

Electrical connection technology, for fieldbus connection

Product range overview

| Overview of fieldbus sockets/plugs for valve terminals | | | | | | | |
|--|----------------|-----------------------|---------|---------|----------|---------|-------------|
| Bus plug | Valve terminal | | | | | | → Page |
| | Type 04 | Type 10 ¹⁾ | Type 03 | Type 02 | Type ECP | Type 50 | |
| FBA-1-KL-5POL | - | ■ | - | - | ■ | ■ | 4 / 5.1-94 |
| FBA-1-SL-5POL | - | ■ | - | - | ■ | ■ | 4 / 5.1-94 |
| FBA-2-M12-5POL | - | - | - | - | - | ■ | 4 / 5.1-94 |
| FBA-2-M12-5POL-RK | ■ | ■ | ■ | ■ | ■ | ■ | 4 / 5.1-94 |
| CPX-AB-2-M12-RK-IB | - | - | - | - | - | ■ | 4 / 5.1-97 |
| FB-TA | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-100 |
| FB-TA1 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-100 |
| FB-TA-M12-5POL | ■ | ■ | ■ | - | ■ | - | 4 / 5.1-100 |
| FBS-SUB-9-GS-DP-B | ■ | ■ | ■ | ■ | ■ | ■ | 4 / 5.1-92 |
| FBS-SUB-9-BU-2x5POL-B | - | ■ | - | - | - | ■ | 4 / 5.1-92 |
| FBS-SUB-9-GS-2 x 4POL-B | - | - | - | - | - | ■ | 4 / 5.1-92 |
| FBS-SUB-9-GS-IB-B | - | ■ | - | - | - | ■ | 4 / 5.1-92 |
| FBS-SUB-9-BU-IB-B | - | ■ | - | - | - | ■ | 4 / 5.1-92 |
| FBS-M12-5GS-PG9 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-GD-7 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-GD-9 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-GD-9-5POL | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-GD-9-13,5 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-WD-7 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-WD-9 | ■ | ■ | ■ | ■ | ■ | - | 4 / 5.1-90 |
| FBSD-KL-2 x 5POL | - | ■ | - | - | ■ | ■ | 4 / 5.1-94 |

1) Fieldbus interface via CPV Direct

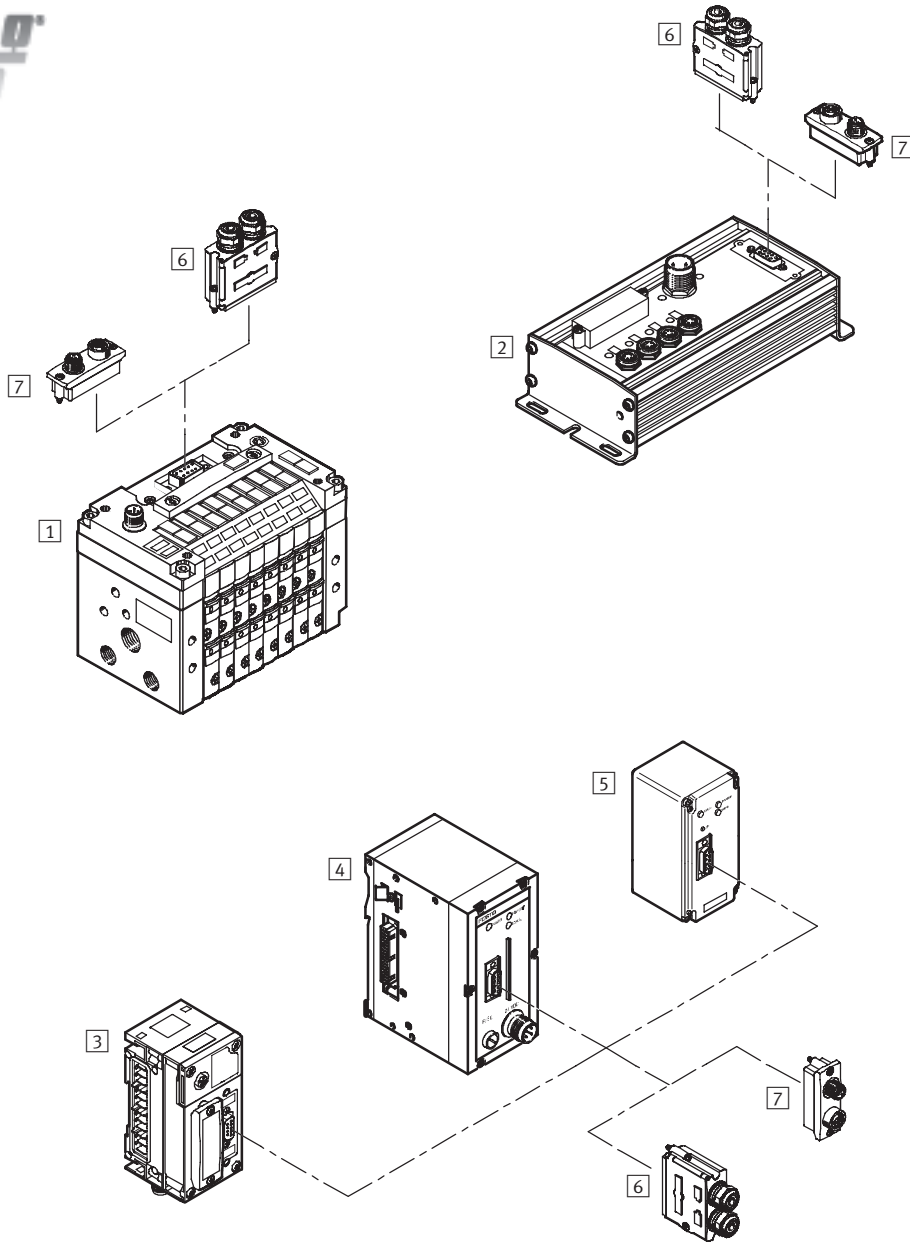
| Overview of connecting cables for valve terminals | | | | | |
|---|----------------|---------|---------|----------|------------|
| Cable type | Valve terminal | | | | → Page |
| | Type 04 | Type 10 | Type 03 | Type ECP | |
| KVI-CP-3-WS-WD-0,25 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-WS-WD-0,5 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-WS-WD-2 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-WS-WD-5 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-WS-WD-8 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-GS-GD-2 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-GS-GD-5 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |
| KVI-CP-3-GS-GD-8 | ■ | ■ | ■ | ■ | 4 / 5.1-88 |

Electrical connection technology, for fieldbus connection

Peripherals overview

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Profibus connection options



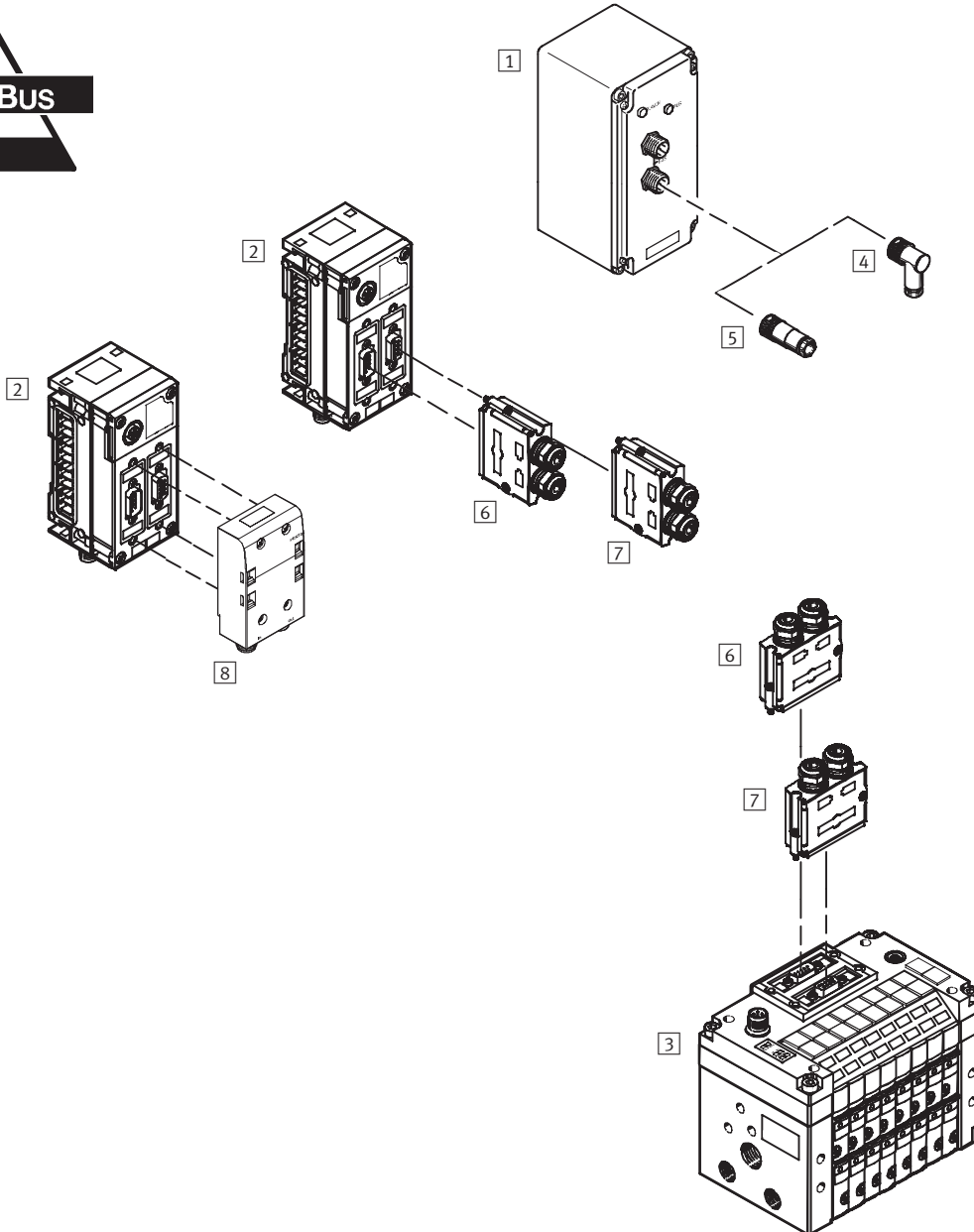
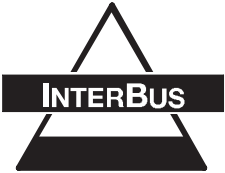
| Accessories | | |
|-------------|---------------------|-------------|
| | Brief description | → Page |
| 1 | CPV- ... -GE-DI01-8 | 4 / 4.7-15 |
| 2 | CP-FB13-E | 4 / 4.6-43 |
| 3 | CPX-FB13 | 4 / 4.8-70 |
| 4 | IFB13-03 | 4 / 4.8-202 |
| 5 | VIFB13-02 | 4 / 2.3-1 |
| 6 | FBS-SUB-9-GS-DP-B | 4 / 5.1-92 |
| 7 | FBA-2-M12-5POL-RK | 4 / 5.1-94 |

Electrical connection technology, for fieldbus connection

Peripherals overview

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INTERBUS connection options



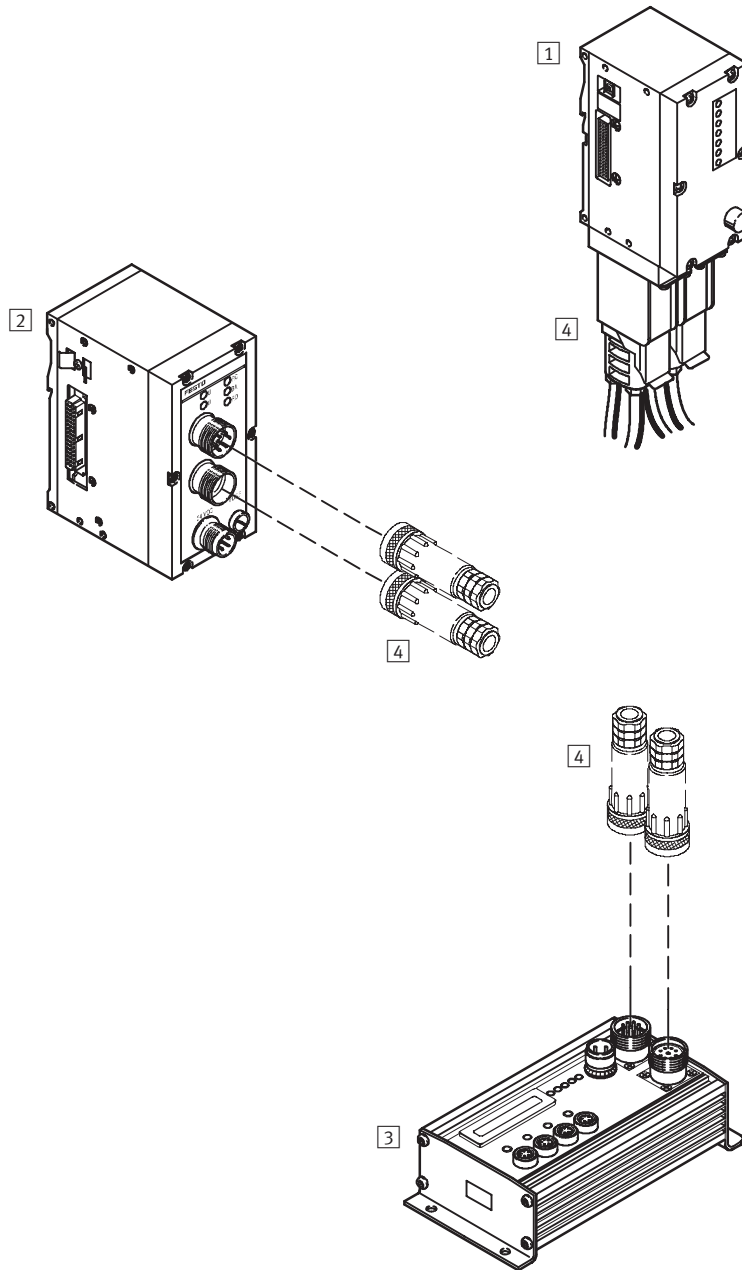
| Accessories | | |
|-------------|---|------------|
| | Brief description | → Page |
| 1 | VIFB6-02 Fieldbus node, valve terminal type 02 | 4 / 2.3-1 |
| 2 | CPX-FB6 Fieldbus node, CPX terminal | 4 / 4.8-62 |
| 3 | CPV10-... -GE-IB-B Fieldbus, directly integrated | 4 / 4.7-68 |
| 4 | FBSD-WD-... Plug socket, angled (fieldbus) | 4 / 5.1-90 |
| 5 | FBSD-GD-... Plug socket, straight (fieldbus) | 4 / 5.1-90 |
| 6 | FBS-SUB-9-BU-IB-B Socket for fieldbus connection, Sub-D, incoming | 4 / 5.1-92 |
| 7 | FBS-SUB-9-GS-IB-B Plug for fieldbus connection, Sub-D, outgoing | 4 / 5.1-92 |
| 8 | CPX-AB-2-M12-RK-IB Connection block for CPX Interbus node from 9-pin Sub-D plug to 5-pin M12x1 plug with B-code (ReverseKey) | 4 / 5.1-97 |

Electrical connection technology, for fieldbus connection

Peripherals overview

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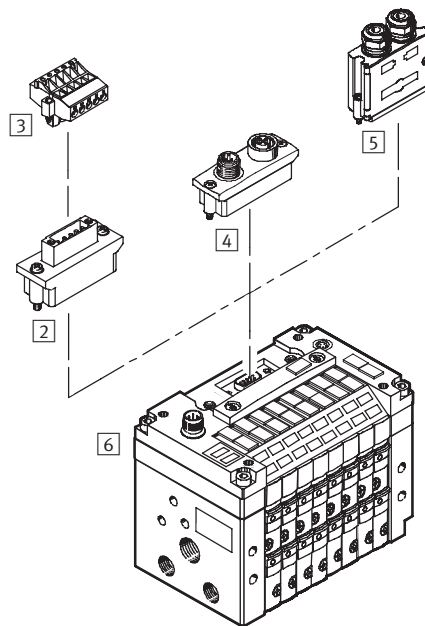
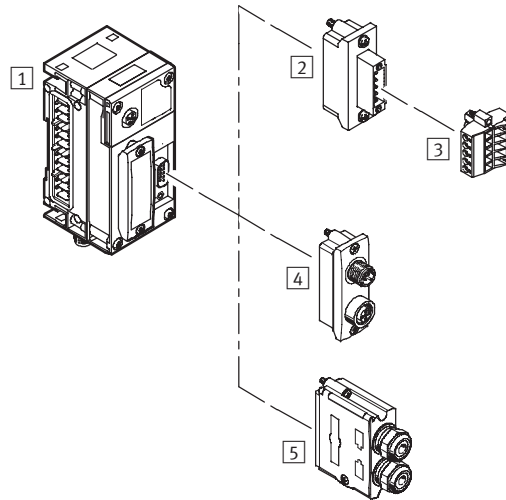
INTERBUS connection options



| Accessories | | Brief description | → Page |
|-------------|-----------|--|-------------|
| 1 | IFB21-03 | Fieldbus node, modular electrical peripherals for type 03/04, with Interbus connection via fibre optic cable | 4 / 4.8-210 |
| 2 | IFB6-03 | Fieldbus node, modular electrical peripherals for type 03/04 | 4 / 4.8-186 |
| 3 | CP-FB06-E | Fieldbus node, CP installation system | 4 / 4.6-35 |
| 4 | | Non-Festo plugs | – |

DeviceNet connection options

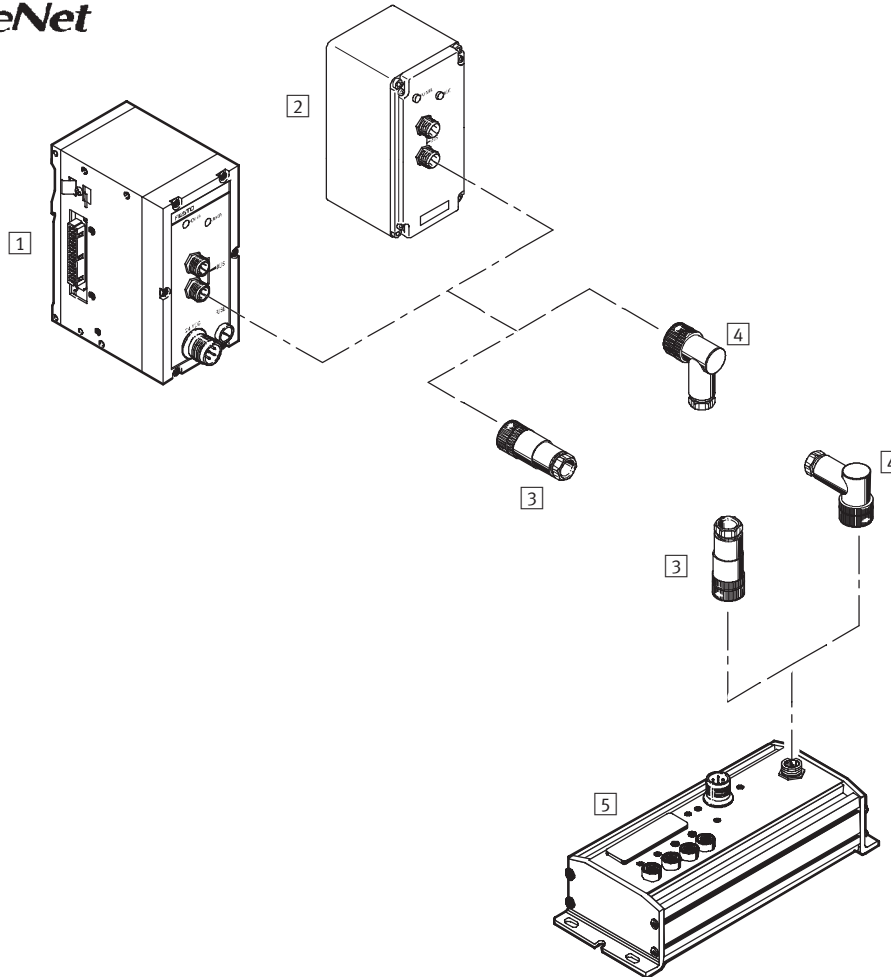
DeviceNet



| Accessories | | Brief description | → Page |
|-------------|-----------------------|---|------------|
| 1 | CPX-FB11 | Fieldbus node, CPX terminal | 4 / 4.8-66 |
| 2 | FBA-1-SL-5POL | Bus connection, adapter plug, 5-pin | 4 / 5.1-94 |
| 3 | FBSD-KL-2x5POL | Bus connection, screw connector, 2x5-pin | 4 / 5.1-94 |
| 4 | FBA-2-M12-5POL | Bus connection, adapter plug 2xM12, 5-pin (Micro Style) | 4 / 5.1-94 |
| 5 | FBS-SUB-9-BU-2x5POL-B | Plug for fieldbus connection, Sub-D | 4 / 5.1-92 |
| 6 | CPV-...-GE-DN2-8 | Fieldbus, directly integrated | 4 / 4.7-36 |

DeviceNet connection options

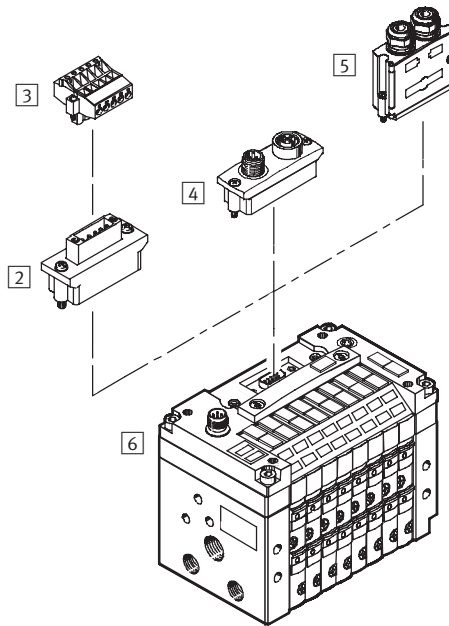
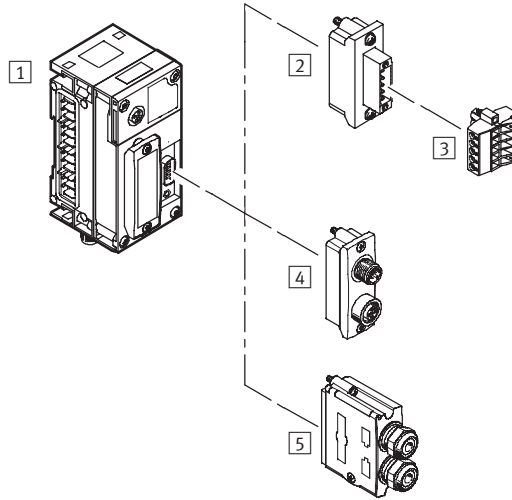
DeviceNet



| Accessories | | |
|-------------|--|-------------|
| | Brief description | → Page |
| 1 | IFB11-03 Modular electrical peripherals, for type 03/04 | 4 / 4.8-194 |
| 2 | VIFB6-02 Fieldbus node, valve terminal type 02 | 4 / 2.3-1 |
| 3 | FBSD-GD-... Plug socket, straight (fieldbus) | 4 / 5.1-90 |
| 4 | FBSD-WD-... Plug socket, angled (fieldbus) | 4 / 5.1-90 |
| 5 | CP-FB11-E Fieldbus node, CP installation system | 4 / 4.6-39 |

CANopen connection options

CANopen



| Accessories | | |
|-------------|--|------------|
| | Brief description | → Page |
| 1 | CPX-FB14 Fieldbus node, CPX terminal | 4 / 4.8-74 |
| 2 | FBA-1-SL-5POL Bus connection, adapter plug, 5-pin | 4 / 5.1-94 |
| 3 | FBSD-KL-2x5POL Bus connection, screw connector, 2x5-pin | 4 / 5.1-94 |
| 4 | FBA-2-M12-5POL Bus connection, adapter plug 2xM12, 5-pin | 4 / 5.1-94 |
| 5 | FBS-SUB-9-BU-2x5POL-B Plug for fieldbus connection, Sub-D | 4 / 5.1-92 |
| 6 | CPV-...-GE-C02-08 Fieldbus, directly integrated | 4 / 4.7-58 |

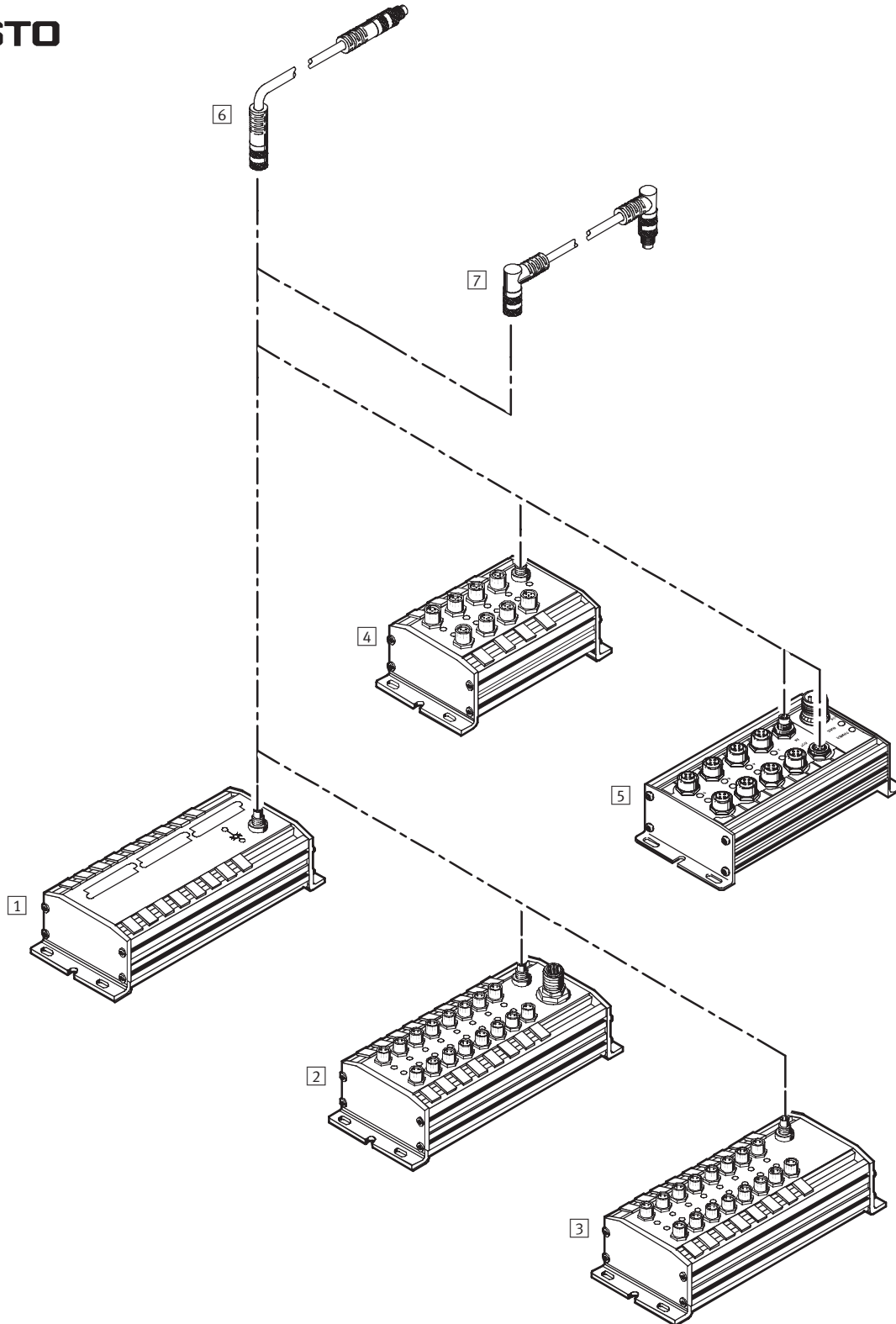
Electrical connection technology, for fieldbus connection

Peripherals overview

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Component connection options

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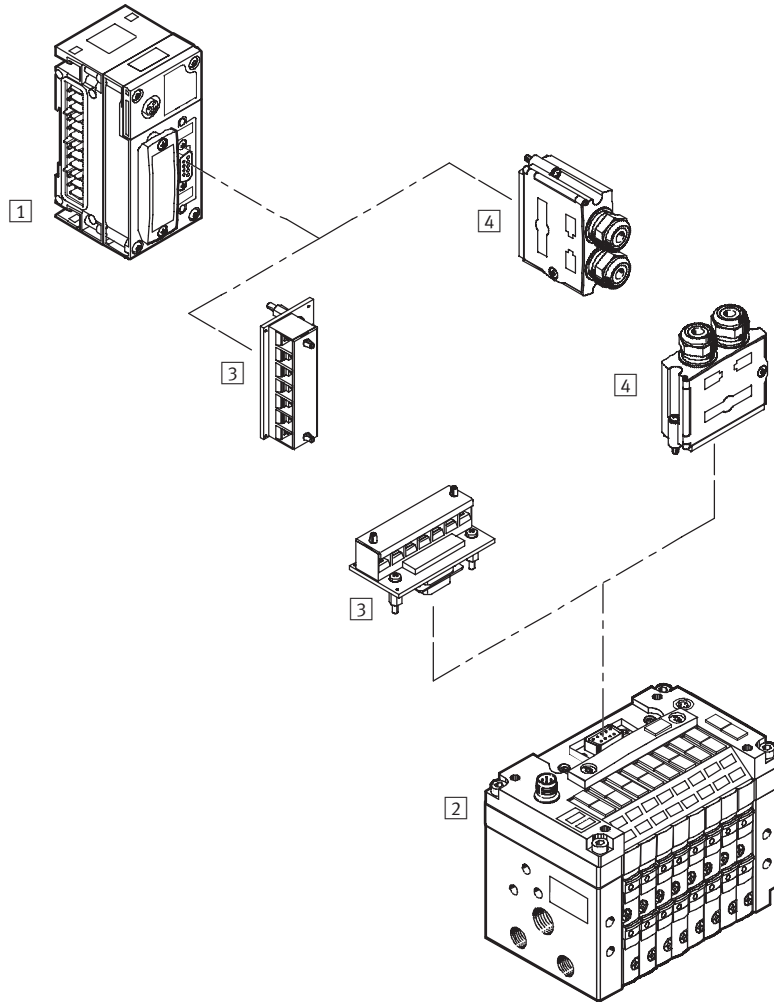
Electrical connection technology, for fieldbus connection

Peripherals overview

| Accessories | | |
|-------------|--|------------|
| | Brief description | → Page |
| 1 | CP-E16-EL-IP20-Z Input module with additional power supply for sensors | 4 / 4.6-47 |
| 2 | CP-E16-M8-Z Input module with additional power supply for sensors | 4 / 4.6-47 |
| 3 | CP-E16-M8 Input module with 16 inputs CP-E16N-M8 Input module with 16 inputs | 4 / 4.6-47 |
| 4 | CP-E16-M12x2-5POL Input module with 16 inputs CP-E16N-M12x2 Input module with 16 inputs | 4 / 4.6-47 |
| 5 | CP-A08-M12-5POL Output module with 8 outputs | 4 / 4.6-65 |
| 6 | KVI-CP-3-GS-GD Connecting cable, straight plug, straight socket | 4 / 5.1-88 |
| 7 | KVI-CP-3-WS-WD Connecting cable, angled plug, angled socket | 4 / 5.1-88 |

CC-Link connection options

CC-Link



| Accessories | | Brief description | → Page |
|-------------|-----------------------|-------------------------------------|------------|
| 1 | CPX-FB23 | Fieldbus node, CPX terminal | 4 / 4.8-78 |
| 2 | CPV-...-GE-CC-8 | Fieldbus, directly integrated | 4 / 4.7-76 |
| 3 | FBA-1-KL-5POL | 5-pin terminal strip | 4 / 5.1-94 |
| 4 | FBS-SUB-9-GS-2x4POL-B | Plug for fieldbus connection, Sub-D | 4 / 5.1-92 |

Electrical connection technology, for fieldbus connection

Technical data – KVI



- Connecting cable for fieldbus connection (CP bus valve terminal type 04, CPV, type 03 and CPI installation system)
- Pre-assembled at both ends
- Cable lengths 0.25 m, 0.5 m, 2 m, 5 m or 8 m
- 5-pin
- Round plug
- Suitable for chain link trunking



| General technical data | | KVI-... |
|--|--------------------|-----------------------------------|
| Type | | |
| Type of mounting | | M9 union nut |
| Installation position | | Any |
| Operating voltage range | [V] | 60 DC |
| Current-carrying capacity | [A] | 1.6 |
| Cable composition | [mm ²] | 2x0.24, 2x0.34 and 0.49 |
| Cable Ø | [mm] | 5.5 |
| Protection class to EN 60529 | | IP65/67 (assembled) |
| Materials note | | RoHS compliant |
| Housing material | | Polyurethane, nickel plated brass |
| Contact material | | Bronze/gold plated brass |
| Cable sheath material | | Polyurethane |
| Ambient temperature of flexible cable installation | [°C] | -5 ... +80 |
| Ambient temperature | [°C] | -20 ... +80 |
| Corrosion resistance class CRC ¹⁾ | | 1 |

1) Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. 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.

| Ordering data | | | | | |
|---------------|---------------------------------|--------------------|------------------|---------------------|----------|
| | Electrical connection | Product weight [g] | Cable length [m] | Type | Part No. |
| | Angled plug - angled socket | 34 | 0.25 | KVI-CP-3-WS-WD-0,25 | 540 327 |
| | Angled plug - angled socket | 45 | 0.5 | KVI-CP-3-WS-WD-0,5 | 540 328 |
| | Angled plug - angled socket | 116 | 2 | KVI-CP-3-WS-WD-2 | 540 329 |
| | Angled plug - angled socket | 256 | 5 | KVI-CP-3-WS-WD-5 | 540 330 |
| | Angled plug - angled socket | 399 | 8 | KVI-CP-3-WS-WD-8 | 540 331 |
| | Straight plug - straight socket | 114 | 2 | KVI-CP-3-GS-GD-2 | 540 332 |
| | Straight plug - straight socket | 255 | 5 | KVI-CP-3-GS-GD-5 | 540 333 |
| | Straight plug - straight socket | 397 | 8 | KVI-CP-3-GS-GD-8 | 540 334 |

Electrical connection technology, for fieldbus connection

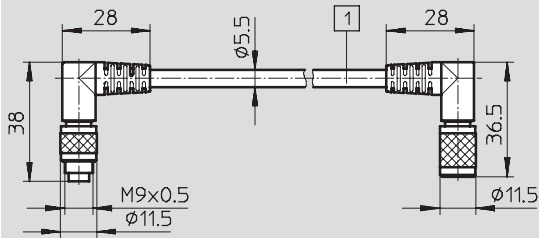
Technical data – KVI

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Dimensions

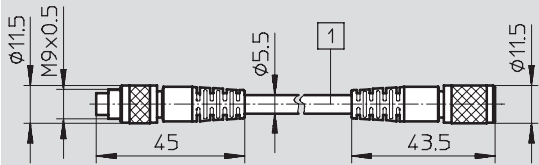
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KVI-CP-3-WSWD-...



1 Cable length 0.25 m, 0.5 m, 2 m, 5 m or 8 m

KVI-CP-3-GSGD-...



1 Cable length 2 m, 5 m or 8 m

Accessories for valve terminals
Electrical connector systems

5.1

Electrical connection technology, for fieldbus connection

Technical data – FBS/FBSD



- Plug/socket for fieldbus connection
- Can be fabricated with any cable lengths
- 5-pin plug/4-pin or 5-pin socket
- With screw terminals
- Wire cross section of up to 0.75 mm²



| General technical data | | |
|-------------------------------|---------------------|---------------------------------|
| Type | FBS/FBSD-... | |
| Type of mounting | M12 union nut | |
| Mounting position | Any | |
| Max. wire cross section | [mm ²] | 0.75 |
| Current-carrying capacity | [A] | 3 |
| Protection class to EN 60 529 | IP67 (assembled) | |
| Material of housing | FBS | Polybuteneterephthalate |
| | FBSD | Polyamide |
| Material of contacts | FBS | Nickel-plated/gold-plated brass |
| | FBSD | Tin-plated/silver-plated bronze |
| Material of union nut | Nickel-plated brass | |
| Ambient temperature | [°C] | -40 ... +85 |

| Ordering data | | | | | | | |
|---------------|--|-------------------------|---------------------|----------------------------|----------------|-----------------|----------|
| | Electrical connection | Operating voltage range | Cable gland fitting | Permissible cable diameter | Product weight | Type | Part No. |
| | | [V] | | [mm] | [g] | | |
| | Straight plug, 5-pin, screw terminal | 30 AC 36 DC | Pg9 | 6 ... 8 | 26 | FBS-M12-5GS-PG9 | 175 380 |
| | Straight socket, 4-pin, screw terminal | 125 AC | Pg7 | 4 ... 6 | 28 | FBSD-GD-7 | 18 497 |
| | Straight socket, 4-pin, screw terminal | 125 AC | Pg9 | 8 ... 9.5 | 29 | FBSD-GD-9 | 18 495 |
| | Straight socket, 5-pin, screw terminal (DeviceNet) | 30 AC | Pg9 | 6 ... 8 | 30 | FBSD-GD-9-5POL | 18 324 |
| | Straight socket, 4-pin, screw terminal | 125 AC | Pg13.5 | 10 ... 12 | 35 | FBSD-GD-13,5 | 18 496 |
| | Angled socket, 4-pin, screw terminal | 125 AC | Pg7 | 4 ... 6 | 29 | FBSD-WD-7 | 18 524 |
| | Angled socket, 4-pin, screw terminal | 125 AC | Pg9 | 6 ... 8 | 30 | FBSD-WD-9 | 18 525 |

Electrical connection technology, for fieldbus connection

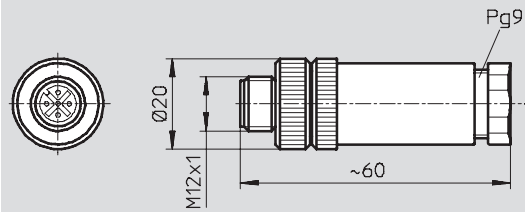
Technical data – FBS/FBSD

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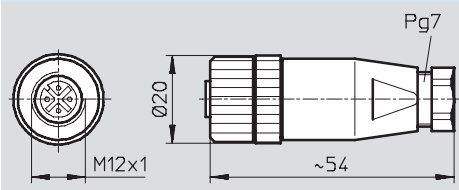
Dimensions

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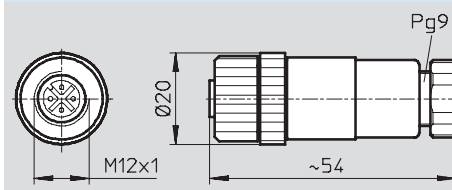
FBS-M12-5GS-PG9



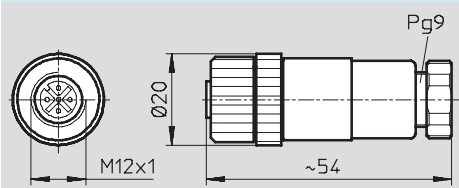
FBSD-GD-7



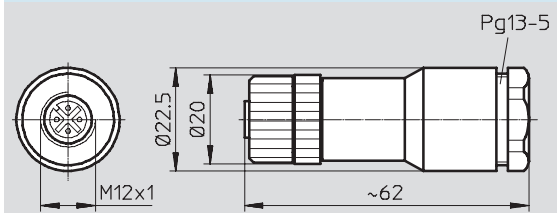
FBSD-GD-9



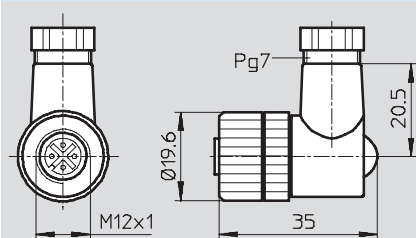
FBSD-GD-9-5POL



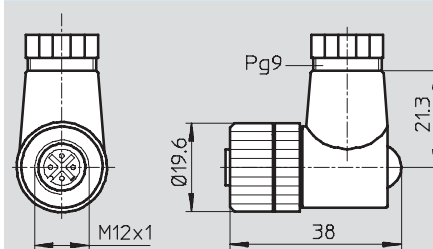
FBSD-GD-13,5



FBSD-WD-7



FBSD-WD-9



Electrical connection technology, for fieldbus connection



Technical data – FBS-SUB-9-...-B

- Fieldbus plug with 9-pin Sub-D connection
- Options for different fieldbus systems
- Position of DIL switch can be read externally
- Easy assembly



5.1

| General technical data | | |
|-------------------------------|---------------------|-------------|
| Type | FBS-SUB-9-...-B | |
| Type of mounting | 2 M3x20 screws | |
| Cable gland fitting | Pg9 | |
| Perm. cable diameter | [mm] | 5 ... 10 |
| Protection class to EN 60 529 | IP65/67 (assembled) | |
| Material of housing | Polyamide | |
| Material of seal | Perbunan | |
| Material of union nut | Nickel-plated brass | |
| Ambient temperature | [°C] | 0 ... +50 |
| Storage temperature | [°C] | -20 ... +70 |

| Ordering data | | | | | |
|---------------|-----------------------|----------------------------|--------------------|------------------------------|----------------|
| | Electrical connection | Interface | Product weight [g] | Type | Part No. |
| | Plug, 9-pin, Sub-D | Profibus DP | 60 | FBS-SUB-9-GS-DP-B | 532 216 |
| | Plug, 9-pin, Sub-D | Interbus nodes CPX and CPV | 60 | FBS-SUB-9-GS-IB-B | 532 217 |
| | Plug, 9-pin, Sub-D | – | 60 | FBS-SUB-9-GS-1x9POL-B | 534 497 |
| | Socket, 9-pin, Sub-D | Interbus nodes CPX and CPV | 60 | FBS-SUB-9-BU-IB-B | 532 218 |
| | Socket, 9-pin, Sub-D | DeviceNet/Can CPX and CPV | 60 | FBS-SUB-9-BU-2x5POL-B | 532 219 |
| | Socket, 9-pin, Sub-D | CC-Link CPX and CPV | 60 | FBS-SUB-9-BU-2x4POL-B | 532 220 |

Electrical connection technology, for fieldbus connection

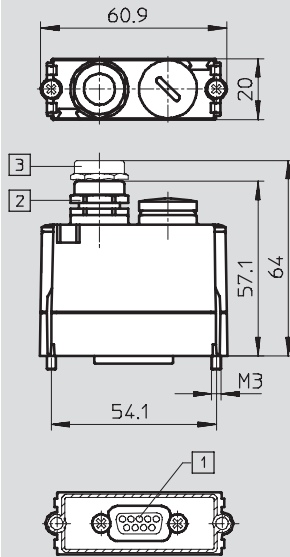
Technical data – FBS-SUB-9-...-B

Dimensions

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FBS-SUB-9-...-B

Housing



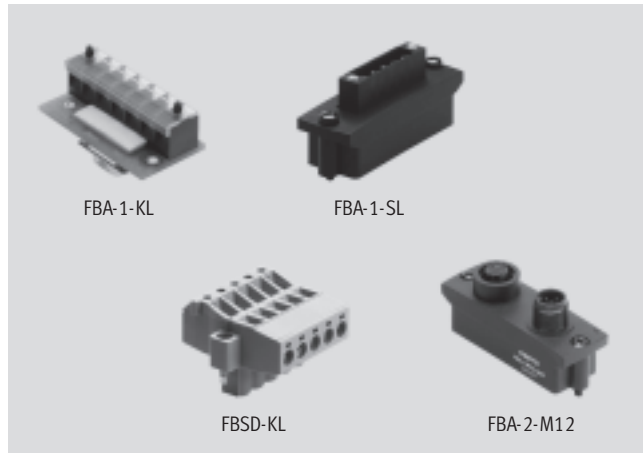
- 1 Sub-D socket/plug, 9-pin
- 2 Cable gland fitting, polymer, Pg9
- 3 Cable gland fitting, metal, Pg9

Electrical connection technology, for fieldbus connection



Technical data – BA/FBSD

- Plug/socket for fieldbus connection
- Adapter for Sub-D plug and socket
- Plug/socket, 9-pin, on connection, 5-pin/2x5-pin



5.1

| General technical data | | |
|-----------------------------|--------------------|------------------|
| Type | FBA... | FBSD-KL-... |
| Type of mounting | 2 M3x20 screws | 2 M2.5x12 screws |
| Mounting position | Any | |
| Operating voltage range [V] | 24 DC | |
| Material of housing | Polyamide | |
| Material of contacts | Gold-plated bronze | |
| Ambient temperature [°C] | -5 ... +50 | |
| Storage temperature [°C] | -20 ... +70 | |

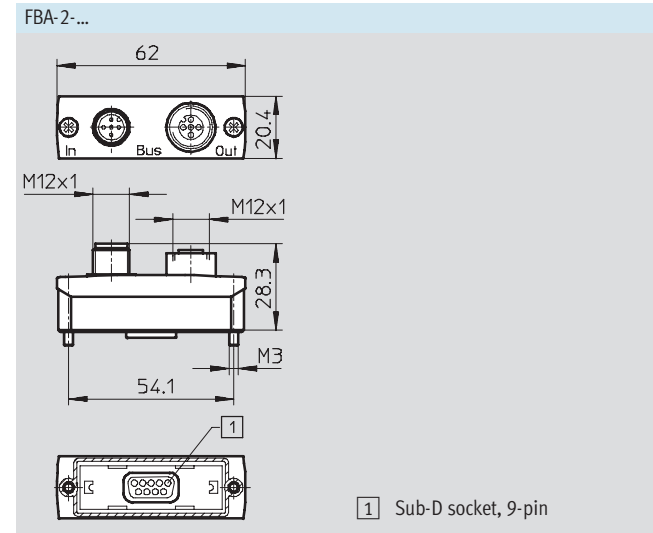
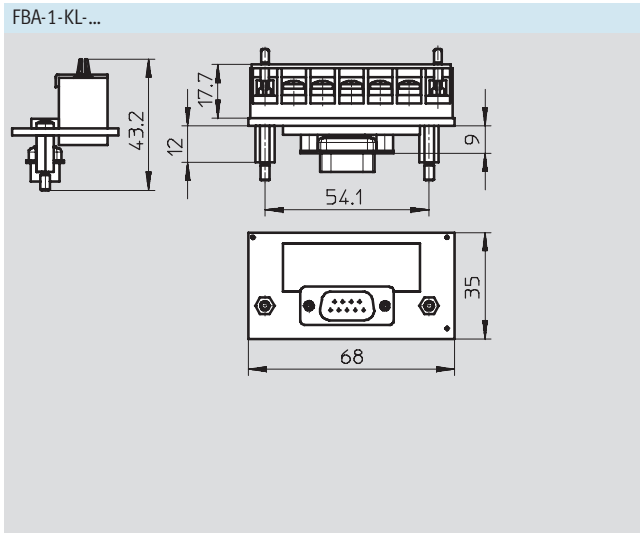
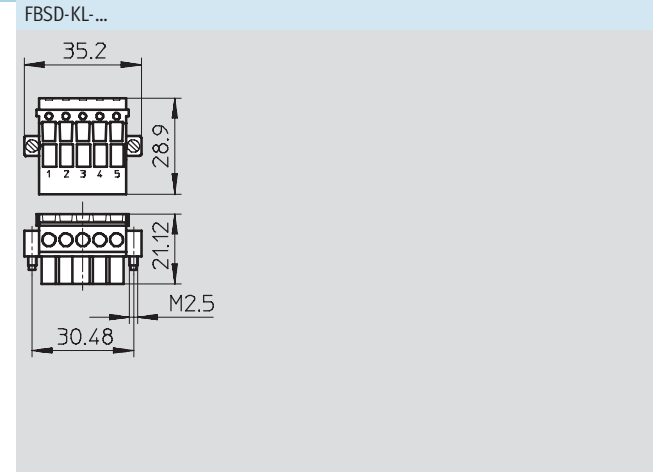
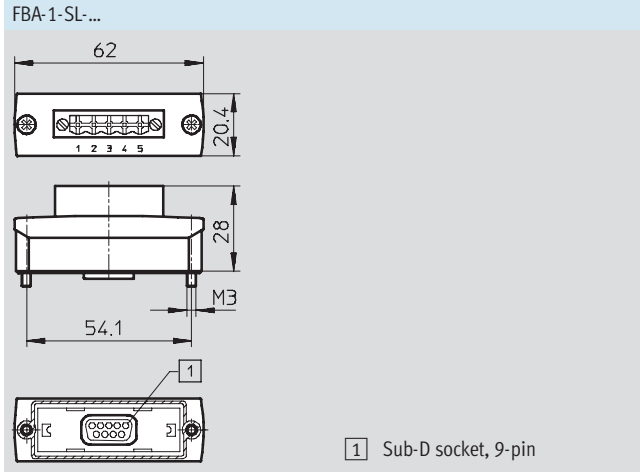
| Ordering data | | | | | | | |
|---------------|--|--|-------------------------------|-------------------------------|--------------------|----------------|----------|
| | Electrical connection | Max. wire cross section [mm ²] | Current-carrying capacity [A] | Protection class to EN 60 529 | Product weight [g] | Type | Part No. |
| | Plug, straight, Sub-D, 9-pin, screw terminal, 5-pin | 0.5 | 7.5 | IP20 | 47 | FBA-1-KL-5POL | 197 962 |
| | Straight socket, Sub-D, 9-pin, plug/socket, M12, 5-pin | – | 4 | IP65 | 28 | FBA-2-M12-5POL | 525 632 |
| | Straight socket, Sub-D, 9-pin, plug, 5-pin | – | 4 | IP40 | 26 | FBA-1-SL-5POL | 525 634 |
| | Socket, angled, 5-pin, screw terminal, 5-pin | 0.2 ... 2.5 | 12 | IP20 | 20 | FBSD-KL-2x5POL | 525 635 |

Electrical connection technology, for fieldbus connection

Technical data – FBA/FBSD



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Accessories for valve terminals
Electrical connector systems
5.1

Electrical connection technology, for fieldbus connection

Technical data – FBA/FBSD



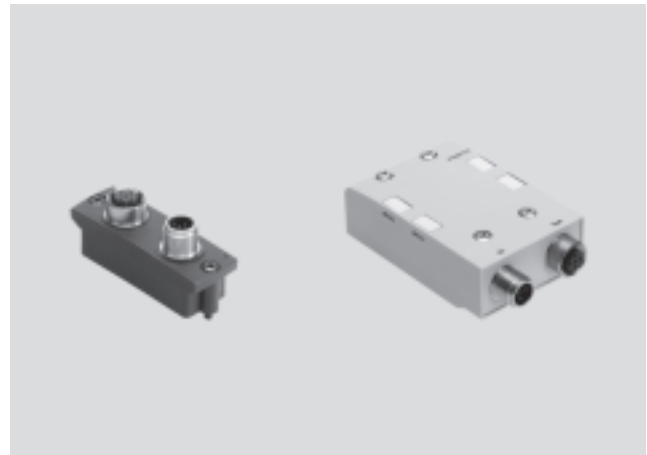
| Pin allocation Sub-D/opposite side | | | | | | | |
|------------------------------------|---------|-----|----------------|-----------------------|-----|---------|--------|
| FBA-1-KL-5POL | | | | FBA-1-SL-5POL | | | |
| Sub-D connection | Pin | Pin | Terminal strip | Sub-D connection | Pin | Pin | Plug |
| | 1 | | | | 1 | | |
| | 2 | DA | | | 2 | 2 | |
| | 3 | DG | | | 3 | 1 | |
| | 4 | | | | 4 | | |
| | 5 | FG | | | 5 | 3 | |
| | 6 | | | | 6 | | |
| | 7 | DB | | | 7 | 4 | |
| | 8 | | | | 8 | | |
| | 9 | | | | 9 | 5 | |
| | Housing | SLD | | | | Housing | |
| FBA-2-M12-5POL | | | | FBA-2-M12-5POL | | | |
| Sub-D connection | Pin | Pin | Plug | Sub-D connection | Pin | Pin | Socket |
| | 1 | | | | 1 | | |
| | 2 | 2 | | | 2 | 2 | |
| | 3 | 1 | | | 3 | 1 | |
| | 4 | | | | 4 | | |
| | 5 | 3 | | | 5 | 3 | |
| | 6 | | | | 6 | | |
| | 7 | 4 | | | 7 | 4 | |
| | 8 | | | | 8 | | |
| | 9 | 5 | | | 9 | 5 | |
| | Housing | 3 | | | | Housing | |

Electrical connection technology, for fieldbus connection

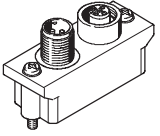
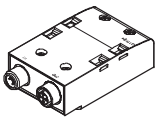
Technical data – FBA/CPX-AB-2



- Adapter for Sub-D plug and socket
- Plug/socket, 9-pin, on connection, 2xM12, 5-pin
- B coded (ReverseKey)



| General technical data | | |
|-----------------------------|--------------------|----------------|
| Type | FBA-... | CPX-AB-2-... |
| Type of mounting | 2 M3x20 screws | 4 M3x25 screws |
| Mounting position | Any | |
| Operating voltage range [V] | 24 DC | |
| Material of housing | Polyamide | |
| Material of contacts | Gold-plated bronze | |
| Ambient temperature [°C] | -5 ... +50 | |
| Storage temperature [°C] | -20 ... +70 | |

| Ordering data | | | | | | |
|---|--|-------------------------------|-------------------------------|--------------------|--|----------------------------------|
| | Electrical connection | Current-carrying capacity [A] | Protection class to EN 60 529 | Product weight [g] | Type | Part No. |
|  | Plug, straight, Sub-D, 9-pin, plug/socket, M12, 5-pin | 4 | IP65 | 37 | FBA-2-M12-5POL-RK | 533 118 |
|  | Plug/socket, straight, Sub-D, 9-pin, plug/socket, M12, 5-pin | | IP65/67 | 140 | CPX-AB-2-M12-RK-IB CPX-AB-2-M12-RK-DP | 534 505 541 519 |

Electrical connection technology, for fieldbus connection

Technical data – FBA/CPX-AB-2

FESTO

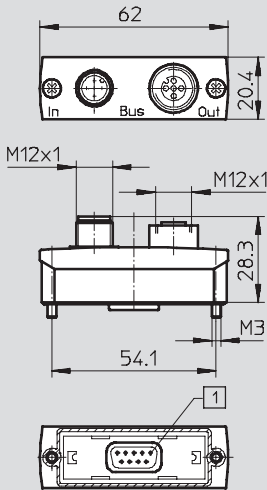
Accessories for valve terminals
Electrical connector systems

5.1

Dimensions

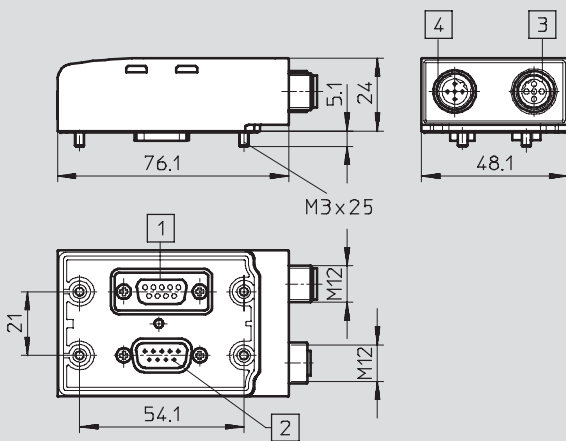
Download CAD data → www.festo.com/en/engineering

FBA-2-M12-5POL-RK



1 Sub-D plug, 9-pin,

CPX-AB-2-M12-RK-IB



- 1 Socket, 9-pin
- 2 Plug, 9-pin
- 3 Socket, M12, 5-pin
- 4 Plug, M12, 5-pin

Electrical connection technology, for fieldbus connection

Technical data – FBA/CPX-AB-2



| Pin allocation Sub-D/opposite side | | | | | | | |
|------------------------------------|---------|---------|------|------------------|-----|-----|--------|
| FBA-2-M12-5POL-RK | | | | | | | |
| Sub-D connection | Pin | Pin | Plug | Sub-D connection | Pin | Pin | Socket |
| | 1 | 5 | | | 1 | 5 | |
| | 2 | | | | 2 | | |
| | 3 | 4 | | | 3 | 4 | |
| | 4 | | | | 4 | | |
| | 5 | | | | 5 | 3 | |
| | 6 | | | | 4 | | |
| | 7 | | | | | | |
| | 8 | 2 | | | | | |
| | 9 | | | | | | |
| | Housing | Housing | | | | | |

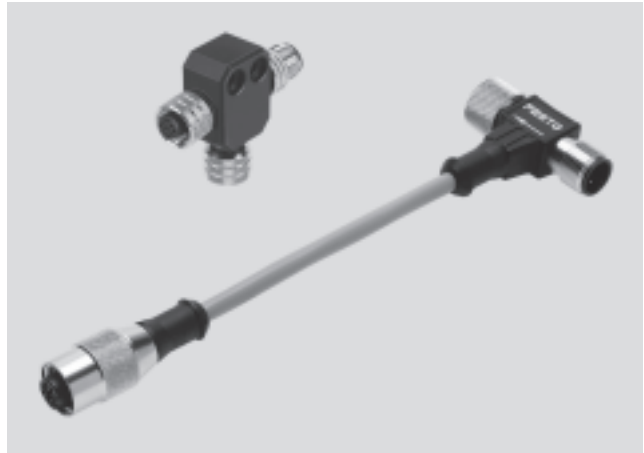
| CPX-AB-2-M12-RK-IB | | | | | | | |
|--------------------|---------|---------|------|------------------|-----|-----|--------|
| Sub-D connection | Pin | Pin | Plug | Sub-D connection | Pin | Pin | Socket |
| | 1 | 1 | | | 1 | 1 | |
| | 2 | 3 | | | 2 | 3 | |
| | 3 | 5 | | | 3 | 5 | |
| | 4 | | | | 4 | | |
| | 5 | | | | 5 | | |
| | 6 | 2 | | | | | |
| | 7 | 4 | | | | | |
| | 8 | | | | | | |
| | 9 | | | | | | |
| | Housing | Housing | | | | | |

Electrical connection technology, for fieldbus connection

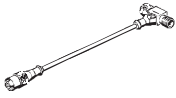

Technical data – FB-TA



- T-adapter for fieldbus connection (for valve terminal type 02, type 03, type 04, CPV and CP installation system)
- Branch line for the connection and disconnection of fieldbus components
- Connected fieldbus components can be unplugged without interrupting signal transmission (to other components)
- FB-TA-1 with open cable end for self-assembly
- FB-TA and FB-TA-1 with 5-pin push-in connectors, but only 3 continuous contacts



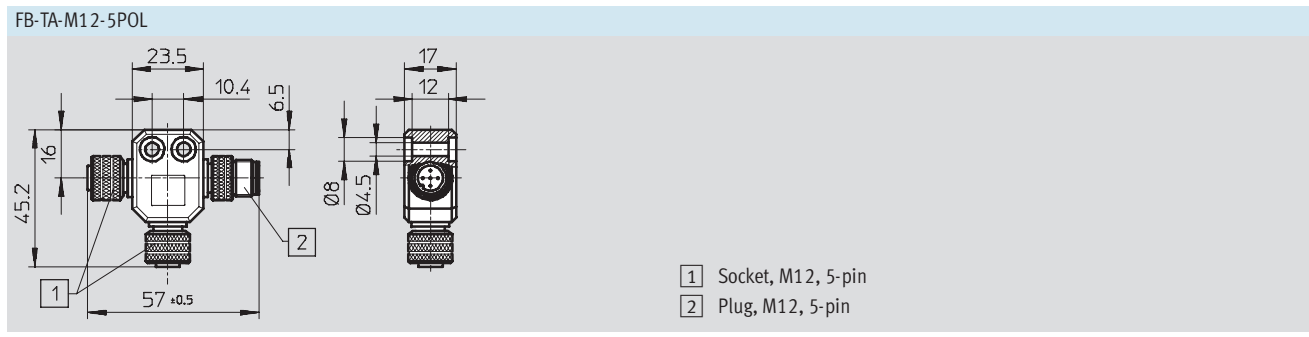
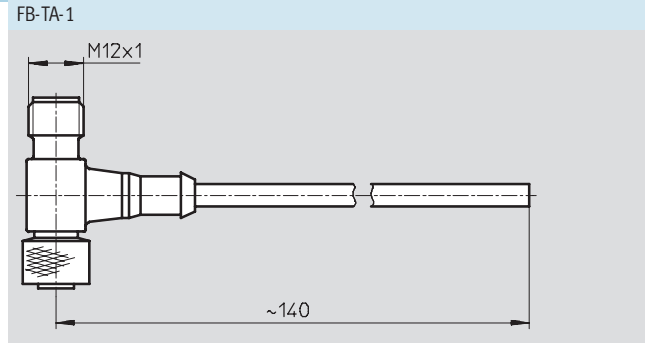
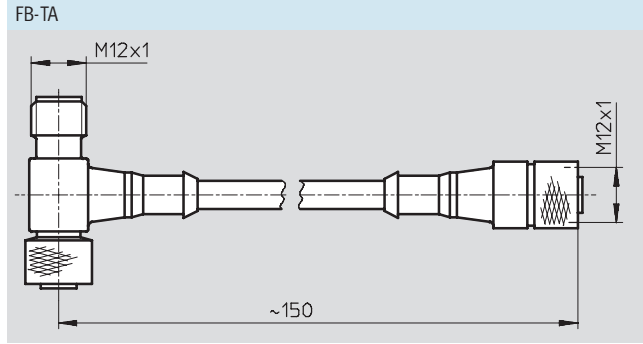
| General technical data | |
|-------------------------------|--|
| Type | FB-TA-... |
| Type of mounting | M12 union nut |
| Mounting position | Any |
| Operating voltage range [V] | 10 ... 30 DC |
| Current-carrying capacity [A] | 4 |
| Cable diameter [mm] | 5 (except FB-TA-M12-5POL) |
| Protection class to EN 60 529 | IP67 |
| Material of housing | Polyamide |
| Material of cable sheath | Polyvinyl chloride (except FB-TA-M12-5POL) |
| Ambient temperature [°C] | -25 ... +90 |

| Ordering data | | | | | | |
|---|-------------------------|---------------------------------|--|--------------------|-----------------------|----------------|
| | Electrical connection | Material of contacts | Constructional design [mm ²] | Product weight [g] | Type | Part No. |
|  | Socket/plug, 5-pin, M12 | Brass, nickel-plated/tin-plated | 2x0.25 | 37 | FB-TA | 18 498 |
| | | Brass, nickel-plated/tin-plated | 2x0.25 | 23 | FB-TA-1 | 18 499 |
|  | Socket/plug, 5-pin, M12 | Bronze, gold-plated | – | 39 | FB-TA-M12-5POL | 171 175 |

Electrical connection technology, for fieldbus connection

Technical data – FB-TA

Dimensions Download CAD data → www.festo.com/en/engineering



Accessories for valve terminals
Electrical connector systems

5.1

Electrical connection technology, for fieldbus connection

Technical data – FB-TA



Accessories for valve terminals
Electrical connector systems

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| Wiring allocation (socket/plug view) | | |
|--------------------------------------|---|------|
| FB-TA | | |
| Socket | Wiring allocation | Plug |
| | | |
| | | |
| FB-TA-1 | | |
| Socket | Wiring allocation | Plug |
| | <div style="display: flex; flex-direction: column; gap: 5px;"> <div>1 White</div> <div>2 Black</div> <div>3 Screen</div> </div> | |
| | | |
| FB-TA-M12-5POL | | |
| Socket | Wiring allocation | Plug |
| | | |
| | | |

Electrical connection technology, for fieldbus connection

Technical data – NECU



- Power supply socket for fieldbus connection
- 4- and 5-pin
- Can be fabricated with any cable lengths
- With screw terminals
- Wire cross section of up to 2 mm²



| General technical data | | | |
|----------------------------|--------------------|---------------------------|----------------------|
| Type | | NECU-G78G4-C2 | NECU-G78G5-C2 |
| Operating voltage range | [V DC] | ≤ 300 | |
| | [V AC] | ≤ 250 | |
| Permissible cable diameter | [mm] | 5 ... 12 | |
| Connection cross section | [mm ²] | 0.25 ... 2 | |
| Plug coding | | ODVA AutoSIG | NFPA/T3.5.29 R1-2003 |
| Material of casing | | Polyamide | |
| Material of seals | | Nitrile rubber | |
| Material of contacts | | Copper alloy, gold plated | |
| Material of union nut | | Nickel-plated brass | |
| Note on materials | | Free of copper and PTFE | |

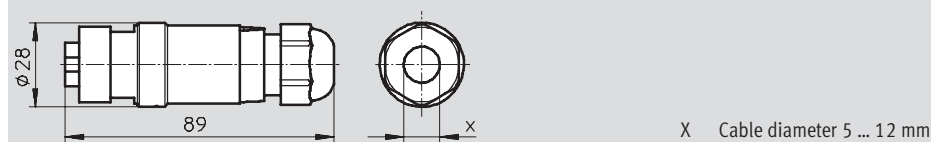
| Operating and environmental conditions | | |
|--|------|-----------------|
| Ambient temperature | [°C] | -40 ... +80 |
| Corrosion resistance class CRC ¹⁾ | | 1 |
| Certification | | c CSA us - (OL) |

1) Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. 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.

| Ordering data | | | | | | |
|---------------|---|-----------------------------|------------------------------|--------------------|---------------|----------|
| | Electrical connection | Acceptable current load [A] | Protection class to EN 60529 | Product weight [g] | Type | Part No. |
| | Plug socket, straight, screw terminal, 7/8" round plug connector, 4-pin | 10 | IP65/67/68 | 49 | NECU-G78G4-C2 | 543 108 |
| | Plug socket, straight, screw terminal, 7/8" round plug connector, 5-pin | 8 | IP65/67/68 | 51 | NECU-G78G5-C2 | 543 107 |

Dimensions Download CAD data → www.festo.com/en/engineering

NECU-G78G4-C2, NECU-G78G5-C2



Electrical connection technology, for fieldbus connection

Technical data – NEDU



- T-adapter
- Branch line for the connection and disconnection of fieldbus components
- Connected fieldbus components can be unplugged without interrupting signal transmission (to other components)



| General technical data | | | | |
|--|------|--|---------------------------|----------------|
| Type | | NEDU-M12D5-M12T4 | NEDU-M8D3-M12T4 | NEDU-M8D3-M8T4 |
| Type of mounting | | Screw-in | | |
| Mounting position | | Any | | |
| Connection frequency | | 500 | 500 | 100 |
| Nominal operating voltage | [V] | 250 DC | 60 DC | 32 DC |
| | [V] | 60 AC | 60 AC | 32 AC |
| Current-carrying capacity | [A] | 4 | 4 | 2 |
| Protection class to EN 60529 | | IP65/67 | | |
| Electrical connection | | To EN 60947-5-2 | | |
| Max. tightening torque | [Nm] | 0.5 | 0.3 for M8 0.5 for M12 | 0.3 |
| Material of housing | | Polyurethane | | Polyamide |
| Material of crimp connectors | | Gold-plated brass | | |
| Material of union nut | | Chrome plated brass, nickel plated brass | | |
| Note on materials | | Free of copper and PTFE | | |
| Corrosion resistance class CRC ¹⁾ | | 2 | | |
| Ambient temperature | [°C] | -25 ... +85 | | |

1) Corrosion resistance class 2 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 | Product weight [g] | Type | Part No. |
| | Plugs/sockets, 4-pin/4-pin, M12x1/M12x1 | 25.5 | NEDU-M12D5-M12T4 | 541 596 |
| | Plugs/sockets, 4-pin/3-pin, M12x1/M8x1 | 16.9 | NEDU-M8D3-M12T4 | 541 597 |
| | Plugs/sockets, 4-pin/3-pin, M8x1/M8x1 | 9.5 | NEDU-M8D3-M8T4 | 544 391 |

Electrical connection technology, for fieldbus connection

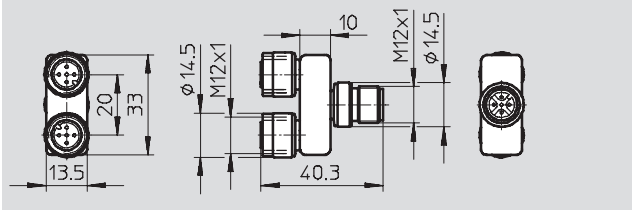


Technical data – NEDU

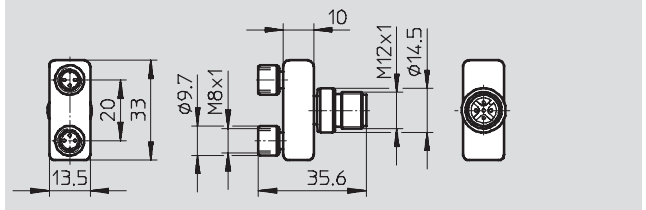
Dimensions

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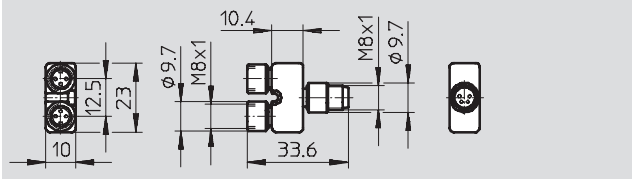
NEDU-M12D5-M12T4



NEDU-M8D3-M12T4



NEDU-M8D3-M8T4



Accessories for valve terminals
Electrical connector systems

5.1

Electrical connection technology, for fieldbus connection

Technical data – NEDU



| Wiring allocation (socket/plug view) | | |
|--------------------------------------|-------------------|--------|
| NEDU-M12D5-M12T4 | | |
| Socket | Wiring allocation | Socket |
| | | |
| | | |
| NEDU-M8D3-M12T4 | | |
| Socket | Wiring allocation | Socket |
| | | |
| | | |
| NEDU-M8D3-M8T4 | | |
| Socket | Wiring allocation | Socket |
| | | |
| | | |

Accessories for valve terminals
Electrical connector systems

5.1

Electrical connection technology, for fieldbus connection

Technical data – KVI-...-SSD



5.1

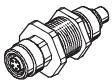
- Connector for fieldbus connection (CP bus valve terminal type 04, CPV, type 03 and CPI installation system)
- 5-pin
- Straight socket/straight plug



| General technical data | |
|-------------------------------|---------------------------|
| Type | KVI-...-SSD |
| Type of mounting | Via external thread |
| Mounting position | Any |
| Nominal operating voltage [V] | 24 DC |
| Protection class to EN 60529 | IP65/67 |
| Material of casing | Nickel-plated brass |
| Material of contacts | Copper alloy, gold plated |
| Material of union nut | Nickel-plated brass |
| Note on materials | Free of copper and PTFE |

| Operating and environmental conditions | |
|--|-------------|
| Ambient temperature [°C] | -20 ... +80 |
| Corrosion resistance class CRC ¹⁾ | 2 |

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 | Product weight [g] | Type | Part No. |
|  | Straight plug, 5-pin, M9 Straight socket, 5-pin, M9 | 48 | KVI-CP-3-SSD | 543 252 |

Dimensions Download CAD data → www.festo.com/en/engineering

