Nexans

COPPER
Solutions

Total Cost of Ownership
Categories & Applications
Permanent link / Channel
Training
Warranty
Products

LANmark

About Nexans

Nexans brings energy to life through an extensive range of cables and cabling solutions that deliver increased performance for our worldwide customers. Nexans' teams are committed to a partnership approach that supports customers in four main business areas: Power transmission and distribution (submarine and land), Energy resources (Oil & Gas, Mining and Renewables), Transportation (Road, Rail, Air, Sea) and Building (Commercial, Residential and Data Centres). Nexans' strategy is founded on continuous innovation in products, solutions and services, employee development, customer training and the introduction of safe, low-environmental-impact industrial processes.

In 2013, Nexans became the first cable player to create a Foundation to introduce sustained initiatives for access to energy for disadvantaged communities worldwide. We have an industrial presence in 40 countries and commercial activities worldwide, employing close to 26,000 people and generating sales in 2013 of nearly 6.7 billion euros. Nexans is listed on NYSE Euronext Paris, compartment A.

In the field of LAN Cabling Systems, Nexans Cabling Solutions offer a complete range of products and value added services providing improved reliability and reduced cost of ownership for Network Managers, together with reduced installation times for installers.

In addition to LANmark brand cabling systems, Nexans also specialise in LANsense Automated Infrastructure Management (AIM) products including Environmental Monitoring and Access Control (EMAC) devices. Nexans Cabling Solutions offer an unrivalled choice of LAN infrastructure solutions to a global customer base through an extensive network of regional offices and their Key Account Management team.

$\int\!\!\!\!\int$ e x a n s

Nexans Cabling Solutions
Alsembergsesteenweg 2, b3 - B-1501 Buizingen
Tel: +32 (0)2 363 38 00 - Fax: +32 (0)2 365 09 99
Nexans Cabling Solutions UK and Intelligent Enterprise Solutions Competence Centre
2 Faraday Office Park - Faraday Road - Basingstoke - Hampshire RG24 8QQ
Tel: +44 (0)1256 486640 - Fax: +44 (0)1256 486650

www.nexans.com/LANsystems - info.ncs@nexans.com

Table of Content

Good cabling reduces end user's Total Cost of Ownership
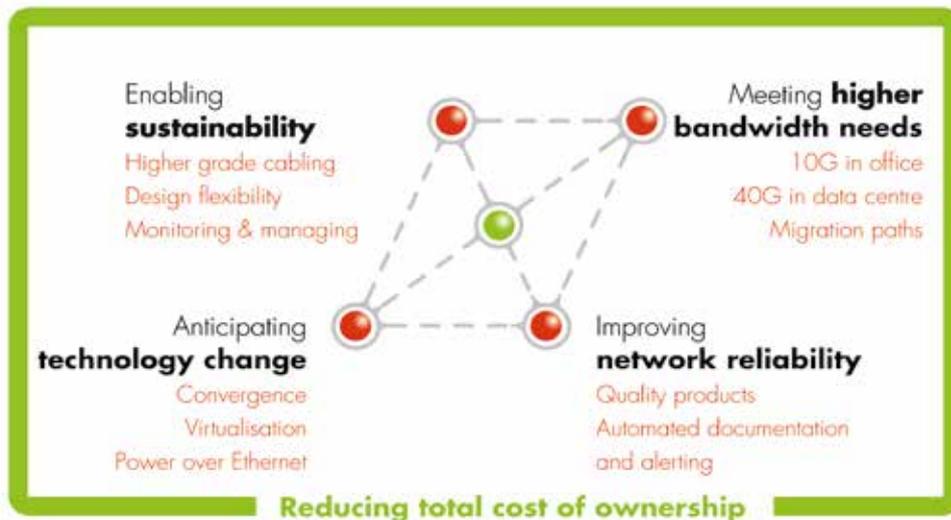
The physical cabling infrastructure plays a critical role in key networking issues which have an impact on business performance.
Investing in the right solution and partner is not only an issue to consider during installation - the consequences will have a significant impact on the end user's cost of ownership.

It is vital to plan for a cabling system that can support several generations of active equipment.

Bandwidth Demand

Planning a smart migration path

"Traffic is expected to grow faster than Moore's Law, with a 10-fold increase in the next 4 years, a 100-fold increase in the next 8 years, making traffic in 2007 just 1% of the traffic expected in 2015!"
Deutsche Telekom

In the office environment the increase of mobile devices like smartphones and tablets will require 10G infrastructure to support wireless access points.
Independent data shows that 40G and 100G bandwidth will be required in data centres within 5 years.

Reliability

Physical Security & Intelligent Monitoring & Management

"The ability to control change is without doubt the major contributor to business value"
British Computer Society (BCS)

Network reliability issues and security breaches can result in lengthy downtime and damage both business operations and reputation.
Reliability can be improved by adopting good quality products and using management systems which provide accurate and up-to-date knowledge of who and what is connected to the network at any specific time.

Lifetime of a good cabling system
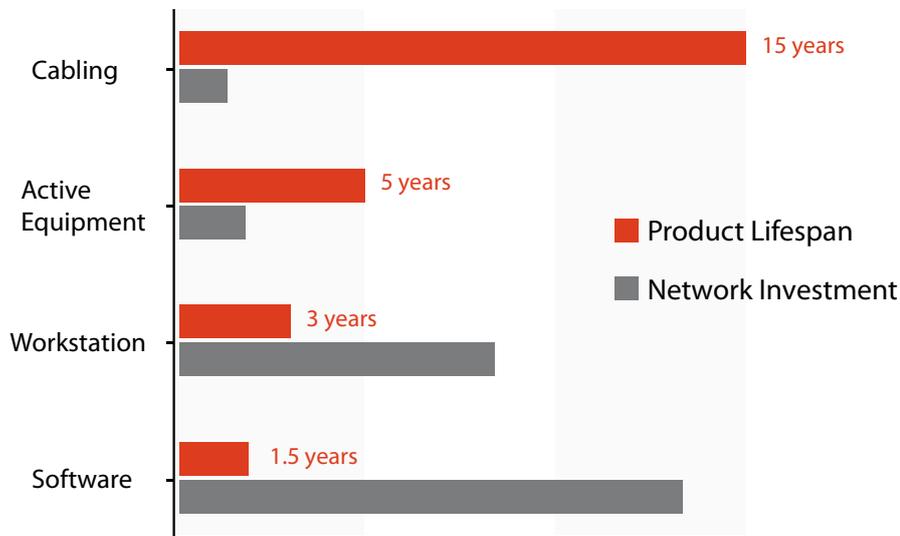
Not just Data.... also Power!

Power over Ethernet (PoE and PoE+) is a key driver for the adoption of IP convergence. It reduces the need for separate power cabling, saving installation costs and limiting administration overhead. Remote powering of devices will increase the temperature in cabling bundles. High grade shielded cabling will allow larger bundle sizes and enable full distance transmission of 100m.

Studies have been made on the heating effect power delivery has on cables, however component standards for connectors do not include PoE+ compliance – which means customers need to ensure that they specify "PoE-ready-connectors".

Additionally, there is a clear trend towards powering devices which draw more than 25W, which means minimum PoE+ compliance (ie cat 5e) is not good enough. The support of higher power delivery requires good cabling design and higher grade of cabling, including "PoE-ready-connectors".

Technology Change

Anticipating & Managing IT Evolution

"Significant innovation continues in the field of IT driven by volume, velocity and variety of information"
IDC

Network cabling, whether in the office or data centre, has to be flexible to support changing technology trends:

- Virtualisation
- Cloud
- Top of Rack or End of Row
- Convergence
- Data Centre Ethernet

The choice of cabling will impact cost of ownership.

Sustainability

Cabling selection will impact energy consumption

"By 2020 IT will be more polluting than aviation"
The Economist

Increased demand for power caused by accelerating IT growth creates direct conflict for IT managers as environmental regulation intensifies and energy costs increase.

The need to plan data centre infrastructure to ensure that it is best equipped to maximise efficiency and reduce total cost of ownership has never been greater.

Most comprehensive copper solutions in the whole cabling industry

*LAN*mark-6
1 Gigabit Ethernet

A Cat 6 system is the most fundamental cabling solution. In combination with Nexans Snap-In connectors, we provide you reliable and high speed connections. It is suitable for most commercial environment applications and very easy to install. It is the ideal solution for a standard building and infrastructure.

*LAN*mark-6A
10 Gigabit Ethernet

10G Ethernet over twisted pair cabling is the most recent data transmission protocol. LANmark-6A provides a risk-free 10G solution which is fully compliant to international standards. With a transmission bandwidth of 500 MHz, it supports 10Gbase-T applications to 100m, making it ideal for building environments with long life cycles.
Offering excellent Alien Crosstalk (ANEXT) performance, LANmark-6A facilitates easy installation without the need for complicated and expensive on-site ANEXT testing. The high performance screened system supports short link lengths of only 5m, making it ideal for data centres.

*LAN*mark-7A
50G Shannon Capacity

Nexans LANmark-7A supports application requirements beyond 10G. The fully screened system not only meets the current requirements but is also suitable for future applications.
The special 2-in-1 design of the GG45 connector is backwards compatible with the RJ45. With this new technology, Nexans will provide you with the fastest transmission speed available today and in the future.

Nexans not only provide reliable LANmark copper and fibre solutions for an enterprise network cabling system, but also optimised management and control methods. Thanks to these new methods, it is very easy for an IT manager to deal with all kinds of emergencies and guarantee continued operation.

LANsense

LANsense is the world's leading Automated Infrastructure Management (AIM) solution featuring a flexible, open architecture that works in conjunction with most existing network management systems. It offers unprecedented network security and advanced asset management features.

LANsense provides visibility of a physical network by automatically mapping, locating, reporting and alerting on any network 'event', be it a logical connection/disconnection of a device or a physical change to the infrastructure. By monitoring network physical and logical connectivity in real-time, LANsense can discover what devices are connected where, providing 100% accurate records and can be configured to raise alerts on unauthorised activity day or night.

LANsense EMAC

Environmental Monitoring and Access Control (EMAC) products help to monitor power consumption and provide information on environmental conditions.

As an independent monitoring component, EMAC can integrate into the LANsense solution. Nexans provides a whole management system solution for enterprises and data centres.

Categories & Applications

Horizontal cabling

a) Category or Class

By horizontal cabling, we mean the cabling which connects the floor distributor to the outlets at the workplace. This is usually done with a 4-pair copper cable. Nexans offer a full range of copper solutions which meet the requirements of standard categories and classes.

Solution	Category	Class [1]	Bandwidth (in MHz)	Applications
Telephony	3	C	16	Voice
LANmark-5	5e	D	100	Gigabit Ethernet
LANmark-6	6	E	250	Gigabit Ethernet
LANmark-6A	6A	EA	500	10 Gigabit Ethernet
LANmark-7	7	F	600	10 Gigabit Ethernet
LANmark-7A	7A	FA	1000	Ethernet beyond 10GBase-T, CATV, Reduced Pair Gigabit, etc.

(1) according to which these cabling systems must be tested.

b) Guarantees of distances covered

The standards (ISO/IEC, EN and EIA/TIA) are based around a maximum provide channel length of 100m. In the event of a request for a specific "application guarantee", Nexans provide cover for the longest channels according to the type of application. This provision only applies when Nexans products are used exclusively along the channel in question.

Application Drive Distance (m)	LANmark U/UTP*		LANmark Screened			LANmark-7/7A Screened
	5e	6	5e	6	6A	7 + 7A
10baseT (Ethernet)	177	177	177	177	177	177
100baseTX (Fast Ethernet)	140	140	140	140	140	140
1000baseT (Gigabit Ethernet)	100	100	100	115	115	130
10Gbase-T (10 Gigabit Ethernet)	n/a	n/a	n/a	n/a	100	120**
Token Ring (16Mbps)	250	250	250	250	250	250
IBM 3270	820	820	820	820	820	820
RS232	1200	1200	1200	1200	1200	1200
AS400 / System 3X	800	800	800	800	800	800
ISDN Basic Rate	500	500	500	500	500	500

* U/UTP extended drive distances apply only to discrete unbundled cable runs which must be installed to avoid the effects of ANEXT.

** 10G supported up to 120m on 2 connector channels using LANmark-7A Conversion Cords (N101.2DAxx).

c) Types of copper cable

Nexans offer a wide range of copper cables, including:
- unscreened
- overall foil screened
- individually foil screened
- individually foil screened and braided

For fast data transmission applications (1Gigabit Ethernet and beyond), we recommend the use of twisted pair shielded cables. The aluminium foil surrounding the four pairs, or each one of them, protects the transmission of data being sent along these twisted pairs from electromagnetic radiation.

Cables are described using the notation X/YTP, where:
- X represents the presence or absence of an overall screen
- Y represents the presence or absence of individual pair screening

Old name	New name
UTP	U/UTP
FUTP	F/UTP
STP	S/FTP
	F/FTP

There is a technical data sheet for each of the products mentioned on the following pages. Each sheet states their respective features. To download these data sheets, please go to: www.nexans.com/LANsystems.

U/UTP   F/UTP   F1/UTP

U/FTP   F/FTP   S/FTP

Outer jacket   Aluminium foil

Braid   Copper wire

Drain wire
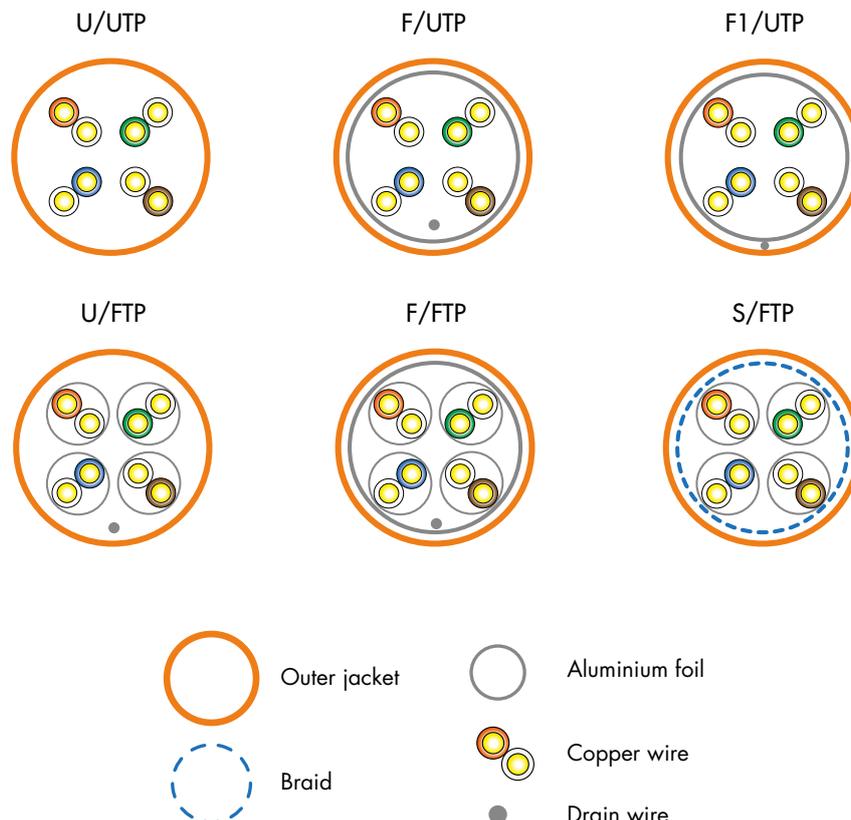
Permanent link testing vs. Channel testing
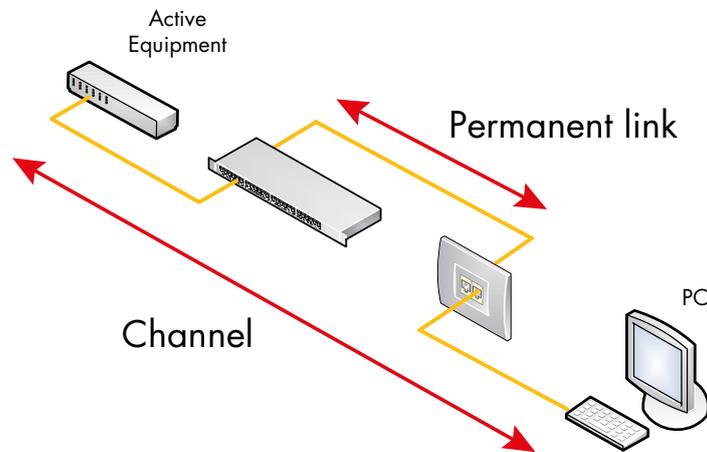
In the ISO standards two different ways of testing are described.

A permanent link is the fixed part of the cabling, which is tested after installation. These test results give information on installation quality. The permanent link extends from the patch panel in the cabinet to the telecommunications outlet at the user side. It excludes work area cords, equipment cords and cross-connections, but does include the optional consolidation point.

A channel represents the complete end-to-end path between the user equipment (PC, phone, video, printer, …) and the active equipment at the cabinet side (switch, hub, PBX, video equipment). The channel includes the work area cord, the equipment cord and the cross-connection.

Configurations

2 connector channel / Interconnect – Telecom Outlet (TO) model

In an implementation of generic cabling, one assembly of TOs directly linked back to the Floor Distributor serves a single work area.
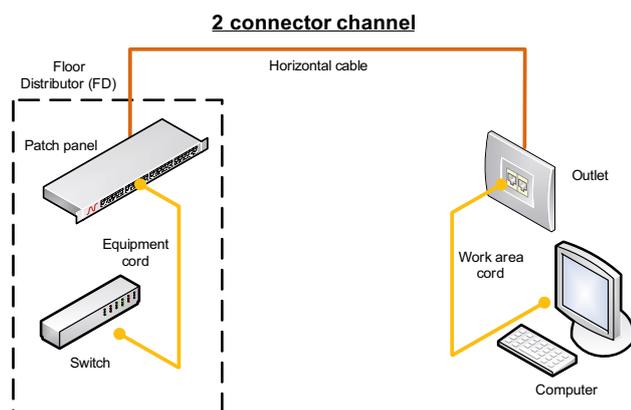
3 connector channel with Consolidation Point (CP) / Interconnect – CP – TO model

In an open office environment the work areas regularly need to be reconfigured. As a consequence the installation of a Consolidation Point between the FD and the outlet (TO) can be useful in order to provide flexibility of reallocating the TOs. The CP (NCS Zone Distribution box) is located in the space above the ceiling or under the raised floor.

3 connector channel with CP
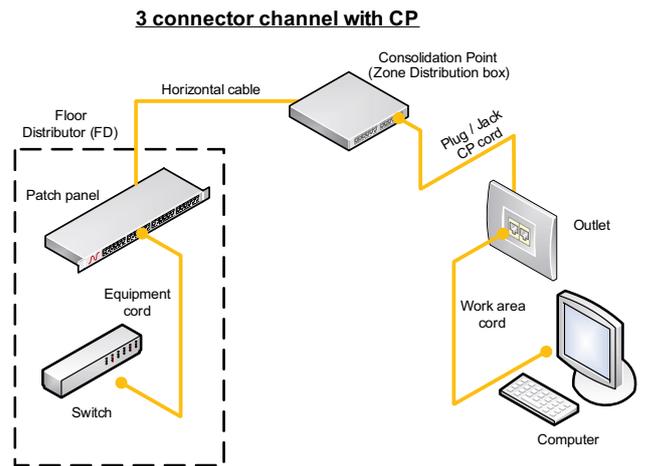
3 connector channel with presentation panel / Crossconnect – TO model

Presentation panels (also called representation panels or mirror panels) are used where horizontal distribution patch panels are located away from active equipment. They can also be used to protect switch ports from wear and tear.

All switch ports are permanently connected to a presentation panel and the connection with the horizontal panel is performed between the presentation and the horizontal panel to create a cross-connect area.

3 connector channel with cross-connect
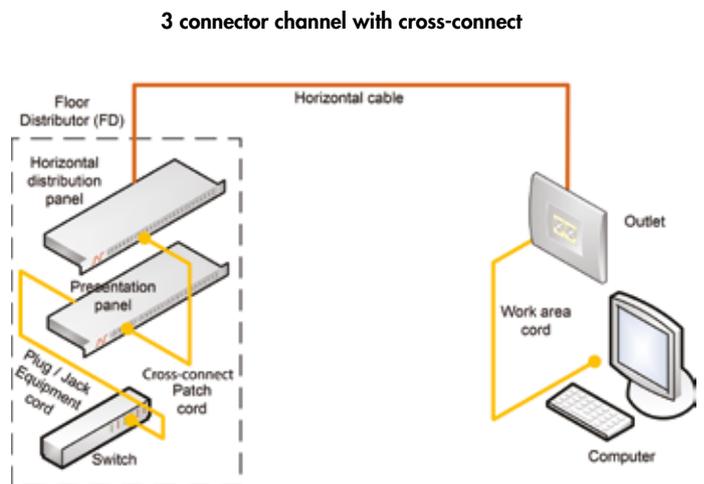
4 connector channel with CP and presentation panel / Cross-connect – CP - TO model

This last configuration includes both CP and presentation panel. It is the worst case scenario regarding data transmission performance as there are four RJ45 jack/plug connections in the link.

All LANmark systems are warranted to exceed the standard electrical parameters when using the worst case 4 connector channel scenario.

4 connector channel with cross-connect & CP
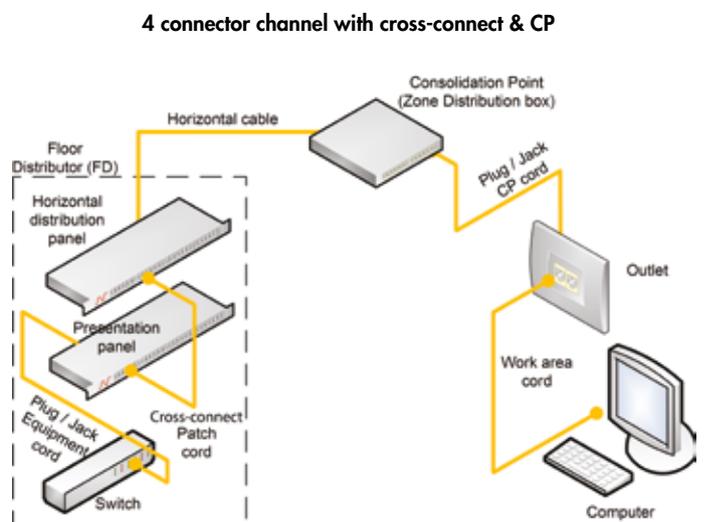
Warranty

Fully Comprehensive or Self Certification options

Link Warranty
On-line Self Certification

Nexans provide a unique 25 year self certification link warranty for standard Cat 5e and Cat 6 installations which is available for all installers.

- Instant - no waiting while application is processed
- Customised - certificate includes details of end customer and installer
- Easy - simply complete the short online form, generate and print the pdf certificate

Certified Solution Warranty
Complete confidence

Nexans Certified Solution Warranty is the most comprehensive guarantee on the market covering:

- Copper and Fibre
- Channel Performance - Horizontal, Campus and Backbone
- Application support
- Labour*

*Nexans take liability for Labour when installation is made by a full Certified Solution Partner

What is included	Link Warranty Certificate	Certified Solution Warranty
Brands covered:		
LANmark	✓	✓
LANconnect	✓	✓
Essential	✓	-
Copper categories covered:		
Cat 5e	✓	✓
Cat 6	✓	✓
Cat 6A	-	✓
Cat 7A	-	✓
Fibre	-	✓
Parts	✓	✓
Link performance	✓	✓
Full end-to-end channel	-	✓ *
Application guarantee	-	✓ *
Extended distance support	-	✓ *
Installation liability	-	✓ **
Nexans Checked & Validated	-	✓
Validity	25 years	25 years

* with Nexans patch cords

** when installed by Certified Solutions Partner

Nexans
Field-testing procedure of
LANmark-7

LANmark Class F System — Warranty Module

Nexans
Warranty
Certified System
Nexans Cabling Solutions

Certificate

**Discover
the full NCS Library :**

**www.nexans.com/
LANsystems**

**Support &
Documentation**

General
Installation
Guide

April 2014 v2.0

Nexans

LANsense Systems — Warranty Module

Decoding
Standards

Standardisation activities for 40GBASE-T

IEEE P802.3bq 40GBASE-T Objectives

Nexans

Anticipating Change
in your IT Infrastructure

New world of work • PoE+ • Cloud computing • Energy efficiency
10G/40G • Sustainability • Operational management • Security

Nexans

Training

In order to provide end users with maximum confidence, Nexans Certified Solution Partners (CSP) must pass training to ensure they are competent to install LANmark solutions to the required standard and are able to offer the full Certified Solution Warranty.

Courses are typically based on the following formats although training may vary slightly by country depending on local requirements and needs. However the programmes are all based on standardised Training Modules to ensure consistency of standards around the globe.

Contact us to get details of training courses in your region: info.ncs@nexans.com

Training												
Qualification	**Modules**	1	2	3	4	5	6	7	8	9	10	11
Supervisor Cu & FO	3 day course	x	x	x	x	x		x	x	optional		x
Supervisor Cu	2 day course	x	x	x	x	x						
Supervisor FO	2 day course	x						x	x	optional		x
Supervisor Cu	1 day course	*NOTE		x	x	x						
Supervisor Cat 7A	2 1/2 day course	x	x	x	x	x	x					
		* Participants require existing knowledge of topics covered by Modules 1 & 2 which will be included as part of final assessment										
CSP warranty requirements												
Copper (Cat 6A)		x	x	x	x	x						
Cat 7A		x	x	x	x		x					
Fibre		x						x	x	optional		x

The evolution of LAN technology moves at a fast pace and requires a wide and varied range of skills to successfully deliver a project. Our partner training is designed to provide appropriate training to installers of all levels.

The partner training program is divided into several modules to enable us to address dedicated topics aimed at different people:

- Installers
- Project Managers
- Designers
- Consultants
- Architects
- Commercial staff
- End users

Trainees can obtain a "Nexans Cabling Solutions Expert level certification" when they succeed in the 3-day Expert training.

Training Modules Overview

Commercial:

Nexans Copper Cabling Solutions - Module 3

Nexans Optical Fibre Cabling Solutions - Module 8

Data Centre Cabling Solutions - Module 12

Expert Knowledge:

Premises Cabling Standards - Module 1

Parameter for Copper Cabling - Module 2

Installation Rules and Guidelines - Module 4

Optical Fibre Theory and Principles - Module 7

Hands-on:

Installation Practice & Testing Class D-E-EA Links - Module 5

Installation Practice & Testing Class F-FA Links (GG45) - Module 6

Fibre Installation Practice with Direct Termination - Module 9

Fibre Installation Practice on Fusion Splicing - Module 10

Testing Optical Fibre Links - Module 11

Project support

Calculation Toolkit v1.3

Power Segregation Calculator
Horizontal Link Length Calculator
Cable Tray Fill Calculator
Stacking Height Calculator
Fibre Cable Selection Tool
NVP Effect
Length Accuracy

Nexans Visio Template 3.2 with NVT 3D

Create professional rack diagrams
Export BoM to XLS
includes LANmark, LANsense, essential & now EMAC
3D tool for schematics

LANmark Copper Solutions

EMAC

- Hardware and software for environmental monitoring
- Power management
- Temperature and humidity sensing
- Access control

Modular Patch Panel

- Compatible with all Snap-In connectors
- 24 ports
- Sliding and Fixed versions available
- Clip-On mechanism
- Exclusive Auto-Connect Earthing system

Pre-terminated Cabling

- Cat.6, 6A and 7A
- Customised numbering-labeling and packaging
- Guaranteed level of performance and repeatability

1G -10G - 50G Shannon Capacity

- All copper categories available to support all line speeds and PoE bundle sizes
- GG45 based copper cabling for 50G Shannon Capacity

Copper Cables

- Cat.6A Multipair cable
- Advanced 1500MHz Cat.7A cables

Copper Cassettes

- For 6 connectors Cat.6, 6A or 7A
- Compact design – Grounding included
- Rapid and easy installation
- Suitable for straight, angled and 3U high density panels
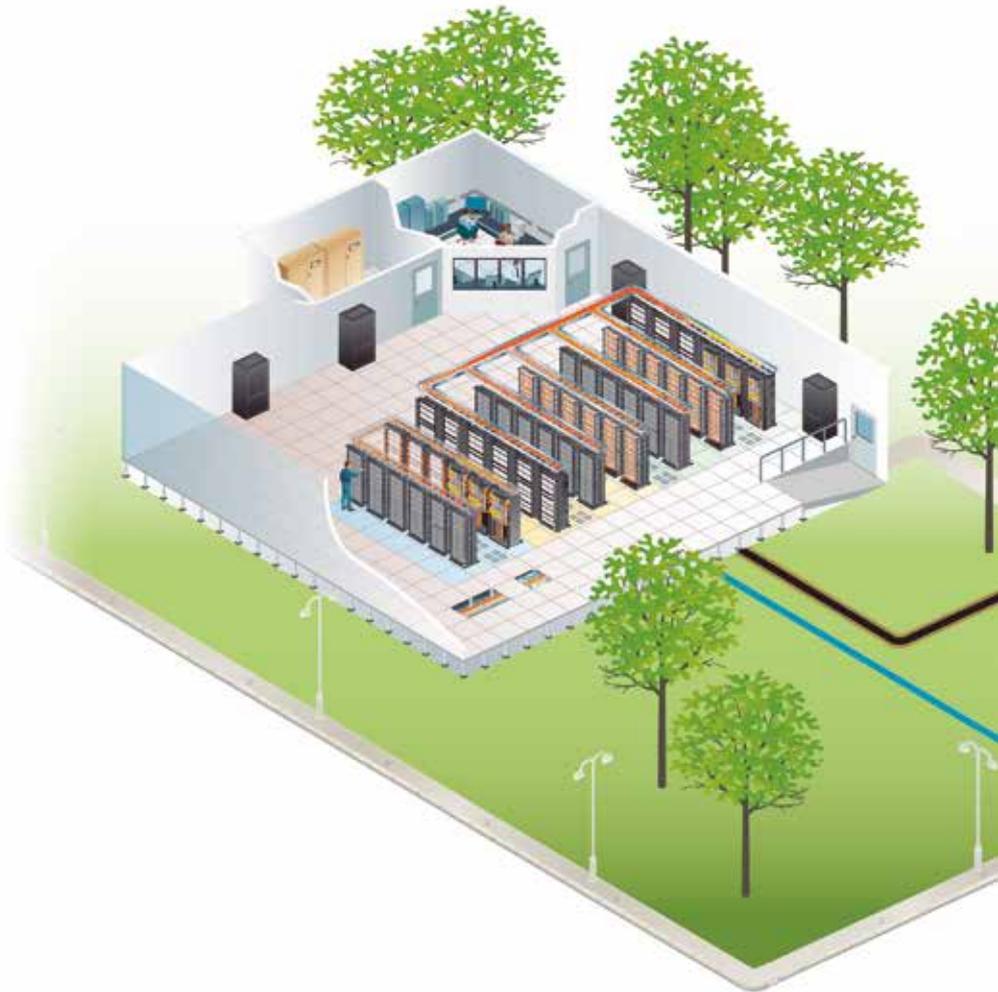
for Office and Data Centre

Quick Mount Cabinet

- 19" cabinet 42 U
- Flat pack : easy and quick installation
- Exclusive automatic earthing system
- Security
- Complete range of accessories

LANmark-6A UniBoot Patch Cords

- Cat 6A patch cords – shielded
- Available in 6 colours
- Removable latch protector available in 8 colours

GG45 Snap-In Connector

- High speed '2 in 1' Multimedia Connector
- Supports data applications up to 1000 MHz Class FA
- Backwards compatible

Overhead Patching Frame

- 4U open frame
- For overhead vertical or angled installation
- Mounts under or over cable trays
- Patch cord management accessories

Angled Panels

- Optimal construction for Data Centre cabling
- Ideal for high density patching
- Angled pass-through and blank panels available
- LANsense versions available

LANsense

- Hardware and software for cabling infrastructure management
- Real time cabling and IP traffic monitoring
- Ideal tool for alerts, documentation and reporting
- Specific platform for Data Centres

LANmark-7A

Best enterprise cabling & 50G Shannon Capacity for Data Centres.

Nexans LANmark-7A is a revolutionary concept in copper cabling technology, and follows closely behind the ratification of the international standard for Cat 7A supporting frequencies up to 1000MHz. Designed for 50 Gigabit Shannon Capacity, it also supports existing RJ45 based legacy equipment using the revolutionary GG45 connector.

LANmark-7A meets the performance requirements for line speeds beyond 10 Gigabits per second.

The electrical performance is nearly four times the performance of traditional Category 6A cabling. This is achieved because LANmark-7A offers double the bandwidth with half the crosstalk of Category 6A.

	LANmark-7A	Category 6A
NEXT	60dB @ 1000MHz	30dB @ 500MHz
FEXT	50dB @ 1000MHz	25dB @ 500MHz
RL	8dB @ 1000MHz	8dB @ 500MHz

- Maximise energy efficiency
- Double the bandwidth and half the crosstalk of Cat 6A
- 50G Capacity
- Fully backwards compatible
- Easy migration to high performance mode simply by changing patch cords
- 360° screening for alien crosstalk immunity

LANmark-7A GG45 Connector

- First RJ45-compatible Cat 7A connector using Nexans unique GG45 interface
- Able to provide Shannon Capacity of 50Gbps
- Full Class FA channel compliance
- Fully screened for Alien Crosstalk immunity
- "2 in 1" Connector using 12 contacts to run 2 separate transmission modes
- Compatible with all Snap-In panels and outlets
- Supports PoE Plus applications (15 Watts per pair)

N420.735

LANmark-7A Cable

- Exceeds Cat 7A in terms of ACR and frequency range
- Suitable for channels with capacity above 40Gbps
- Superior performance with positive ACR over the full frequency range
- Optimised for use with LANmark-7A GG45 connector
- Easy to install with Cat 7A connectivity through special foil construction
- Various cables with different bandwidth available: 1000MHz, 1200MHz, 1500MHz

LANmark-7A Patch Cord

- High bandwidth patch cord for applications beyond 10G
- Runs the GG45 '2in1' Connector in its high speed GG-Mode
- Both Sides use GG45 8 Contact Plugs up to 1500 MHz according IEC 61076-3-110
- Allow full 4-connector Class FA channels
- Compatible with High Density requirements in Data Centres

LANsense AIM LANsense version also available

GG45 8C PCB jack

- Right angled Cat 7A PCB jack up to 1500 MHz
- To be used in active equipment or patch panels
- UL94-V0 plastic components
- RoHS compliant
- Wave solder compatible.

N420.738

LANmark-6A

Nexans LANmark-6A cabling system is the ideal solution for enterprise and data centre environments, offering guaranteed bandwidth to 500 MHz and therefore supporting 10G-BaseT, the highest performing application available today over horizontal copper cabling.

LANmark-6A cables and connectivity are manufactured and tested to the latest Cat 6A specifications defined in the International, European and American cable and cabling standards, including ISO 11801, EN 50173-1 and TIA-568-C.2.

The LANmark-6A range provides up to three connection points within a 10m link or a 12m channel. This makes it an ideal solution for modern data centres that are already facing severe space problems and where overlength cable is often installed in order to comply with a traditional minimum channel length of 24m. By reducing this minimum length, data centres no longer need to install unnecessary excess cable, therefore reducing costs whilst also saving critical space.

- Guaranteed superior channel headroom for :
  - ANEXT (2dB)
  - Return Loss (2dB)
  - Alien Crosstalk (15dB) (No expensive ANEXT testing required)
- No * passes
- Interoperability due to component compliance
- Ability to install very short links

Why screening?

Most 10G applications involve highly concentrated cable bundles installed in densely packed cable routes in data centre, SAN or large office environments. Additionally, electric power lines and wireless office equipment abound, resulting in high background noise.

Proper cable screening eliminates the need for space-wasting separation of UTP cables, which allows larger bundles in cable channels. This contributes to lower installation costs. Screened systems provide significant headroom to ANEXT, as well as a high degree of overall noise immunity.
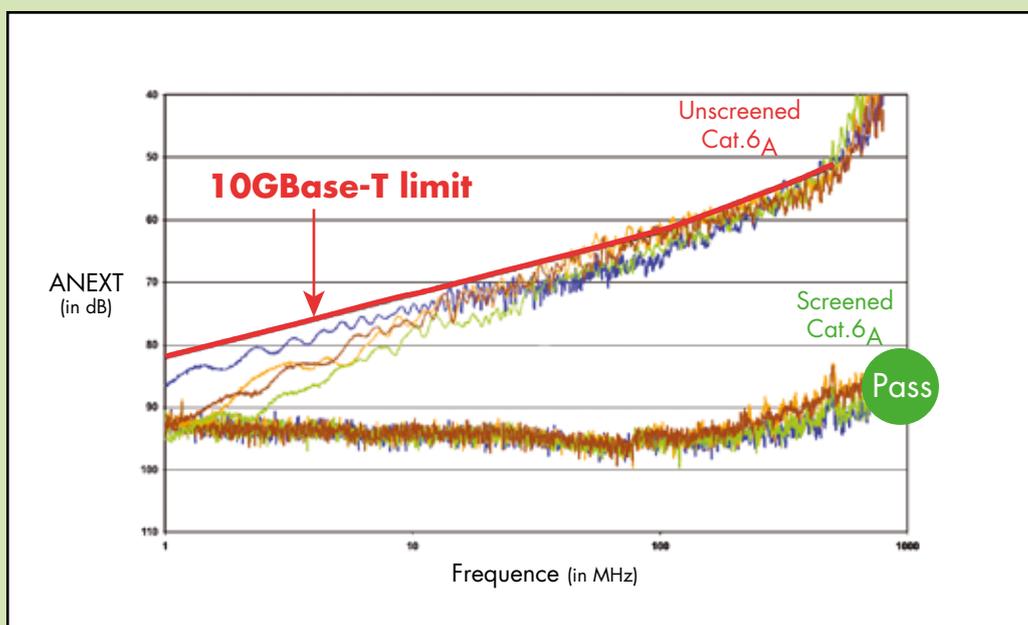
LANmark-6A Cable F/FTP

- Ideal cable for 10GBase-T applications
- Full compliance to latest standards for Cat 6A and Class EA
- Guaranteed performance up to 500MHz
- Combination of global and individual pair shielding offering ANEXT immunity
- Standard flame retardant LSZH sheath according to IEC 60332-1
- LSZH fire retardant version according to IEC 60332-3 available
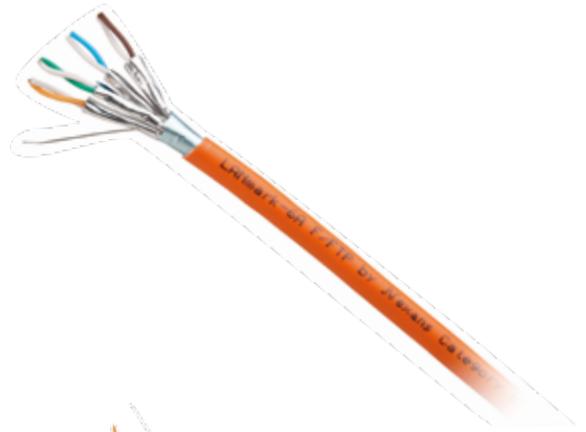
LANmark-6A Cable F1/UTP

- Ideal cable for 10GBase-T applications
- Full compliance to latest standards for Cat 6A and Class EA
- Guaranteed performance up to 500MHz
- Global screen offering ANEXT immunity
- Foil with aluminium side facing outwards providing easy bonding to connector
- Offering same ease of installation as UTP cables, but with full protection against noise
- Standard flame retardant LSZH sheath according to IEC 60332-1
- LSZH fire retardant version according to IEC 60332-3 available
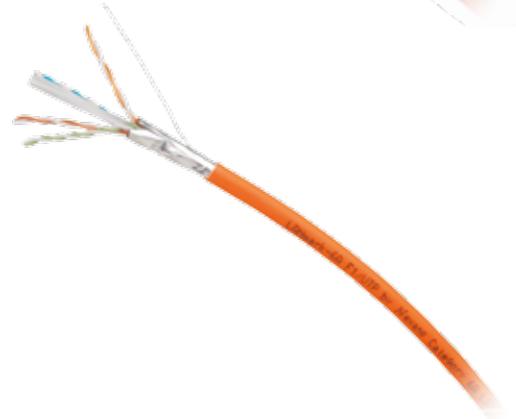
LANmark-6A Snap-In Connector

- High bandwidth RJ45 connector supporting 10 Gigabit Ethernet
- Fully compliant with TIA and ISO Cat 6A cabling and connector standards
- Supports very short Cat 6A channel configurations, often required in Data Centres
- 360° shielding offering full ANEXT
- Fast and easy termination without punch down tool
- Wire organiser reduces risk of installation errors and ensures consistent performance
- Reterminable
- Version for stranded wire available for CP to TO links
- Supports POE Plus applications (15 Watts per pair)
- An adapter can be added to fit the keystone format
- Certified by Delta independent test lab

N420.66A

LANmark-6A Ultim UniBoot Patch Cords

- High speed RJ45 patch cord to run 10GBase-T and future Cat 6A applications
- High density support due to slim boot design
- Frequency range up to 500MHz, fully compliant with Cat 6A TIA-568-C.2 and ISO11801:2011
- Individually screened pairs offering internal and external noise protection (NEXT and ANEXT)
- Certified by Delta independent test lab
- Black removable latch protector, replaceable with 7 other colours, offering possibility of differentiation between services

LANsense AIM LANsense version also available

LANmark-6 10G

Screened cabling is far less susceptible to picking up Radio Frequency Interference (RFI) from external sources.

Did you know...?

- Good Alien Crosstalk performance is essential for cabling systems designed to support 10GBase-T. Due to high transmission frequency and complex encoding, 10GBase-T is more sensitive to external noise from surrounding cables.

- Unshielded systems generally have just a few dB of margin against Alien Crosstalk (ANEXT); shielded systems offer tens of dB of margin.

- Shielded systems support the ANEXT requirements of Cat 6A / Class EA simply by design.
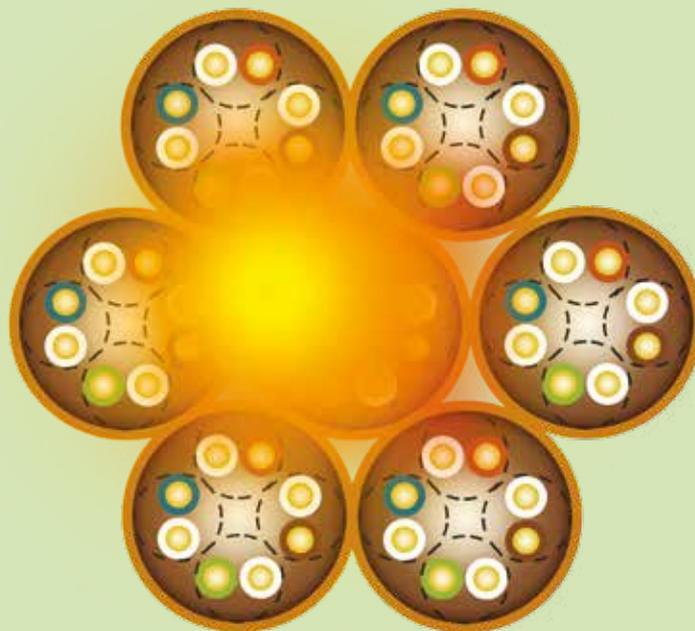
Immunity to Alien Crosstalk
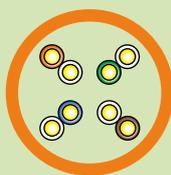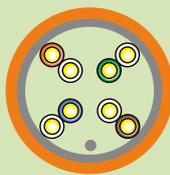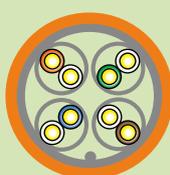
U/UTP   F/UTP   F/FTP

Different cable types to support 10GBase-T

Outer jacket   Aluminium foil

Copper wire   Drain wire

LANmark-6 10G DC50 U/FTP AWG26 500MHz

- Supports Ethernet applications including 10GBase-T up to 60m when combined with LANmark-6 10G or LANmark-6A connector
- Smaller diameter allows 40% space saving in bundles
- Guaranteed performance to 500MHz
- Individual pair shielding offering ANEXT immunity
- Complies to Work area CAT 6A wiring performance according to IEC 61156-6 Ed.3
- Complies to Horizontal floor CAT 6A wiring performance according to IEC 61156-5 Ed.2 for channels of max. 60m or links of max. 50m
- Provides +20dB of headroom against Cat 6A on NEXT & PSNEXT and +10dB on ACRF & PSACRF
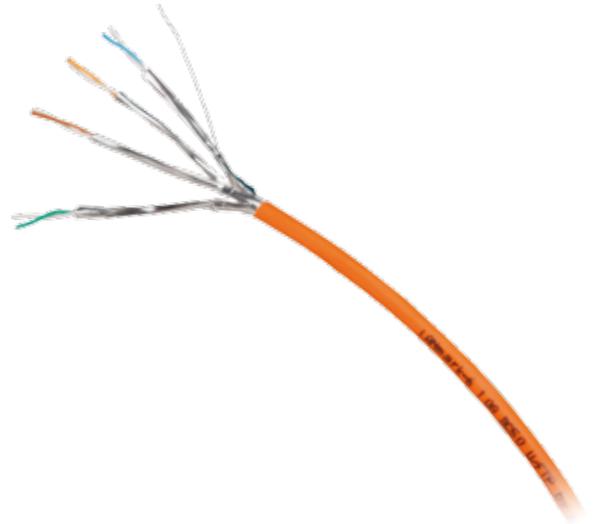
LANmark-6 10G Snap-In Connector

- Supports 10GBaseT applications
- Complies with Category 6A and Class EA channel requirements
- 360° shielding offering ANEXT immunity
- Fast and easy termination without punch down tool
- Wire organiser reduces risk of installation errors and ensures consistent performance
- Version for stranded wire available for CP to TO links
- An adapter can be added to fit the keystone format
- Supports PoE Plus applications (15 Watts per pair)

N420.667G

LANmark-6 10G UniBoot Patch Cords

- High speed RJ45 patch cord to run 10GBase-T (IEEE 802.3an)
- High density support due to slim boot design
- Fully compliant with Cat 6A / Class EA channel requirements
- Global shielding offering ANEXT immunity
- Black removable latch protector, replaceable with 7 other colours, offering possibility of differentiation between services

LANmark-6

Nexans LANmark-6 cabling system are the ideal solution for most of today's network requirements in normal office environments. LANmark-6 cables and connectivity are manufactured and tested to the latest Cat 6 specifications defined in the International, European and American cable and cabling standards, including ISO 11801, EN 50173-1 and TIA-568-C.2. LANmark-6 components are designed to meet or exceed the quality and performance criteria needed to support all applications up to 250 MHz, including 1000 Base-T Gigabit Ethernet.

- Ideal solution for most common enterprise applications such as Fast Ethernet and Gigabit Ethernet.
- Matched components ensuring minimised signal loss and maximum throughput.
- Exceeding standard Channel performance requirements ensuring a reliable network.
- Supports application drive distances above 100m for Ethernet, Fast Ethernet and Gigabit Ethernet.
- 25 year full system warranty

LANmark-6 Cable

- U/UTP and F/UTP constructions
- Complies to all Cat 6 cable standards
- Supports all Class E applications including PoE/PoE+
- Central cross member maintains geometry and performance
- Tested up to 350MHz
- Compliant with IEC 61156-5, EN 50288-1 and TIA-568-C.2 cable standards for Cat 6
- Shielded version has aluminium side facing outwards ensuring easy bonding with connector
- Available with LSZH orange and PVC grey sheath
- PVC and LSZH standard flame retardant according to IEC 60332-1
- LSZH fire retardant version according to IEC 60332-3 available

LANmark-6 F1/UTP

LANmark-6 U/UTP
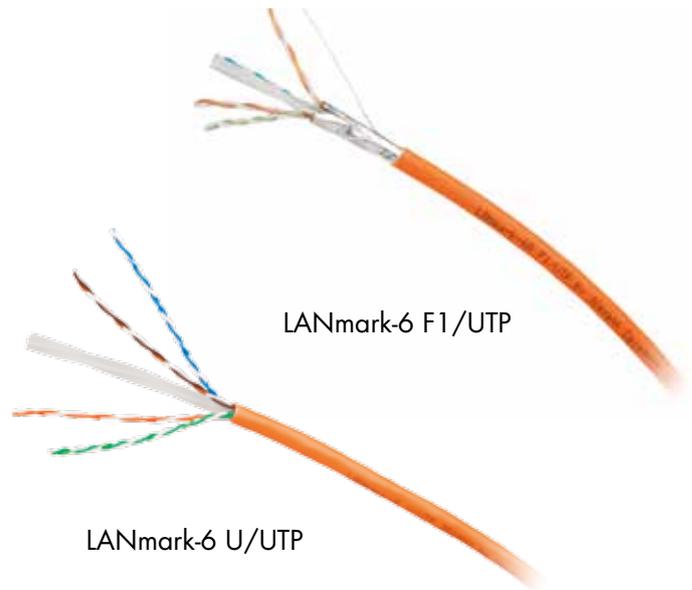
LANmark-6 Snap-In Connector

- Available in unshielded and shielded version
- Wire organiser reduces risk of installation errors and ensures consistent performance
- Wiring according to colour code T568B or T568A
- Reterminable
- Version for stranded wire available for CP to TO links
- Supports PoE Plus applications (15 Watts per pair)
- An adapter can be added to fit the keystone format

N420.666

N420.660

LANmark-6 UniBoot Patch Cords

- Complies with all Cat 6 cabling and component standards
- Fully matched with LANmark-6 cable and connector ensuring maximum channel performance
- LSZH Flame retardant jacket
- Black removable latch protector, replaceable with 7 other colours, offering possibility of differentiation between services

LANsense AIM LANsense version also available

LANmark Copper Pre-Term

Nexans Cabling Solution provides a full range of pre-terminated copper assemblies which includes single units, layed-up bundles and also unique Multipair cable designs.

Assembies are available in various performance categories (Cat 6, Cat 6A, Cat 7A) and with various connector options (Jack-Jack, Jack-Plug, Plug-Plug).

- Jack-Jack assemblies: 4 pair cable terminated with LANmark Snap-In jacks at both ends
- Jack-Plug assemblies: 4 pair cable terminated with a LANmark Snap-In jack at one end and a LANmark plug at the other end
- Plug-Plug assemblies: 4 pair cable terminated with LANmark plugs at both ends

Layed-Up Bundles can be delivered with 3,4,6,8,12 and 2x12 cables inside.

Multipair assemblies are available with 4x4 pair and 6x4 pair cables.

LANmark Pre-Term Bundles

- Ideal assemblies for high density cabling and data centres
- Bundles available for Jack-Jack or Jack-Plug or Plug-Plug units
- Bundles available for 3, 4, 6, 8, 12 or 2x12 units
- Cat.6, 6A or 7A perfomance supported
- Fully screened and compliant to ANEXT requirements
- Repeatable and stable level of performance
- Individual units are helically assembled together to form a round and stable bundle
- Bundles are suitable for laying but not pulling operation

LANmark-6A Pre-Term Multipair Cat 6A RJ45 Jack-Jack

- Small Cable diameter allows space savings compared to bundles
- Ideal assemblies for 10GBase-T applications and data centres
- Fully compliant to the latest Cat 6A and Class EA standards
- Guaranteed performance in 2, 3 or 4 connector channels up to 500MHz
- Very short distances for data centres supported
- Fully screened and compliant to ANEXT requirements
- Enable fast installation and eliminate field termination
- Repeatable and stable level of performance

Modular Patch Panels

Patch Panel 24 Snap-In Fixed Black

- Compatible with all LANmark Snap-In connectors
- 24 Snap-In ports with shutters
- Clip-on mechanism
- Exclusive Auto-Connect earthing system
- Universal design supporting unscreened and screened connectors
- Also available in white

LANsense AIM LANsense version also available

N521.661BK

Patch Panel 24 Snap-In Sliding Black

- Sliding mechanism
- Compatible with all Snap-In connectors
- 24 Snap-In ports with shutters
- Clip-on mechanism
- Exclusive Auto-Connect earthing system
- Universal design supporting unscreened and screened connectors
- Fully painted design

LANsense AIM LANsense version also available

N521.663BK

Patch Panel 24 Snap-In Black

- Compatible with all LANmark Snap-In connectors
- 24 Snap-In ports with shutters
- Clip-on mechanism
- Exclusive Auto-Connect earthing system
- Universal design supporting unscreened and screened connectors
- Tie Wrap features for cable strain relief
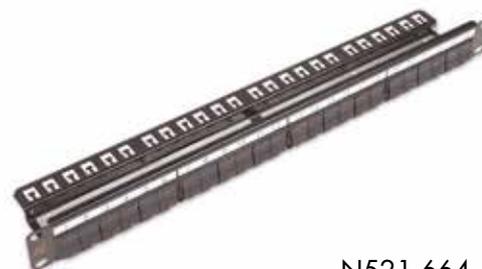
N521.664

Angled Patch Panel 24 Snap-In Black

- Supports high density patching - ideal for data centres
- Eliminates the need for additional cable management
- Up to double density achievable
- Compatible with all Snap-In connectors
- Exclusive Auto-Connect earthing system
- Universal design supporting unscreened and screened connectors
- Also available in white

LANsense AIM LANsense version also available

N521.671

Patch Panel 4 Cassettes Black

- Suitable for LANmark copper cassettes
- 1U 4 cassettes (24 ports) straight
- Black coating with white numbering
- Rapid and straightforward installation of the cassettes
- Exclusive Auto-Connect earthing system
- Automatic bonding mechanism for the cassettes

N521.400

Angled Patch Panel 4 Cassettes Black

- Suitable for LANmark copper cassettes
- 1U 4 cassettes (24 ports) angled
- Supports high density patching - ideal for data centres
- Eliminates the need for additional cable management
- Black coating with white numbering
- Rapid and straightforward installation of the cassettes
- Exclusive Auto-Connect earthing system
- Automatic bonding mechanism for the cassettes

N521.410

Copper Cassette

- 1 single type of cassettes for Cat.6, 6A or 7A connectors
- Available for multipair Cat.6A and bundles of 6 units of any category on the jack side
- Suitable for all patch panels for cassettes
- Easy to insert and remove from the panels
- Can be re-opened if required
- Automatic bonding systems of the connectors to the chassis of the panels

N521.490

3U Patch Panel 16 Cassettes Black

- Suitable for LANmark copper cassettes
- 3U 16 cassettes (96 ports) straight
- Supports very high density patching - ideal for data centres
- Black coating with white lettering and numbering
- Rapid and straightforward installation of the cassettes
- Exclusive Auto-Connect earthing system
- Automatic bonding mechanism for the cassettes

N521.420

Modular Outlets

EU style angled 45 x 45 module 2 or 1 Snap-In White

- Kit of 45 x 45mm back module with Snap-In front module for either 1 or 2 connectors
- Designed to accommodate LANmark Snap-In connectors
- Also suitable for LANmark fibre Snap-In adapters
- Angled design provides depth benefit and ensures that cable bend radius is maintained
- Colour white (RAL 9010)
- White removable shutters, replaceable with optional coloured version (7 colours available), allowing differentiation between various services
- Labeling window
- Can be vertically or horizontally mounted
- Fit into wide range of international frames, surface mount boxes and trunking

N423.520

N423.540N

EU style 45 x 45 module 2 Snap-In flat White

- Designed to accommodate LANmark Snap-In connectors
- Colour white (RAL 9010)
- White removable shutters, replaceable with optional coloured version (7 colours available), allowing differentiation between various services
- Labeling window
- Fits into wide range of international frames, surface mount boxes and trunking

N423.550

EU style 45 x 45 frame White

- Accepts all LANmark 45 x 45 modules
- 80 x 80 mm outer dimensions
- Integrated support plate with multiple mounting holes
- Easy to install
- Colour white (RAL 9010)

N200.050

German Style Angled 50 x 50 Module 2 or 1 Snap-In White

- 50 x 50mm plastic front module and Snap-In insert for either 1 or 2 connectors
- Angled design provides depth benefit and ensures that cable bend radius is maintained
- Accommodates all LANmark Snap-In connectors
- Also suitable for LANmark fibre Snap-In adapters
- Colour white (RAL 9010)
- Supplied with screw

N423.702N

German style 50 x 50 frame

- For use with German style 50 x 50 mm outlet modules
- 80 x 80 mm outer dimensions
- Glossy white finish (RAL 9010)

N790.980

UK Style Snap-In Modules

- 25 x 50 mm and 25 x 38 mm (LJ6C) dimensions
- Available in flat and angled versions
- Designed to accommodate 1 LANmark Snap-In connector
- Also suitable for LANmark fibre Snap-In adapters
- Angled design provides depth benefit and ensures that cable bend radius is maintained
- Glossy white finish (RAL 9003)
- White removable shutters, replaceable with optional coloured version (7 colours available), allowing differentiation between various services
- Labeling area
- Fit into wide range of UK style frames and trunking, surface mount boxes and floor tanks

N424.310

N424.325

UK Style 50 x 50 and 100 x 50 Frames Flat White

- Accept LANmark 25 x 50 mm and 50 x 50 mm modules
- 86 x 86 mm and 146 x 86 mm outer dimensions
- Glossy white finish
- Supplied with screws

N424.013

Voice Grade

Patch Panel 50 RJ45 2 pair

- 50 RJ45 ports in 1U
- 2 pairs per port
- LSA/110 punchdown
- Available in black or white

N500.350

3U distribution frame for 15 IDC modules

- 19" frame with cable guide
- Accomodates up to 150 pairs
- For up to 15 IDC modules N102.310
- Cable guide with tie wrap holes for maximum strain relief of multipair cable
- 3U height
- Optional 3U Patch Guide available (N108.106)

N102.350

LSA+ Disconnection Module 10 pair

- IDC Module for 10 pairs
- With disconnection point for opening line
- 45 degree angled contacts LSA+ type termination technology
- Supports all Cat 3 Voice applications
- Compatible with 3U distribution frame and MDF frames

N102.310

Voice Patch Cord IDC - RJ45 Grey 1,5m

- Used in distributors for voice applications
- 1 pair
- Unscreened
- Flexible grey PVC cable
- RJ45 has strain relief

N108.165

Tools & accessories

Keystone Clips

- Adapter allowing LANmark Snap-In connectors to fit the Keystone format
- Plastic clips for all LANmark connectors except LANmark-7A GG45:
    - * Red clip
        - for aperture heights 20.0-20.78mm
        - for wall thicknesses 1.5-1.75mm
    - * Blue Clip
        - for aperture heights 20.0-20.78mm
        - for wall thicknesses 2.0-2.25mm
    - * Yellow clip
        - for aperture heights 19.7mm
        - for wall thicknesses 2.0-2.25 mm
- Metal clip for LANmark-7A GG45 connector

N429.620

N429.625   N429.627   N429.626

LANmark Coloured Shutters

- Available in 8 colours: white, black, blue, red, dark grey, green, yellow, orange
- Can be used to replace standard black or white shutters on LANmark Snap-In patch panels, outlet modules and zone distribution boxes
- Suitable for differentiation between various services by colour coding, throughout the entire channel
- Packed in bags of 100

N421.701

Hook & Loop Cable Strap 25m Roll

- High quality self gripping cable tie
- Grey strap with orange Nexans logo
- Reusable multiple times
- Recommended to bundle and tie both copper and optical fibre data cables
- Reduces strain on cables compared to traditional cable fasteners
- 20mm width
- 25m roll

N100.100

Comfort Tool

- Facilitates smooth termination of all LANmark Snap-In connectors
- Allows re-opening of all LANmark connectors (except GG45) allowing retermination

N420.567

Easy Termination tool

- Prepares S/FTP cable for connection to LANmark-7A GG45 connector
- makes LANmark-7 GG45 installation fast, easy and consistent
- first in the industry and patent pending

N422.117

Set of spare blades for Easy Termination tool

N422.118

General Accessories

Letterbox Patch Guide 1U Black

- Allows storage and management of copper and fibre patch cords
- Open structure with rings for easy access
- 8cm depth
- Central "letterbox" holes allow excess cordage to be 'posted' inside the rack
- Black paint finished metal

N102.115BK

Angled Blank Panel Black

- 19" Blank Panel to fill empty cabinet space

N521.672

Angled Panel Cover Black

- Used to close the triangular gap formed at the top of a stack of LANmark or LANsense Angled Panels to prevent items falling behind the panels and to enhance the appearance of the finished installation

N521.673

Angled Pass-Through Black

The 2U Angled Pass-Through is designed to match the LANmark and LANsense Angled Panels and to provide a means for patch cables to cross from side to side in a rack whilst maintaining rack aesthetics

N521.678

1U Universal Patch Guide with front cover, Black

- Allows storage and management of copper and fibre patch cords
- 8cm depth
- Cover for tidy cabinet look
- Black paint finished metal

N102.117BK

1U Patch Guide with rings, Black

- Allows storage and management of copper and fibre patch cords
- Open structure with rings for easy access
- 8cm depth
- Black paint finished metal

N102.105BK

1U Blank Panel, Black

- 19" Blank Panel to fill empty cabinet space

N109.207BK

Zone Distribution Boxes

ZD box 12 Snap-In White

- For use as consolidation point
- Compatible with all LANmark Snap-In connectors
- 12 numbered Snap-In ports with shutters
- Cable entry knock-outs
- Easy to install

N521.600

ZD box 6 Snap-In White

- For use as consolidation point
- Compatible with all LANmark Snap-In connectors
- 6 numbered Snap-In ports with shutters
- Cable entry from the back
- Cable fixing features
- Multiple mounting facilities

N521.606

Ruggedised Lockable ZD Box White

- For use as consolidation point
- Compatible with all LANmark Snap-In connectors
- 12 numbered Snap-In ports with shutters
- Easy to install
- Ruggedised design for industrial and secure environments
- Lockable with key (supplied)
- Designed to support installations with extractable fibre bundles

N521.612

Ruggedised Lockable ZD Box Foot White

- Foot for LANmark Ruggedised ZD Box
- Raises ZD box to 50mm
- Rugged steel construction

N521.6121

Cabinets and Accessories

N340.003

QUICK MOUNT III 42U 800x800

- 19" cabinet 42U
- Flat pack : easy and quick installation
- Exclusive automatic earthing system
- Security
- Complete range of accessories

N102.118

WALL MOUNTABLE

- 19" wallmount 18U
- Easy installation

Overhead Patching Frame 4U

- 19" 4U overhead frame
- Ideal in data centres
- Designed to host both copper and fibre cabling
- Metal construction
- Straight or angled position

N345.400

Pair of Patch Cord Management Hooks for Overhead Patching Frame 4U

- Required to guide patch cords on both sides of the frame
- Easy to mount with 2 screws and cage nuts
- Up to 3 hooks on each side
- Black flexible plastic

N345.401

LANmark Maritime

Maritime Patch Panel for 24 Snap-In connectors

- Patch panel for marine and other high vibration environments
- 24 copper Snap-In ports
- Clip-on mechanism
- Earthing and bonding features with Nexans exclusive design
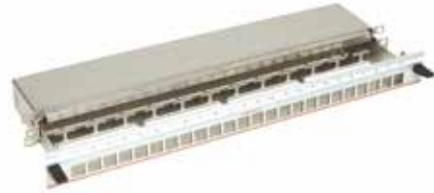
N52m.001

LANmark-7A GG45M Heavy Duty 12C Snap-In Connector Cat 7A 1000MHz Screened

- High speed '2 in 1' Multimedia Connector
- Supports data applications up to 1000 MHz, CATV VHF and UHF
- Fits in all Nexans Snap-In structural hardware
- Backwards compatible
- Version for solid cable and heavy duty environments
- Supports PoE Plus applications (15 Watts per pair)

N42m.730

LANmark-7A Maritime S/FTP AWG23 Cat 7A SHF1 LSFROH DNV light Grey

- Complies with Cat 7A to 1000MHz
- For installation on-board ships and sea movable constructions
- High shielding performance for harsh environments
- SHF1 sheathing compound
- Suitable for CATV and Cable Sharing Applications
- Optimised for use with GG45 connector

N10m.002

LANmark Maritime S/FTP AWG23 Cat 7A 1000MHz SHF1 SWB Grey

- Complies with Cat 7A to 1000MHz
- For installation on-board ships and sea movable constructions
- High shielding performance for harsh environments
- SHF1 inner and outer sheathing compound and steel wire braid armour
- Suitable for CATV and Cable Sharing Applications
- Optimised for use with GG45 connector

N10m.003

LANmark-7 Lloyd's S/FTP Cat 7 23 AWG LSZH Blue 500m Reel

- Exceeds Cat 7 requirements
- Lloyd's certified for marine use
- 600MHz bandwidth, LSZH outer sheath
- Easy to install
- Individual foils and overall tinned copper braid

N100.376

LANmark Industry

Industry module DIN-rail mount with 1 Snap-In Cat 6 Grey

- For DIN-Rail mount (35mm)
- Data connections for industrial environments
- Easy termination, without punch down tool
- Includes Mount + LANmark-6 shielded connector
- For technical enclosures, Wireless Access Points, Industrial cabinets

N20i.000

Industry S/FTP AWG23 PUR Black 500m reel

- For installation in industrial premises
- High shielding performance for harsh environments
- Enhanced mechanical properties
- Designed to support Industrial Ethernet based automation
- Optimised for use with LANmark connectors

N10i.002

Industry patch cord RJ45 IP67/IP20 Cat 6 screened PVC 1.5m Yellow

- Industrial patch cord RJ45 Cat 6
- One end with IP67 protection Level (Dust/liquids) - IP20 on the other end
- Suitable for the LANmark Industry IP65/67 outlet Cat 6
- Cable with good mechanical performance and resistance to chemicals
- Conforms to the requirements of the ISO/IEC24702 and IEC 61076-3-106 (8way industrial connector)
- Fully screened

N10I.E34DJ

Industry IP65/67 outlet kit 2 Snap-In Cat 6 Black

- Industrial outlet with 2 connectors LANmark-6 EVO Cat 6 shielded
- IP65/67 Protection level (Dust/Liquids)
- Easy termination, without punch down tool
- Full conformity with the physical and mechanical requirements of the ISO/IEC 24702
- Conforms to IEC61073-3-106 (8way Industrial connector)
- Includes 2 shielded LANmark-6 connectors

N42i.001

Automated Infrastructure Management

LANsense AIM

A well-controlled, reliable LAN infrastructure is a critical business enabler. This need comes against a backdrop of increased complexity and accelerated change which is becoming almost impossible to manage manually.

LANsense is Nexans' Automated Infrastructure Management (AIM) solution.

Sometimes referred to as Intelligent Infrastructure Management (IIM), the product suite also includes Power and Environmental Monitoring and Access Control (EMAC).

Why LANsense? Networks are becoming more complex :

- More need to control
- More difficult to manage
- Maintenance costs increasing

How does LANsense help? It manages change, simplifies new service deployment, improves asset management and utilisation, delivers reduced operational cost.

LANsense

LANsense is Nexans Automated Infrastructure Management (AIM) solution. It is an internet enabled hardware and software package which can automatically discover and monitor network connectivity in real-time, to ensure network connections are secure and that connectivity documentation is always 100% accurate. LANsense is vendor independent and can be retro-fitted to existing systems.

Environmental Monitoring & Access Control (EMAC)

To optimise power consumption and energy use, Nexans intelligent offerings make it possible to meter actual power usage and produce trend data for any single or group of physical systems, enabling:

- Adequate capacity for existing & future needs
- Monitoring, measuring & reporting of power usage via multiple clients
- Billing stream capability for hosted clients
- Prevention of unauthorised use of power outlets / equipment deployment
- System load management (phase balancing, capacity planning etc)
- Recovery of locked servers via remote IP power cycling
- Alarming & trending of system, rack, powerstrip and outlet level overload conditions

LANsense Software
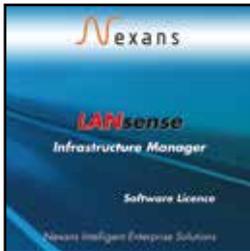
LANsense Analysers

A LANsense analyser is required to monitor all cabling ports, record changes in the event log, and continuously update and maintain the connectivity database. It connects to the equipment presentation panel or integration strip and the horizontal distribution panel using I/O cables, and is in turn connected to the LANsense cable management SQL database.

LANsense Software
Database and Libraries

TCP/IP Network

Humidity Sensor

EMAC
Rack Manager

Analyser

Door Sensor

Temperature Sensor

EMAC PDU

Analyser Card Cage

LANmark Cabling

LANsense Circuit

EMAC System
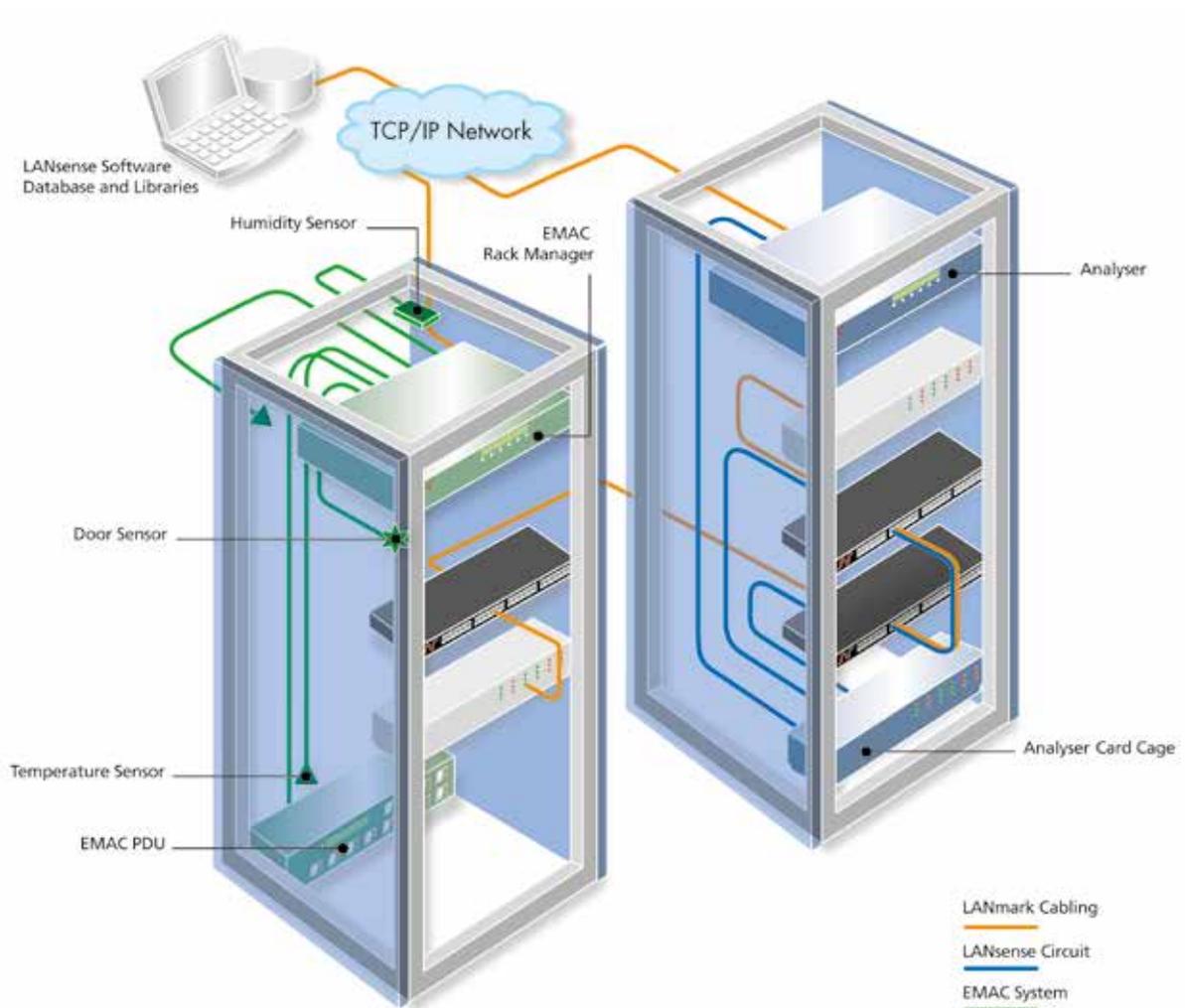
Enjoy your day at work

with innovative user-friendly products and solutions

Enjoy your day at work!

Understanding your needs

In the field of LAN Cabling Systems, we offer a complete range of products and value added services providing improved reliability and reduced cost of ownership for Network Managers, together with reduced installation times for installers.

Whether you are an installler, distributor or end user – team up with a partner who lets you enjoy your day at work.