



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

SAE J1939

J1939 Vehicle CAN Cable

SAE J1939-11 & J1939-15 120 Ω 20/18 AWG Yellow/Green commercial vehicle & off-highway

SAE J1939-11 & J1939-15

120 Ω · Yellow CAN_H / Green CAN_L

-40 to +125 °C Truck & Off-Highway

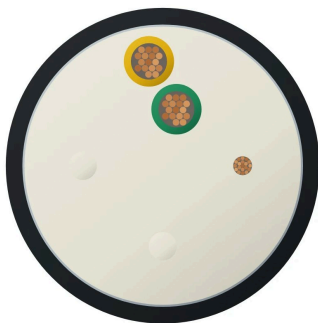


Application

SAE J1939 Vehicle CAN Cable is a 120 $\Omega \pm 12 \Omega$ heavy-duty automotive and off-highway CAN bus cable engineered to SAE J1939-11 (shielded 3-conductor: Yellow CAN_H, Green CAN_L, uninsulated stranded drain wire + Al/PET foil) and SAE J1939-15

Typical uses: Heavy-duty commercial trucks & buses, Excavators, loaders & mining haulers, Marine & stationary diesel gensets, Defense & specialty emergency vehicles

Construction



Cross-section, not to scale

1	19-strand tinned copper conductors	SAE J1939-11 / J1939-15
2	XLPE / high-temp polyolefin dielectric	SAE J1939-11
3	CAN_SHLD foil + drain wire (J1939-11)	SAE J1939-11
4	Heavy-duty automotive jacket	SAE J1128 / ISO 6722-1 Class C

Technical data

Typical values

Characteristic impedance Z0	120 Ω ± 12 Ω at 1 MHz	Max. DC conductor resistance @ 20 °C	≤ 36.7 Ω/km (20 AWG) · ≤ 23.2 Ω/km (18 AWG)
Mutual capacitance (core-to-core)	≈ 40 pF/m (core-to-shield ≤ 75 pF/m on (18	Velocity of propagation (VoP)	≈ 68–72 % (propagation delay ≤ 5.0 ns/m)
Attenuation @ 1 MHz	≤ 1.3 dB/100m (20 AWG) · ≤ 1.0 dB/100m (18	Operating / test voltage	60 V DC automotive (300 V UL option) · 1.5
Operating temperature range	-40 °C to +125 °C (ISO 6722 Class C / SAE	Cold bend test	-40 °C for 4 h without cracking
Min. bending radius	6 × D fixed · 10 × D flexing	Twist lay length	25 to 33 twists per metre (30–40 mm pitch
Automotive fluid resistance	Diesel, gasoline, engine oil, hydraulic	Flame retardancy	ISO 6722-1 45° flame test · SAE J1128 · UL
Standards	SAE J1939-11 (Shielded) · SAE J1939-15		

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 SAE J1939 configurations 5 sizes						
☐ SAE J1939-11 Shielded 2×20 AWG + 20 AWG Drain	2×20 AWG + Drain (J1939-11)	20 AWG (0.52 mm ²)	6.9	21	54	41
☐ SAE J1939-11 Shielded 2×18 AWG + 18 AWG Drain	2×18 AWG + Drain (J1939-11)	18 AWG (0.82 mm ²)	7.6	31	70	46
☐ SAE J1939-15 Unshielded 1×2×20 AWG Jacketed	1×2×20 AWG UTP (J1939-15)	20 AWG (0.52 mm ²)	5.5	13	36	33
☐ SAE J1939-15 Unshielded 1×2×18 AWG Jacketed	1×2×18 AWG UTP (J1939-15)	18 AWG (0.82 mm ²)	6.1	20	46	37
☐ SAE J1939-11 Heavy-Duty Braid + Foil 2×18 AWG	2×18 AWG + Foil/Braid (Off-Highway)	18 AWG (0.82 mm ²)	8.1	42	88	49

– Outer diameters and weights are nominal factory values subject to ±5 % manufacturing tolerance per SAE J1939-11 (Shielded 3-Core) / SAE J1939-15 (Unshielded 2-Core).

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
2×20 AWG + Drain (J1939-11)	120 Ω	73.4	40.0	70	1.30 @ 1 · 3.4 @ 10 MHz	1,500
2×18 AWG + Drain (J1939-11)	120 Ω	46.4	42.0	70	1.00 @ 1 · 2.8 @ 10 MHz	1,500
1×2×20 AWG UTP (J1939-15)	120 Ω	73.4	36.0	72	1.20 @ 1 · 3.1 @ 10 MHz	1,500
1×2×18 AWG UTP (J1939-15)	120 Ω	46.4	38.0	72	0.95 @ 1 · 2.6 @ 10 MHz	1,500
2×18 AWG + Foil/Braid (Off-Highway)	120 Ω	46.4	42.0	70	1.00 @ 1 · 2.8 @ 10 MHz	1,500

– Transmission values (characteristic impedance Z0, mutual capacitance, VoP, and attenuation) are measured at +20 °C per SAE J1939-11 (Shielded 3-Core) / SAE J1939-15 (Unshielded 2-Core).

Standards and approvals

- ✓ SAE J1939-11 / J1939-15
- ✓ SAE J1128 / ISO 6722-1
- ✓ UL AWM / RoHS / REACH

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/j1939-vehicle-can-cable



Typical values for this cable type, based on SAE J1939-11 (Shielded 3-Core) / SAE J1939-15 (Unshielded 2-Core). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.