SIXNET®
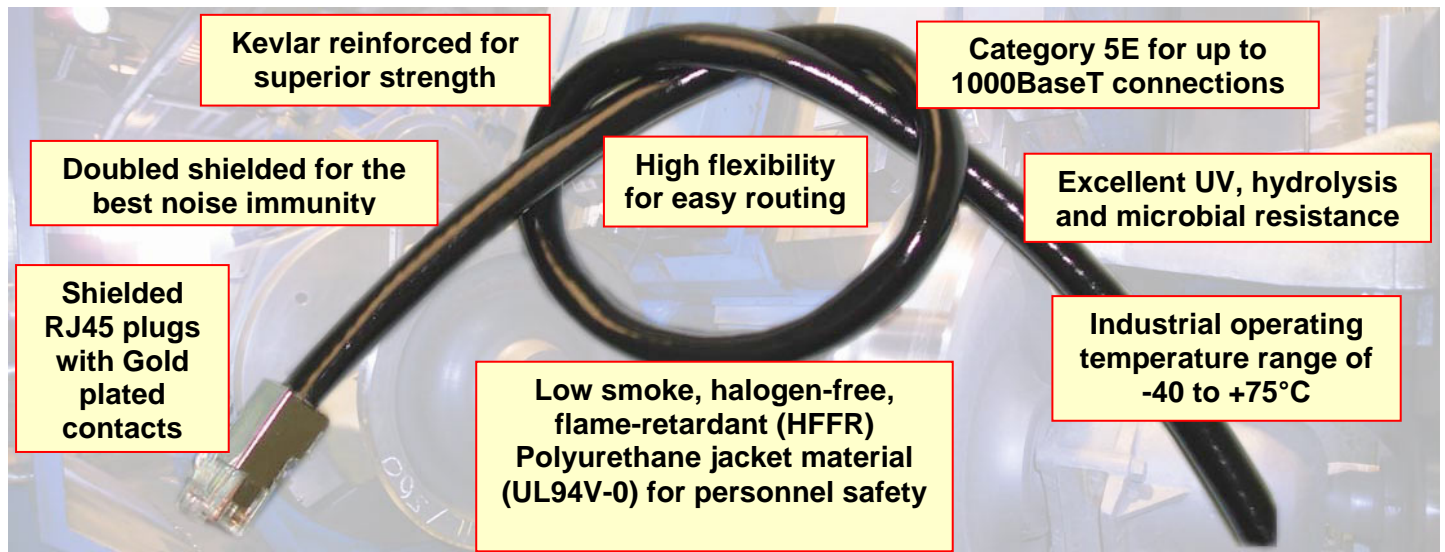
Industrial CAT5E Ethernet Cable & Cordsets
Kevlar Protected Ethernet Cabling for the Toughest Applications

This industrial Ethernet cable is ideal for connecting your industrial Ethernet devices. Its high reliability and superior ruggedness make it a perfect choice for industrial, military or any application needing extra protection. This Kevlar reinforced cable is super strong yet highly flexible, and designed to resist UV, water and microbial penetration. It will make your job easier, and give you the assurance and peace of mind that your connections will be reliable for years to come.

Kevlar reinforced for superior strength

Category 5E for up to 1000BaseT connections

Doubled shielded for the best noise immunity

High flexibility for easy routing

Excellent UV, hydrolysis and microbial resistance

Shielded RJ45 plugs with Gold plated contacts

Low smoke, halogen-free, flame-retardant (HFFR) Polyurethane jacket material (UL94V-0) for personnel safety

Industrial operating temperature range of -40 to +75°C

Ideal for IP67 water-proof plugs and switches

Available in bulk reels or pre-assembled cordsets in standard or custom lengths

The World's Toughest Ethernet Cable

Performance Specifications
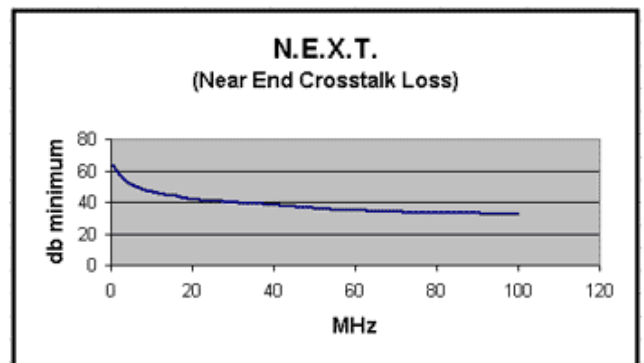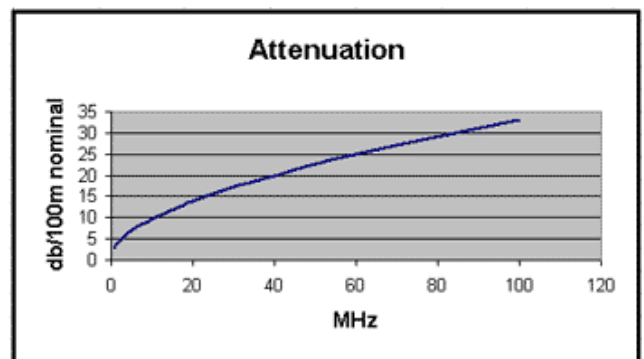
Cable Mechanical Characteristics

Conductors	4 pair, stranded
Conductor size	24 AWG (0.25 mm^2), 7 x 20 mm
Conductor material	Tinned copper
Insulation	Color coded per TIA / EIA-568-B
Insulation size	Dia. 0.039" (1 mm) nominal
Insulation material	Linear Low Density Polyethylene
Construction	Pairs cabled with Kevlar strands and separation tape wrapped
Inner shield	Aluminum Mylar, 100% coverage
Outer shield	Tin copper braid, 80% coverage
Jacket material	Special Black Polyurethane (PUR)
Jacket rating (UL94V-0)	Low-smoke, HFFR (halogen-free, flame-retardant)
Jacket protection	Resists UV, hydrolysis and microbial
Jacket chemical resistance (Contact SIXNET for details)	Highly resistant to many chemicals & substances (organic and inorganic)
Weight	0.04 lbs / ft (59 g / m)
Outer diameter (OD)	0.28" (7.1 mm) nominal
Bend radius during install	2.7" (67.5 mm) (9.5 x OD)
Bend radius during operation	1.5" (37.5 mm) (5.3 x OD)
Flexes to failure	Meets IEC 61156-6
Operating temperature	-40°C to +75°C (-10° to 70°C during installation)

Cable Electrical Characteristics

Compliance	Category 5E per TIA / EIA-568-B And ISO/IEC11801
Attenuation	See chart to right
N.E.X.T.	See chart to right
DC resistance	96 Ohms/Km @ 20°C
Impedance	100 +/- 15 Ohms (1-100 MHz)
Capacitance	46 pF / m nominal @ 1 KHz
LCL	43 dB minimum @ 64 KHz
Capacitance unbalance	3.4 pF / m maximum @ 1 KHz
Insulation resistance	150 M Ohm minimum
Voltage rating	230 VMS
Dielectric strength	VAC / 1 minute – 700 V / Minute
Propagation delay	5.2 nS / m maximum @ 100 MHz
Delay skew	20 nS / 100 m max. @ 1-100 MHz
Resistance unbalance	3% maximum @ 20°C
Structural return loss	23 dB / 100 m min. @ 1-20 MHz
Spark test	3 KV
Velocity of propagation	67% nominal

RJ45 Plug Electrical Characteristics (Cordsets only)

Connector type	RJ45 plug, shielded
Contact material	Phosphor bronze (CuSn)
Contact plating	Gold (Au) 1.3 um (50u")
Contact under-plating	Nickel (Ni)
Housing material	Polycarbonate
Flammability	UL94V-0
Durability / mating cycles	500 cycles minimum
Maximum current	1.5A
Maximum voltage	125V
Withstand voltage	1000 VAC
Contact resistance	20 milliohms maximum
Insulation resistance	500 Megohms minimum
Hazardous substances	ELV and RoHS compliant

Specifications are subject to change. Consult factory for latest information.

Common Applications:

- **Industrial automation and control**
- **Process, machine and motion control**
- **Railway (on-board and side-track)**
- **Maritime, marine and off-shore**
- **Military and aerospace**
- **Extreme temperature**
- **And much more …**

Kevlar Reinforced!

Attenuation

N.E.X.T.
(Near End Crosstalk Loss)

Ordering Guide

Part Number	Description
ET-RJF5E-xC	Cordset with preinstalled RJ45 plugs (shielded), x = length in meters up to 100
ET-RJF5E-100B	100 meters bulk cable
ET-RJF5E-300B	300 meters bulk cable

SIXNET®

Your Source for Industrial Ethernet Connectivity

Industrial IP67 Waterproof Switches

SIXNET IP67 / Nema 6 rated switches are dust, oil and water-tight. They are ideal for mounting directly to a machine or any flat surface in the toughest applications.
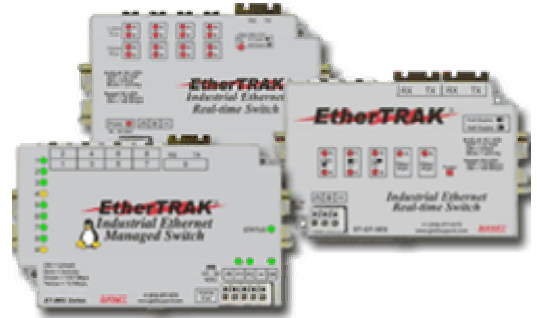
Industrial IP67 Accessories

SIXNET features rugged Amphenol Ethernet connectors and plugs. These accessories are tough enough for the military so they are more than tough enough for your application.

Industrial Ethernet Switches

SIXNET Industrial Ethernet Switches offer the most advanced features, from Real-time Ring™ or Rapid Spanning Tree for redundancy, to SNMP for easy network management. These switches are rugged, reliable, real-time and most of all, secure.

Industrial Device Servers

SIXNET Ethernet to Serial device servers make it easy to connect just about any serial device to your Ethernet network. Advanced capabilities combined with easy to configure tools will make your job easier.

Request Your FREE Product CD at
http://www.sixnetswitch.com

Contact your SIXNET Applications Engineer Today!

For the latest information, check out
http://www.sixnetswitch.com

SIXNET®

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