

Housing		PA
Pin contact		Tin-plated copper alloy
Note on materials		RoHS-compliant

### Operating and environmental conditions

Ambient temperature	[°C]	-40 ... +85
Corrosion resistance class CRC <sup>1)</sup>		2
Pollution degree		3
Certification		cUL us listed (OL)

1) Corrosion resistance class 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

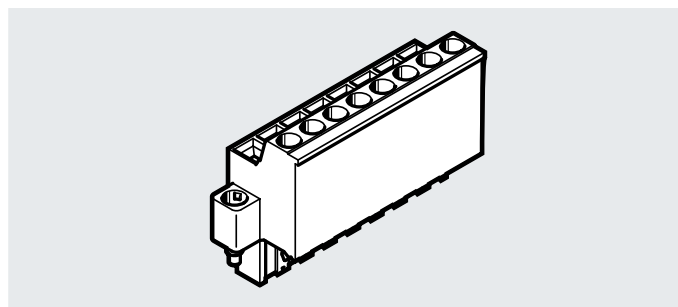
### Ordering data

Electrical connection		Housing colour	Weight [g]	Part no.	Type
Plug, 7-pin, straight	Spring-loaded terminal	Black	12.8	<b>576319</b>	<b>NECU-L3G7-C1</b>

## Datasheet

### Terminal strip NECU-L3G8

- Plug
- 8-pin
- Can be assembled with any cable lengths
- The plugs meet the requirements of IEC 60079-11 with regard to air, leakage paths and separation distances for the maximum intrinsically safe operating voltage of 30 V DC



General technical data			
Type	NECU-L3G8-C1		NECU-L3G8-C2
Electrical connection	Straight plug		
	8-pin		
	Spring-loaded terminal		Screw terminal
Operating voltage range	[V DC]	0 ... 30	0 ... 30
Surge resistance	[kV]	4	0.8
Current rating at 40°C	[A]	12	12
Connection cross section	[mm <sup>2</sup> ]	0.2 ... 2.5	0.2 ... 2.5
Contact durability		100	100
Max. tightening torque of lock	[Nm]	–	0.6

Materials	
Housing	PA
Pin contact	Tin-plated copper alloy
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	–40 ... +85
Corrosion resistance class CRC <sup>1)</sup>		2
Pollution degree		3

1) Corrosion resistance class 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

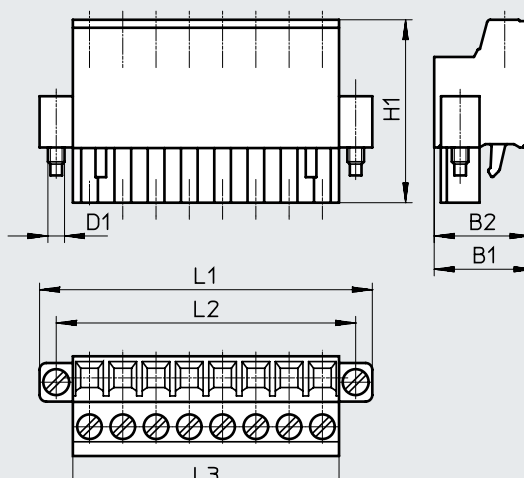
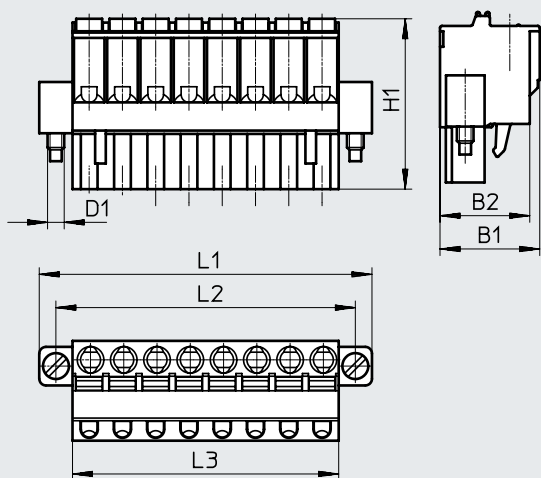
Datasheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

NECU-L3G8-C1

NECU-L3G8-C2



Type	B1	B2	D1	H1	L1	L2	L3
NECU-L3G8-C1	15	13.5	M2.5	25.6	50	45	40
NECU-L3G8-C2	15	14.4	M2.5	27.5	50	45	40

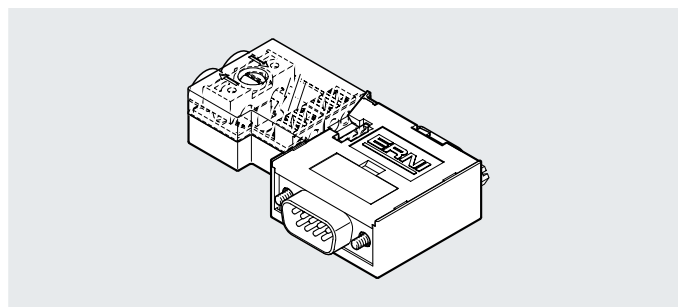
Ordering data

Electrical connection		Housing colour	Product weight [g]	Part no.	Type
Plug, 8-pin, straight	Spring-loaded terminal	Black	36	565712	NECU-L3G8-C1
		Blue	33	565711	NECU-L3G8-C1-IS
	Screw terminal	Black	56	565710	NECU-L3G8-C2
		Blue	55.5	565709	NECU-L3G8-C2-IS

## Datasheet

### Plug NECU-S1W9

- Plug
- 9-pin
- Can be assembled with any cable lengths
- Plug for PROFIBUS with terminating resistor and programming interface



#### General technical data

Electrical connection	Sub-D plug
	9-pin
	IDC terminal
Programming interface	Sub-D socket
	9-pin
Baud rate [Mbps]	12
Permissible cable ø [mm]	8
Connection cross section [mm <sup>2</sup> ]	0.08 ... 0.5
Type of mounting	4-40 UNC-2B
Degree of protection	IP20

#### Materials

Housing	Reinforced PC
Note on materials	RoHS-compliant

#### Operating and environmental conditions

Ambient temperature [°C]	-20 ... +70
Corrosion resistance class CRC <sup>1)</sup>	1
Relative humidity [%]	75 at 25 °C

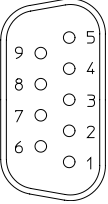
1) Corrosion resistance class 1 to Festo standard FN 940070

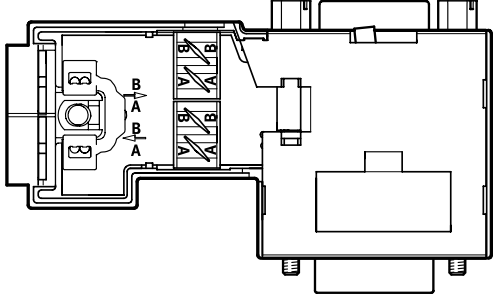
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

# Plug, Sub-D, 9-pin

## Datasheet

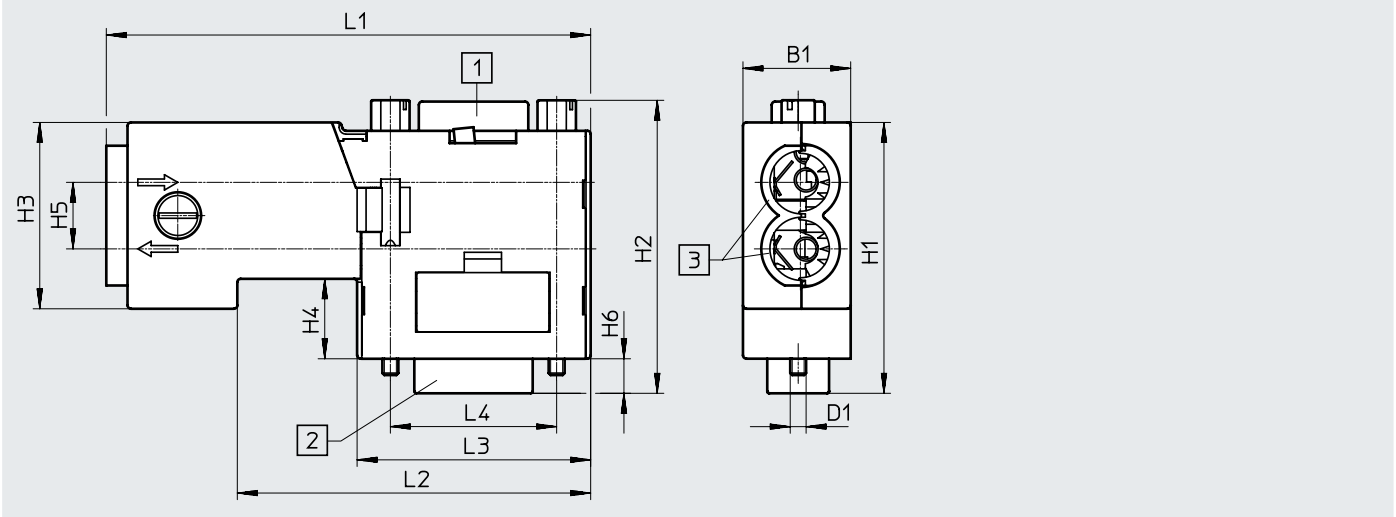
### Pin allocation

Sub-D				
9-pin	Pin	Wire colour	Signal	Terminal
<b>Sub-D plug</b>				
	1	-	-	-
	2	-	-	-
	3	Red	RxD/TxD-P	B
	4	-	-	-
	5	-	GND	-
	6	-	VP (supply voltage)	-
	7	-	-	-
	8	Green	RxD/TxD-N	A
	9	-	-	-
	Housing	-	-	-



### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
NECU-S1W9-C2-APB	16.2	4-40UNC	40.7	44.2	28	12	10	5.2	72.8	53.1	35.1	25

### Ordering data

Electrical connection	Connection cross section [mm]	Weight [g]	Part no.	Type
Plug, Sub-D, 9-pin	IDC terminal	0.08 ... 0.5	574589	NECU-S1W9-C2-APB

## Datasheet

- Socket**  
**SIE-GD**  
**FBSD-GD**  
**SIE-WD-TR**  
**FBSD-WD**
- Socket
  - 4-pin
  - Can be assembled with any cable lengths



General technical data		SIE-GD	FBSD-GD-9	FBSD-GD-13.5	SIE-WD-TR	FBSD-WD-9
Type		Straight socket, M12x1			Angled socket, M12x1	
Electrical connection		4-pin			4-pin	
			Type A			Type A
		Screw terminal	Screw terminal		Screw terminal	
Plug coding		A	–		A	–
Type of mounting		With union nut	With union nut		With union nut	
Operating voltage range	[V DC]	0 ... 250				
	[V AC]	0 ... 250				
Surge resistance	[kV]	2.5				
Current rating at 40°C	[A]	4				
Based on standard		EN 61076-2-101				
		EN 61984				
Permissible cable ø	[mm]	4 ... 6	8 ... 9.5	10 ... 12	4 ... 6	6 ... 8
Connection cross section	[mm <sup>2</sup> ]	0.25 ... 0.75	0.75	0.75	0.25 ... 0.75	0.75
Cable connector		–	Pg9	Pg13.5	–	Pg9
Degree of protection		IP67				

Materials		SIE-GD	SIE-WD-TR	FBSD
Type				
Housing		PA	PA	Reinforced PA
Housing colour		Black	Transparent	Black
Pin contact		Brass	Brass	Bronze
		Coated white bronze	Coated white bronze	Coated white bronze
Union nut		PA	PA	Nickel-plated die-cast zinc
Note on materials		RoHS-compliant	RoHS-compliant	RoHS-compliant
PWIS conformity		–	–	VDMA24364-B2-L

Operating and environmental conditions		SIE	FBSD
Type			
Ambient temperature	[°C]	–25 ... +85	–40 ... +85
Corrosion resistance class CRC <sup>1)</sup>		4	1
Pollution degree		3	3
CE marking (see declaration of conformity) <sup>2)</sup>		To EU Low Voltage Directive	To EU Low Voltage Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>		–	To UK regulations for electrical equipment

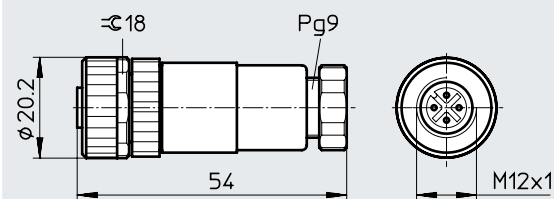
- 1) Corrosion resistance class 1 to Festo standard FN 940070  
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).  
 Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special testing  
 (→ also FN 940082), using appropriate media.
- 2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Datasheet

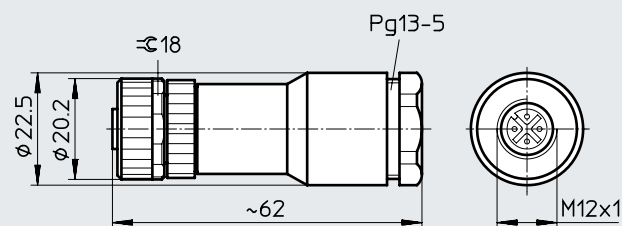
Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

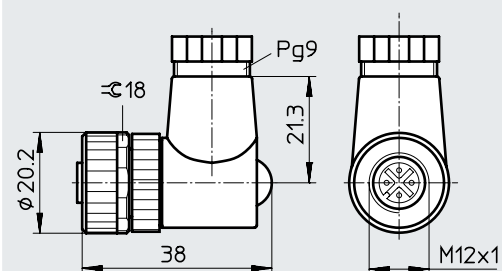
FBSD-GD-9



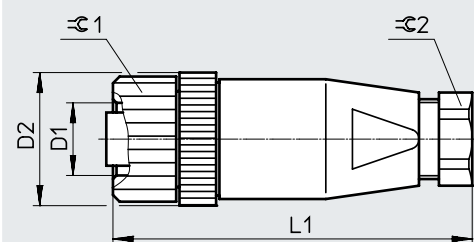
FBSD-GD-13.5



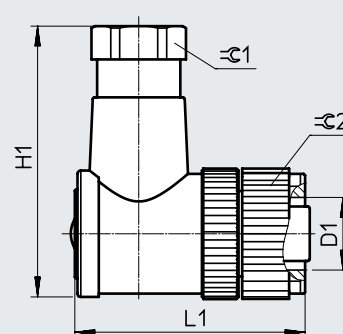
FBSD-WD-9



SIE-GD



SIE-WD-TR



Type	D1	D2	H1	L1	≈1	≈2
SIE-GD	M12x1	20	-	58	18	13
SIE-WD-TR	M12x1	-	38	35	13	18

Ordering data

Electrical connection		Permissible cable diameter [mm]	Weight [g]	Part no.	Type
Socket M12x1, 4-pin	Straight	4 ... 6	13	18494	SIE-GD
		8 ... 9.5	29	18495	FBSD-GD-9
		10 ... 12	40	18496	FBSD-GD-13.5
	Angled	4 ... 6	13	12956	SIE-WD-TR
		6 ... 8	30	18525	FBSD-WD-9



## Datasheet

**Socket**  
**NECU-M-B12G5**  
**FBSD-GD-9-5POL**

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



General technical data		
Type	NECU-M-B12G5	FBSD-GD-9-5POL
Electrical connection	Straight socket, M12x1	
	5-pin	
	Screw terminal, can be shielded	Screwed terminal
Plug coding	B-coded	A-coded
Operating voltage range	[V DC] 0 ... 125	0 ... 60
	[V AC] 0 ... 125	0 ... 60
Surge resistance [kV]	1.25	1.5
Current rating at 40°C [A]	4	4
Based on standard	EN 61076-2-101	EN 61076-2-101
	EN 61984	EN 61984
Transmission characteristics	DIN EN 50173/CAT 5	
Permissible cable Ø [mm]	6 ... 8	6 ... 8
Connection cross section [mm <sup>2</sup> ]	0.14 ... 0.75	0.75
Cable connector	–	Pg9
Degree of protection	IP67	IP67

Materials		
Type	NECU-M-B12G5	FBSD-GD-9-5POL
Housing	Nickel-plated die-cast zinc	Reinforced PA
Housing colour	–	Black
Pin contact	Gold-plated brass	Nickel-plated and gold-plated bronze
Union nut	–	Nickel-plated die-cast zinc
Note on materials	RoHS-compliant	RoHS-compliant
PWIS conformity	–	VDMA24364-B2-L

Operating and environmental conditions		
Type	NECU-M-B12G5	FBSD-GD-9-5POL
Ambient temperature [°C]	–25 ... +85	–40 ... +85
Corrosion resistance class CRC <sup>1)</sup>	1	1
Pollution degree	3	3
CE marking (see declaration of conformity) <sup>2)</sup>	To EU Low Voltage Directive	To EU Low Voltage Directive
UKCA marking (see declaration of conformity) <sup>2)</sup>	–	To UK regulations for electrical equipment

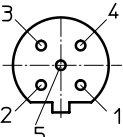
1) Corrosion resistance class 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

## Datasheet

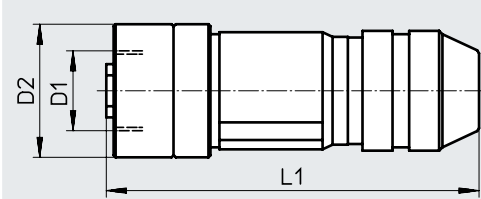
### Pin allocation

M12x1		
5-pin	Pin	Wire colour
	1	-
	2	-
	3	-
	4	-
	5	-

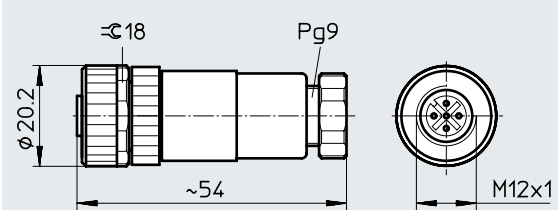
### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

NECU-M-B12G5



FBSD-GD-9-5POL



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

### Ordering data

Electrical connection		Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type	
Socket M12x1, 5-pin, straight	Screw terminal	B-coded	0.14 ... 0.75	48.7	<b>1067905</b>	<b>NECU-M-B12G5-C2-PB</b>
		A-coded	0.75	33	<b>18324</b>	<b>FBSD-GD-9-5POL</b>

## Datasheet

**Socket**  
**NECU-G78G4**

- Socket
- 4-pin
- Can be assembled with any cable lengths



### General technical data

Electrical connection	Straight socket, 7/8"	
	4-pin	
	Screw terminal	
Plug coding	ODVA AutoSIG	
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge resistance	[kV]	2.5
Current rating at 40°C	[A]	10
Based on standard	EN 61984	
Permissible cable Ø	[mm]	6 ... 12
Connection cross section	[mm <sup>2</sup> ]	Max. 1.5
Degree of protection	IP67	

### Materials

Housing	PA	
Housing colour	Black	
Seals	FPM	
	NBR	
Pin contact	Gold-plated copper alloy	
Union nut	Nickel-plated die-cast zinc	
Note on materials	Free of copper and PTFE	
	RoHS-compliant	

### Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +80
Corrosion resistance class CRC <sup>1)</sup>	1	
Pollution degree	3	
CE marking (see declaration of conformity)	To EU Low Voltage Directive	
Certification	c CSA us (OL)	
PWIS conformity	VDMA24364-B2-L	

1) Corrosion resistance class 1 to Festo standard FN 940070

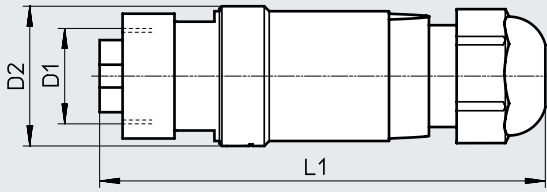
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Datasheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	D1	D2	L1
NECU-G78G4-C2	7/8"	28	89

Ordering data

Electrical connection	Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Socket 7/8", 4-pin, straight	Max. 1.5	58.7	<b>543108</b>	<b>NECU-G78G4-C2</b>

## Datasheet

**Socket**  
**NECU-G78G5**

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



### General technical data

Electrical connection	Straight socket, 7/8"	
	5-pin	
	Screw terminal	
Plug coding	NFPA/T3.5.29 R1-2003	
Operating voltage range	[V DC]	0 ... 250
	[V AC]	0 ... 250
Surge resistance	[kV]	2.5
Current rating at 40°C	[A]	8
Based on standard	EN 61984	
Permissible cable Ø	[mm]	6 ... 12
Connection cross section	[mm <sup>2</sup> ]	Max. 1.5
Degree of protection	IP67	

### Materials

Housing	PA	
Housing colour	Black	
Seals	FPM	
	NBR	
Pin contact	Gold-plated copper alloy	
Union nut	Nickel-plated die-cast zinc	
Note on materials	Free of copper and PTFE	
	RoHS-compliant	

### Operating and environmental conditions

Ambient temperature	[°C]	-25 ... +80
Corrosion resistance class CRC <sup>1)</sup>	1	
Pollution degree	3	
CE marking (see declaration of conformity) <sup>2)</sup>	To EU Low Voltage Directive	
UKCA marking (see declaration of conformity) <sup>2)</sup>	To UK regulations for electrical marking equipment	
Certification	c CSA us (OL)	

1) Corrosion resistance class 1 to Festo standard FN 940070

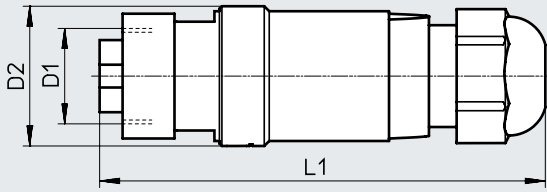
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Datasheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	D1	D2	L1
NECU-G78G5-C2	7/8"	28	89

Ordering data

Electrical connection	Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Socket 7/8", 5-pin, straight	Max. 1.5	50	543107	NECU-G78G5-C2

## Datasheet

### Power supply socket NECU-M-PPG5PP

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



#### General technical data

Protocol		PROFINET
Additional functions		Fulfils requirements according to AIDA
Electrical connection		Straight socket, connection pattern PP, coding on pin 2 and 5
		Push-pull with interlock against unintentional pulling
		5-pin
		Spring-loaded terminal
Cable outlet		Straight
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	4
Current rating at 40°C	[A]	16
Cable ø	[mm]	9 ... 13
Nominal conductor cross section	[mm <sup>2</sup> ]	0.75 ... 2.5
	[AWG]	18 ... 13
Cable connector		Pg13.5 with hex spanner size 22
Contact durability		100
Degree of protection		IP65
		IP67
Note on degree of protection		In assembled state
Product weight	[g]	109

#### Materials

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

#### Operating and environmental conditions

Ambient temperature	[°C]	-40 ... +85
Storage temperature	[°C]	-40 ... +85
Corrosion resistance class CRC <sup>1)</sup>		1
Pollution degree		3
Certification		c UL us - Recognized (OL)
Certificate issuing authority		UL E328433
Fire-tested		UL94 V-0

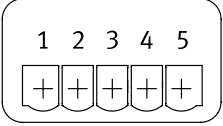
1) Corrosion resistance class 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

## Datasheet

### Pin allocation

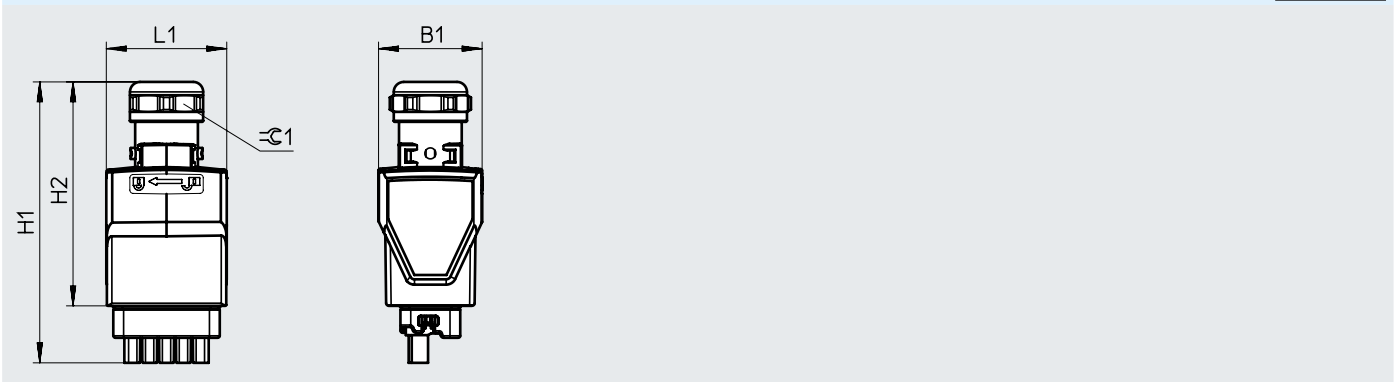
Push-pull

5-pin	Pin	Wire colour <sup>1)</sup> according to PROFINET colour coding	Function
	1	BN	24 V DC supply voltage for electronics and sensors
	2	BU	0 V electronics and sensors
	3	BK	24 V DC load voltage supply for valves and outputs
	4	WH	0 V valves and outputs
	5	GY	FE functional earth

1) To IEC 757

### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)




Type	B1	H1	H2	L1	≅G1
NECU-M-PPG5PP-C1-PN	31.1	84.4	67.3	36.2	22

### Ordering data

Electrical connection	Connection cross section [mm <sup>2</sup> ]	Part no.	Type
Push-pull socket, 5-pin, straight	Spring-loaded terminal 0.75 ... 2.5	<b>5195383</b>	<b>NECU-M-PPG5PP-C1-PN</b>

### Ordering data – Accessories

		Part no.	Type	pU <sup>1)</sup>
	Cable seal For adapting to cable diameter 6.5 ... 9.5 mm	<b>8079860</b>	<b>NEAU-KD-P4-A1-P5</b>	<b>5</b>

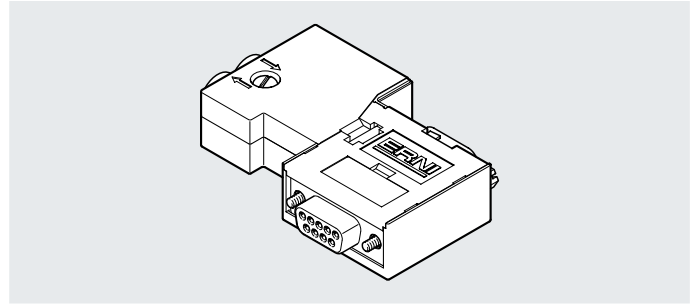
1) Packaging unit.



## Datasheet

### Socket NECU-S1W9

- Socket
- 9-pin
- Can be assembled with any cable lengths
- Socket for CANopen with terminating resistor and programming interface



#### General technical data

Electrical connection	Sub-D socket	
	9-pin	
	Screw terminal, can be shielded	
Programming interface	Sub-D plug	
	9-pin	
Baud rate	[Mbps]	1
Permissible cable ø	[mm]	8
Connection cross section	[mm <sup>2</sup> ]	0.14 ... 0.5
Type of mounting	4-40 UNC-2B	
Degree of protection	IP20	

#### Materials

Housing	Reinforced PC	
Note on materials	RoHS-compliant	

#### Operating and environmental conditions

Ambient temperature	[°C]	-20 ... +70
Corrosion resistance class CRC <sup>1)</sup>	1	
Relative humidity	[%]	75 at 25 °C

1) Corrosion resistance class 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

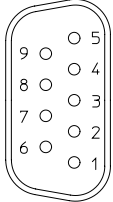
Datasheet

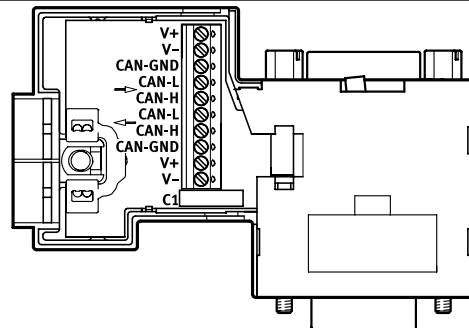
Pin allocation

Sub-D

9-pin	Pin	Wire colour	Signal	Terminal
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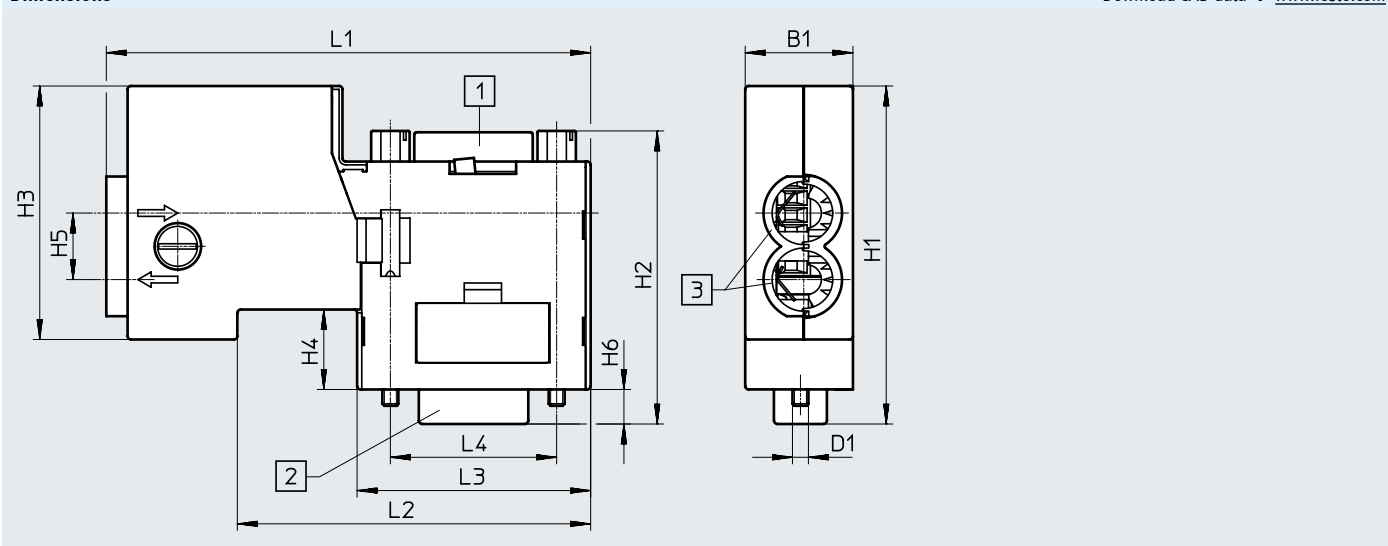
Sub-D plug

	1	-	-	-
	2	White	Received/transmitted data low	C-L
	3	Shielding	0 V CAN interface	GND
	4	-	-	-
	5	-	-	-
	6	Optional	Optional shielded connection	V-
	7	Brown	Received/transmitted data high	C-H
	8	-	-	-
	9	Optional	24 V DC supply CAN interface	V+
Housing	-	-	-	-



Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
NECU-S1W9-C2-ACO	16.2	4-4UNC	50.8	43.8	38.1	12	10	5.2	72.8	53.1	35.1	25

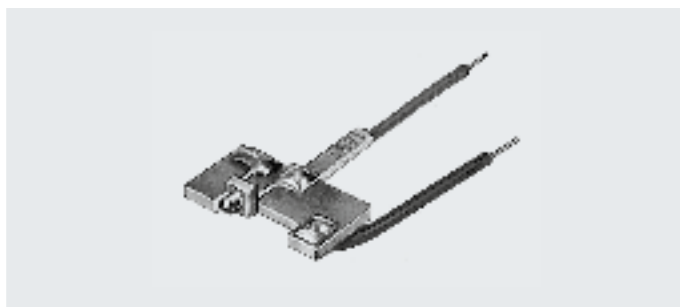
Ordering data

Electrical connection	Connection cross section [mm]	Weight [g]	Part no.	Type	
Socket, Sub-D, 9-pin	Screw terminal, can be shielded	0.14 ... 0.5	59	574588	NECU-S1W9-C2-ACO

## Accessories

### Operating status indicator SIE-LP-LED-GR

Used to indicate the ready status of a proximity switch SIE connected via the angled plug socket SIE-WD-TR. It does this by lighting up 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