FBP FieldBusPlug

Technical Description

V6

Accessories for bus connection
DeviceNet, CANopen and Modbus-RTU
## Accessories for bus connection
DeviceNet, CANopen and Modbus-RTU

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Technical changes reserved
FieldBusPlug
DeviceNet-, CANopen-, Modbus-RTU Accessories
Technical Description

DNX11-FBP.100, DNX11-FBP.300, DNX11-FBP.500
Extension cables (lengths 1 m, 3 m, 5 m)

Connection cable, socket/plug (M12)
with self-locking screwed connection

Temperature range
-25°C ... + 90°C

Materials
Moulded body TPU, self-extinguishing
Contact (female) CuSn, pre-nickeled and 0.3 µm gold-plated
Contact (male) CuZn, pre-nickeled and 0.8 µm gold-plated
Body TPU, self-extinguishing
Knurled screw, knurled nut CuZn, nickeled
O-ring Viton

Mechanical data
Degree of protection IP 68
(only in fully locked position with their plugs)
Good resistance to oil and chemicals.
Use of this connector range in aggressive environments must be tested in each case.

Electrical data
Max. current load 4 A (CSA = 3 A)
Nominal voltage 30 V AC / 36 V DC
Insulation group C acc. to VDE 0110
Test voltage 1.5 kV AC / 60 s
Insulation resistance > 10⁹ Ω

Cable data
Number of poles 5
Colours of cores
1 = SHIELD (bare flexible lead)
2 = red (+24 V DC)
3 = black (0 V)
4 = white (CAN_H)
5 = blue (CAN_L)
Sheath/jacket PUR (free of PVC and halogen)
Cable colour black
Further cable data see page 7

Order numbers
DNX11-FBP.100 1SAJ 923 001 R0010
DNX11-FBP.300 1SAJ 923 001 R0030
DNX11-FBP.500 1SAJ 923 001 R0050
FieldBusPlug
DeviceNet-, CANopen-, Modbus-RTU Accessories
Technical Description

**DNF11-FBP.050**
Round cable with female plug, 0.5 m

Female connector with self-locking screwed connection and integrally extruded cable

**Difference to standard:**
Cable end sheath stripped 50 mm in length with shrunk-on insulation sleeving, wire-end ferrules attached to the cores

**Temperature range**  
-25°C ... + 90°C

**Materials**
- Moulded body: TPU, self-extinguishing
- Contact: CuZn, pre-nickel plated and 0.3 µm gold-plated
- Body: TPU, self-extinguishing
- Knurled nut: CuZn, nickleled
- O-ring: Viton

**Mechanical data**
- Degree of protection: IP 68
  (only in fully locked position with their plugs)
- Good resistance to oil and chemicals.
- Use of this connector range in aggressive environments must be tested in each case.

**Electrical data**
- Max. current load: 4 A (CSA = 3 A)
- Nominal voltage: 30 V AC / 36 V DC
- Insulation group: C acc. to VDE 0110
- Test voltage: 1.5 kV AC / 60 s
- Insulation resistance: > 10^9 Ω

**Cable data**
- Number of poles: 5
- Colours of cores:
  - 1 = SHIELD (bare flexible lead)
  - 2 = red (+24 V DC)
  - 3 = black (0 V)
  - 4 = white (CAN_H)
  - 5 = blue (CAN_L)
- Sheath/jacket: PUR (free of PVC and halogen)
- Cable colour: black
- Further cable data: see page 7

**Order number**
DNF11-FBP.050 1SAJ 923 002 R0005
DNM11-FBP.050
Round cable with male plug, 0.5m

Male connector with self-locking screwed connection and integrally extruded cable

Difference to standard:
Cable end sheath stripped 50 mm in length with shrunk-on insulation sleeving, wire-end ferrules attached to the cores

Temperature range  -25°C ... + 90°C

Materials
Moulded body  TPU, self-extinguishing
Contact  CuZn, pre-nickelated and 0.8 µm gold-plated
Body  TPU, self-extinguishing
Knurled nut  CuZn, nickelated
O-ring  Viton

Mechanical data
Degree of protection  IP 68
(only in fully locked position with their plugs)
Good resistance to oil and chemicals.
Use of this connector range in aggressive environments must be tested in each case.

Electrical data
Max. current load  4 A (CSA = 3 A)
Nominal voltage  30 V AC / 36 V DC
Insulation group  C acc. to VDE 0110
Test voltage  1.5kV AC / 60 s
Insulation resistance  > 10⁹ Ω

Cable data
Number of poles  5
Colours of cores
1 = SHIELD (bare flexible lead)
2 = red (+24 V DC)
3 = black (0 V)
4 = white (CAN_H)
5 = blue (CAN_L)
Sheath/jacket  PUR (free of PVC and halogen)
Cable colour  black
Further cable data  see page 7

Order number
DNM11-FBP.050  1SAJ 9223 003 R0005
**FieldBusPlug**  
**DeviceNet-, CANopen-, Modbus-RTU Accessories**  
**V6**  

### Technical Description

#### DNC11-FBP.999
Drop cable 100 m

**Extension cable (ring)**

### Construction

#### Supply voltage
- **Conductors**: 22 AWG (0.34 mm²), tinned  
- **Core insulation**: TPE  
- **Core colours**: red and black

#### Data lines
- **Conductors**: 24 AWG (0.25 mm²), tinned  
- **Core insulation**: Cell-PE  
- **Core colours**: blue and white

- **Shielding**: each pair of cores with AL-PT foil, covering 100 %, cores are twisted in pairs
- **Bare flexible lead**: 22 AWG (0.34 mm²), tinned  
- **Common shield**: C shield, tinned, covering ca. 65 %
- **Sheath/jacket**: PUR dull, Ø 6.8 mm  
  - Colour: black

### Electrical data

#### Supply voltage
- **Test voltage**: 1.2 kV AC  
- **Conductor resistance**: ≤ 57.4 Ω/km  
- **Insulation resistance**: ≥ 10¹² Ω/km

#### Data lines
- **Test voltage**: 1.2 kV AC  
- **Conductor resistance**: ≤ 91.9 Ω/km  
- **Insulation resistance**: ≥ 10¹⁴ Ω/km  
- **Capacity in operation**: 39 pF/m, 0.8 - 1.2 MHz (A/A)  
  - 79 pF/m, 0.8 - 1.2 MHz (A/S)
- **Attenuation**:  
  - ≤ 9.5 dB/km, 125 kHz  
  - ≤ 16.4 dB/km, 500 kHz  
  - ≤ 22.9 dB/km, 1 MHz
- **Impedance**: 120 Ω ± 10 %, 1 MHz

### Mechanical data
- can be used as trailing cable, bending radius min. 100 mm,  
- temperature range, static: -40° C / +70° C  
- temperature range, under movement: -10° C / +70° C

### Other data
- meets DeviceNet specifications,  
- inflammability according to DIN VDE 0472-804 test type B, cable is free of halogen and PVC,  
- good resistance to oil, chemicals, hydrolysis and mikrobes

### Order number
DNC11-FBP.999 1SAJ 923 004 R1000

Technical changes reserved
FieldBusPlug
DeviceNet-, CANopen-, Modbus-RTU Accessories
Technical Description

DNM11-FBP.0
Male connector for round cable

Male connector with screwed connection, for cable

Temperature range  
-25°C ... + 90°C

Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moulded body</td>
<td>PA, self-extinguishing</td>
</tr>
<tr>
<td>Contact</td>
<td>CuZn, 2-4 μm CuSnZn</td>
</tr>
<tr>
<td>Body</td>
<td>PA, self-extinguishing</td>
</tr>
<tr>
<td>Knurled screw</td>
<td>CuZn, nickeled</td>
</tr>
<tr>
<td>O-ring</td>
<td>NBR or FKM</td>
</tr>
</tbody>
</table>

Mechanical data

Degree of protection  
IP 67
(only in fully locked position with their plugs)

Good resistance to oil and chemicals.
Use of this connector range in aggressive environments must be tested in each case.

Electrical data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. current load</td>
<td>4 A</td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>30 V AC / 36 V DC</td>
</tr>
<tr>
<td>Insulation group</td>
<td>C acc. to VDE 0110</td>
</tr>
<tr>
<td>Test voltage</td>
<td>1.0 kV AC / 60 s</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>&gt; 10⁹ Ω</td>
</tr>
</tbody>
</table>

Connection data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of poles</td>
<td>5</td>
</tr>
<tr>
<td>Connection type</td>
<td>screw-type terminals</td>
</tr>
<tr>
<td>Cond. cross section</td>
<td>max. 0.75 mm²</td>
</tr>
<tr>
<td>Cable gland</td>
<td>Ø 4.0 ... 8.0 mm</td>
</tr>
</tbody>
</table>

Order number

DNM11-FBP.0 1SAJ 923 005 R0001
**Technical Description**

**DNF11-FBP.0**

Female connector for round cable

- Female connector with screwed connection, for cable
- **Temperature range** -25°C ... + 90°C

**Materials**

- Moulded body: PA, self-extinguishing
- Contact: CuZn, 2-4 µm CuSnZn
- Body: PA, self-extinguishing
- Knurled screw: CuZn, nickeled
- O-ring: NBR or FKM

**Mechanical data**

- Degree of protection: IP 67
  (only in fully locked position with their plugs)
- Good resistance to oil and chemicals.
- Use of this connector range in aggressive environments must be tested in each case.

**Electrical data**

- Max. current load: 4 A
- Nominal voltage: 30 V AC / 36 V DC
- Insulation group: C acc. to VDE 0110
- Test voltage: 1.25 kV AC / 60 s
- Insulation resistance: > 10⁹ Ω

**Connection data**

- Number of poles: 5
- Connection type: screw-type terminals
- Cond. cross section: max. 0.75 mm²
- Cable gland: ∅ 4.0 ... 8.0 mm

**Order number**

DNF11-FBP.0 1SAJ 923 006 R0001
DNR11-FBP.120
Terminating resistor

Male plug M 12, 5 poles

**Temperature range**  
-25°C ... + 90°C

**Materials**
- **Moulded body**: PA, self-extinguishing
- **Contact**: CuZn, pre-nickeled and 0.8 µm gold-plated
- **Body**: TPU, self-extinguishing
- **Knurled screw**: CuZn, nickeled

**Mechanical data**
- **Degree of protection**: IP 67  
  (only in fully locked position with their plugs)

Good resistance to oil and chemicals.  
Use of this connector range in aggressive environments must be tested in each case.

**Connection data**
- **Number of poles**: 5
- **Pin assignment**: Pins 1-3 = unused

Technical changes reserved

**Order number**
- ASF11-FBP.0  
- 1SAJ 922 006 R0001