

GORE® CAN Bus Cables (120 Ohms)



Suitable for today's faster digital networks, Gore's controlled-impedance cables ensure high-quality signals for high data rate transmission up to 1 GHz. They provide versatile protection to shield sensitive wires from extreme mechanical and environmental impact (Table 1). These cables are built to perform accurately, reliably and securely over the application lifespan.

With a compact footprint, Gore's CAN Bus cables are 40% smaller than alternative cable designs, which makes them fundamentally lighter. This reduced diameter enables better flexibility and a smaller bend radius for trouble-free installation in tight areas of aircraft and military vehicles (Figure 1).

Typical Applications

- Avionics/vecronics digital networks
- Cabin management systems
- Controller area networks
- Data links
- Electronic diagnostics
- HD streaming video systems
- Mission systems
- Serial buses

Standards Compliance

- ABD0031 (AITM 2.0005); BSS7230; FAR Part 25, Appendix F, Part I: Flammability
- ABD0031 (AITM 3.0005); BSS7239: Toxicity
- ABD0031 (AITM 3.0008B); BSS7238; FAR Part 25, Appendix F, Part V: Smoke Density
- ANSI/NEMA WC 27500: Environmental Testing, Jacket and Marking
- SAE AS4373™: Test Methods for Insulated Electric Wire (Contact Gore for available data)
- SAE J1128™: Low Voltage Primary Cable
- SAE J1939™: Serial Control and Communications Heavy Duty Vehicle Network
- VG95218-31: Performance Requirements (GSC-03-84793-VG)

Table 1: Cable Properties

Electrical

Property	Value
Signal Transmission Speed GHz	Up to 1
Standard Impedance Ohms	120 ± 10
Typical Operating Voltage V	< 15
Nominal Velocity of Propagation %	80
Nominal Time Delay ns/m (ns/ft)	4.10 (1.25)
Capacitance pF/m (pF/ft)	42.0 (12.8)
Dielectric Withstanding Voltage Vrms	
Conductor-to-Conductor	1500 / 700 ^a
Conductor-to-Shield	1000

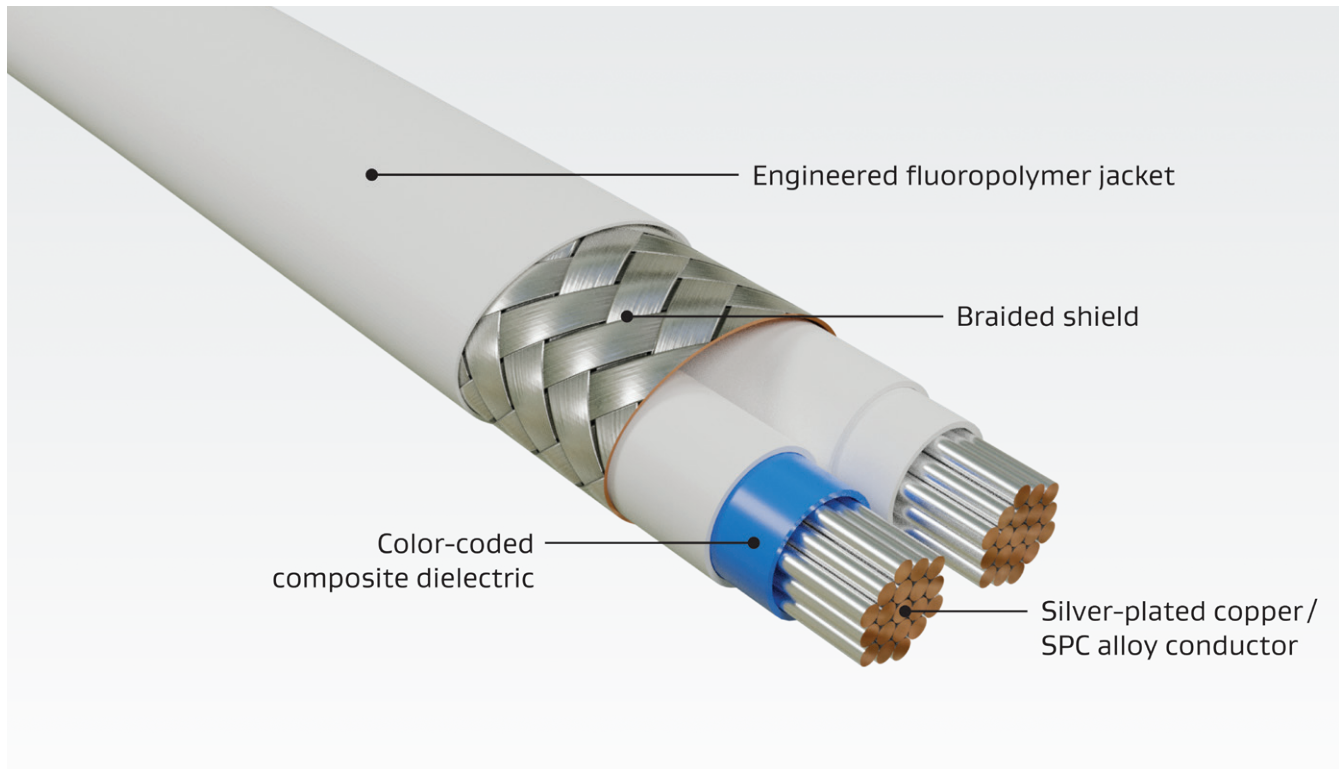
Mechanical / Environmental

Property	Value
Jacket Material	Engineered Fluoropolymer
Jacket Color	White (Laser Markable)
Conductor	Silver-Plated Copper or SPC Alloy
Conductor Color-Coding	Blue/White
Dielectric Material	Expanded PTFE/PTFE
Temperature Range °C	-65 to +200

a. Based on Gore's part number GSC-03-84793-VG for military vehicle systems.

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Figure 1: Compact Footprint



Cable Preparation

GORE® CAN Bus Cables include an inverted dielectric design that enables easier wire preparation and insertion in smaller connector systems.

Standard 120-ohm primary wires have a much larger diameter due to high impedance and typically will not fit into smaller holes unless wires are insulated with thin heat shrink. However, Gore's unique design eliminates the need to remove several inches of insulation from the end and apply heat shrink to fit wires into smaller holes.

The inverted dielectric layers can be stripped off using sharp mechanical strippers set at the next largest AWG size. Carefully cut the outer layers and use your fingertips to pull off gently. For more information regarding cable preparation, contact a Gore representative.

Connector Systems & Backshells

GORE® CAN Bus Cables are designed to fit a variety of high-speed aerospace and defense connector systems and backshells such as ARINC and MIL-STD-38999 with size 8 and 22D contacts. Contact the specific manufacturer such as Amphenol® and Glenair® for exact part numbers, tooling information, and termination instructions.

Table 2: Cable Characteristics

Gore Part Number	AWG Size (Stranding)	Nominal Outer Diameter mm (in)	Minimum Bend Radius mm (in)	Nominal Weight kg/km (lb/1000 ft)	Typical Insertion Loss dB/30 m (100 ft)			
					100 MHz	200 MHz	500 MHz	1 GHz
GSC-03-85752-22D	22 (19/34)	5.1 (0.20)	25.5 (1.00)	28.0 (18.82)	5.6	8.5	13.5	19.0
GSC-03-84793-VG	24 (19/36)	4.2 (0.17)	17.2 (0.68)	23.0 (15.46)	6.5	10.0	16.0	22.0
GSC-03-85752-24D	24 (19/36)	4.2 (0.17)	21.0 (0.83)	23.0 (15.46)	6.5	10.0	16.0	22.0
GSC-03-85752-26D	26 (19/38)	3.5 (0.14)	17.5 (0.69)	15.4 (10.35)	8.0	12.0	18.0	24.0

Samples & Ordering Information

GORE® CAN Bus Cables are available in standard sizes (Table 2). To place an order, contact an authorized distributor for in-stock availability at gore.com/cable-distributors. To view our full inventory and order complimentary samples of selected products for prototyping and evaluation in your application, visit gore.com/hsdc-sample-inventory-air-defense.

For more information or to discuss specific characteristic limits and application needs – including other impedance options, contact a Gore representative today at gore.com/aerospace-defense-contact.

With a compact footprint, Gore’s CAN Bus cables enable better flexibility and a smaller bend radius for trouble-free installation in tight areas.



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