

Essential-6 Cable

Essential-6 U/UTP Cat 6 PVC 305m reel in box

Nexans ref.: N100.165

- Unshielded construction
- Complies to latest Category 6 standards
- Central cross maintains geometry and performance
- Supports Class E applications up to 250 MHz.

Description

Application

The Nexans Essential-6 cables are manufactured and tested to the latest Category 6 specifications. They are compatible with the complete Essential-6 modular and PCB connectivity range. When installed in conjunction with Essential-6 outlets and patch panels, a 25 year Class E Link Warranty can be obtained from the Nexans e-service site.

Design

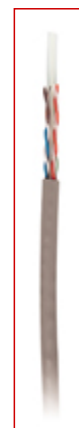
The conductors are 24 AWG solid copper wires complying with IEC 60228. The central cross filler keeps the pairs in place and reduces the risks of losing performance when bending the cable. The cables are available with a Light Grey PVC or an Orange LSZH sheath. Both versions have flame retardant properties compliant with IEC 60332-1

Performance

With guaranteed performance to 250 MHz, Nexans Essential-6 cables are compliant with the requirements of the International, European and American cable standards, including ISO/IEC 11801, IEC 61156-5, EN 50173, EN 50288 and TIA/EIA 568-C.2.

Installation

Thanks to their small nominal outer diameter, the Essential-6 cables are as easy to install as their Cat 5e equivalent.



essential-6

Standards

International

EN 50288; IEC 61156-5; ISO/IEC 11801

National ANSI/TIA-568-C.2



Ambient installation T°C range
-10 .. 60 °C



Operating temp. range
-20 .. 60 °C



Flame retardant
IEC 60332-1

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Characteristics

Construction characteristics	
Type of cable	U/UTP
Outer sheath	PVC
Screen	Unshielded
Colour	Light grey
Dimensional characteristics	
Minimum outer diameter	5.9 mm
Maximum outer diameter	6.3 mm
Approximate weight	36 kg/km
Conductor diameter, range	0.53 .. 0.57 mm
Diameter over insulation, range	0.93 .. 1.03 mm
Electrical characteristics	
Characteristic impedence	100 Ohm
Maximal operating frequency	250 MHz
Transmission characteristics	
Skew	30 ns/100m
Nominal Velocity of Propagation (NVP)	69 %
Propagation delay, max. 100 MHz	536 ns/100m
Mechanical characteristics	
Maximum pulling force by laying	0.1 kN
Usage characteristics	
Category	Cat. 6
Range	essential-6
Minimum Bend Radius - During Installation (under Tension)	48 mm
Minimum Bend Radius - Installed	24 mm
Ambient installation temperature, range	-10 .. 60 °C
Operating temperature, range	-20 .. 60 °C
Flame retardant	IEC 60332-1
Length	305 m
Packaging	Reel in a box
Field of application	Indoor


 Ambient installation T°C range
 -10 .. 60 °C

 Operating temp. range
 -20 .. 60 °C

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Channel Performance

Values given for 2-connector channel, built with Essential-6 cable, outlet and patch panel. (Values specified at 20°C)

Frequency MHz	Insertion Loss dB/100m	NEXT PP dB	PS NEXT dB	ACR dB/100m	PS ACR dB/100m	ELFEXT dB/100m	PSELFEXT dB/100m	Return Loss dB
1	4.0	65.0	62.0	65.0	62.0	63.3	60.3	19.0
4	4.2	63.0	60.5	58.9	56.4	51.2	48.2	19.0
10	6.6	56.6	54.0	50.0	47.4	43.3	40.3	19.0
16	8.3	53.2	50.6	44.9	42.3	39.2	36.2	18.0
20	9.3	51.6	49.0	42.3	39.7	37.2	34.2	17.5
31.25	11.7	48.4	45.7	36.7	34.0	33.4	30.4	16.5
62.5	16.9	43.4	40.6	26.5	23.7	27.3	24.3	14.0
100	21.7	39.9	37.1	18.2	15.4	23.3	20.3	12.0
155	27.6	36.7	33.8	9.1	6.2	19.5	16.5	10.1
200	31.7	34.8	31.9	3.1	0.1	17.2	14.2	9.0
250	35.9	33.1	30.2	-2.8	-5.8	15.3	12.3	8.0



Ambient installation T°C range
-10 .. 60 °C



Operating temp. range
-20 .. 60 °C



Flame retardant
IEC 60332-1