



CAN Bus, SAE J1939, DeviceNet & CC-Link Cables

CAN bus cable

ISO 11898-2 / CiA 303-1 $120\ \Omega \pm 12\ \Omega$ 1×2 & 2×2 × 0.22–0.75 mm² shielded CAN Bus & CAN FD

ISO 11898-2 · CiA 303-1

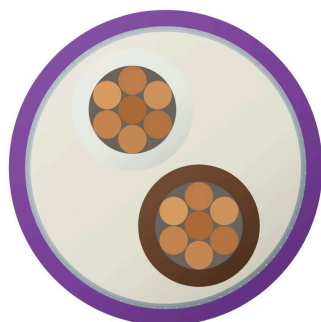
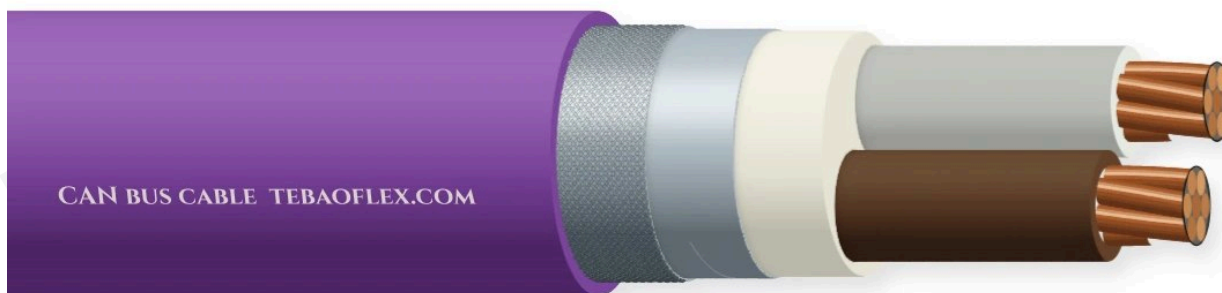
 $120\ \Omega \pm 12\ \Omega \cdot < 40\ \text{pF/m}$ 1×2 & 2×2 × 0.22–0.75 mm²

Application

CAN bus cable is a $120\ \Omega \pm 12\ \Omega$ balanced differential fieldbus cable compliant with ISO 11898-2 and CiA 303-1 for High-Speed CAN (1 Mbps), CANopen, and CAN FD (up to 5–8 Mbps), manufactured in 1-pair (1×2) and 2-pair (2×2) cross-sections from 0.22 mm² to

Typical uses: CANopen machine & motion control, AGVs, AMRs & lithium battery packs, Mobile cranes, lifts & excavators, Building elevators & medical gantries

Construction



Cross-section, not to scale

1	Stranded copper conductors	IEC 60228 / CiA 303-1
2	Cellular polyethylene (O2YS)	ISO 11898-2
3	Wrapping / Al-PET foil	ISO 11898-2
4	EMC tinned copper braid	ISO 11898-2
5	Outer sheath	EN 50363-10-2 / UL CMG

Technical data

Typical values

Characteristic impedance Z0	120 Ω ± 12 Ω (1 to 20 MHz)
Mutual capacitance @ 800 Hz	≈ 38 pF/m (< 40 pF/m)
Attenuation @ 1 MHz	0.95 dB/100m (0.50 mm ²) · 1.35 dB/100m
Operating temp. (fixed / chain)	-40 °C to +80 °C fixed · -30 °C to +70 °C chain
Min. bending radius (fixed / chain)	6 × D fixed · 10 × D drag-chain
Oil & hydraulic fluid resistance	EN 60811-404 · UL Oil Res I/II
Standards	ISO 11898-2 High-Speed CAN · CiA 303-1

DC loop resistance @ 20 °C	≤ 175 Ω/km (0.22) · ≤ 115 Ω/km (0.34) · ≤
Velocity of propagation (VoP)	≈ 76 % (0.76 c) · signal delay ≤ 4.4 ns/m
Operating / test voltage	300 V UL · 1.5 kV AC core-to-core/screen test
Storage temperature	-40 °C to +80 °C
Drag-chain endurance (PUR variant)	≥ 5,000,000 bending cycles
Flame & halogen-free	IEC 60332-1-2 · UL CMX/CMG · IEC 60754

Sizes

6 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 CAN bus cable configurations 6 sizes						
☐ CAN Bus 1×2×0.22 mm ² (AWG 24) PVC/PUR	1×2×0.22 mm ² (AWG 24)	0.22 mm ²	5.8	17	44	35
☐ CAN Bus 2×2×0.22 mm ² (AWG 24) PVC/PUR	2×2×0.22 mm ² (AWG 24)	0.22 mm ²	6.9	26	62	41
☐ CAN Bus 1×2×0.34 mm ² (AWG 22) Fixed/Chain	1×2×0.34 mm ² (AWG 22)	0.34 mm ²	6.6	23	56	40
☐ CAN Bus 2×2×0.34 mm ² (AWG 22) Fixed/Chain	2×2×0.34 mm ² (AWG 22)	0.34 mm ²	8.2	36	82	49
☐ CAN Bus 1×2×0.50 mm ² (AWG 20) Long-Trunk	1×2×0.50 mm ² (AWG 20)	0.50 mm ²	7.5	29	70	45
☐ CAN Bus 1×2×0.75 mm ² (AWG 18) Heavy Trunk	1×2×0.75 mm ² (AWG 18)	0.75 mm ²	8.5	39	92	51

– Outer diameters and weights are nominal factory values subject to ±5 % manufacturing tolerance per ISO 11898-2 (High-Speed CAN / CANopen / CAN FD).

Impedance, capacitance & attenuation

6 sizes

Configuration	Impedance Z0	Max. DC R @ 20 °C Ω/km	Mutual C pF/m ≈	VoP %	Attenuation @ 20 °C dB/100m	Dielectric test V
1×2×0.22 mm ² (AWG 24)	120 Ω	175.0	38.0	76	1.6 @ 1 · 4.2 @ 10 · 6.5 @ 20 MHz	1,500
2×2×0.22 mm ² (AWG 24)	120 Ω	175.0	38.0	76	1.6 @ 1 · 4.2 @ 10 · 6.5 @ 20 MHz	1,500
1×2×0.34 mm ² (AWG 22)	120 Ω	115.0	38.0	76	1.35 @ 1 · 3.5 @ 10 · 5.4 @ 20 MHz	1,500
2×2×0.34 mm ² (AWG 22)	120 Ω	115.0	38.0	76	1.35 @ 1 · 3.5 @ 10 · 5.4 @ 20 MHz	1,500
1×2×0.50 mm ² (AWG 20)	120 Ω	78.0	38.0	76	0.95 @ 1 · 2.9 @ 10 · 4.5 @ 20 MHz	1,500
1×2×0.75 mm ² (AWG 18)	120 Ω	52.0	39.0	76	0.80 @ 1 · 2.5 @ 10 · 3.9 @ 20 MHz	1,500

– Transmission values (characteristic impedance Z0, mutual capacitance, VoP, and attenuation) are measured at +20 °C per ISO 11898-2 (High-Speed CAN / CANopen / CAN FD).

Standards and approvals

- ✓ ISO 11898-2
- ✓ CiA 303-1
- ✓ UL CMG / AWM 21198

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/can-bus-cable



Typical values for this cable type, based on ISO 11898-2 (High-Speed CAN / CANopen / CAN FD). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.