

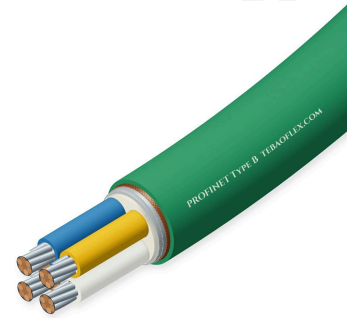


PROFINET & Industrial Ethernet cables

PROFINET Type B

Flexible Cable

IEC 61156-6 / PNO 2.142 100 Ω 2×2×AWG22/7 stranded tinned-Cu flexible
PROFINET Type B



IEC 61156-6 / PNO 2.142

100 Ω · 2×2×AWG22/7 Flex

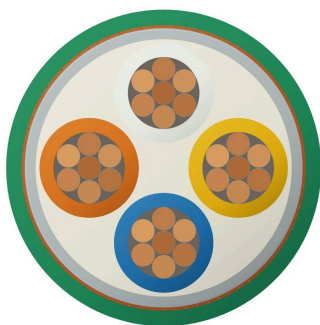
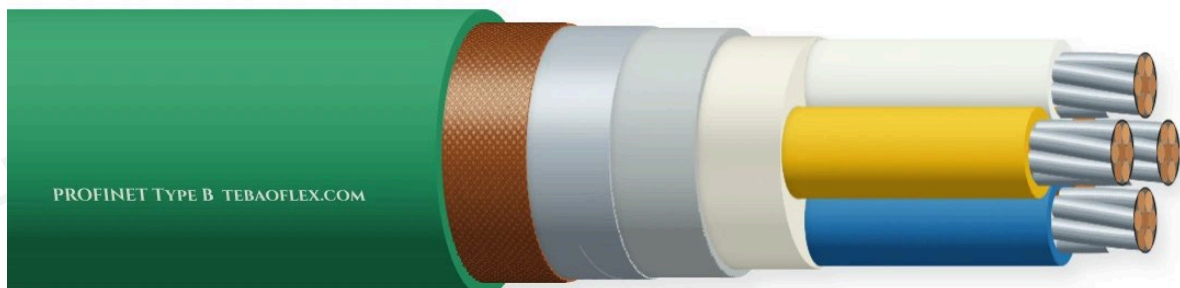
SF/UTP Vibration-Resistant

Application

PROFINET Type B is the flexible 100 Ω Cat5e Industrial Ethernet cable per PNO Guideline 2.142 and IEC 61156-6 built with 7-strand tinned copper conductors (2×2×AWG22/7, $\varnothing$ 0.75 mm) in a Star-Quad FastConnect core, SF/UTP foil-plus-braid shielding, and a RAL

Typical uses: Machine tools & assembly lines, Packaging & bottling machinery, Swinging control panel doors, Automotive production skids

Construction



Cross-section, not to scale

1	7-wire tinned copper conductor	IEC 61156-6 / PNO Type B
2	Core insulation (PE / O2YS)	PNO 2.142
3	Star-Quad core lay-up	PNO 2.142
4	FastConnect inner bedding	
5	Static screen (Al/PET)	IEC 61156-6 SF/UTP
6	EMC copper braid	IEC 61156-6 SF/UTP
7	Outer sheath (RAL 6018 green)	PNO 2.142 Type B

Technical data

Typical values

Characteristic impedance Z_0 100 $\Omega \pm 15 \Omega$ (1 to 100 MHz)

Mutual capacitance @ 1 kHz ≈ 50 pF/m

Attenuation (1 / 10 / 100 MHz) 2.5 / 6.8 / 21.8 dB/100m

Operating temp. (flexing / fixed) -20 °C to +70 °C flexing · -40 °C to +80 °C

Min. bending radius (fixed) 5 × D fixed · 8 × D occasional flexing

Oil & cutting fluid resistance EN 60811-404 / UL Oil Res I & II

Standards IEC 61156-6 / PNO Guideline 2.142 Type B

Max. DC loop resistance @ 20 °C $\leq 120 \Omega/\text{km}$

Velocity of propagation (VoP) $\approx 65\%$ (0.65 c) · delay ≤ 530 ns/100m

Operating / test voltage 300 V / 600 V UL · 2.0 kV DC test

Storage temperature -40 °C to +80 °C

Vibration & movement rating PNO Type B machine vibration & occasional

Flame retardancy IEC 60332-1-2 / UL VW-1 / CMG

Sizes

4 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Configuration	Conductor size	Outer $\varnothing \approx$ mm	Copper kg/km	Weight $\approx$ kg/km	Min. bend R fixed mm
Standard PROFINET Type B configurations 4 sizes						
☐ PROFINET Type B FC PVC 2×2×AWG22/7	2×2×AWG22/7 (PVC Flex)	AWG 22/7 (0.34 mm ²)	6.5	33	63	32
☐ PROFINET Type B FC PUR 2×2×AWG22/7	2×2×AWG22/7 (PUR Flex)	AWG 22/7 (0.34 mm ²)	6.5	33	61	32
☐ PROFINET Type B FC FRNC/LSZH 2×2×AWG22/7	2×2×AWG22/7 (FRNC/LSZH)	AWG 22/7 (0.34 mm ²)	6.5	33	65	32
☐ PROFINET Type B Marine SHF1 2×2×AWG22/7	2×2×AWG22/7 (Marine SHF1)	AWG 22/7 (0.34 mm ²)	6.6	34	66	33

– Outer diameters and weights are nominal factory values subject to $\pm 5\%$ manufacturing tolerance per IEC 61156-6 / PNO Guideline 2.142 (Type B).

Impedance, capacitance & attenuation

4 sizes

Configuration	Impedance Z_0	Max. DC R @ 20 °C Ω/km	Mutual C pF/m $\approx$	VoP %	Attenuation @ 20 °C dB/100m	Dielectric test V
2×2×AWG22/7 (PVC Flex)	100 Ω	120.0	50.0	65	2.5 @ 1 · 6.8 @ 10 · 21.8 @ 100 MHz	2,000
2×2×AWG22/7 (PUR Flex)	100 Ω	120.0	50.0	65	2.5 @ 1 · 6.8 @ 10 · 21.8 @ 100 MHz	2,000
2×2×AWG22/7 (FRNC/LSZH)	100 Ω	120.0	50.0	65	2.5 @ 1 · 6.8 @ 10 · 21.8 @ 100 MHz	2,000
2×2×AWG22/7 (Marine SHF1)	100 Ω	120.0	50.0	65	2.5 @ 1 · 6.8 @ 10 · 21.8 @ 100 MHz	2,000

– Transmission values (characteristic impedance Z_0 , mutual capacitance, VoP, and attenuation) are measured at +20 °C per IEC 61156-6 / PNO Guideline 2.142 (Type B).

Standards and approvals

- ✓ IEC 61156-6
- ✓ PNO Guideline 2.142
- ✓ UL AWM 21198 / CMG

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/profinet-type-b-flexible-cable



Typical values for this cable type, based on IEC 61156-6 / PNO Guideline 2.142 (Type B). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.