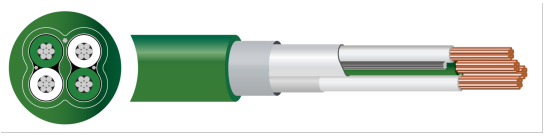
Thermocouple Extension Cable



Description

The Thermocouple Extension Cable (X Type), including KX, JX, and TX variants, is a high-specification signal line engineered to carry precise temperature data from sensor probes to control instrumentation without introducing thermal errors. The internal construction features a single or multi-pair layout of matched, dissimilar alloy conductors identical to the chemical profile of the base thermocouple itself, insulated with heat-resistant PVC. To deliver 100% protection against severe external electromagnetic interference, the cores are enclosed in an overall aluminium-polyester foil tape screen accompanied by a tinned copper drain wire, all wrapped in a robust, color-coded PVC outer sheath making it ideal for processing plants and heavy industrial automation loops.

This premium signal cable ensures absolute measurement reliability within complex engineering environments. It is fully certified in accordance with international standards IEC 60584-3 and BS EN 60584-3, which define the exact dimensional tolerances, thermoelectric performance, and colour coding for extension-grade conductors. The cable safely handles standard operations under a 300/500 Volt rating, strictly complies with international flame retardancy criteria under IEC 60332-1 specifications, and operates reliably within a wide temperature window of minus 30 to plus 105 degrees Celsius.

Installers must adhere to minimum installation bending radius of eight times the overall cable diameter during pulling and containment routing to prevent physical deformation or kinking of the underlying foil screen. Extension-grade wire must only be routed within its qualified lower-temperature paths rather than the extreme heat zones of the primary sensing junction, and the overall shield drain wire must be continuously bonded to the primary instrument earth panel to completely eliminate performance-degrading noise loops.. Extension grade wire is only used to extend a thermocouple signal from a probe back to the instrument reading the signal.

Key Features

Voltage Rating
300/500 Volts

Minimum Bending Radius
8 x Overall Diameter

Temperature Limits
Temperature Range: -30°C To +105°C

Core Colours

Positive: Green

Negative: White

Standards

- BS EN/IEC 60584-3
- ASTM E230

Construction

- **Conductor**: Positive: Nickel Chromium
  Negative: Nickel Aluminium
- **Insulation**: Flame Retardant Polyvinyl Chloride (PVC-FR)
- **Insulation Screen**: Individual and Collective Aluminium/Polyester Tape Screen (AL/PET)
- **Drain Wire**: Tinned copper in both individual and collective screen
- **Outer Sheath**: Flame Retardant Polyvinyl Chloride (PVC-FR)
- **Sheath Colour**: Green

QA Lab

Cleveland Cable Test & Training Lab
Our state-of-the-art cable testing facility ensures that every cable meets the highest standards of quality and compliance through continuous, rigorous testing. Where applicable, cables are independently tested and certified by BASEC to ensure full compliance.

CPR
Cleveland Cable Company is committed to compliance with the Construction Products Regulation (CPR). Where applicable, all cables manufactured after 1st July 2017 have been assessed in accordance with CPR requirements, with full supporting documentation available.

Our Sustainability Commitment

We are committed to the journey to Net Zero as a business partner, an employer and a community member.

By thinking and acting sustainably, we deliver excellent customer service while reducing carbon emissions in collaboration with our customers and suppliers.

ecovadis
Cleveland Cable Company has been independently assessed by EcoVadis, a globally recognised provider of business sustainability ratings. Our score places us among the top 35% of companies evaluated worldwide, reflecting our strong commitment to environmental, social, and ethical performance

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