



PROFIBUS DP / PA & Process Fieldbus cables

FOUNDATION Fieldbus H1 Cable

IEC 61158-2 / ISA SP50.02 Type A 100 Ω (31.25 kHz) 1P to 12P×18 AWG

FOUNDATION Fieldbus

IEC 61158-2 / ISA SP50.02

100 Ω @ 31.25 kHz · 18/16 AWG

1P Spur/Trunk & 2P-12P Homerun

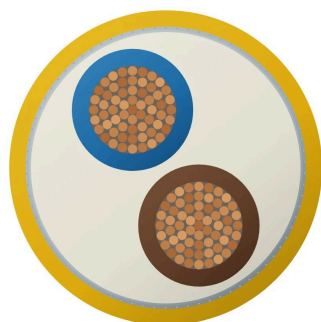
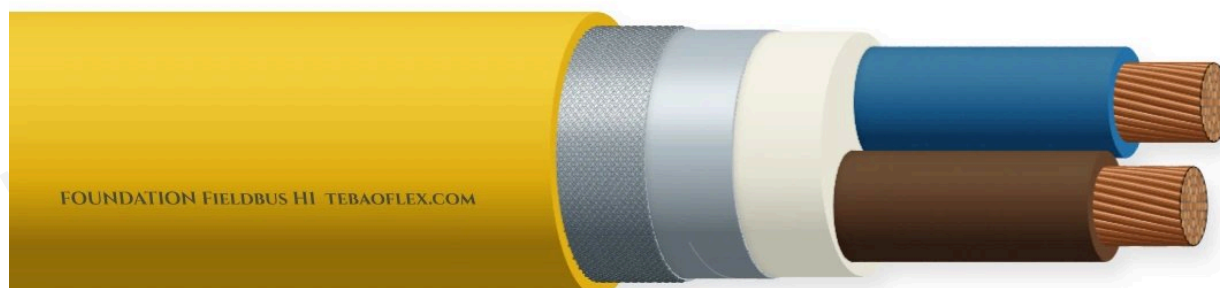


Application

FOUNDATION Fieldbus H1 Cable is the IEC 61158-2 Type A and ISA SP50.02 process fieldbus cable (100 Ω $\pm$ 20 Ω at 31.25 kHz, $\leq$ 44 Ω /km loop resistance on 18 AWG / 0.8 mm², $\leq$ 3.0 dB/km at 39 kHz), supplied in 1-pair spur/trunk cables and 2- to 12-pair

Typical uses: Oil & gas refineries & petrochemical, LNG terminals & offshore topsides, Power generation & boiler controls, Chemical & pulp-and-paper DCS

Construction



Cross-section, not to scale

1	Stranded tinned copper conductors	IEC 61158-2 / ISA SP50.02
2	Polyolefin / PE dielectric	IEC 61158-2 Type A
3	Pair & collective Al/PET screen	ISA SP50.02 Type A
4	Optional tinned Cu braid or SWA armour	EN 50288-7 / BS 5308
5	Outer sheath	UL 13 PLTC / IEC 60332-3-24

Technical data

Typical values

Characteristic impedance Z0	100 Ω ± 20 Ω at 31.25 kHz	Max. DC loop resistance @ 20 °C	≤ 44 Ω/km (18 AWG) · ≤ 28 Ω/km (16 AWG)
Mutual capacitance @ 1 kHz	≈ 48 pF/m (standard limit ≤ 60 nF/km)	Attenuation @ 39 kHz	≤ 3.0 dB/km (≤ 0.30 dB/100m)
Max. propagation delay	≤ 1.7 μs/km (VoP ≈ 66–68 %)	Operating / test voltage	300 V (UL PLTC / ITC) · 1.5 kV AC
Operating temp. (fixed)	-40 °C to +105 °C (105 °C PLTC PVC) · -40	Installation temperature	-20 °C to +60 °C
Min. bending radius	8 × D unarmoured · 12 × D SWA armoured	Crush & impact resistance	UL 13 PLTC / EN 50288-7 industrial tray
Sunlight, oil & chemical resistance	UL Sunlight Resistant · Oil Res I/II · EN	Flame retardancy	IEC 60332-3-24 Cat C / UL 1685 FT4 Vertical
Standards	IEC 61158-2 Type A · ISA SP50.02 ·		

Sizes

5 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 Ø ≈ mm	Copper kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard FOUNDATION Fieldbus H1 configurations 5 sizes						
☐ FF H1 Type A 1×2×18 AWG Unarmoured Orange	1×2×18 AWG (Single-Pair Trunk)	18 AWG (0.88 mm²)	7.6	32	72	61
☐ FF H1 Type A 1×2×16 AWG Heavy Trunk Orange	1×2×16 AWG (Long-Reach Trunk)	16 AWG (1.31 mm²)	8.6	44	94	69
☐ FF H1 Type A 1×2×18 AWG SWA Armoured	1×2×18 AWG (SWA Armoured)	18 AWG (0.88 mm²)	12.2	32	240	98
☐ FF H1 Multi-Pair Homerun 4×2×18 AWG IS/OS	4×2×18 AWG (4-Pair Homerun)	18 AWG (0.88 mm²)	14.8	118	235	118
☐ FF H1 Multi-Pair Homerun 8×2×18 AWG IS/OS	8×2×18 AWG (8-Pair Homerun)	18 AWG (0.88 mm²)	19.5	232	410	156

- Outer diameters and weights are nominal factory values subject to ±5 % manufacturing tolerance per IEC 61158-2 Type A / ISA SP50.02 (FOUNDATION Fieldbus H1).

Impedance, capacitance & attenuation

5 sizes

Configuration	Impedance Z0	Max. DC R @ 20 °C Ω/km	Mutual C pF/m≈	VoP %	Attenuation @ 20 °C dB/100m	Dielectric test V
1×2×18 AWG (Single-Pair Trunk)	100 Ω	44.0	48.0	67	0.28 dB/100m @ 39 kHz	1,500
1×2×16 AWG (Long-Reach Trunk)	100 Ω	28.0	50.0	67	0.22 dB/100m @ 39 kHz	1,500
1×2×18 AWG (SWA Armoured)	100 Ω	44.0	48.0	67	0.28 dB/100m @ 39 kHz	1,500
4×2×18 AWG (4-Pair Homerun)	100 Ω	44.0	48.0	67	0.28 dB/100m @ 39 kHz	1,500
8×2×18 AWG (8-Pair Homerun)	100 Ω	44.0	48.0	67	0.28 dB/100m @ 39 kHz	1,500

- Transmission values (characteristic impedance Z0, mutual capacitance, VoP, and attenuation) are measured at +20 °C per IEC 61158-2 Type A / ISA SP50.02 (FOUNDATION Fieldbus H1).

Standards and approvals

- ✓ IEC 61158-2 / ISA SP50.02
- ✓ FieldComm Group FF-844
- ✓ UL 13 PLTC / ITC FT4

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/foundation-fieldbus-h1-cable



Typical values for this cable type, based on IEC 61158-2 Type A / ISA SP50.02 (FOUNDATION Fieldbus H1). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.