

Universal plug connectors, for self-assembly

FESTO



Universal plug connectors, for self-assembly

Product range overview

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Function	Version	Type	Connection technology	Connection cross section [mm ²]	Degree of protection	Bus protocol/ actuation	→ Page/ Internet
Plug connectors	Round plug connector M8						
	3-pin	NECU-S-M8G3-HX	Harax® quick connection	0.1 ... 0.14 0.14 ... 0.34	IP65, IP67	–	4
	4-pin	NECU-S-M8G4-HX	Harax® quick connection	0.14 ... 0.34	IP65, IP67	–	6
		NECU-S-M8G4-C2	Screw terminal	0.14 ... 0.5	IP67	–	6
	Round plug connector M12, A-coded						
	3-pin	NECU-S-M12G3-HX	Harax® quick connection	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 connection	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
	Round plug connector M12, B-coded						
	5-pin	NECU-M-S-B12G5	Screw terminal	0.14 ... 0.75	IP67	PROFIBUS	14
	Round plug connector M12, D-coded						
	4-pin	NECU-M-S-D12G4	Screw terminal, can be screened	0.14 ... 0.75	IP67	Ethernet	10
	Square plug connector						
	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
	Sub-D plug connector						
	9-pin	NECU-S1W9-C2-APB	IDC terminal	0.08 ... 0.5	IP20	PROFIBUS	21

Harax® is a registered trademark of its respective trademark holder in certain countries.

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Product range overview

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Function	Version	Type	Connection technology	Connection cross section [mm ²]	Degree of protection	Bus protocol/ actuation	→ Page/ Internet
Socket	Round plug connector M12						
	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
	Round plug connector 7/8"						
	4-pin	NECU-G78G4	Screw terminal	Max. 1.5	IP67	–	27
	5-pin	NECU-G78G5	Screw terminal	Max. 1.5	IP67	–	29
	AIDA push-pull plug connector						
	5-pin	NECU-M-PPG5PP	Spring-loaded terminal	0.75 ... 2.5	IP65, IP67	PROFINET	31
	Sub-D plug connector						
	9-pin	NECU-S1W9-C2-ACO	Screw terminal, can be screened	0.14 ... 0.5	IP20	CANopen	33

Plug, M8, 3-pin

Technical data

FESTO

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	
Acceptable current load 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 ²]	0.1 ... 0.14	0.14 ... 0.34
Permissible wire Ø	[mm]	0.6 ... 1	0.9 ... 1.6
Permissible wire insulation		PP	PP
		PVC	PVC
		–	TPE-E
Connection frequency		3	3
Max. tightening torque of locking clip	[Nm]	0.3	0.3
Protection class		IP65	IP65
		IP67	IP67

Materials	
Housing	Polyamide
	Nickel-plated die-cast zinc
Seals	Fluoro elastomer
	Polyurethane
Pin contact	Gold-plated
Note on materials	Free of copper and PTFE
	RoHS-compliant

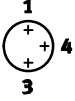
Operating and environmental conditions	
Ambient temperature	[°C] –25 ... +85
Corrosion resistance class CRC ¹⁾	1
Degree of contamination	3
Certification	cULus recognized (OL)

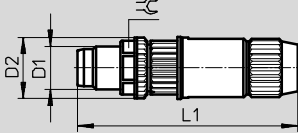
1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Plug, M8, 3-pin

Technical data

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

Dimensions	Download CAD data → www.festo.com
	

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

Ordering data				
Electrical connection	Connection cross section [mm²]	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

Plug, M8, 4-pin

Technical data

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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	
		4-pin	
		Insulation displacement connector	Screw terminal
Plug coding		–	Coded via contact arrangement
Operating voltage range	[V DC]	0 ... 32	0 ... 30
	[V AC]	0 ... 32	0 ... 30
Surge resistance	[kV]	0.8	0.8
Acceptable current load at 40 °C	[A]	4	4
Based on standard		EN 61076-2-104	EN 61076-2-101
		EN 61984	EN 61984
Transmission characteristics		–	DIN EN 50173/CAT 5
Permissible cable Ø	[mm]	2.5 ... 5.1	3.5 ... 5.0
Permissible individual wire Ø	[mm]	≥ 0.1	–
Connection cross section	[mm²]	0.14 ... 0.34	0.14 ... 0.5
Permissible wire Ø	[mm]	0.9 ... 1.6	–
Permissible wire insulation		PP	–
		PVC	–
		TPE-E	–
Connection frequency		3	–
Max. tightening torque of locking clip	[Nm]	0.3	–
Protection class		IP65	–
		IP67	IP67

Materials		
Type	NECU-S-M8G4-HX	NECU-S-M8G4-C2
Housing	Polyamide	–
	Nickel-plated die-cast zinc	–
Seals	Fluoro elastomer	–
	Polyurethane	–
Pin contact	Gold-plated	Gold-plated brass
Union nut	–	Nickel-plated brass
Note on materials	Free of copper and PTFE	–
	RoHS-compliant	RoHS-compliant

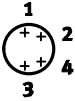
Plug, M8, 4-pin

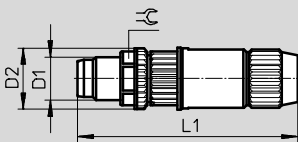
Technical data

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Operating and environmental conditions		
Type	NECU-S-M8G4-HX	NECU-S-M8G4-C2
Ambient temperature [°C]	−25 ... +85	−25 ... +85
Corrosion resistance class CRC ¹⁾	1	1
Degree of contamination	3	3
Certification	cULus recognized (OL)	–

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

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

Dimensions	Download CAD data → www.festo.com
	

Type	D1	D2	L1	⌀
NECU-S-M8G4-HX	M8x1	11.5	40.8	9
NECU-S-M8G4-C2	M8x1	12	49.6	9

Ordering data					
Electrical connection		Connection cross section [mm²]	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	10.9	1068198	NECU-S-M8G4-C2

Plug, M12, 3-pin

Technical data

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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
Acceptable current load 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 wire insulation		PP	–
		PVC	PVC
		TPE-E	–
Connection frequency		3	3
Max. tightening torque of locking clip	[Nm]	0.5	0.5
Protection class		IP65	IP65
		IP67	IP67

Materials	
Housing	Polyamide
	Nickel-plated die-cast zinc
Seals	Fluoro elastomer
	Polyurethane
Pin contact	Gold-plated
Note on materials	Free of copper and PTFE
	RoHS-compliant

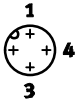
Plug, M12, 3-pin

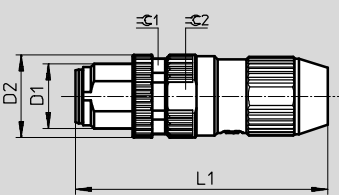
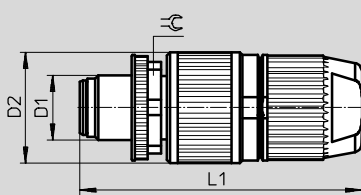
Technical data

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

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

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

Dimensions	Download CAD data → www.festo.com
NECU-S-M12G3-HX	NECU-S-M12G3-HX-Q7
	

Type	D1	D2	L1	⌀	⌀1	⌀2
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

Plug, M12, 4-pin

Technical data

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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
Acceptable current load 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 ²]	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 wire insulation		–	PP, PVC, TPE-E	PVC
Connection frequency		100	3	3
Max. tightening torque of locking clip	[Nm]	0.8	0.5	0.5
Protection class		IP65	IP65	IP65
		IP67	IP67	IP67

Materials			
Type	NECU-M-S-A12G4-IS	NECU-S-M12G4-HX	NECU-S-M12G4-HX-Q7
Housing	–	Polyamide	Polyamide
	Nickel-plated die-cast zinc	Nickel-plated die-cast zinc	Nickel-plated die-cast zinc
Seals	–	Fluoro elastomer, polyurethane	Fluoro elastomer, polyurethane
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 ¹⁾	–	1	1
Degree of contamination	3	3	3
Certification	–	cULus recognized (OL)	cULus recognized (OL)

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

Plug, M12, 4-pin

Technical data

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General technical data						
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		Straight plug, M12x1				
		4-pin				
		Screw terminal				Screw terminal, can be screened
Plug coding		A-coded				D-coded
Operating voltage range	[V DC]	0 ... 30				0 ... 250
	[V AC]	–				0 ... 250
Surge resistance	[kV]	2.5				2.5
Acceptable current load 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
Connection frequency		50				–
Max. tightening torque of locking clip	[Nm]	0.5				–
Protection class		IP65				–
		IP67				IP67

Materials		
Type	NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Housing	Polyamide	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

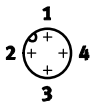
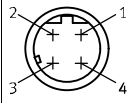
Operating and environmental conditions		
Type	NECU-S-M12G4-...-IS	NECU-M-S-D12G4-C2-ET
Ambient temperature	[°C]	–25 ... +85
Corrosion resistance class CRC ¹⁾	–	1
Degree of contamination	3	3
CE marking (see declaration of conformity)	–	To EU Low Voltage Directive

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

Plug, M12, 4-pin

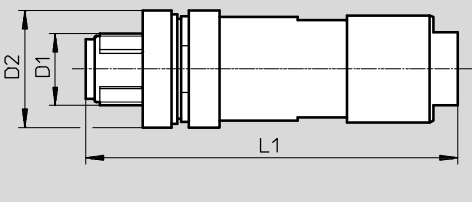
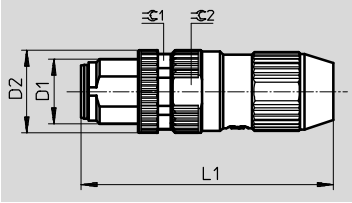
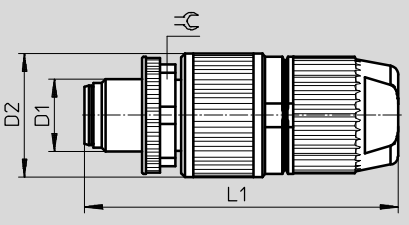
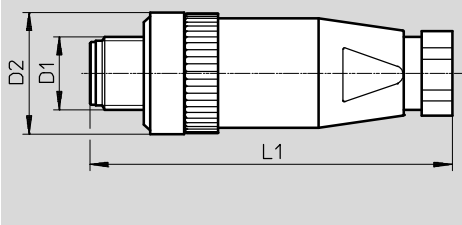
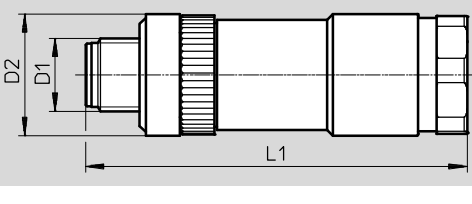
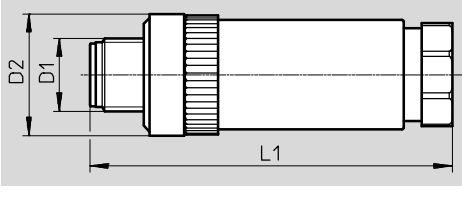
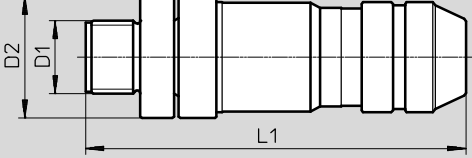
Technical data

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Pin allocation					
M12x1, A-coded			M12x1, D-coded		
4-pin	Pin	Wire colour	4-pin	Pin	Wire colour
	1	Brown		1	–
	2	White		2	–
	3	Blue		3	–
	4	Black		4	–

Dimensions

Download CAD data → 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	⌀	⌀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	59.6	–	–	–
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	–	–	–

Plug, M12, 4-pin

Technical data

FESTO

Ordering data					
Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug M12x1, 4-pin, straight, A-coded	Spring-loaded terminal	0.14 ... 0.5	38	575719	NECU-M-S-A12G4-IS
	Insulation displace- ment 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 screened	0.14 ... 0.75	45.3	543109	NECU-M-S-D12G4-C2-ET

Plug connector, M12, 5-pin

Technical data

FESTO

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

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



General technical data			
Type	NECU-M-S-B12G5		FBS-M12-5GS
Electrical connection	Straight plug connector, 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 diameter	[mm]	6 ... 8	6 ... 8
Connection cross section	[mm²]	0.14 ... 0.75	0.75
Cable fitting	–		Pg9
Degree of protection	IP67		IP67

Materials		
Type	NECU-M-S-B12G5	FBS-M12-5GS
Housing	Nickel-plated die-cast zinc	PA reinforced
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

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

- 1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
- 2) Additional information www.festo.com/sp → Certificates.

Plug connector, M12, 5-pin

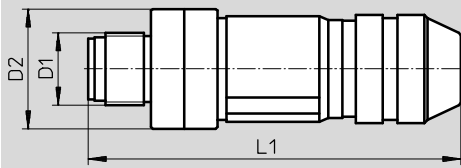
Technical data

FESTO

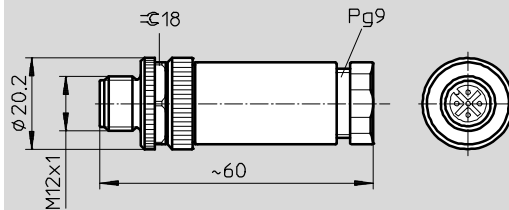
Dimensions

Download CAD data → www.festo.com

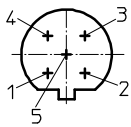
NECU-M-S-B12G5



FBS-M12-5GS



Pin allocation



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

Ordering data

Electrical connection			Connection cross section [mm ²]	Weight [g]	Part No.	Type
Plug connector M12x1, 5-pin, straight	Screw terminal, can be screened	B-coded	0.14 ... 0.75	46	1066354	NECU-M-S-B12G5-C2-PB
	Screw terminal	A-coded	0.75	23.5	175380	FBS-M12-5GS-PG9

Plug, square, 4-pin

Technical data

FESTO

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
Acceptable current load at 40 °C	[A]	3
Permissible individual wire Ø	[mm]	≥ 0.07
Connection cross section	[mm ²]	0.14
Permissible wire Ø	[mm]	0.8 ... 1.0
Permissible wire insulation		PP
		PVC
		TPE-E
Connection frequency		1
Type of mounting		Engaging
Protection class		IP40

Materials	
Housing	Polybutylene terephthalate
	Polycarbonate
Pin contact	Gold-plated
Note on materials	RoHS-compliant

Operating and environmental conditions	
Ambient temperature	[°C] -20 ... +60
Corrosion resistance class CRC ¹⁾	1
Degree of contamination	2
Certification	cULus recognized (OL)

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

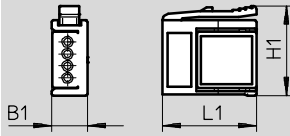
Plug, square, 4-pin

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



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

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Straight plug, square design, 4-pin	Insulation displacement connector	0.14	3.6	570922	NECU-S-ECG4-HX-Q3

Plug, terminal strip, 7-pin

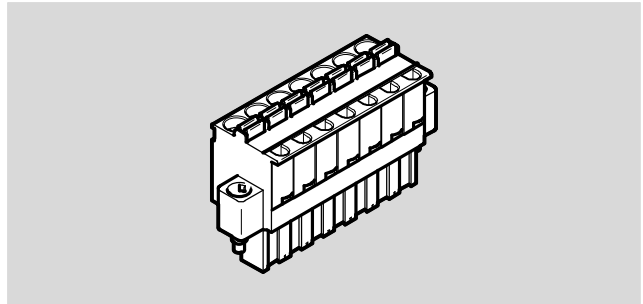
Technical data

FESTO

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
Acceptable current load at 40 °C	[A]	12
Connection cross section	[mm ²]	0.2 ... 2.5
Connection frequency		100

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

Operating and environmental conditions	
Ambient temperature	[°C] -40 ... +85
Corrosion resistance class CRC ¹⁾	2
Degree of contamination	3
Certification	cULus listed (OL)

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

Ordering data				
Electrical connection		Housing colour	Part No.	Type
Plug, 7-pin, straight	Spring-loaded terminal	Black	576319	NECU-L3G7-C1

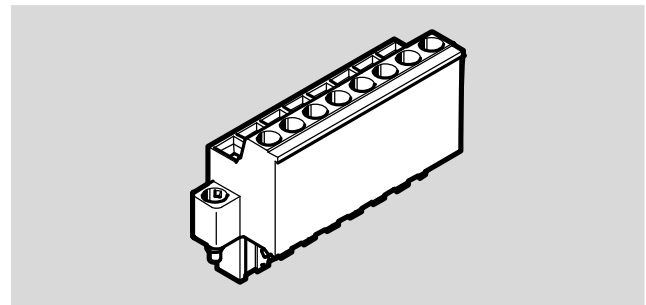
Plug, terminal strip, 8-pin

Technical data

FESTO

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
Acceptable current load at 40 °C	[A]	12	12
Connection cross section	[mm ²]	0.2 ... 2.5	0.2 ... 2.5
Connection frequency		100	100
Max. tightening torque of locking clip	[Nm]	–	0.6
Product weight	[g]	20	20

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

Operating and environmental conditions	
Ambient temperature	[°C] –40 ... +85
Corrosion resistance class CRC ¹⁾	2
Degree of contamination	3

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

Plug, terminal strip, 8-pin

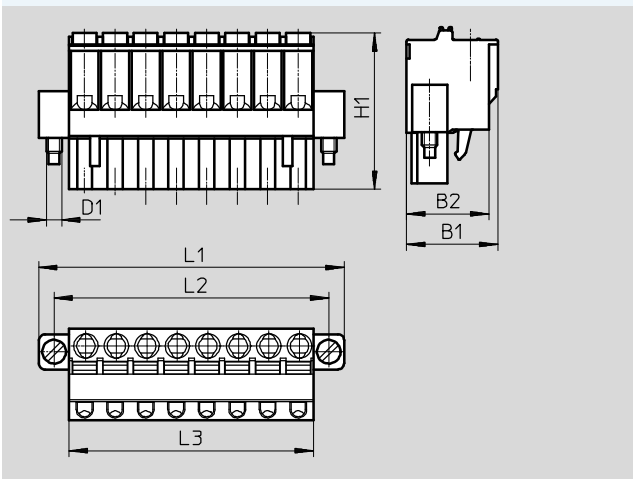
Technical data

FESTO

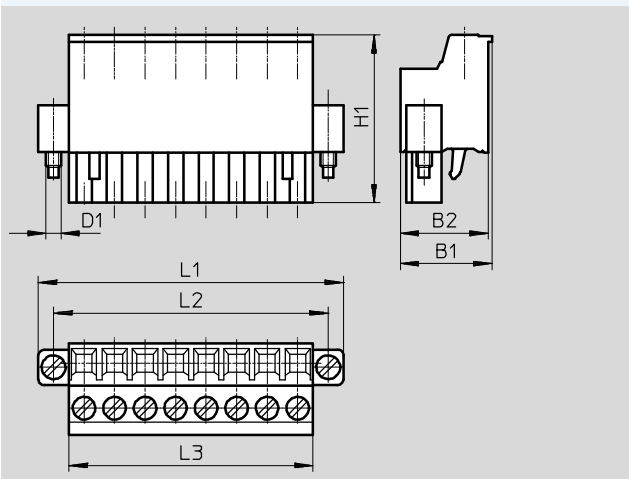
Dimensions

Download CAD data → 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	Part No.	Type
Plug, 8-pin, straight	Spring-loaded terminal	Black	565712	NECU-L3G8-C1
		Gentian blue	565711	NECU-L3G8-C1-IS
	Screw terminal	Black	565710	NECU-L3G8-C2
		Gentian blue	565709	NECU-L3G8-C2-IS

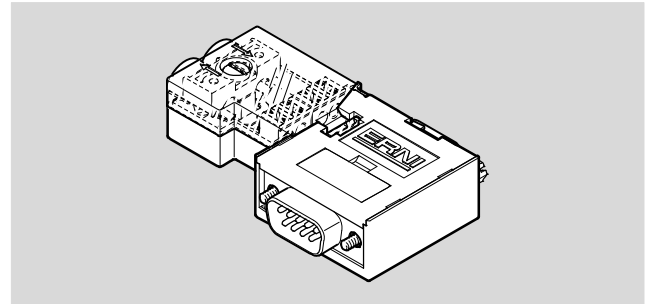
Plug, Sub-D, 9-pin

Technical data

FESTO

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 ²]	0.08 ... 0.5
Type of mounting		4-40UNC
Protection class		IP20

Materials	
Housing	Reinforced polycarbonate
Note on materials	RoHS-compliant

Operating and environmental conditions		
Ambient temperature	[°C]	−20 ... +70
Corrosion resistance class CRC ¹⁾		1
Relative air humidity	[%]	75 at 25 °C

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

Technical data

FESTO

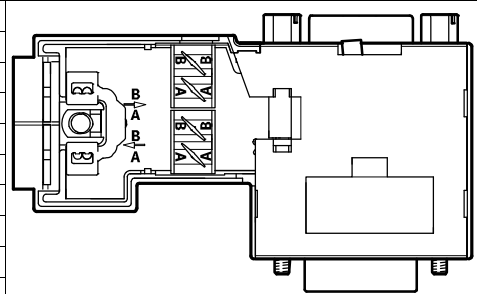
Pin allocation

Sub-D

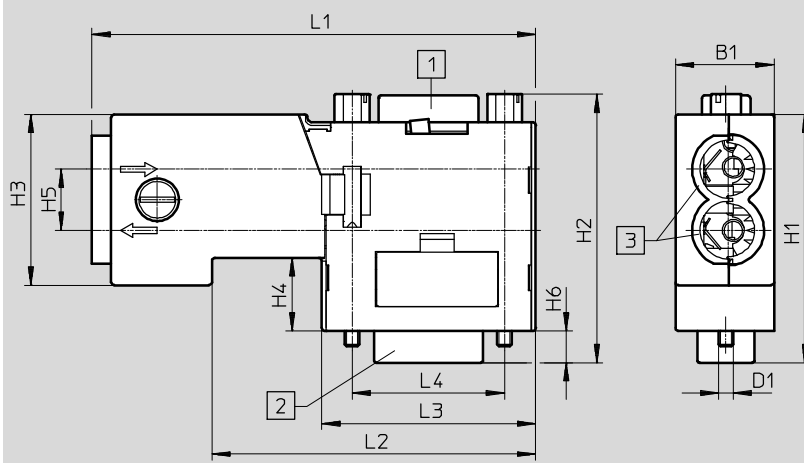
9-pin	Pin	Wire colour	Signal	Terminal
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Sub-D plug

	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

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]	Part No.	Type
Sub-D plug, 9-pin	IDC terminal	0.08 ... 0.5	574589	NECU-S1W9-C2-APB

Socket, M12, 4-pin

Technical data

FESTO

Socket

SIE-GD

FBSD-GD

SIE-WD-TR

FBSD-WD

- Socket
- 4-pin
- Can be customised 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	
		–	Screw terminal	Screw terminal	–	Screw terminal
Plug coding		–	A-coded	A-coded	–	A-coded
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 diameter	[mm]	4 ... 6	8 ... 9.5	10 ... 12	4 ... 6	6 ... 8
Connection cross section	[mm ²]	0.25 ... 0.75	0.75	0.75	0.25 ... 0.75	0.75
Cable fitting		–	Pg9	Pg13.5	–	Pg9
Degree of protection		IP67				

Materials		
Type	SIE	FBSD
Housing	PA	PA reinforced
Housing colour	–	Black
Pin contact	–	Bronze, coated with white bronze
Union nut	PA	Nickel-plated die-cast zinc
Note on materials	RoHS compliant	RoHS compliant

Operating and environmental conditions		
Type	SIE	FBSD
Ambient temperature	[°C]	–25 ... +85
Corrosion resistance class CRC ¹⁾	4	1
Contamination level	3	3
CE marking (see declaration of conformity) ²⁾	To EU Low Voltage Directive	

- 1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which 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, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.
- 2) Additional information www.festo.com/sp → Certificates.

Socket, M12, 4-pin

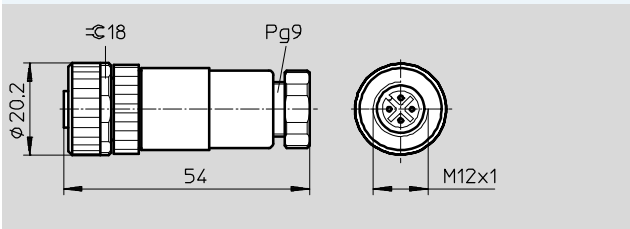
Technical data

FESTO

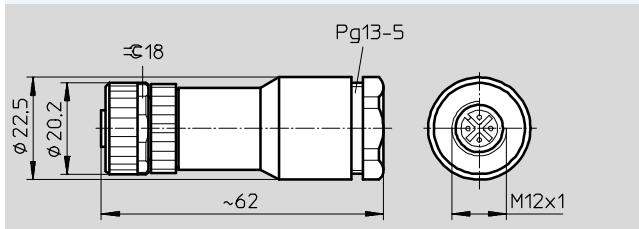
Dimensions

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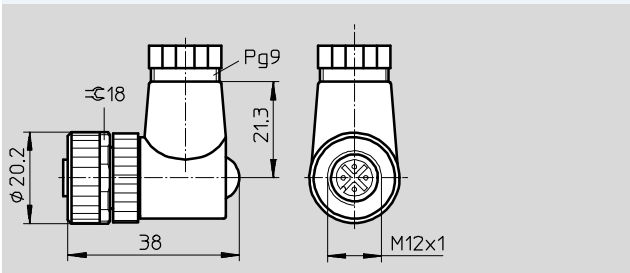
FBSD-GD-9



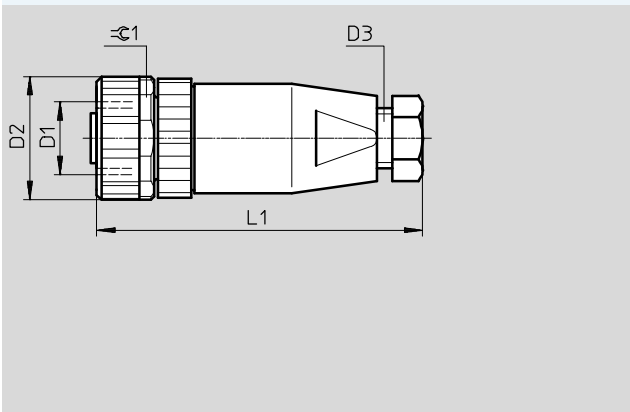
FBSD-GD-13,5



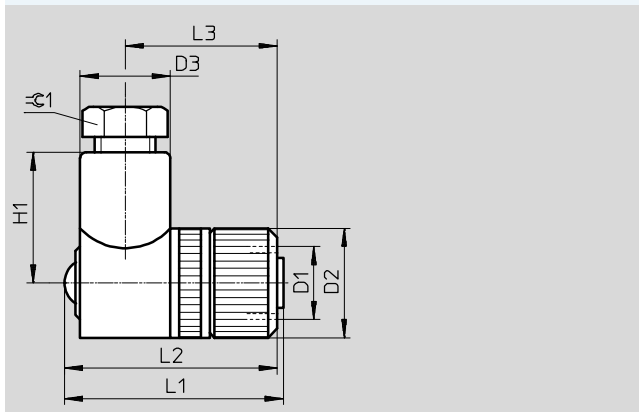
FBSD-WD-9



SIE-GD



SIE-WD-TR



Type	D1	D2	D3	H1	L1	L2	L3	1
SIE-GD	M12x1	20.2	PG7	–	54	–	–	18
SIE-WD-TR	M12x1	18	14.8	20.5	36	35	25	13

Ordering data

Electrical connection		Permissible cable diameter [mm]	Weight [g]	Part No.	Type
Socket M12x1, 4-pin	Straight	4 ... 6	–	18494	SIE-GD
		8 ... 9.5	29	18495	FBSD-GD-9
		10 ... 12	40	18496	FBSD-GD-13,5
	Angled	4 ... 6	–	12956	SIE-WD-TR
		6 ... 8	30	18525	FBSD-WD-9

Socket, M12, 5-pin

Technical data

FESTO

Socket

NECU-M-B12G5

FBSD-GD-9-5POL

- Socket
- 5-pin
- Can be customised 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 screened		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 diameter	[mm]	6 ... 8	6 ... 8
Connection cross section	[mm ²]	0.14 ... 0.75	0.75
Cable fitting		–	Pg9
Degree of protection		IP67	IP67

Materials		
Type	NECU-M-B12G5	FBSD-GD-9-5POL
Housing	Nickel-plated die-cast zinc	PA reinforced
Housing colour	–	Black
Pin contact	Brass, gold-plated	Nickel-plated and gold-plated bronze
Union nut	–	Nickel-plated die-cast zinc
Note on materials	RoHS compliant	RoHS compliant

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

- 1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
- 2) Additional information www.festo.com/sp → Certificates.

Socket, M12, 5-pin

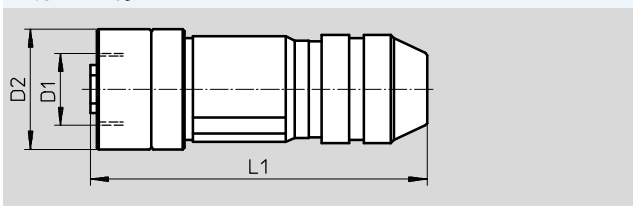
Technical data

FESTO

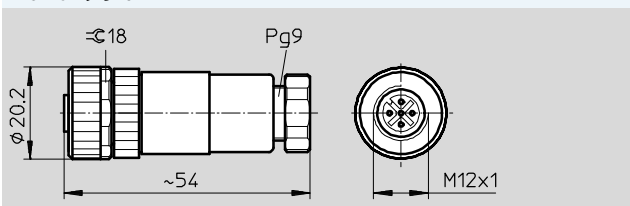
Dimensions

Download CAD data → www.festo.com

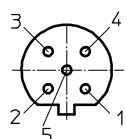
NECU-M-B12G5



FBSD-GD-9-5POL



Pin allocation



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

Ordering data

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

Socket, 7/8", 4-pin

Technical data

FESTO

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
Acceptable current load at 40 °C	[A]	10
Based on standard		EN 61984
Permissible cable Ø	[mm]	6 ... 12
Connection cross section	[mm ²]	Max. 1.5
Protection class		IP67

Materials	
Housing	Polyamide
Housing colour	Black
Seals	Fluoro elastomer
	Nitrile rubber
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 ¹⁾	1
Degree of contamination	3
CE marking (see declaration of conformity)	To EU Low Voltage Directive
Certification	c CSA us (OL)

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

Socket, 7/8", 4-pin

Technical data



Dimensions

Download CAD data → www.festo.com

The drawing shows a side view of a 4-pin socket. Dimension D1 is the diameter of the main body. Dimension D2 is the diameter of the pin area. Dimension L1 is the total length of the socket.

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

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

Socket, 7/8", 5-pin

Technical data

FESTO

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
Acceptable current load at 40 °C	[A]	8
Based on standard		EN 61984
Permissible cable Ø	[mm]	6 ... 12
Connection cross section	[mm ²]	Max. 1.5
Protection class		IP67

Materials	
Housing	Polyamide
Housing colour	Black
Seals	Fluoro elastomer
	Nitrile rubber
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 ¹⁾	1
Degree of contamination	3
CE marking (see declaration of conformity)	To EU Low Voltage Directive
Certification	c CSA us (OL)

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

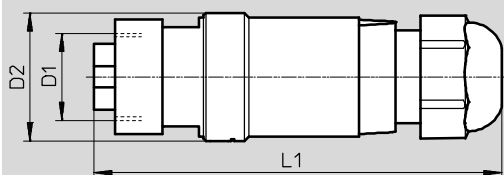
Socket, 7/8", 5-pin

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



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

Ordering data

Electrical connection		Connection cross section [mm ²]	Weight [g]	Part No.	Type
Socket 7/8", 5-pin, straight	Screw terminal	Max. 1.5	10.9	543107	NECU-G78G5-C2

Socket, push-pull, 5-pin

Technical data

FESTO

Power supply socket
NECU-M-PPG5PP

- Socket
- 5-pin
- Can be customised 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
Operating voltage range	[V DC]	0 ... 24
Surge resistance	[kV]	4
Acceptable current load at 40 °C	[A]	16
Cable Ø	[mm]	9 ... 13
Nominal conductor cross section	[mm ²]	0.75 ... 2.5
	[AWG]	18 ... 13
Cable fitting		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

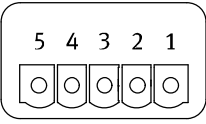
Operating and environmental conditions	
Ambient temperature	[°C] -40 ... +85
Storage temperature	[°C] -40 ... +85
Corrosion resistance class CRC ¹⁾	1
Contamination level	3
Fire tested	UL94 V-0

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Socket, push-pull, 5-pin

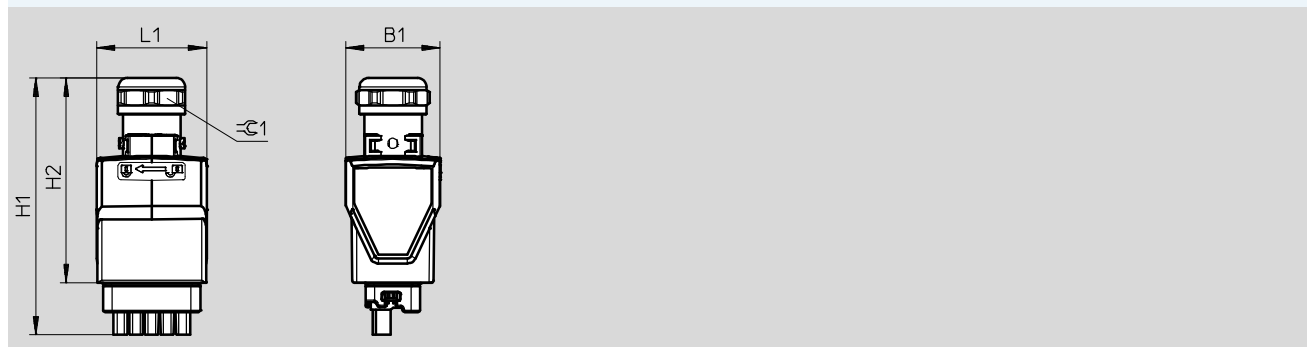
Technical data

FESTO

Pin allocation			
Push-pull			
5-pin	Pin	Wire colour ¹⁾ 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



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 diameter [mm ²]	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	pE ¹⁾
	Cable seal For adapting to cable diameter 6.5 ... 9.5 mm	11x20 mm	8079860	NEAU-KD-P4-A1-P5	5

1) Packaging unit.

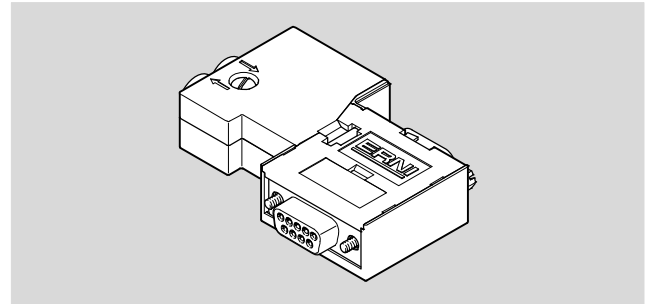
Socket, Sub-D, 9-pin

Technical data

FESTO

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 screened
Programming interface		Sub-D plug
		9-pin
Baud rate	[Mbps]	1
Permissible cable Ø	[mm]	8
Connection cross section	[mm ²]	0.14 ... 0.5
Type of mounting		4-40UNC
Protection class		IP20

Materials	
Housing	Reinforced polycarbonate
Note on materials	RoHS-compliant

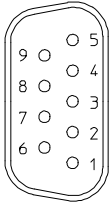
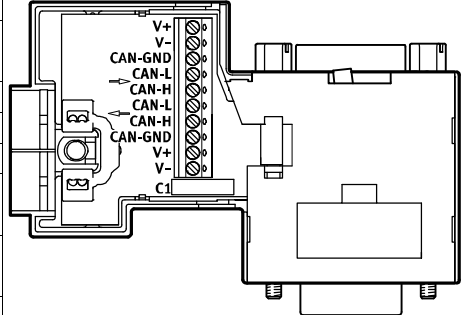
Operating and environmental conditions		
Ambient temperature	[°C]	−20 ... +70
Corrosion resistance class CRC ¹⁾		1
Relative air humidity	[%]	75 at 25 °C

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

Socket, Sub-D, 9-pin

Technical data

FESTO

Pin allocation				
Sub-D				
9-pin	Pin	Wire colour	Signal	Terminal
Sub-D plug				
	1	–	–	–
	2	White	Received/transmitted data low	C-L
	3	Screening	0 V CAN interface	GND
	4	–	–	–
	5	–	–	–
	6	Optional	Optional screened 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

Technical drawing of a Festo valve assembly, showing two views: a front view (left) and a side view (right).

Front View Dimensions:

- L1:** Total length of the assembly.
- L2:** Length of the main body.
- L3:** Length of the lower section.
- L4:** Length of the lower section (excluding the bottom flange).
- L5:** Length of the lower section (excluding the bottom flange and the lower section).
- L6:** Length of the lower section (excluding the bottom flange and the lower section).
- H1:** Total height of the assembly.
- H2:** Height of the main body.
- H3:** Height of the main body (excluding the top flange).
- H4:** Height of the lower section.
- H5:** Height of the lower section (excluding the bottom flange).

Side View Dimensions:

- B1:** Total width of the assembly.
- D1:** Diameter of the bottom flange.

Callouts:

- 1:** Points to the top flange.
- 2:** Points to the lower section.
- 3:** Points to the internal valve assembly.

Universal plug connectors SIE, for self-assembly



Accessories

Operational status indicator
SIE-LP-LED-GR

Used to indicate the ready status of a proximity sensor SIE connected via the angled socket SIE-WD-TR. It does this by illuminating a green LED.



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