

LiteSPEed™ Cable

Single Pair Ethernet (SPE) Cables

Aptiv's LiteSPEed™ cable is the next generation of ethernet cables optimizing size, weight and power—providing a high-performance (up to 10 Gbps) data solution in a single pair format. Designed for aerospace, industrial and automotive applications where size and weight are at a premium, LiteSPEed provides ease of installation, savings on installation materials, and integration of data and power in a single lightweight cable. Single pair ethernet is poised to replace existing protocols, such as CANbus, Profinet, and I/O Link, allowing for quicker and easier deployment with fewer termination points, smaller conduit sizes, and simplified routing while negating the need for gateways.

KEY FEATURES & BENEFITS

- Compact Design – Up to 50% smaller size and 25% lighter weight for space- and weight-constrained environments
- High-Speed Performance – Supports data rates up to 10 Gbps with integrated power capability
- Extended Distance - Constructions available to support up to 1000 meters
- Simplified Installation – Single-pair termination reduces labor, routing complexity, and infrastructure needs
- Lower Total Cost – Saves on copper and installation time
- Legacy System Replacement – Ideal upgrade for CANbus, Profinet, and I/O Link

APPLICATIONS

- LEO satellites
- IFE systems
- Avionics networks
- Cabin systems
- Internal bus communications
- Payload instrumentation
- Control systems
- Launch vehicle systems
- Aircraft systems
- UAV/Drones
- Factory automation
- Machine control
- Robotics
- Assembly lines
- Vehicle control systems
- Infotainment systems
- Driver assistance systems
- Smart factory
- Digital twins



MATERIALS & SPECIFICATIONS

Conductor Materials	Tin coated copper, silver coated copper, high-strength alloys
Dielectric Materials	Solid or foamed FEP, foamed polyolefin
AWG Availability	18-28 AWG
Temperature Rating	-65°C to 200°C (FEP) -45°C to 90°C (Polyolefin)
Electrical Standards	Open Alliance TC9, IEEE 802.3, TIA TR42, ISO 11801 (single pair Ethernet)

CATALOG ITEMS

Desc	AWG	Conductor	Impedance (Ω)	Temperature Range
SPE-26-SC-19-A-FFP-SB-2-9	26	Silver plated copper	100	-80°C to 200°C
SPE-26-SC-19-A-FFP-SD-2-9	26	Silver plated copper	100	-80°C to 200°C
SPE-22-TC-19-T-FFP-LTD-7-0	22	Tin plated copper	100	-40°C to 125°C
SPE-22-TC-19-T-FFP-TTD-7-0	22	Tin plated copper	100	-40°C to 125°C
SPE-20-TC-19-T-FFP-TTD-7-0	20	Tin plated copper	100	-40°C to 125°C

*Custom and iterative constructions available upon request

SMART PART NUMBERING SYSTEM

SPE-[Gauge]-[Conductor Type]-[Stranding]-[Industry]-[Dielectric]-[Shield/Wrap]-[Insulation]-[Color]

