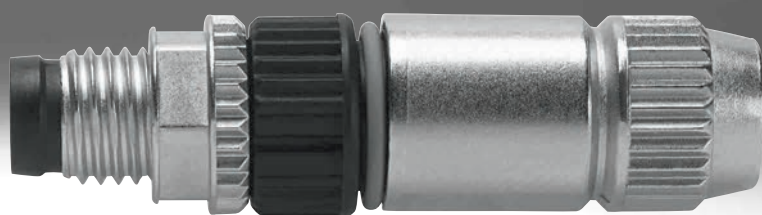


Universal plugs, for self-assembly

**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® quick connector	0.1 ... 0.14 0.14 ... 0.34	IP65, IP67	–	4
	4-pin	NECU-S-M8G4-HX	Harax® 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® 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® 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



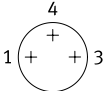
General technical data		
Type	NECU-S-M8G3-HX-Q3	NECU-S-M8G3-HX
Electrical connection	Straight plug, M8x1	
	3-pin	
	Insulation displacement connector	
Operating voltage range	[V DC]	0 ... 32
	[V AC]	0 ... 32
Surge resistance	[kV]	0.8
Current rating at 40°C	[A]	2
		4
Based on standard	EN 61076-2-104	EN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

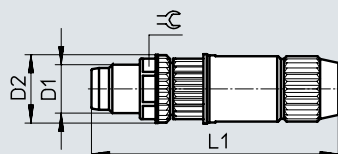
Operating and environmental conditions	
Ambient temperature	[°C] –25 ... +85
Corrosion resistance class CRC <sup>1)</sup>	1
Pollution degree	3
Certification	cUL us - Recognized (OL)

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

<b>Pin allocation</b>		
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	≡C
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	564945	NECU-S-M8G3-HX-Q3
	0.14 ... 0.34	7.8	562024	NECU-S-M8G3-HX

## Datasheet

### Plug NECU-S-M8G4

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



General technical data			
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

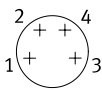
Materials			
Type		NECU-S-M8G4-HX	NECU-S-M8G4-C2
Housing		PA	PA
		Nickel-plated die-cast zinc	–
Housing colour		–	Black
Screw-type lock		Nickel-plated brass	Nickel-plated brass
Seals		FPM	–
		PUR	–
Pin contact		Gold-plated	Gold-plated brass
Note on materials		Free of copper and PTFE	–
		RoHS-compliant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

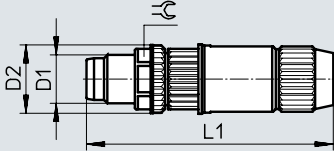
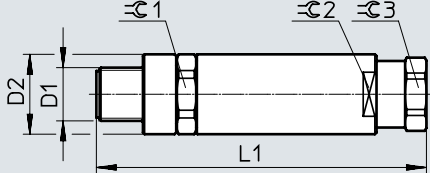
# Datasheet

Operating and environmental conditions		
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	Download CAD data → <a href="http://www.festo.com">www.festo.com</a>
NECU-S-M8G4-HX	NECU-S-M8G4-C2
	

Type	D1	D2	L1	≙	≙ 1	≙ 2	≙ 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	Insulation displacement connector	0.14 ... 0.34	7.8	562025	NECU-S-M8G4-HX
	Screw terminal	0.14 ... 0.5	9.1	1068198	NECU-S-M8G4-C2

## Datasheet

### Plug NECU-S-M12G3

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



General technical data			
Type		NECU-S-M12G3-HX	NECU-S-M12G3-HX-Q7
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	[mm²]	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

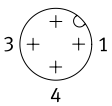
Materials	
Housing	PA
	Nickel-plated die-cast zinc
Screw-type lock	Nickel-plated die-cast zinc
Seals	FPM
	PUR
Pin contact	Gold-plated
Note on materials	Free of copper and PTFE
	RoHS-compliant

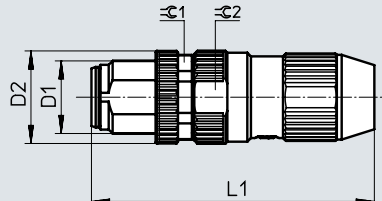
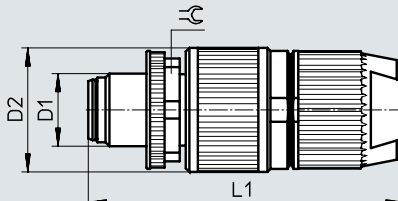
# Datasheet

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
	2	

Dimensions		Download CAD data → <a href="http://www.festo.com">www.festo.com</a>
NECU-S-M12G3-HX		NECU-S-M12G3-HX-Q7
		

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 [mm²]	Weight [g]	Part no.	Type
Electrical connection					
Plug M12x1, 3-pin, straight	Insulation displacement connector	0.14 ... 0.34	17.5	562027	NECU-S-M12G3-HX
		0.34 ... 0.75	32.8	564946	NECU-S-M12G3-HX-Q7

## 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				
Type		NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
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	[mm²]	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				
Type		NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
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				
Type		NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
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						
Type		NECU-S-M12G4-P1-Q6-IS	NECU-S-M12G4-D-IS	NECU-S-M12G4P1IS	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	[mm²]	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					
Type	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					
Type	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		
Type	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		
Type	NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Ambient temperature	[°C]	–25 ... +85
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 equipment
PWIS conformity		VDMA24364-B2-L

1) Corrosion resistance class 1 to Festo standard FN 940070

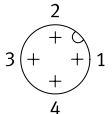
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

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

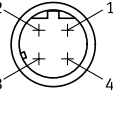
## Datasheet

### Pin allocation

M12x1, A-coded

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

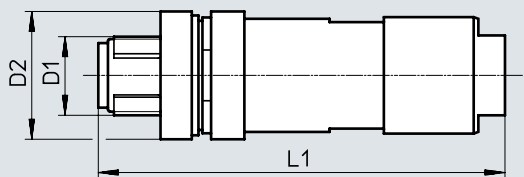
M12x1, D-coded

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

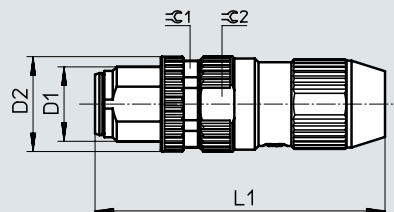
### Dimensions

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

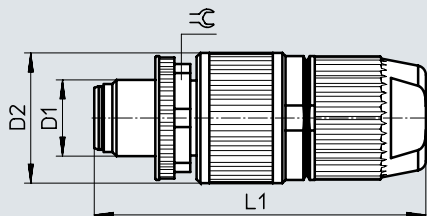
NECU-M-S-A12G4-IS



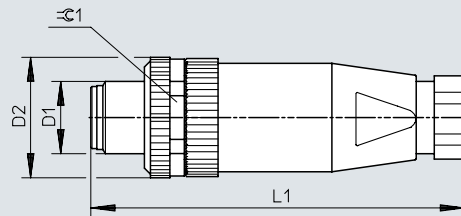
NECU-S-M12G4-HX



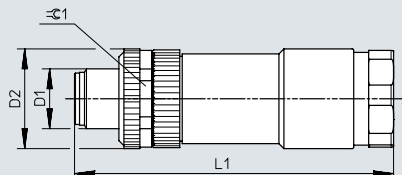
NECU-S-M12G4-HX-Q7



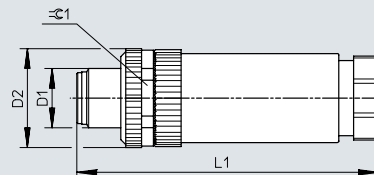
NECU-S-M12G4-P1



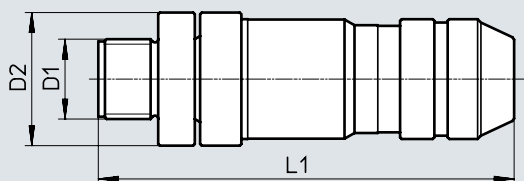
NECU-S-M12G4-D



NECU-S-M12G4-P2



NECU-M-S-D12G4-C2-ET



Type	D1	D2	L1	⌀G	⌀G1	⌀G2
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		Connection cross section	Weight	Part no.	Type
Electrical connection		[mm <sup>2</sup> ]	[g]		
Plug M12x1, 4-pin, straight, A-coded	Spring-loaded terminal	0.14 ... 0.5	38	575719	NECU-M-S-A12G4-IS
	Insulation displacement connector	0.14 ... 0.34	17.5	562028	NECU-S-M12G4-HX
		0.34 ... 0.75	33.3	564947	NECU-S-M12G4-HX-Q7
	Screw terminal	0.14 ... 0.5	18	570955	NECU-S-M12G4-P1-Q6-IS
		0.75	24	570956	NECU-S-M12G4-D-IS
		0.75	17	570953	NECU-S-M12G4-P1-IS
		0.75	18	570954	NECU-S-M12G4-P2-IS
Plug M12x1, 4-pin, straight, D-coded	Screw terminal, can be shielded	0.14 ... 0.75	44.3	543109	NECU-M-S-D12G4-C2-ET

## 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	[mm²]	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

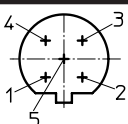
Operating and environmental conditions			
Type	NECU-M-S-B12G5		FBS-M12-5GS
Ambient temperature	[°C]	–25 ... +85	–40 ... +85
Corrosion resistance class CRC <sup>1)</sup>	1		1
Pollution degree	3		3
CE marking (see declaration of conformity) <sup>2)</sup>	To EU Low Voltage Directive		To EU Low Voltage Directive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

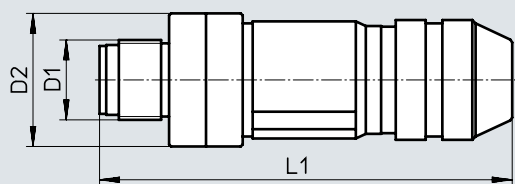
## Datasheet

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

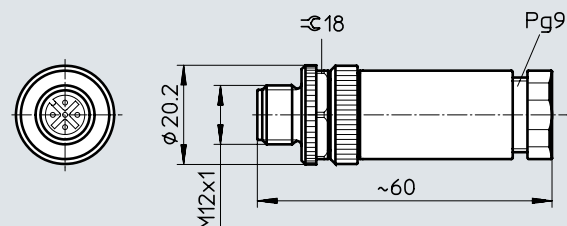
## Dimensions

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

NECU-M-S-B12G5



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	1066354	NECU-M-S-B12G5-C2-PB
	Screw terminal	A-coded	0.75	23.5	175380	FBS-M12-5GS-PG9

## 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

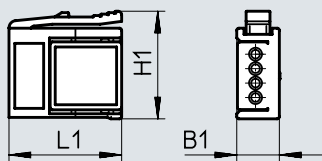
Materials	
Housing	PBT
	PC
Pin contact	Gold-plated
Note on materials	RoHS-compliant

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

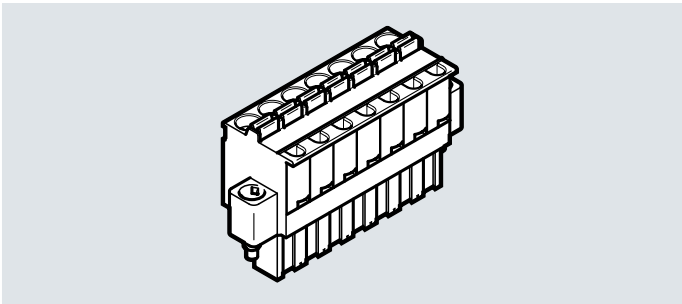
## Ordering data

Electrical connection		Connection cross section [mm <sup>2</sup> ]	Weight [g]	Part no.	Type
Straight plug, square design, 4-pin	Insulation displacement connector	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	[mm²]	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	c UL us listed (OL)

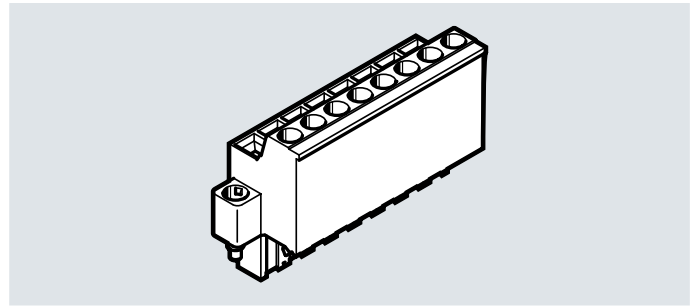
1) Corrosion resistance class 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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

## 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.

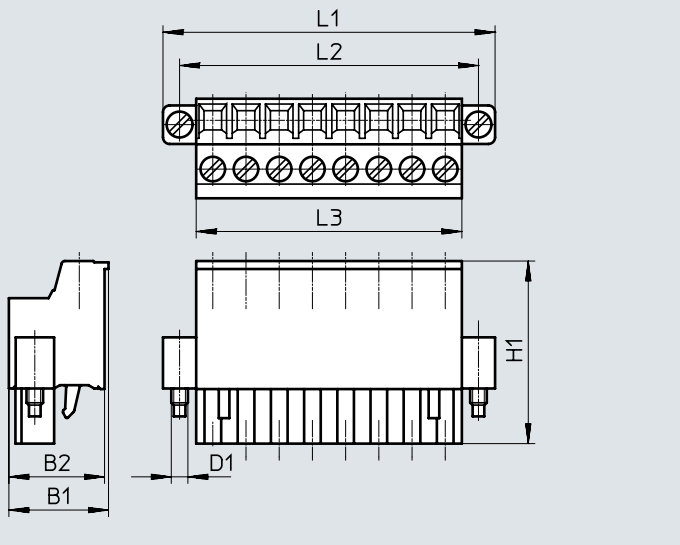
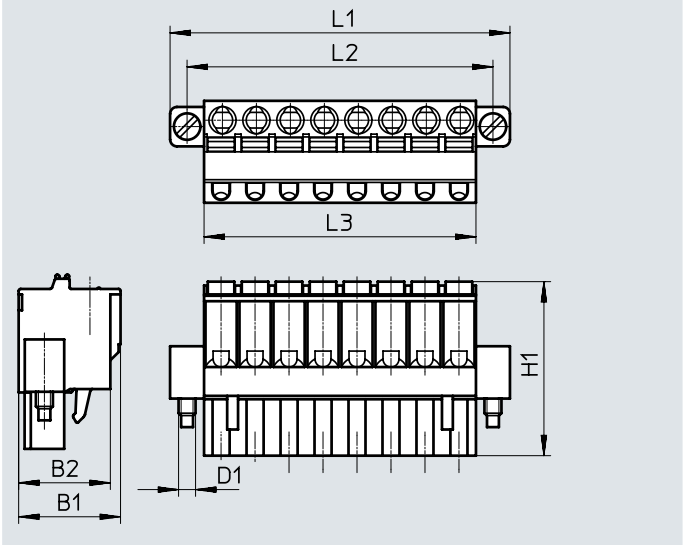
Datasheet

Dimensions

NECU-L3G8-C1

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

NECU-L3G8-C2



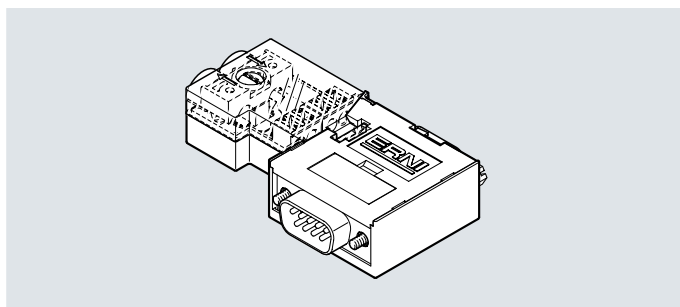
Type	B1	B2	D1	H1	L1	L2	L3
NECU-L3G8-C1	15	13.5	M2.5	25.6	50	45	40
NECU-L3G8-C2	15	14.4	M2.5	27.5	50	45	40

Ordering data		Housing colour	Product weight [g]	Part no.	Type
Electrical connection	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

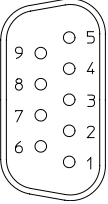
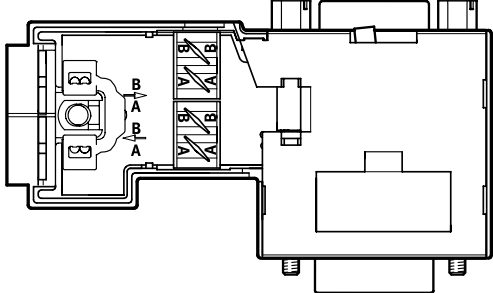
#### Operating and environmental conditions

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

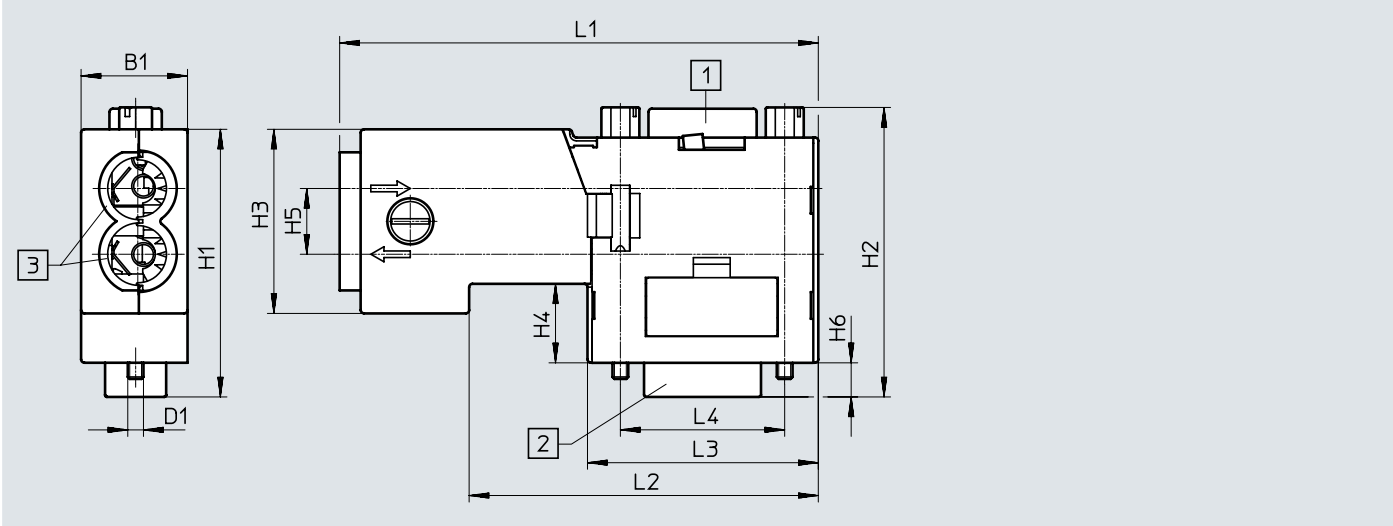
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

Datasheet

<b>Pin allocation</b>				
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

<b>Ordering data</b>					
Electrical connection		Connection cross section [mm]	Weigth [g]	Part no.	Type
Plug, Sub-D, 9-pin	IDC terminal	0.08 ... 0.5	57.48	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						
Type		SIE-GD	FBSD-GD-9	FBSD-GD-13.5	SIE-WD-TR	FBSD-WD-9
Electrical connection		Straight socket, M12x1			Angled socket, M12x1	
		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	[mm²]	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			
Type	SIE-GD	SIE-WD-TR	FBSD
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		
Type	SIE	FBSD
Ambient temperature	[°C]	–25 ... +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	
UKCA marking (see declaration of conformity) <sup>2)</sup>	–	
	To UK regulations for electrical equipment	

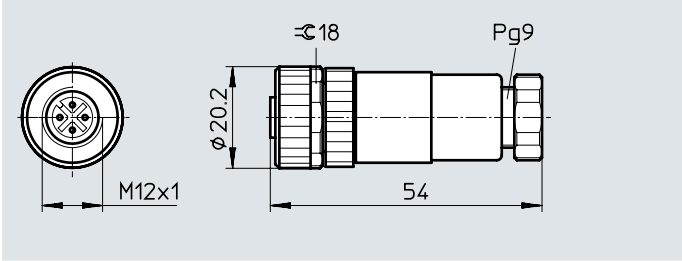
- 1) Corrosion resistance class 1 to Festo standard FN 940070  
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).  
 Corrosion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

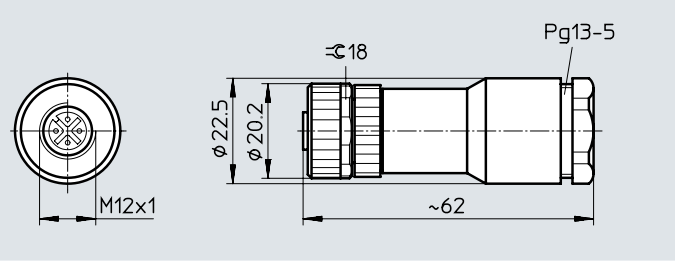
Dimensions

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

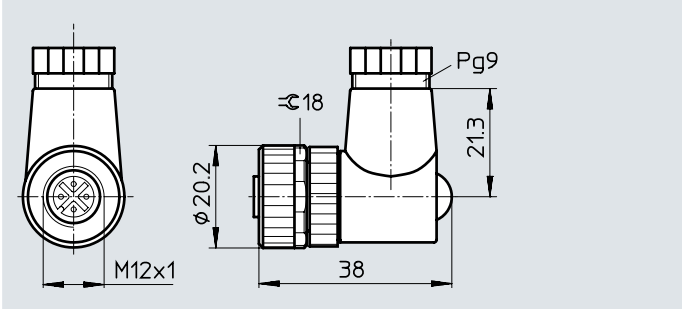
FBSD-GD-9



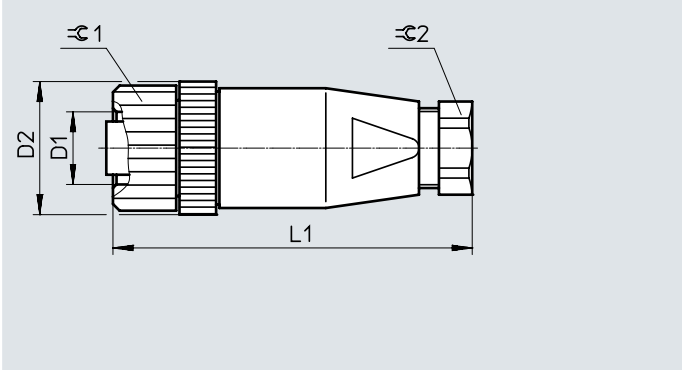
FBSD-GD-13.5



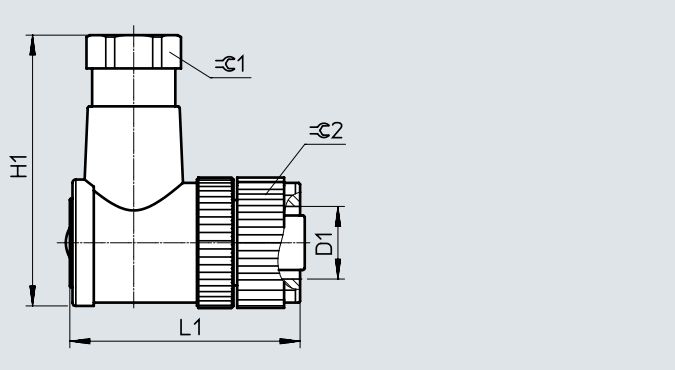
FBSD-WD-9



SIE-GD



SIE-WD-TR



Type	D1	D2	H1	L1	1/2-18	1/2-18
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		Screw 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	[mm²]	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

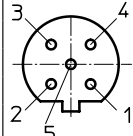
Operating and environmental conditions			
Type	NECU-M-B12G5		FBSD-GD-9-5POL
Ambient temperature	[°C]	–25 ... +85	–40 ... +85
Corrosion resistance class CRC <sup>1)</sup>	1		1
Pollution degree	3		3
CE marking (see declaration of conformity) <sup>2)</sup>	To EU Low Voltage Directive		To EU Low Voltage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

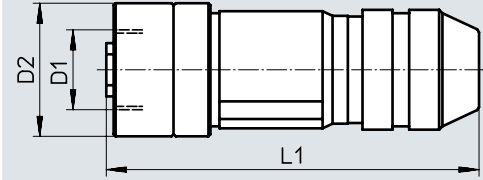
2) Additional information: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

Datasheet

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

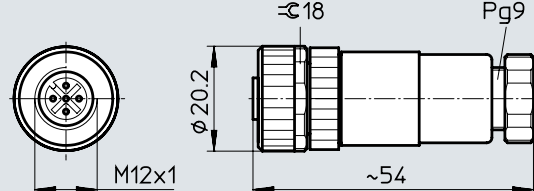
**Dimensions**

NECU-M-B12G5



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FBSD-GD-9-5POL



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

Ordering data			Connection cross section	Weight	Part no.	Type
Electrical connection			[mm²]	[g]		
Socket M12x1, 5-pin, straight	Screw terminal	B-coded	0.14 ... 0.75	48.7	1067905	NECU-M-B12G5-C2-PB
		A-coded	0.75	33	18324	FBSD-GD-9-5POL

## 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	[mm²]	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

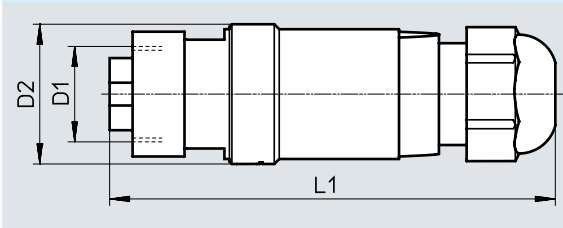
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

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		Connection cross section	Weight	Part no.	Type
Electrical connection		[mm²]	[g]		
Socket 7/8", 4-pin, straight	Screw terminal	Max. 1.5	58.7	543108	NECU-G78G4-C2

## 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 equipment	
Certification	c CSA us (OL)	

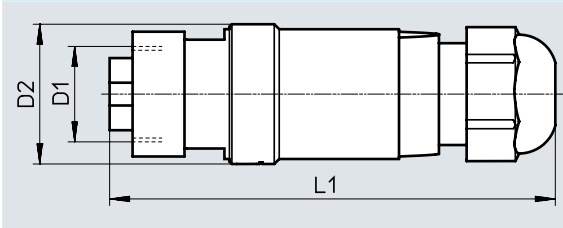
1) Corrosion resistance class 1 to Festo standard FN 940070

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)



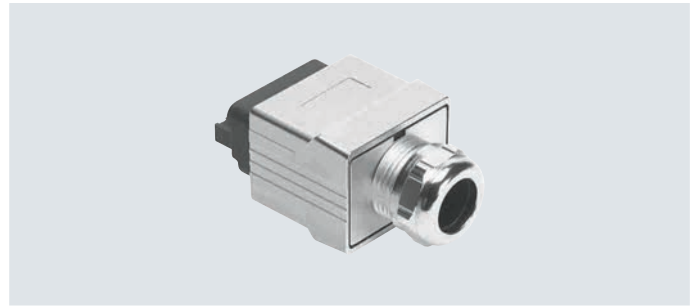
Type	D1	D2	L1
NECU-G78G5-C2	7/8"	28	89

Ordering data		Connection cross section	Weight	Part no.	Type
Electrical connection		[mm <sup>2</sup> ]	[g]		
Socket 7/8", 5-pin, straight	Screw terminal	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

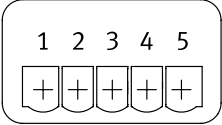
#### Operating and environmental conditions

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).

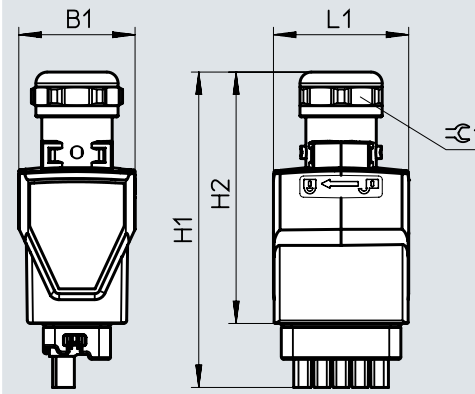
Datasheet

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

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Type	B1	H1	H2	L1	≙1
NECU-M-PPG5PP-C1-PN	31.1	84.4	67.3	36.2	22

Ordering data				
Electrical connection		Connection cross section [mm²]	Part no.	Type
Push-pull socket, 5-pin, straight	Spring-loaded terminal	0.75 ... 2.5	5195383	NECU-M-PPG5PP-C1-PN

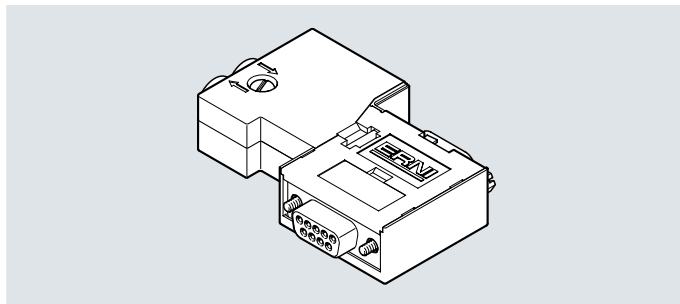
Ordering data – Accessories			Part no.	Type	PU <sup>1)</sup>
	Cable seal For adapting to cable diameter 6.5 ... 9.5 mm	11x20 mm	8079860	NEAU-KD-P4-A1-P5	5

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

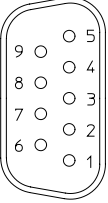
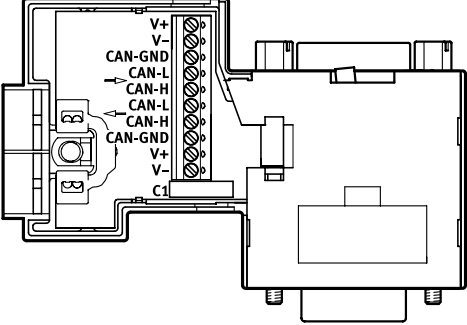
#### Operating and environmental conditions

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

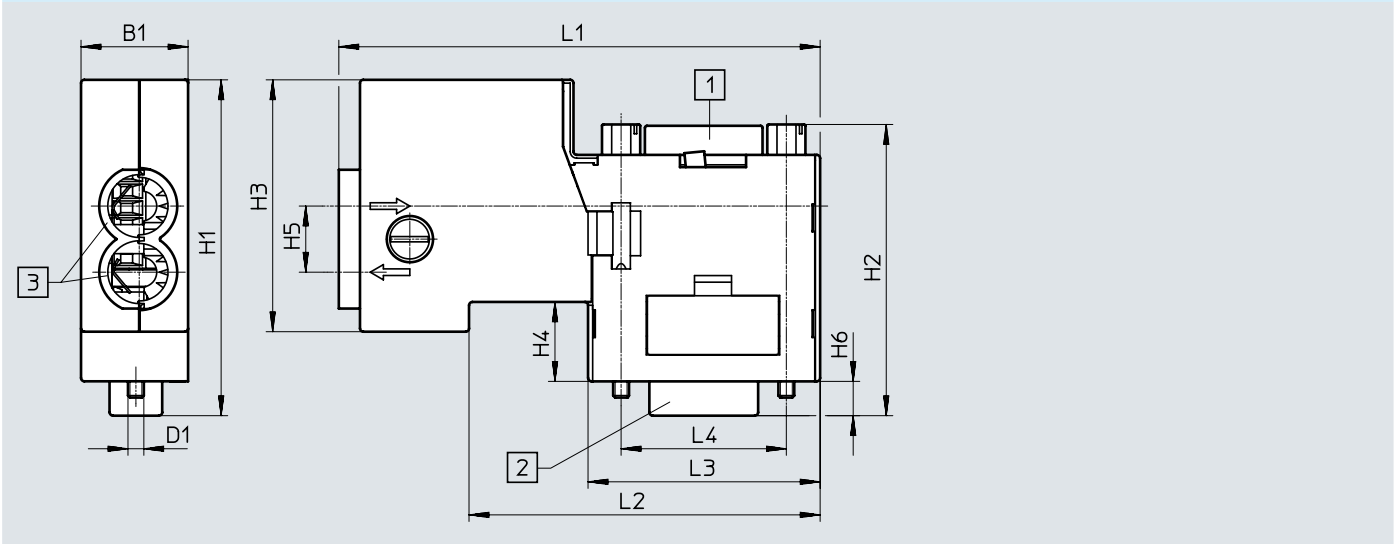
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

Datasheet

Pin allocation				
Sub-D				
9-pin	Pin	Wire colour	Signal	Terminal
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)



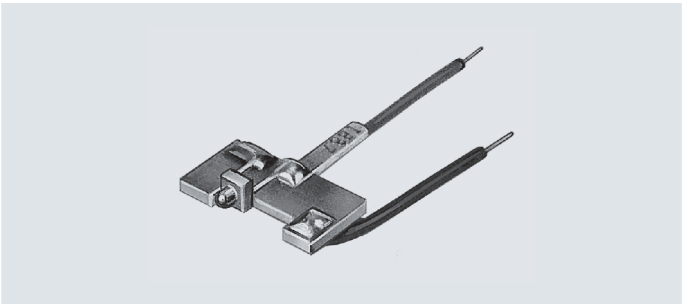
Type	B1	D1	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4
NECU-S1W9-C2-ACO	16.2	4-40UNC	50.8	43.8	38.1	12	10	5.2	72.8	53.1	35.1	25

Ordering data		Connection cross section		Weight	Part no.	Type
Electrical connection		[mm]		[g]		
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		Part no.	Type
Operating voltage range [V DC]	Ambient temperature [°C]		
10 ... 30	-25 ... +70	12957	SIE-LP-LED-GR

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