

Electric Wire and cable business

High-speed Digital Transmission Cable for Machine Vision

Gigabit Ethernet cable

High-grade bending, shielded, enhanced category 5 LAN cable

C5E (S-HFR) series

RoHS compliant

With special polymers and special shielding, this shielded LAN cable provides unprecedented high-grade bending characteristics. This cable supports Gigabit Ethernet and enables transmission speed of 1 Gbps. Also supports industrial Ethernet and other high-speed image transmission methods.

Features

- Strong flexibility and extreme elasticity.
- Special polymer insulation and special braided shielding with excellent bending characteristics provide high-grade bending and sliding characteristics. This cable also handles twisting motions.
- Supports industrial high-speed image transmission methods.
- The special braided shielding increases the noise-proof properties of this cable.
- The oil-proof sheath enables use in factories and other similar environments.
- A standard shielded modular plug (RJ-45) can be used. Furthermore, we offer screw-lock connectors for machine vision and other uses.
- Environmentally friendly. Compliant with the RoHS directive.



Name

We sell standalone cables and harness items individually.

| Manufacturing shape | Model no. |
|---|-----------------------------|
| Standalone cable (standard length: 200 m bundle) | AWG26 4P TPMC-C5E (S-HFR) K |
| Double-ended RJ45 with harness | C5E (S-HFR) (K) - (1) |
| Screw-lock RJ45 with harness ^{Note 1} | C5E (S-HFR) (K) - HSL - (1) |

(1): Cable length (m)

Symbol examples: 1 m : 1
2.5 m : 2.5
40 m : 40

Note 1. Single-ended screw-lock type.

Specifications

| | | |
|------------------|--------------------|---------------------------------|
| Cable | UL | UL 758 Style 20276 |
| | Rated temp./volt. | 80°C / 30 V |
| | Conductor size | AWG26 pair twist wire conductor |
| | Insulator material | Special polymer |
| | Shielding | Special braided shielding |
| | Sheath material | Oil-proof PVC |
| | Color | Black |
| | Outer diameter | Standard 6.8 mm |
| Complete product | Cable length | Max. 40 m |
| | Connector type | RJ45 or screw-lock RJ45 |
| | Connector color | Black (boot, mold color) |

Performance

| | | |
|---|----------------------|--|
| Transmission distance | Max. length 40 m | |
| Transmission speed [Gbps] | 1 | |
| Attenuation [dB/40 m](20°C) | 24 or less (100 MHz) | |
| Near-end crosstalk attenuation [dB] | 30 or more (100 MHz) | |
| PSNEXT [dB] | 27 or more (100 MHz) | |
| Return loss [dB] | 10 or more (100 MHz) | |
| Delay time [ns/40 m] | 555 (10 MHz) | |
| Withstand voltage [V/1 minute interval] | AC 350 | |
| Mobility | Sliding bending | 3 million times or more ^{Note 2} Bend radius R: 50 mm |
| | Swinging bending | 300 thousand times or more ^{Note 2} Bend radius R: 20 mm |
| | Torsion | 5 million times or more ^{Note 2} Torsion angle: ±180° |

Note 2. Under Oki test conditions and methods. For details, see page 3.
Furthermore, these values are for reference only and are not guaranteed values.

Usage environment

| | |
|--|---|
| Operation temperature range | -10 to 60°C |
| Application location | Fixed or moving part |
| Minimum bend radius (Recommended value) ^{Note 3} | Fixed: 30 mm or more Mobile: 50 mm or more |

Note 3. The minimum bend radius is the recommended value for stable use.