BELDEN
SENDING ALL THE RIGHT SIGNALS

DataTuff® Single Pair Ethernet

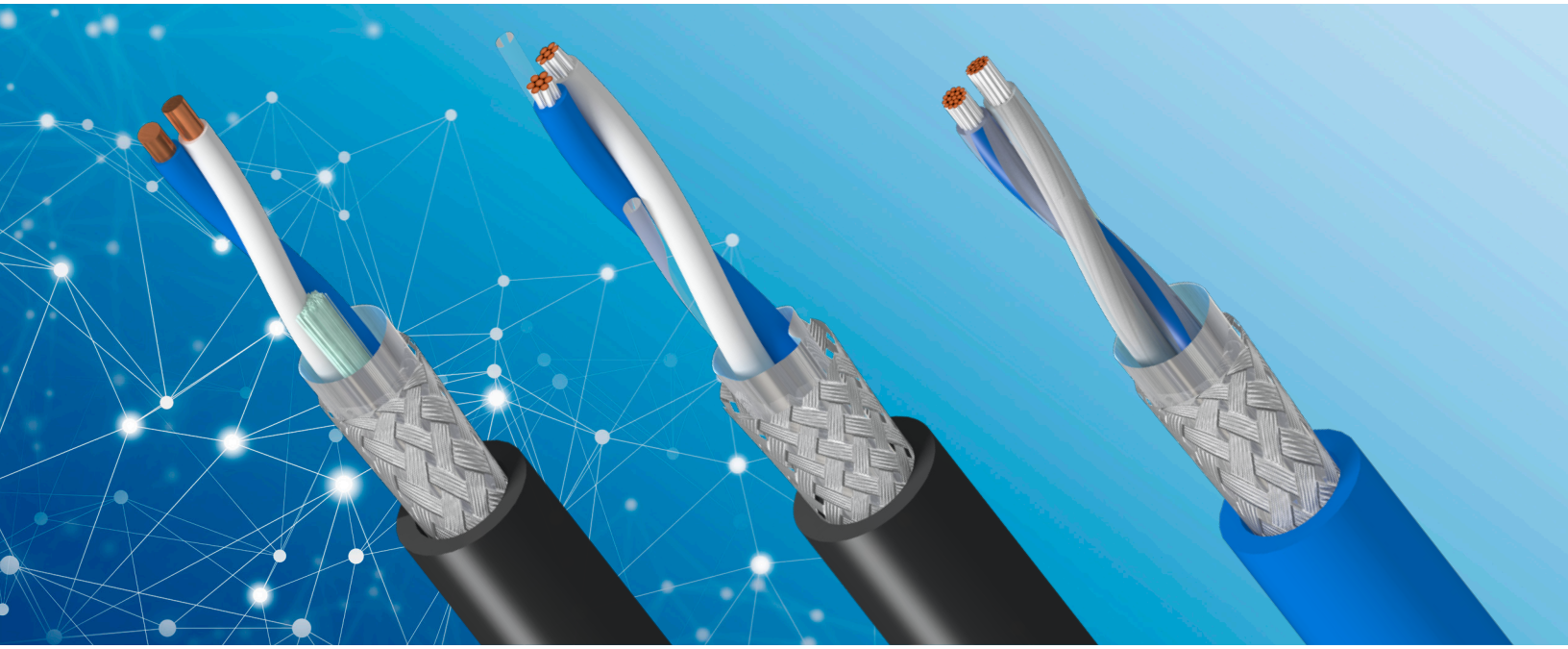
Next Generation Ethernet Technology

DataTuff Single Pair Ethernet cables provide fast data communication and power to the edge over a single twisted pair, simplifying network infrastructure while minimizing cable footprint.

- **Extended reach up to 1km**, providing 10X the range compared to traditional 4-pair Ethernet over 100m
- **Optimized edge-to-cloud connectivity**, with Power over Data Line (PoDL) capability, resulting in increased uptime, process efficiency and operational profit
- **Universal protocol** compatibility with standard EtherNet/IP, eliminating the need for gateway devices

Key Features

- Long distance reach (1km) with a bandwidth of 10 Mbps and frequency of 0.1-20 MHz
- Medium distance reach (40m) with a bandwidth of 1 Gbps and frequency of 1-600 MHz, providing up to 46% weight and size reduction vs. traditional 4-pair cables
- Many variations to fit a number of application needs
- Power over Data Line (PoDL) capability up to 52W
- Designed to withstand harsh industrial environments with strong shielding and jacketing options
- Compliant with Ethernet protocol requirements for easy maintenance and maximum data visibility
- Supports Time-Sensitive Networking technology to provide deterministic services
- Compatible with standard SPE connectors recommended by IEEE and TIA
- Easy to terminate



DataTuff Single Pair Ethernet is designed to bring Ethernet communication to the edge, simplifying network infrastructure and enabling IIoT by connecting edge devices to the cloud.

Be certain.
Belden.

BELDEN
SENDING ALL THE RIGHT SIGNALS

Your Benefits

Single Pair Ethernet (SPE) cables allow users to do more with less. Smaller, lighter and longer than the traditional 4-pair Ethernet cables, they simplify network infrastructure while providing higher bandwidth and faster data communication compared to most fieldbus cables.

With edge-to-cloud communication, the SPE cables also carry Power over Data Line (PoDL) for sensors, actuators, cameras, lighting and more—building a simple yet versatile network infrastructure for the Industrial Internet of Things (IIoT).

SPE leverages universal Ethernet protocols, eliminating the need for additional gateway devices to translate amongst various industrial protocols. Instead, all data communication is via EtherNet/IP for simplicity, maximum visibility and IT/OT convergence.

Applications

In today's increasingly connected world, the DataTuff Single Pair Ethernet cables were designed to simplify industrial network infrastructure while enabling power and data communication from field devices to the cloud.

With a bandwidth of 1 Gbps and a 40m reach, the medium distance SPE is ideal for manufacturing cells, on-machine and robotic applications, reducing cable weight and size. The two-conductor design also simplifies installation, as well as minimizes the labor costs associated with installation and troubleshooting.

With a bandwidth of 10 Mbps and a 1km reach, the long distance SPE is best suited for the industrial edge, establishing IIoT infrastructure throughout a facility, while consolidating electronic devices in a network. Bringing data from the edge to the control center or cloud provides maximum visibility, flexibility and insights for process optimization.

Markets

Due to its ability to bring Ethernet to the edge with PoDL capability, the Single Pair Ethernet cable is an ideal solution for companies undergoing Industry 4.0. It offers specific value in the machine building, water and wastewater, general manufacturing, mining, transportation, discrete and process automation sectors, where edge communication is required under harsh conditions. The Single Pair Ethernet cable is also relevant for other industrial sectors, including material handling, packaging, wind and solar power, and food and beverage.

PART NUMBERS

Americas	EMEA	APAC	Reach	Bandwidth	AWG	Conductor	Insulation	Jacket	Shielding	Applications
SPE101*	74042E*	N/A	1km	10Mb/s	18	Solid	FMPE	PVC	Foil+Braid	Connecting remote sensors in harsh environments at industrial edge with PLTC rating
SPE102*	74043E*	N/A	TBD	10Mb/s	22	Stranded	FMPE	PVC	Foil+Braid	Connecting remote sensors in harsh environments at industrial edge with PLTC rating
N/A	74040NH	74040NH	1km	10Mb/s	18	Solid	FMPE	LSZH	Foil+Braid	Long distance sensors in harsh environments at industrial edge
N/A	74041E	74041E	1km	10Mb/s	22	Stranded	FMPE	PVC	Foil+Braid	Long distance sensors in harsh environments at industrial edge
SPE401	74031NH	74031NH	40m	1Gb/s	22	Solid	FMPE	LSZH	Foil+Braid	Mass transit platforms, smart buildings
SPE402	74030E	74030E	40m	1Gb/s	26	Solid	PP	PVC	Foil+Braid	Tight space cabinet, machine building
SPE403*	74032PU	74032PU	40m	1Gb/s	24	Stranded	PE	PUR	Foil+Braid	Robotics
SPE404	74033E	N/A	40m	1Gb/s	22	Stranded	PE	PVC	Foil+Braid	Manufacturing cell
SPE405	N/A	N/A	40m	1Gb/s	22	Solid	FMPE	PVC	Foil+Braid	Manufacturing cell
SPE406	N/A	N/A	40m	1Gb/s	22	Stranded	FMPE	PVC	Foil+Braid	Manufacturing cell
N/A	BE43910*	BE43910*	40m	1Gb/s	24	Stranded	PP	XL-LSZH	Foil+Braid	Rolling stock
N/A	N/A	BE46830	40m	1Gb/s	22	Stranded	XLPE	SHF-2	Foil+Braid	Marine and offshore
N/A	N/A	AUUTPA3799	15m	100 Mb/s	26	Stranded	PP	PVC	No	Automotive on-chassis camera, radar, etc.
N/A	N/A	AUSTPB3801	15m	1 Gb/s	26	Stranded	PP	PVC	Foil+Braid	Automotive on-chassis Ethernet
N/A	N/A	AUSTPC3804	7m	6 Gb/s	28	Stranded	PP	PVC	Foil+Braid	Automotive on-chassis Ethernet and multi media
N/A	N/A	AUSTPD3802	7m	>12 Gb/s	26	Stranded	PP	PVC	Foil+Braid	Automotive on-chassis Ethernet and multi media
N/A	N/A	AUSPPD0861	7.5m	>12 Gb/s	26	Stranded	PP	PVC	Foil+Braid	Automotive on-chassis shielded parallel pair Ethernet

*Coming soon to production

Be certain.
Belden.

EMEA +49 (0) 7127/14-1809 | beldensolutions.com
US 1-800-BELDEN-1 | belden.com