

## BO-DEVICENET HIGH-FLEX PVC

DeviceNet™ cables for dynamic installation



Image for illustration only

|                                                                                        |                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conductor:</b>                                                                      | Stranded tinned copper complying with CEI EN 60228                                                                                                                                                                                                                                                                         |
| <b>Insulation:</b><br><b>Signal AWG 18 or AWG 24</b><br><b>Power AWG 15 or AWG 22</b>  | Foam skin PE<br>Solid PE                                                                                                                                                                                                                                                                                                   |
| <b>Colour Code:</b><br><b>Signal AWG 18 or AWG 24</b><br><b>Power AWG 15 or AWG 22</b> | white and blue<br>black and red                                                                                                                                                                                                                                                                                            |
| <b>Pair shielding:</b>                                                                 | Aluminium/polyester tape on each pair and common drain wire                                                                                                                                                                                                                                                                |
| <b>Screen:</b>                                                                         | Tinned copper wire braid having coverage 85%                                                                                                                                                                                                                                                                               |
| <b>Outer Sheath:</b>                                                                   | PVC class 43 according to UL1581 and C22.2 n°210.<br>Colour violet RAL 4001                                                                                                                                                                                                                                                |
| <b>Technical Data &amp; Standard References</b>                                        | <b>Product features:</b><br><b>Torsion use:</b> Not recommended<br><b>Flame retardant:</b> Horizontal flame test per UL758, FT2 test acc. to CSA C.22.2 n°210<br><b>Halogen gas emission:</b> ≤ 18% IEC 60754, CEI EN 50267-2<br><b>Industrial oil resistance:</b> IEC 60811-404<br><b>Water resistance:</b> IEC 60811-402 |
|                                                                                        | <b>Norm references / Approvals:</b><br><b>Reference Standards:</b><br>IEC 61158<br>EIA RS485<br>IEC 62026-3.<br><b>DESINA Approved</b><br>UL/CSA Approved: AWM Style 20601 300V/80°C.                                                                                                                                      |
| <b>Electrical &amp; Mechanical Data</b>                                                | <b>Operating temperature:</b><br>Fixed application -30 to 80 °C<br>Dynamic installation -5 to 70 °C<br><b>Minimum bending radius:</b><br>Fixed application 8 x D<br>Dynamic appl. into chain 12 x D                                                                                                                        |

**Max traslation speed:**

3,0 m/sec (subject to correct installation)

**Max acceleration:**

3 m/s<sup>2</sup> (subject to correct installation)

**Electrical and transmission properties at 20°C**

**Max operating voltage:** 300 V

**Test voltage:** 1500 V

**Max DC conductor resistance:**

78,0 Ω/km

54,0 Ω/km

21,8 Ω/km

11,3 Ω/km

**Capacitance core/core (nom):**

≤ 50 pF/m (data pair) at 800 Hz

**Characteristic impedance:**

120 Ω (data pair) 1 ÷ 20 MHz

**Attenuation TRUNK:**

max 0,4 dB/100m at 100 kHz

max 0,8 dB/100m at 500 kHz

max 1,3 dB/100m at 1 MHz

**Attenuation DROP:**

max 0,9 dB/100m at 100 kHz

max 1,6 dB/100m at 500 kHz

max 1,9 dB/100m at 1 MHz

**Min. insulation resistance:**

5,0 GΩ x km

**Transfer impedance TRUNK:**

10 mΩ/m at 100 kHz

10 mΩ/m at 1 MHz

5 mΩ/m at 10 MHz

10 mΩ/m at 30 MHz

30 mΩ/m at 100 MHz

**Transfer impedance DROP:**

11 mΩ/m at 100 kHz

10 mΩ/m at

1 MHz 7 mΩ/m at

10 MHz 5 mΩ/m at

30 MHz 30 mΩ/m at 100 MHz

### Application:

The DeviceNet cable for mobile installation is designed to operate on two CAN connection systems. The transmission protocol used is the standard EIA RS 485. The DeviceNet standards require a cable with two shielded pairs and two types of connections, Trunk and Drop, dedicated to data transmission and power supply for the devices.

| Botec P/N | assembly                  | outer diameter [mm ± 10%] | Cu mass [Kg/km] | cable mass [Kg/km] |
|-----------|---------------------------|---------------------------|-----------------|--------------------|
|           | (2xAWG18)+(2xAWG15) TRUNK | 12,2                      | 104             | 200                |
|           | (2xAWG24)+(2xAWG22) DROP  | 7,5                       | 38              | 79                 |