

# OPTRONICS

Category 5e

Category 6A



Category 6

Category 3

Copper Structured Cabling

Optronics is a brand of fibre optic and copper networking products, for use in local and wide area networking and telecommunications applications.

In 1994, FibreFab acquired Optronics, a company with over 20 years previous experience in the fibre optic manufacturing industry. The Optronics range includes patchcords, pigtails (multimode and singlemode), patch panels, wall and splice boxes (unloaded and customised), and a full range of accessories.

Based in Milton Keynes, UK, we have the facilities to support a vast array of customers: from small distributors through to specialist installers.

Optronics products are available directly from FibreFab or from distributors all over the world.

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### OPTRONICS WARRANTY PROGRAMME

At OPTRONICS we offer one of the most complete warranty programmes available to the structured cabling industry. Our copper and fibre solutions are designed for performance and reliability and manufactured to comply with the latest national and international standards at the time of installation.

OPTRONICS products exceed the performance requirements defined within ISO/IEC 11801, ANSI/EIA/TIA 568 and EN 50173 if as applicable, and are warranted against failure for a period of 25 years from the date of installation. Furthermore, FibreFab warranty that the components are installed and tested by an OPTRONICS approved partner then the installed link will support for the lifetime of the installation all applications that have been designed to run on the specific CLASS/category of cabling system.

The OPTRONICS copper and fibre structured cabling range represents the relentless pursuit by FibreFab to bring quality and reliability to the market. Achieved through world class engineering we have confidence to stand behind our products for 25 years in the full knowledge that they will continue to faultlessly deliver the applications for the which they were designed, for a life-time.

### THE OPTRONICS CABLING SYSTEM WARRANTY EXPLAINED:

- > The OPTRONICS Cabling System Warranty is only available through Authorised Partners and Authorised Installers.
- > The OPTRONICS Cabling System Warranty covers all passive optical and copper products supplied by FibreFab under the OPTRONICS brand.
- > The OPTRONICS Cabling System 25 year product and lifetime applications warranty commences upon completion of the installation the submission of the test results and the issue of the warranty certificate to the installation owner by FibreFab.
- > Product Warranty: All OPTRONICS products are warranted for a period of 25 years as being free from manufacturing defects that could jeopardise the mechanical, electrical or transmission line performance and reliability of the product when used appropriately.
- > Applications Warranty: All OPTRONICS products are warranted to support all and any application designed to operate over installed class of cabling system. In case of doubt a specific application reference should be made to ISO 11801, latest edition.

The OPTRONICS Cabling System warranty can be transferred for the remaining life of the warranted products providing that FibreFab is notified by the new building owner in writing within 30 days of taking ownership of the building.

### LIMITATIONS OF THE WARRANTY

This Warranty only covers the Installation as defined in the submitted dossier and specification. Any extensions or modifications to the Installation must be submitted to FibreFab following the procedure listed in our warranty documentation. On review and acceptance, a new Certificate and Schedule will be issued.

### BECOMING AN AUTHORISED INSTALLER:

- > Certification as an Authorised Installer must happen prior to project award. Any proposal that cannot be supported with the necessary training records will be rejected.
- > A potential Authorised Installer must be proposed by the Authorised Partner. The proposal should be supported by the completion of Appendix II of our detail warranty statement.
- > Upon satisfactory review of the potential installers details acceptance will be acknowledged by FibreFab through the issue of a numbered Authorised Installer Certificate.
- > All Authorised Installer certification will be time-bound for a period of 2-years whereupon a review will be undertaken and recertification issued at the sole discretion of FibreFab.



# OPTRONICS

## 25 Year Product and Lifetime Applications Warranty

This is to certify that the **OPTRONICS** cabling system, consisting of XXX Copper Links installed at:

SAMPLE ADDRESS LINE 1  
 SAMPLE ADDRESS LINE 2  
 CITY  
 POSTCODE

is covered under the terms of the 25 year **OPTRONICS** Structured Cabling Product and Lifetime Applications Warranty



**John Grillo**  
 Chairman  
 11th August 2011

Certificate NO. 034/1919

CERTIFIED 2011



**ETL Verified Certificate of Conformance Number: 100088133CRT-001F**

On the basis of the tests undertaken, the samples of the below product have been found to comply with the essential requirements of the following specifications at the time the tests were carried out:

**Product Name:** 4 pair, 24 AWG, UTP, 10/100, Non-Pursh-Flame, Horizontal JSTK Cable

**Manufacturer:** Optronics Limited, Davy Avenue, Hovefield, Milton Keynes, MK5 8SD, United Kingdom

**Standard/Specification:** ISO/IEC 11801 Category 6 with the applicable electrical transmission characteristics

**Joint testing shall include:** ETL, verified to ISO/IEC 11801 Category 6

**Date Valid:** 04/08/11

**Approved By:** *John Grillo* (Chairman), *John Grillo* (Chairman)



**ETL Verified Certificate of Conformance Number: 100088133CRT-001F**

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**Standard/Specification:** ISO/IEC 11801 Category 6 with the applicable electrical transmission characteristics

**Joint testing shall include:** ETL, verified to ISO/IEC 11801 Category 6

**Date Valid:** 04/08/11

**Approved By:** *John Grillo* (Chairman), *John Grillo* (Chairman)



**ETL Verified Certificate of Conformance Number: 100088133CRT-001F**

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**Product Name:** 4 pair, 24 AWG, UTP, 10/100, Non-Pursh-Flame, Horizontal JSTK Cable


**Manufacturer:** Optronics Limited, Davy Avenue, Hovefield, Milton Keynes, MK5 8SD, United Kingdom

**Standard/Specification:** ISO/IEC 11801 Category 6 with the applicable electrical transmission characteristics

**Joint testing shall include:** ETL, verified to ISO/IEC 11801 Category 6

**Date Valid:** 04/08/11

**Approved By:** *John Grillo* (Chairman), *John Grillo* (Chairman)



### Attestation of Conformity

**ISO/IEC, EN & TIA/EIA Unscreened Class E / Category 6 Two Connector Permanent Link**

Optronics Ltd,  
 Davy Avenue  
 Milton Keynes MK5 8SD, UK

Attestation of Conformity No. 000000

This copy of Clause 7-11 requires that a manufacturer's declaration be made in support of the product's compliance with the requirements of the applicable standards. The manufacturer's declaration is a statement of compliance with the requirements of the applicable standards. The manufacturer's declaration is a statement of compliance with the requirements of the applicable standards. The manufacturer's declaration is a statement of compliance with the requirements of the applicable standards.

**Conformity Declaration:** I, the undersigned, declare that the product described above complies with the requirements of the applicable standards.

**Signature:** *John Grillo*  
 John Grillo, Chairman



**ANIM CERTIFICATIONS DIVISION**

**DUKRA E338220**

**Communications-circuit Accessories Certified for Canada - Component**

Communications-circuit Accessories Certified for Canada - Component

**OPTRONICS LTD**  
 11th August 2011

**ANIM**



**ANIM CERTIFICATIONS DIVISION**

**DUKX E338913**

**Communications Cable**

Communications Cable

**OPTRONICS LTD**  
 11th August 2011

**ANIM**

Category 3

Category 5e

Category 6

Category 6a

Accessories

# Category 3 Copper Products

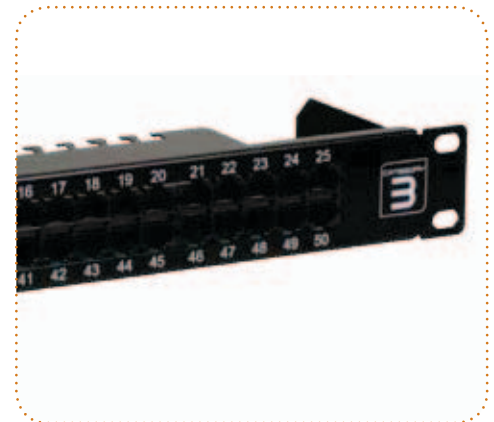
> Patch Panel 25 Port (Front)



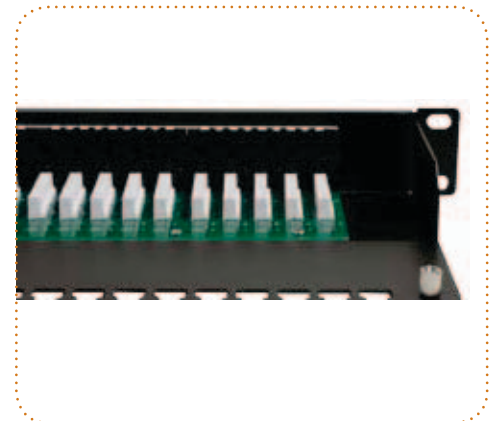
> Patch Panel 25 Port (Rear)



> Patch Panel 50 Port (Front)



Patch Panel 50 Port (Rear)





Optronics category 3 High Density Voice Patch Panels offer a cost effective method for integrating voice circuits into standard structured cabling systems. Available in both 25 and 50 ports on a 1U 19" footprint they are ideal for maximising rack space.

**Features**

- > 19" rack mountable
- > Accepts 24-26 AWG
- > Supplied with fixings and earthing wire
- > IDC punch down
- > 25 or 50 RJ45 ports on 1U footprint
- > Integral cable management and grounding clamps

**Applications**

- > Voice integration into standard structured cabling systems

**Conformance**

- > Category 3
- > ISO/IEC 11801 : 2002
- > ANSI/EIA/TIA 568B.2 : 2002
- > UL approved

**Technical Specifications**

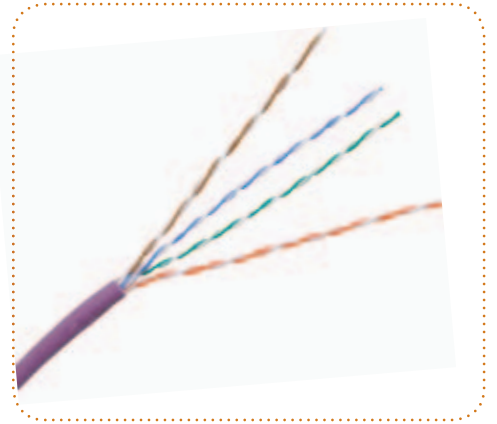
MECHANICAL	VALUE
Housing Material	PBT + 15% GF UL94V-0
Panel Frame	Carbon Steel, Powder Coating
Contact Material	PC UL94V-0 Contact: Phosphor Bronze + Nickel Plating
RJ45 Jack Life	Min 750 Insertions
IDC Life	Min 200 Terminations

**Ordering Information**

DESCRIPTION	PART NO
Optronics category 3 1U 25 Port Voice Patch Panel Black - UL approved	CAT3+LSA25
Optronics category 3 1U 50 Port Voice Patch Panel Black - UL approved	CAT3+LSA50

# Category 5e Copper Products

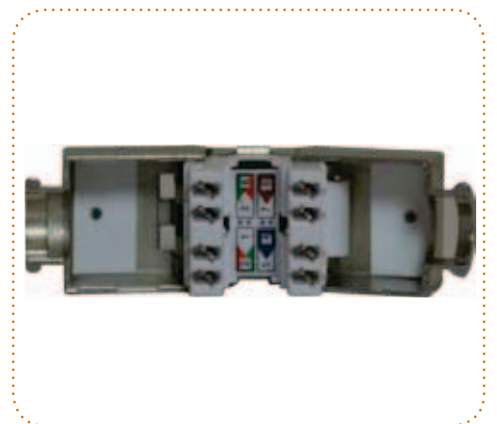
> Cable



> Patch Panels

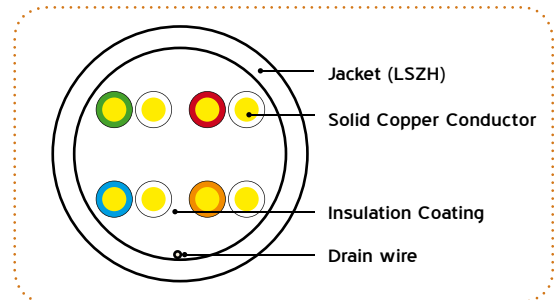
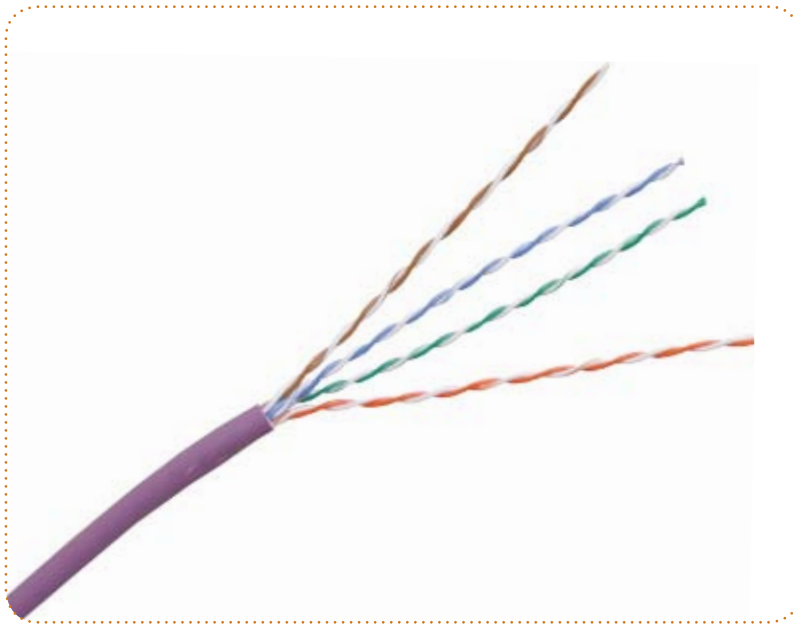


> Keystone Jacks



> Euro Module





Optronics category 5e U/UTP LSZH cable is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 5e U/UTP LSZH cable exceeds the minimum specified performance for category 5e U/UTP cables and supports all CLASS D applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 including 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Applicable Standards**

The category 5e U/UTP LSZH cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
Pair 1: Orange and White/Orange  
Pair 2: Blue and White/Blue  
Pair 3: Brown and White/Brown  
Pair 4: Green and White/Green

**Fire Performance**

Category 5e U/UTP LSZH cables exceed the requirements of:

- > IEC 60332-1-2
- > IEC 60754-2
- > IEC 61034



### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 24AWG (0.51mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together to form a cohesive unit.
Sheath	A uniform layer of Violet coloured Low Smoke Zero Halogen (LSZH) compound (RAL 4005)
Diameter	5.0mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 535ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 40dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

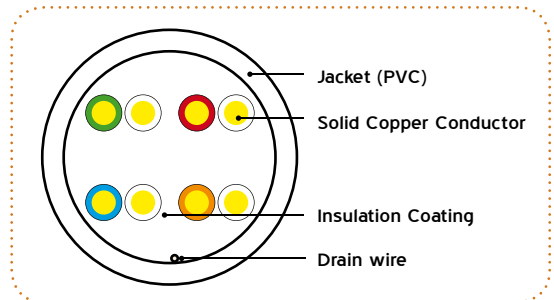
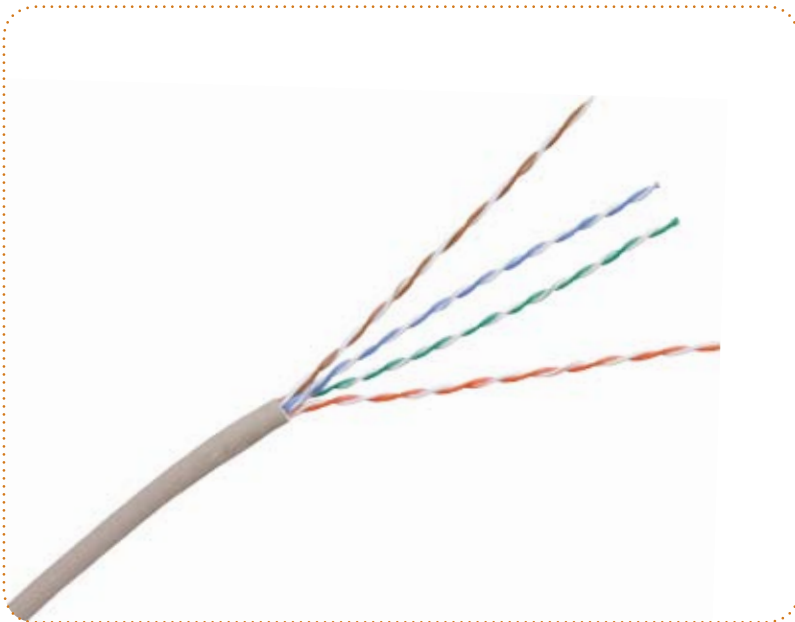
MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission line performance at 20 C

FREQUENCY MHZ	ATTENUATION dB/100M	42.0NEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	65.3	63.2	62.3	63.8	60.8	20.0
4	4.0	56.3	52.3	53.3	51.8	48.8	23.1
10	6.3	50.3	44.0	47.3	43.8	40.8	24.5
16	8.0	47.3	39.3	44.2	39.7	36.7	25.0
20	9.0	45.8	46.8	42.8	37.8	34.8	25.0
31.25	11.4	42.9	31.5	39.9	33.9	30.9	23.6
62.5	16.5	38.4	21.9	35.4	27.9	24.9	21.5
100	21.3	35.3	14.0	32.3	23.8	20.8	20.1

### Ordering Information

DESCRIPTION	PART NO.
Category 5e U/UTP LSZH 305m Box	UTP5E305LSZH
Category 5e U/UTP LSZH 500m Reel	UTP5E500LSZH



Optronics category 5e U/UTP PVC cable is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 5e U/UTP PVC cable exceeds the minimum specified performance for category 5e U/UTP cables and support all CLASS D applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Applicable Standards**

The category 5e U/UTP PVC Cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
Pair 1: Orange and White/Orange  
Pair 2: Blue and White/Blue  
Pair 3: Brown and White/Brown  
Pair 4: Green and White/Green

**Fire Performance**

Category 5e U/UTP PVC cables exceed the requirements of:  
> IEC 60332-1-2

### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 24AWG (0.51mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together to form a cohesive unit
Sheath	A uniform layer of Grey coloured PVC compound (RAL 7035)
Diameter	5.0mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 535ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 40dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

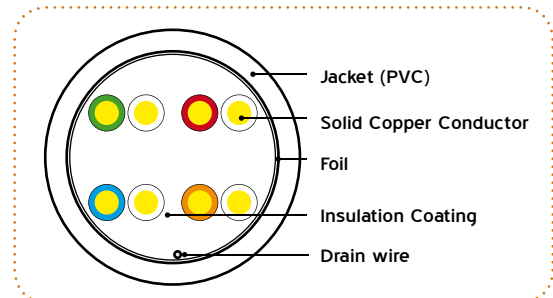
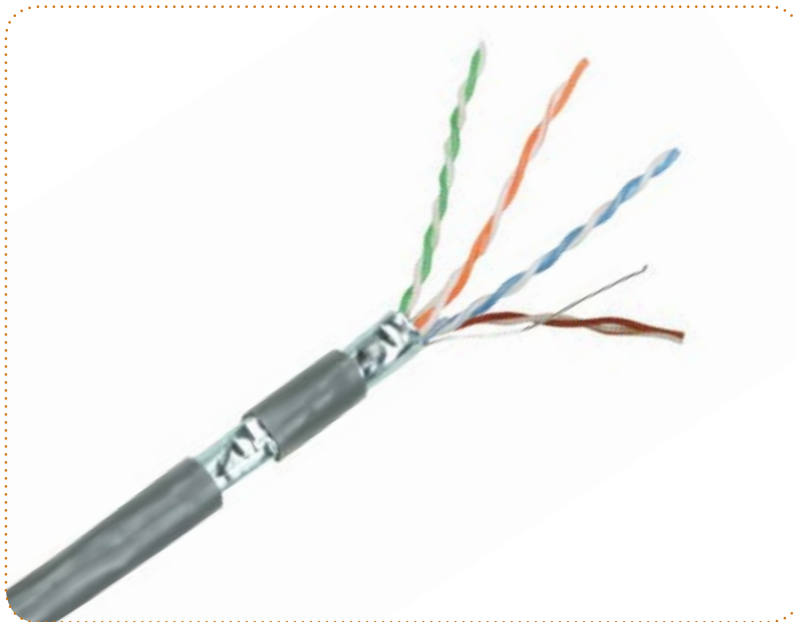
MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission line performance at 20°C

FREQUENCY MHZ	ATTENUATION dB/100M	42.0NEXT dB 38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	65.3	63.2	62.3	63.8	60.8	20.0
4	4.0	56.3	52.3	53.3	51.8	48.8	23.1
10	6.3	50.3	44.0	47.3	43.8	40.8	24.5
16	8.0	47.3	39.3	44.2	39.7	36.7	25.0
20	9.0	45.8	46.8	42.8	37.8	34.8	25.0
31.25	11.4	42.9	31.5	39.9	33.9	30.9	23.6
62.5	16.5	38.4	21.9	35.4	27.9	24.9	21.5
100	21.3	35.3	14.0	32.3	23.8	20.8	20.1

### Ordering Information

DESCRIPTION	PART NO.
Category 5e U/UTP LSZH 305m Box	UTP5E305PVC
Category 5e U/UTP LSZH 500m Reel	UTP5E500PVC



Optronics category 5e F/UTP PVC cables is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 5e F/UTP PVC cable exceeds the minimum specified performance for category 5e F/UTP cables and support all CLASS D applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Applicable Standards**

The category 5e F/UTP PVC cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006
- > Pair colour code:
  - Pair 1: Orange and White/Orange
  - Pair 2: Blue and White/Blue
  - Pair 3: Brown and White/Brown
  - Pair 4: Green and White/Green

**Fire Performance**

Category 5e F/UTP PVC cables exceed the requirements of:

- > IEC 60332-1-2

### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 24AWG (0.51mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together to form a cohesive unit
Screen	An aluminised polyester tape screen applied with a 15% minimum overlap (The aluminium side is in continuous contact with the tinned copper drain wire)
Sheath	A uniform layer of Grey coloured PVC compound (RAL 7035)
Diameter	5.0mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 535ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 40dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

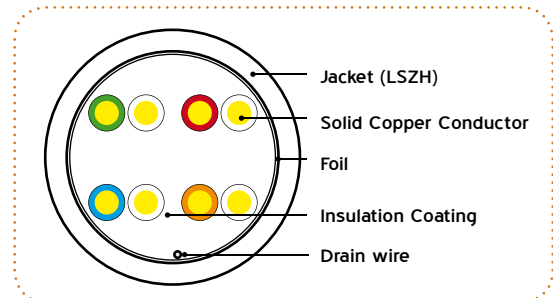
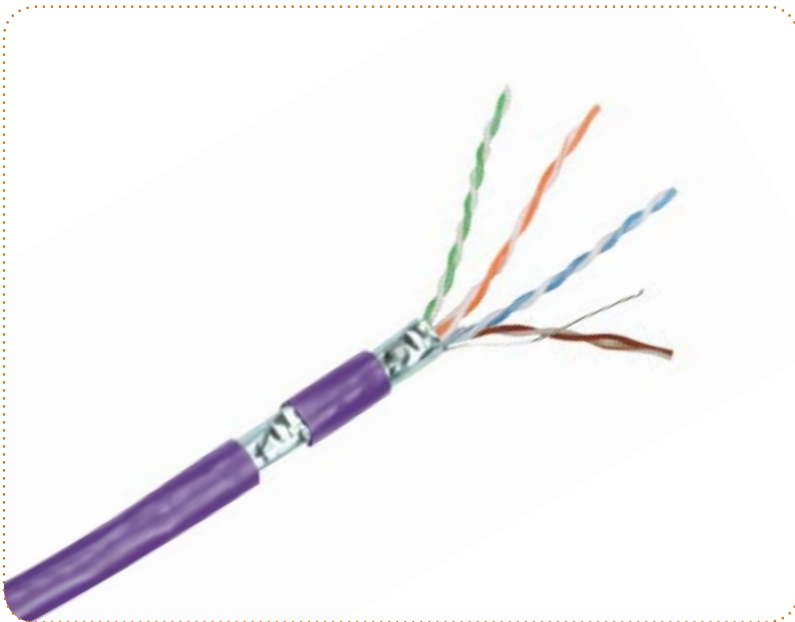
MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission Line Performance at 20°C

FREQUENCY MHZ	ATTENUATION dB/100M	42.0NEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	65.3	63.2	62.3	63.8	60.8	20.0
4	4.0	56.3	52.3	53.3	51.8	48.8	23.1
10	6.3	50.3	44.0	47.3	43.8	40.8	24.5
16	8.0	47.3	39.3	44.2	39.7	36.7	25.0
20	9.0	45.8	46.8	42.8	37.8	34.8	25.0
31.25	11.4	42.9	31.5	39.9	33.9	30.9	23.6
62.5	16.5	38.4	21.9	35.4	27.9	24.9	21.5
100	21.3	35.3	14.0	32.3	23.8	20.8	20.1

### Ordering Information

DESCRIPTION	PART NO.
Category 5e F/UTP PVC 305m Box	FUTP5E305PVC
Category 5e F/UTP PVC 500m Reel	FUTP5E500PVC



Optronics category 5e F/UTP LSZH cables is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 5e F/UTP LSZH cable exceeds the minimum specified performance for category 5e F/UTP cables and support all CLASS D applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Applicable Standards**

The category 5e F/UTP LSZH cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
 Pair 1: Orange and White/Orange  
 Pair 2: Blue and White/Blue  
 Pair 3: Brown and White/Brown  
 Pair 4: Green and White/Green

**Fire Performance**

Category 5e F/UTP PVC cables exceed the requirements of:

- > IEC 60332-1-2
- > IEC 60754-2
- > IEC 61034

### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 24AWG (0.51mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together to form a cohesive unit.
Screen	An aluminised polyester tape screen applied with a 15% minimum overlap (The aluminium side is in continuous contact with the tinned copper drain wire)
Sheath	A uniform layer of Violet coloured Low Smoke Zero Halogen (LSZH) compound (RAL 4005)
Diameter	5.0mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 535ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 40dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission line performance at 20 C

FREQUENCY MHZ	ATTENUATION dB/100M	42.0NEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	65.3	63.2	62.3	63.8	60.8	20.0
4	4.0	56.3	52.3	53.3	51.8	48.8	23.1
10	6.3	50.3	44.0	47.3	43.8	40.8	24.5
16	8.0	47.3	39.3	44.2	39.7	36.7	25.0
20	9.0	45.8	46.8	42.8	37.8	34.8	25.0
31.25	11.4	42.9	31.5	39.9	33.9	30.9	23.6
62.5	16.5	38.4	21.9	35.4	27.9	24.9	21.5
100	21.3	35.3	14.0	32.3	23.8	20.8	20.1

### Ordering Information

DESCRIPTION	PART NO.
Category 5e F/UTP PVC 305m Box	FUTP5E305LSZH
Category 5e F/UTP PVC 500m Reel	FUTP5E500LSZH

24 Ports



Front view



Rear view

Optronics Screened category 5e Patch Panels exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The panels are designed for mechanical and electrical reliability using quality materials and processes to deliver a panel solution which delivers a consistent high level of systems performance.

Our category 5e Patch Panels comply with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS D/category 5e applications including 1000BASE-T (Gigabit Ethernet), ATM 155, 100BASE-Tx, Token Ring 100Mbs-1 and 1G FCBASE-T.

Features

- > 19" rack mountable
- > 24 ports in 1U space
- > 8 - port RJ-45 modules
- > Individual port identification
- > Universal wiring blocks for easy termination
- > Right angled wiring block orientation for friendlier installation
- > Colour coded wiring blocks for easy cable lacing
- > Integral rear cable management
- > Durability:
  - Socket Contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

Applications

- > Class D/category 5e standards compliant
- > Terminates 22AWG to 26AWG cables

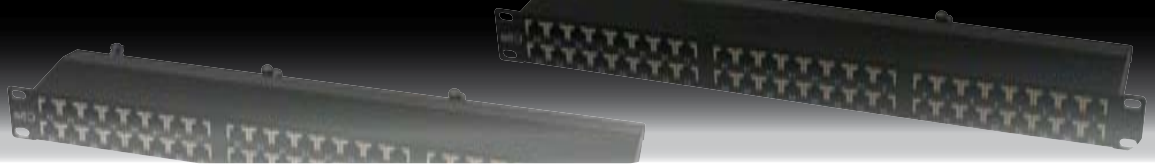
Conformance

- > Electrically compliant beyond 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

Ordering Information

DESCRIPTION	PART NO.
Screened Category 5e Patch Panel - 24 port Black 1U	501-001





**OPTRONICS**

## Screened Category 5e "High Density" RJ-45 Patch Panel

48  
Ports



Front view



Rear view

Optronics Screened category 5e "High Density" Patch Panels exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. These are 'real' cabinet space saving products designed for mechanical and electrical reliability. The "High Density" panel delivers a consistent high level of systems performance whilst halving the cabinet space required in high density installations.

Each category 5e "High Density" Patch Panel complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS D/category 5e applications such as 1000BASE-T (Gigabit Ethernet), ATM 155, 100BASE-Tx, Token Ring 100Mbps-1 and 1G FCBASE-T.

### Features

- > 19" rack mountable
- > 48 ports in 1U space
- > 8 - port RJ-45 modules
- > Individual port identification
- > Universal wiring blocks for easy termination
- > Right angled wiring block orientation for friendlier installation
- > Colour coded wiring blocks for easy cable lacing
- > Integral rear cable management
- > Durability:
  - Socket contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

### Applications

- > Class D/Category 5e standards compliant
- > Terminates 22AWG to 26AWG cables

### Conformance

- > Electrically compliant beyond 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

### Ordering Information

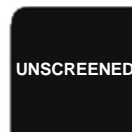
DESCRIPTION	PART NO.
Screened category 5e "HD" Patch Panel - 48 port Black 1U	501-002



Unscreened category 5e Patch Panel - 24 port



Unscreened category 5e Patch Panel - 48 port



Rear view

Optronics category 5e Patch Panels exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The panels are designed for mechanical and electrical reliability using quality materials and processes to deliver a panel solution which delivers a consistent high level of systems performance.

Each category 5e Patch Panel complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS D/category 5e applications including 1000BASE-T (Gigabit Ethernet), ATM 155, 100BASE-Tx, Token Ring 100Mbps-1 and 1G FCBASE-T.

**Features**

- > 19" rack mountable
- > 24 ports in 1U space / 48 ports in 2U space
- > 6 - port RJ-45 modules
- > Individual port identification
- > Integral label feature
- > Universal wiring blocks for easy termination
- > Colour coded wiring blocks for easy cable lacing
- > Rear cable management bar
- > Durability:
  - Socket contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

**Applications**

- > Class D/category 5e standards compliant
- > Terminates 22AWG to 26AWG cables

**Conformance**

- > Electrically compliant beyond 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Unscreened category 5e Patch Panel - 24 port Black 1U	500-001
Unscreened category 5e Patch Panel - 48 port Black 2U	500-002



Top view

Optronics category 5e tool free RJ-45 Keystone Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The products have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that minimises the time required by the installer to complete each termination.

Each category 5e modular RJ-45 Keystone Jacks complies with IEC 60603-7-Pt 3 (screened) and support all applications designed for CLASS D networks as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 including 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Features**

- > Screened and unscreened versions available
- > Repeatable tool-free terminations
- > Colour coded stuffer-cap for easy cable lacing
- > Keyed stuffer-cap for reliable termination
- > Low insertion force 'clam action' assists tool free termination (LSA & 110 punch-down tools can also be used to effect termination)
- > Integral cable strain relief
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone style face plates and floor boxes
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

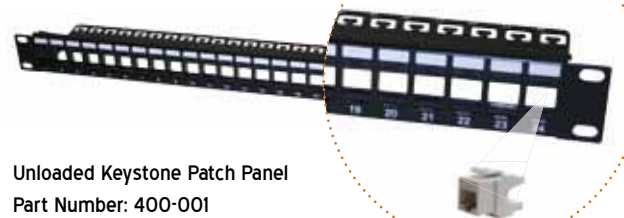
**Applications**

- > Class D/category 5e standards compliant
- > Terminates 22AWG to 26AWG cables

**Conformance**

- > Electrically compliant beyond 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Unloaded Keystone Patch Panel for use with Tool Free Screened Category 5e RJ-45 Keystone Jacks**



Unloaded Keystone Patch Panel  
Part Number: 400-001

**Ordering Information**

DESCRIPTION	PART NO.
Screened category 5e Tool Free Keystone Jack - White	501-101
Unloaded Keystone Patch Panel	400-001



Optronics category 5e Tool Free RJ-45 Keystone Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The products have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that minimises the time required by the installer to complete each termination.

Each category 5e Tool Free RJ-45 Keystone Jack complies with IEC 60603-7-Pt 2 (un-screened) and support all applications designed for CLASS D networks as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 including 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbps-1, and 1G FCBASE-T.

**Features**

- > Screened and unscreened versions available
- > Repeatable tool-free terminations
- > Colour coded stuffer-cap for easy cable lacing
- > Keyed stuffer-cap for reliable termination
- > Low insertion force 'clam action' assists tool free termination (LSA & 110 punch-down tools can also be used to effect termination)
- > Integral cable strain relief
- > Colour coded wiring blocks for easy cable lacing
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone face plates and floor boxes
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

**Applications**

- > Class D/category 5e standards compliant
- > Terminates 22AWG to 26AWG cables

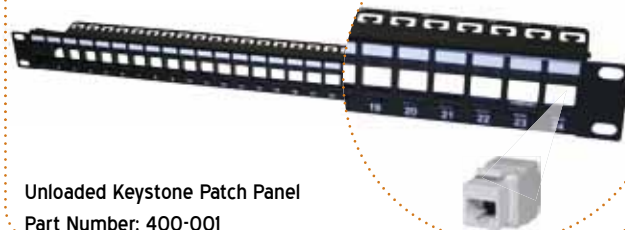
**Conformance**

- > Electrically compliant beyond 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Unscreened category 5e Tool Free Keystone Jack - Black	500-101
Unscreened category 5e Tool Free Keystone Jack - White	500-102
Unloaded Keystone Patch Panel	400-001

Unloaded Keystone Patch Panel for use with Tool Free Unscreened Category 5e RJ-45 Keystone Jacks





Optronics category 5e RJ-45 Keystone Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The jacks have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that optimises the termination process through the use of a universal wiring block.

Each category 5e RJ-45 Keystone Jack complies with IEC 60603-7-Pt 2 (un-screened) and support all applications designed for CLASS D networks as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 including 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Features**

- > Universal wiring block accommodates both 110 and LSA tools
- > Colour coded wiring blocks assist termination
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone style face plates and floor boxes
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

**Applications**

- > Class D/category 5e standards compliant

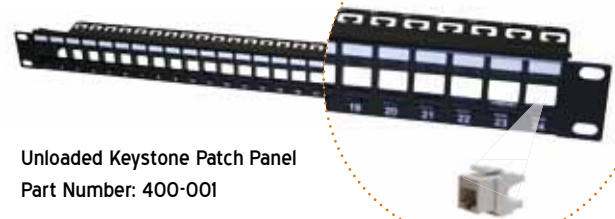
**Conformance**

- > Electrically compliant beyond 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Unscreened category 5e Keystone Jack - Black	500-103
Unscreened category 5e Keystone Jack - White	500-104
Unloaded Keystone Patch Panel	400-001

**Unloaded Keystone Patch Panel for use with Unscreened Category 5e RJ-45 Keystone Jacks**

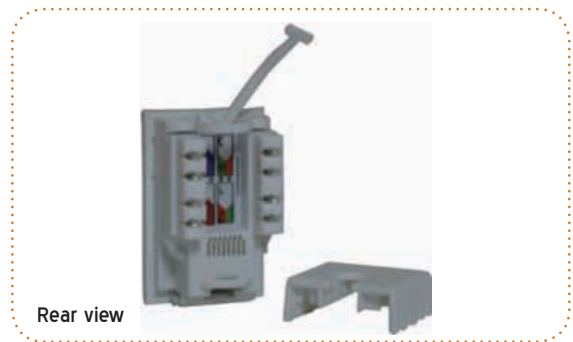




P/N: 500-301



P/N: 500-401



Rear view

Optronics category 5e Low Profile Shuttered RJ-45 Modules exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. These modules have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that is optimised for shallow back boxes.

Each category 5e Low Profile Shuttered RJ-45 Module complies with IEC 60603-7-Pt 2 and support all applications designed for CLASS D networks as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition);2010 including 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbps-1 and 1G FCBASE-T.

**Features**

- > Euro-Mod and LJ6C versions
- > Integral shuttered facia
- > Integral label window
- > Universal, colour coded wiring block for easy termination
- > Integral cable strain relief
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Part of the 25 year Optronics systems warranty programme

**Applications**

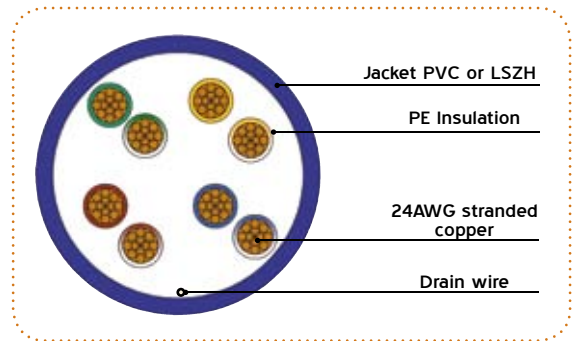
- > Class D/category 5e standards compliant

**Conformance**

- > Electrically compliant through 100MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Unscreened LJ6C category 5e Low Profile Shuttered Module 38.5mm x 25mm White	500-301
Unscreened category 5e Low Profile Shuttered Module 50mm x 25mm White	500-401



Optronics category 5e Unscreened Patchcords exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The Patchcords are designed for mechanical and electrical reliability, using quality materials and processes, to deliver a solution which delivers a consistent high level of systems performance whilst incorporating design features that allow a "one style fits all" patch cord application. The low profile moulded boot and snag free latching allows the patchcords to be deployed within even the most densely populated network installations, deploying the latest blade server technology.

Each category 5e unscreened patchcord is manufactured and tested in accordance with IEC 61935-2 and comply with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition); 2010 and support all applications designed for CLASS D/category 5e applications including 1000BASE-T (Gigabit Ethernet), ATM 155, 100BASE-Tx, Token Ring 100Mbs-1 and 1G FCBASE-T.

**Features**

- > Electrically compliant beyond 100MHz
  - > Low Smoke Zero Halogen sheathed cable / PVC sheathed cable
  - > Low profile moulded strain relief boot for use with blade servers
  - > Integral anti-snag latch as standard
  - > 8 standard colours
  - > 7 standard lengths (1m, 2m, 3m, 5m, 10m, 15m, & 20m)
  - > Other lengths and colours available upon request\*
  - > Individually bagged with traceability information
  - > Part of the 25 year Optronics systems warranty programme
- \* Subject to MOQ

**Applications**

- > Class D/category 5e standards compliant

**Conformance**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Technical Specifications**

CONSTRUCTION	VALUE	
	Conductors	AWG
Size mm		7/0.20 +/- 0.008
Material		Bare Copper
Insulators	Diameter mm	0.98 +/- 0.05
	Material	Polyolefin
Jacket	External O.D.	6.0 +/- 0.20
	Thickness mm	0.5
	Material	PVC/LSZH

### Unscreened Category 5e U/UTP Patchcords PVC UL approved

	PART NUMBER	METRE
grey	510-101	1
	510-102	2
	510-103	3
	510-105	5
	510-110	10
	510-115	15
	510-120	20
	510-201	1
	510-202	2
	510-203	3
red	510-205	5
	510-210	10
	510-215	15
	510-220	20
	510-301	1
	510-302	2
blue	510-303	3
	510-305	5
	510-310	10
	510-315	15
	510-320	20

	PART NUMBER	METRE
yellow	510-401	1
	510-402	2
	510-403	3
	510-405	5
	510-410	10
	510-415	15
	510-520	20
	510-501	1
	510-502	2
	510-503	3
green	510-505	5
	510-510	10
	510-515	15
	510-520	20
	510-601	1
	510-602	2
white*	510-603	3
	510-605	5
	510-610	10
	510-615	15
	510-620	20

	PART NUMBER	METRE	
black*	510-701	1	
	510-702	2	
	510-703	3	
	510-705	5	
	510-710	10	
	510-715	15	
	510-720	20	
	orange*	510-701	1
		510-702	2
		510-703	3
510-705		5	
510-710		10	
510-715		15	
510-720	20		

\*White, Orange and Black may be subject to minimum order quantities

### Unscreened Category 5e U/UTP Patchcords LSZH

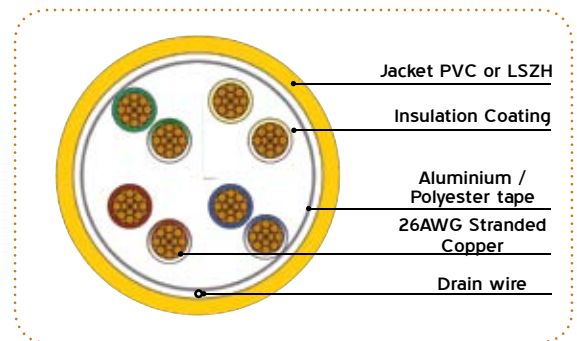
	PART NUMBER	METRE
grey	520-101	1
	520-102	2
	520-103	3
	520-105	5
	520-110	10
	520-115	15
	520-120	20
	520-201	1
	520-202	2
	520-203	3
red	520-205	5
	520-210	10
	520-215	15
	520-220	20
	520-301	1
	520-302	2
blue	520-303	3
	520-305	5
	520-310	10
	520-315	15
	520-320	20

	PART NUMBER	METRE
yellow	520-401	1
	520-402	2
	520-403	3
	520-405	5
	520-410	10
	520-415	15
	520-420	20
	520-501	1
	520-502	2
	520-503	3
green	520-505	5
	520-510	10
	520-515	15
	520-520	20
	520-601	1
	520-602	2
white*	520-603	3
	520-605	5
	520-610	10
	520-615	15
	520-620	20

	PART NUMBER	METRE	
black*	520-701	1	
	520-702	2	
	520-703	3	
	520-705	5	
	520-710	10	
	520-715	15	
	520-720	20	
	orange*	520-801	1
		520-802	2
		520-803	3
520-805		5	
520-810		10	
520-815		15	
520-820	20		

\*White, Orange and Black may be subject to minimum order quantities





Optronics category 5e Screened Patchcords exceed the transmission line performance requirements of IEC and TIA for CLASS D/category 5e systems. The patchcords are designed for mechanical and electrical reliability, using quality materials and processes, to deliver a solution which delivers a consistent high level of systems performance whilst incorporating design features that allow a "one style fits all" patch cord application. The low profile moulded boot and snag free latching allows the patch cords to be deployed within even the most densely populated network installations, deploying the latest blade server technology.

Each category 5e Screened Patchcord is manufactured and tested in accordance with IEC 61935-2 and comply with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS D/category 5e applications including 1000BASE-T (Gigabit Ethernet), ATM 155, 100BASE-Tx, Token Ring 100Mbs-1 and 1G FCBASE-T.

**Features**

- > Electrically compliant beyond 100MHz
  - > Low Smoke Zero Halogen sheathed cable / PVC sheathed cable
  - > Low profile moulded strain relief boot for use with blade servers
  - > Screened plug
  - > Integral anti-snag latch as standard
  - > 8 standard colours
  - > 7 standard lengths (1m, 2m, 3m, 5m, 10m, 15m, & 20m)
  - > Other lengths and colours available upon request\*
  - > Individually bagged with traceability information
  - > Part of the 25 year Optronics systems warranty programme
- \* Subject to MOQ

**Applications**

- > Class D/category 5e standards compliant

**Conformance**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Technical Specifications**

CONSTRUCTION	VALUE	
	AWG	
Conductors	Size mm	26
	Material	0.915 +/- 0.008
	Material	Bare Copper
Insulators	Diameter mm	0.97 +/- 0.05
	Material	Polyolefin
Jacket	External O.D.	6.0 +/- 0.20
	Thickness mm	0.5
	Material	PVC/LSZH

### Screened Category 5e F/UTP Patchcords PVC

	PART NUMBER	METRE
grey	530-101	1
	530-102	2
	530-103	3
	530-105	5
	530-110	10
	530-115	15
red	530-120	20
	530-201	1
	530-202	2
	530-203	3
	530-205	5
	530-210	10
blue	530-215	15
	530-220	20
	530-301	1
	530-302	2
	530-303	3
	530-305	5
	530-310	10
	530-315	15
	530-320	20

	PART NUMBER	METRE
yellow	530-401	1
	530-402	2
	530-403	3
	530-405	5
	530-410	10
	530-415	15
green	530-520	20
	530-501	1
	530-502	2
	530-503	3
	530-505	5
	530-510	10
white*	530-515	15
	530-520	20
	530-601	1
	530-602	2
	530-603	3
	530-605	5
	530-610	10
	530-615	15
	530-620	20

	PART NUMBER	METRE
black*	530-701	1
	530-702	2
	530-703	3
	530-705	5
	530-710	10
	530-715	15
orange*	530-720	20
	530-801	1
	530-802	2
	530-803	3
	530-805	5
	530-810	10
	530-815	15
	530-820	20

\*White, Orange and Black may be subject to minimum order quantities

### Screened Category 5e F/UTP Patchcords LSZH

	PART NUMBER	METRE
grey	540-101	1
	540-102	2
	540-103	3
	540-105	5
	540-110	10
	540-115	15
red	540-120	20
	540-201	1
	540-202	2
	540-203	3
	540-205	5
	540-210	10
blue	540-215	15
	540-220	20
	540-301	1
	540-302	2
	540-303	3
	540-305	5
	540-310	10
	540-315	15
	540-320	20

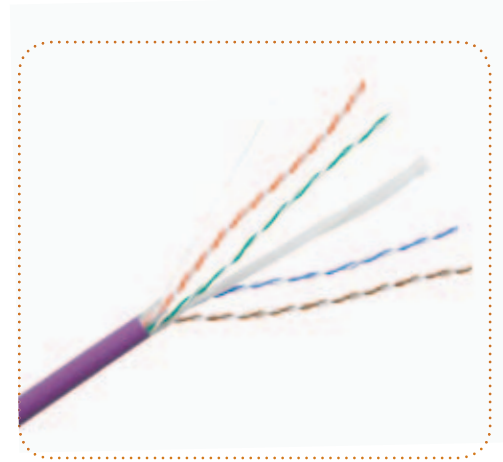
	PART NUMBER	METRE
yellow	540-401	1
	540-402	2
	540-403	3
	540-405	5
	540-410	10
	540-415	15
green	540-420	20
	540-501	1
	540-502	2
	540-503	3
	540-505	5
	540-510	10
white*	540-515	15
	540-520	20
	540-601	1
	540-602	2
	540-603	3
	540-605	5
	540-610	10
	540-615	15
	540-620	20

	PART NUMBER	METRE
black*	540-701	1
	540-702	2
	540-703	3
	540-705	5
	540-710	10
	540-715	15
orange*	540-720	20
	540-801	1
	540-802	2
	540-803	3
	540-805	5
	540-810	10
	540-815	15
	540-820	20

\*White, Orange and Black may be subject to minimum order quantities

# Category 6 Copper Products

> Cable



> Patchcords



> Keystone Tool Free Jack



> Euro Module



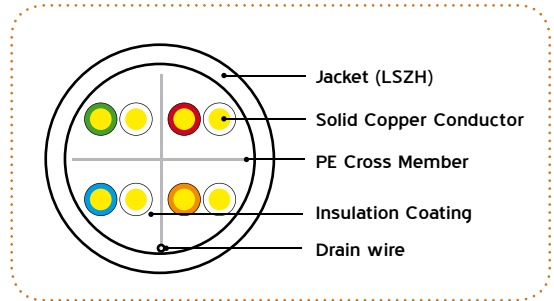
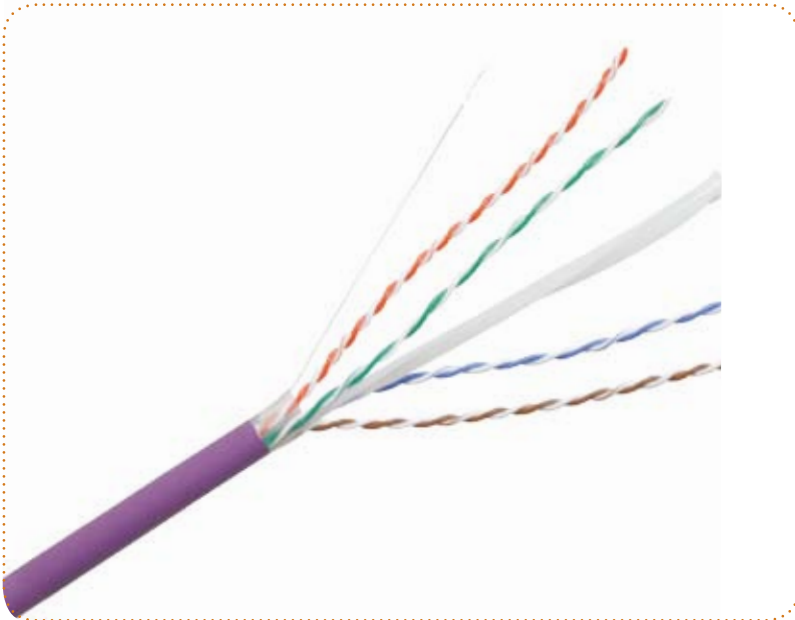
Category 3

Category 5e

Category 6

Category 6a

Accessories



Optronics category 6 U/UTP LSZH cable is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 6 U/UTP LSZH cable exceeds the minimum specified performance for category 6 U/UTP cables and support all CLASS E applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Applicable Standards**

The category 6 U/UTP LSZH cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS Compliant 2002/95/EC
- > REACH / SVHC Compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
 Pair 1: Orange and White/Orange  
 Pair 2: Blue and White/Blue  
 Pair 3: Brown and White/Brown  
 Pair 4: Green and White/Green

**Fire Performance**

Category 6 U/UTP LSZH cables exceed the requirements of:

- > IEC 60332-1-2
- > IEC 60754-2
- > IEC 61034

### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 23AWG (0.574mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together around a polyethylene cross-filler to form a cohesive unit.
Sheath	A uniform layer of Violet coloured Low Smoke Zero Halogen (LSZH) compound (RAL 4005)
Diameter	6.0mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Delay Skew	≤ 40ns/100m @ 100MHz
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 534ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Coupling Attenuation	≥ 40dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

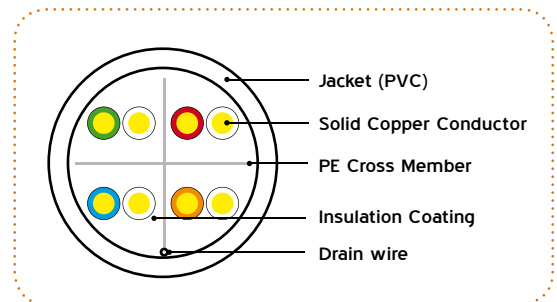
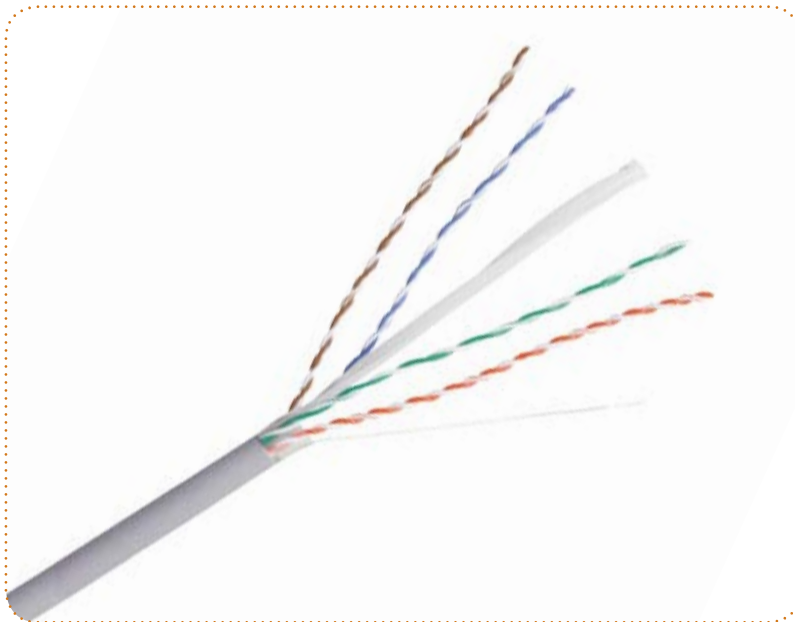
MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission Line Performance at 20°C

FREQUENCY MHZ	ATTENUATION dB/100M	42.ONEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	74.0	71.9	72.0	68	65	20
4	3.8	65.3	61.5	63.3	56	53	23
10	6.0	59.3	53.3	57.3	48	45	25
16	7.6	56.0	48.4	54.0	44	41	25
20	9.3	45.8	36.5	42.8	42	39	25
62.5	17.0	38.4	21.4	35.4	32	29	21.5
100	22.0	35.3	13.3	32.3	28	25	20.1
125	22.5	43.0	20.5	41.0	26	23	19.5
155.5	25.4	42.0	16.6	40.0	24	21	18.8
250	33.0	38.3	5.3	32.3	20	17	17.3

### Ordering Information

DESCRIPTION	PART NO.
Category 6 U/UTP LSZH 305m Box	UTP6305LSZH
Category 6 U/UTP LSZH 500m Reel	UTP6500LSZH



Optronics category 6 U/UTP PVC cable is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Cable performance is routinely verified by the independent testing laboratory 3P as part of an ongoing maintenance programme.

Our category 6 U/UTP PVC cable exceeds the minimum specified performance for category 6 U/UTP cables and support all CLASS E applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbps-1, and 1G FCBASE-T.

### Applicable Standards

The category 6 U/UTP PVC cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

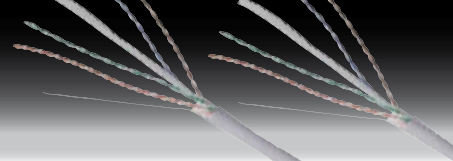
### Other Relevant Information

- > RoHS Compliant 2002/95/EC
- > REACH / SVHC Compliant regulation (EC) No. 1907/2006
- > Pair colour code:
  - Pair 1: Orange and White/Orange
  - Pair 2: Blue and White/Blue
  - Pair 3: Brown and White/Brown
  - Pair 4: Green and White/Green

### Fire Performance

Category 6 U/UTP PVC cables exceed the requirements of:

- > IEC 60332-1-2



### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 23AWG (0.574mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together around a polyethylene cross-filler to form a cohesive unit.
Sheath	A uniform layer of Grey coloured Polyvinyl Chloride (PVC) compound (RAL 7035)
Diameter	6.0mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Delay Skew	≤ 40ns/100m @ 100MHz
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 534ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Coupling Attenuation	≥ 40dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADIUS	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

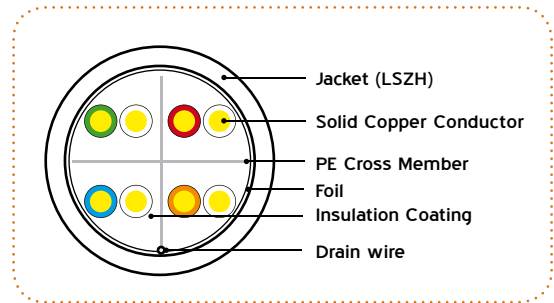
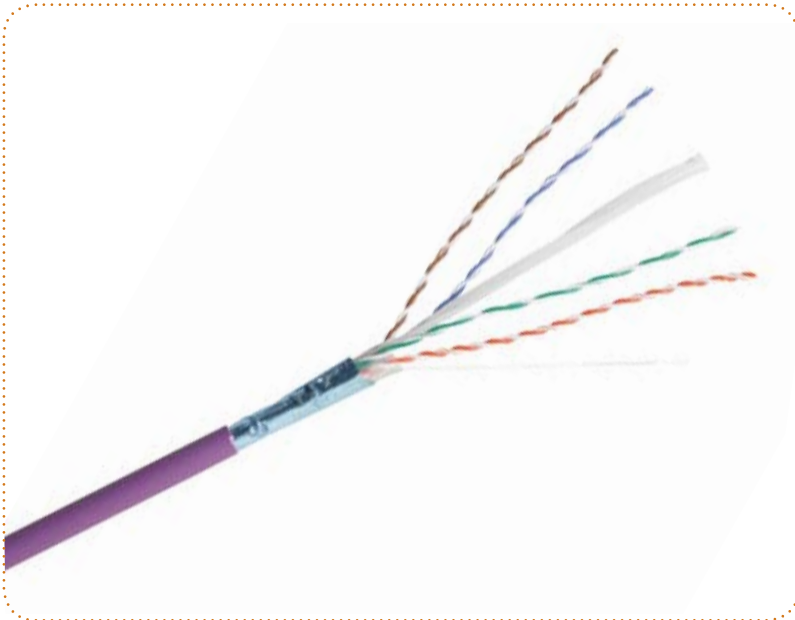
MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission Line Performance at 20°C

FREQUENCY MHZ	ATTENUATION dB/100M	42.ONEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	74.0	71.9	72.0	68	65	20
4	3.8	65.3	61.5	63.3	56	53	23
10	6.0	59.3	53.3	57.3	48	45	25
16	7.6	56.0	48.4	54.0	44	41	25
20	9.3	45.8	36.5	42.8	42	39	25
62.5	17.0	38.4	21.4	35.4	32	29	21.5
100	22.0	35.3	13.3	32.3	28	25	20.1
125	22.5	43.0	20.5	41.0	26	23	19.5
155.5	25.4	42.0	16.6	40.0	24	21	18.8
250	33.0	38.3	5.3	32.3	20	17	17.3

### Ordering Information

DESCRIPTION	PART NO.
Category 6 U/UTP LSZH 305m Box	UTP6305PVC
Category 6 U/UTP LSZH 500m Reel	UTP6500PVC



Optronics category 6 F/UTP LSZH cable is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 6 F/UTP LSZH cable exceeds the minimum specified performance for category 6 F/UTP cables and support all CLASS E applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition); 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and 1G FCBASE-T.

**Applicable Standards**

The category 6 F/UTP LSZH Cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS Compliant 2002/95/EC
- > REACH / SVHC Compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
 Pair 1: Orange and White/Orange  
 Pair 2: Blue and White/Blue  
 Pair 3: Brown and White/Brown  
 Pair 4: Green and White/Green

**Fire Performance**

Category 6 F/UTP LSZH cables exceed the requirements of:

- > IEC 60332-1-2
- > IEC 60754-2
- > IEC 61034



**Technical Specifications**

CONSTRUCTION	
Conductors	A single strand of 23AWG (0.574mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together around a polyethylene cross-filler to form a cohesive unit.
Screen	An aluminised polyester tape screen applied with a 15% minimum overlap (The aluminium side is in continuous contact with the tinned copper drain wire.)
Sheath	A uniform layer of Violet coloured Low Smoke Zero Halogen (LSZH) compound (RAL 4005)
Diameter	7.1mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Delay Skew	≤ 40ns/100m @ 100MHz
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 534ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 55dB

**Mechanical Characteristics**

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

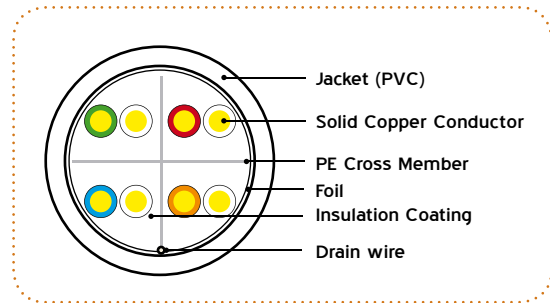
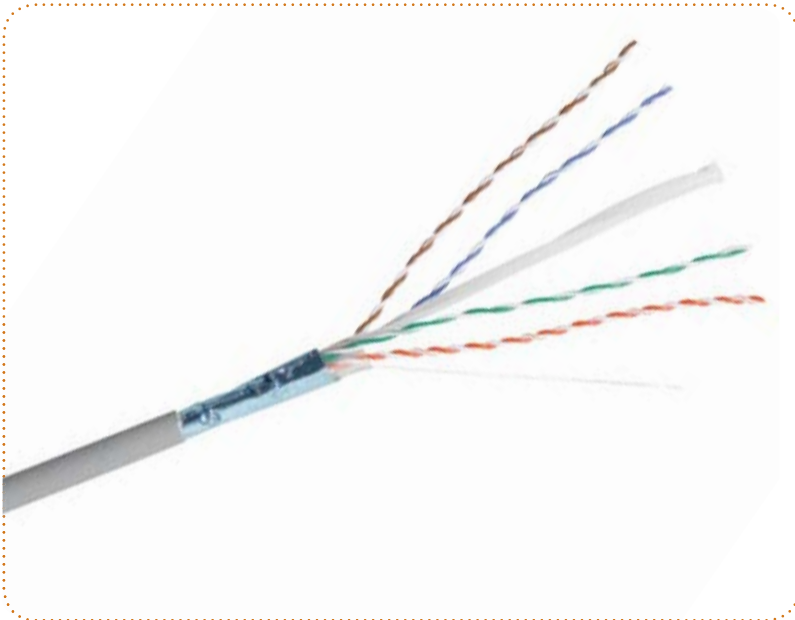
MAXIMUM TENSILE FORCE	
During Installation	100N

**Transmission line performance at 20 C**

FREQUENCY MHZ	ATTENUATION dB/100M	42.ONEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
1	2.1	74.0	71.9	72.0	68	65	20
4	3.8	65.3	61.5	63.3	56	53	23
10	6.0	59.3	53.3	57.3	48	45	25
16	7.6	56.0	48.4	54.0	44	41	25
20	9.3	45.8	36.5	42.8	42	39	25
62.5	17.0	38.4	21.4	35.4	32	29	21.5
100	22.0	35.3	13.3	32.3	28	25	20.1
125	22.5	43.0	20.5	41.0	26	23	19.5
155.5	25.4	42.0	16.6	40.0	24	21	18.8
250	33.0	38.3	5.3	32.3	20	17	17.3

**Ordering Information**

DESCRIPTION	PART NO.
Category 6 F/UTP LSZH 305m Box	FUTP6305LSZH
Category 6 F/UTP LSZH 500m Reel	FUTP6500LSZH



Optronics category 6 F/UTP PVC cables is designed to deliver a robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 6 F/UTP PVC cable exceeds the minimum specified performance for category 6 F/UTP cables and support all CLASS E applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 1000BASE-T (Gigabit Ethernet), ATM-155, 100BASE-Tx, Token Ring 100Mbs-1, and IG FCBASE-T.

**Applicable Standards**

The category 6 F/UTP PVC cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS Compliant 2002/95/EC
- > REACH / SVHC Compliant regulation (EC) No. 1907/2006
- > Pair colour code:
  - Pair 1: Orange and White/Orange
  - Pair 2: Blue and White/Blue
  - Pair 3: Brown and White/Brown
  - Pair 4: Green and White/Green

**Fire Performance**

- Category 6 F/UTP PVC cables exceed the requirements of:
- > IEC 60332-1-2

### Technical Specifications

CONSTRUCTION	
Conductors	A single strand of 23AWG (0.574mm) solid copper
Insulation	Polyethylene
Cable	8 insulated wires formed into 4 pairs. The 4 pairs are subsequently cabled together around a polyethylene cross-filler to form a cohesive unit.
Screen	An aluminised polyester tape screen applied with a 15% minimum overlap (The aluminium side is in continuous contact with the tinned copper drain wire.)
Sheath	A uniform layer of Grey coloured Polyvinyl Chloride (PVC) compound (RAL 7035)
Diameter	7.1mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz)	100 ± 15Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Delay Skew	≤ 40ns/100m @ 100MHz
Nominal Velocity of Propagation	67%
Propagation Delay (Nominal)	≤ 534ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 55dB

### Mechanical Characteristics

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

MAXIMUM TENSILE FORCE	
During Installation	100N

### Transmission Line Performance at 20°C

FREQUENCY MHZ	ATTENUATION dB/100M	42.0NEXT dB38.3	ACR dB/100M	PSNEXT dB	ELFEXT dB/100M	PSELFEXT dB/100M	RETURN LOSS
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10	6.0	59.3	53.3	57.3	48	45	25
16	7.6	56.0	48.4	54.0	44	41	25
20	9.3	45.8	36.5	42.8	42	39	25
62.5	17.0	38.4	21.4	35.4	32	29	21.5
100	22.0	35.3	13.3	32.3	28	25	20.1
125	22.5	43.0	20.5	41.0	26	23	19.5
155.5	25.4	42.0	16.6	40.0	24	21	18.8
250	33.0	38.3	5.3	32.3	20	17	17.3

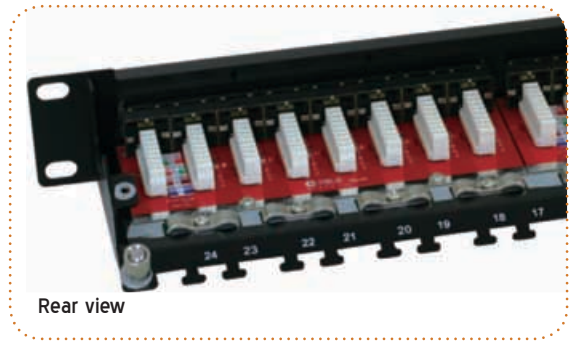
### Ordering Information

DESCRIPTION	PART NO.
Category 6 F/UTP PVC 305m Box	FUTP6305PVC
Category 6 F/UTP PVC 500m Reel	FUTP6500PVC

24  
Ports



Front view



Rear view

Optronics Screened category 6 Patch Panels exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The panels are designed for mechanical and electrical reliability whilst delivering a consistent high level of systems performance.

Our category 6 Patch Panel complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS E/category 6 applications including ATM 1200, 1000BASE-T (Gigabit Ethernet and 1G FCBASE-T.

Features

- > 19" rack mountable
- > 24 ports in 1U space
- > 8 - port RJ-45 modules
- > Universal wiring blocks for easy termination
- > Right-angled wiring block orientation for friendlier installation
- > Colour coded wiring blocks for easy cable lacing
- > Integral rear cable management
- > Durability:
  - Socket Contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

Applications

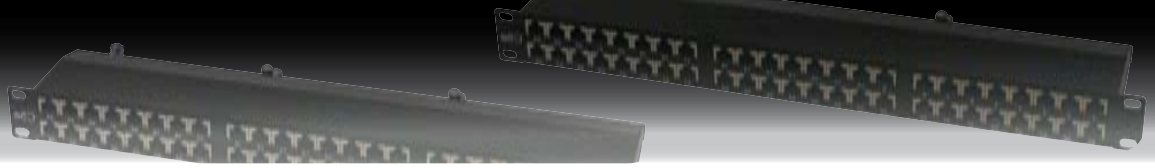
- > Class E/category 6 standards compliant
- > Terminates 22AWG to 26AWG cables

Conformance

- > Electrically compliant beyond 250MHz
- > Supports TIA 568A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

Ordering Information

DESCRIPTION	PART NO.
Screened category 6 Patch Panel - 24 port Black 1U	601-001



## Screened Category 6 "High Density" RJ-45 Patch Panel



Front view



Rear view



Optronics Screened category 6 "High Density" Patch Panels exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. These panels are genuine cabinet space saving products, which are designed for mechanical and electrical reliability whilst delivering a consistent high level of systems performance and halving the cabinet space required in high density installations.

Each category 6 "High Density Patch Panel" complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS E/category 6 applications including ATM 1200, 1000BASE-T (Gigabit Ethernet and IG FCBASE-T.

### Features

- > 19" rack mountable
- > 48 ports in 1U space
- > 8 - port RJ-45 modules
- > Universal wiring blocks for easy termination
- > Right-angled wiring block orientation for friendlier installation
- > Colour coded wiring blocks for easy cable lacing
- > Integral rear cable management
- > Durability:
  - Socket Contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

### Applications

- > Class E/category 6 standards compliant
- > Terminates 22AWG to 26AWG cables

### Conformance

- > Electrically compliant beyond 250MHz
- > Supports TIA 568A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

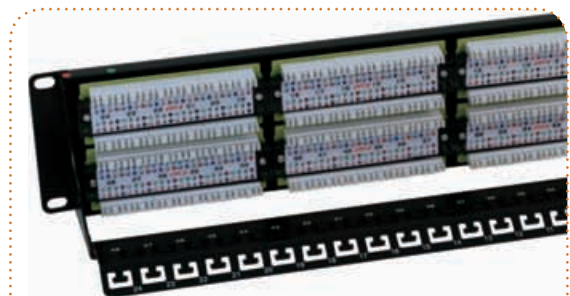
### Ordering Information

DESCRIPTION	PART NO.
Screened category 6 "HD" Patch Panel - 48 port Black 1U	601-002

24 Ports  
48 Ports



24 port patch panel  
Front view



Rear view  
48 port patch panel

Optronics Unscreened category 6 Patch Panels range exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The products are designed for mechanical and electrical reliability, using quality materials and processes, to deliver a panel solution which delivers a consistent high level of systems performance.

Each category 6 Patch Panel complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS E/category 6 applications including ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

Features

- > 19" rack mountable
- > 6 - port RJ-45 modules
- > Universal wiring blocks for easy termination
- > Colour coded wiring blocks for easy cable lacing
- > Integral label feature
- > Individual port identification
- > Rear cable management bar
- > Durability:
  - Socket Contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

Applications

- > Class E/category 6 standards compliant
- > Terminates 22AWG to 26AWG cables

Conformance

- > Electrically compliant beyond 250MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

Ordering Information

DESCRIPTION	PART NO.
Unscreened category 6 RJ-45 Patch Panel - 24 port Black 1U	600-001
Unscreened category 6 RJ-45 Patch Panel - 48 port Black 2U	600-002



Optronics Screened category 6 Tool Free RJ-45 Keystone Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The jacks have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that minimises the time required by the installer to complete each termination.

Each category 6 Modular RJ-45 Keystone Jack complies with IEC 60603-7-Pt 5 (screened) and support all applications designed for CLASS D networks, as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 including ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

**Features**

- > Screened and unscreened versions available
- > Repeatable tool-free terminations
- > Colour coded stuffer-cap for easy cable lacing
- > Keyed stuffer-cap for reliable termination
- > Low insertion force 'clam action' assists tool-free termination (LSA & 110 punch-down tools can also be used to effect termination)
- > Integral cable strain relief
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone style face plates and floor boxes
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

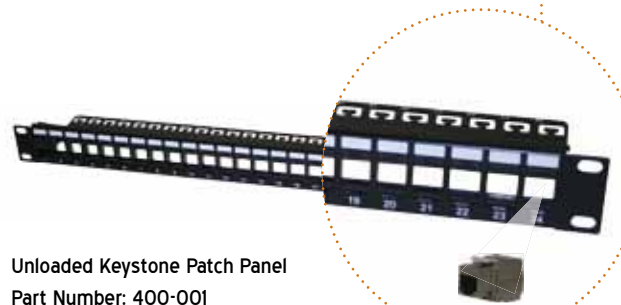
**Applications**

- > Class E/category 6 standards compliant

**Conformance**

- > Electrically compliant beyond 250MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

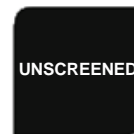
Unloaded Keystone Patch Panel for use with Screened Category 6 RJ-45 Tool Free Keystone Jacks



Unloaded Keystone Patch Panel  
Part Number: 400-001

**Ordering Information**

DESCRIPTION	PART NO.
Screened category 6 Tool Free Keystone Jack	601-101
Unloaded Keystone Patch Panel	400-001



Top view

Optronics category 6 Tool Free RJ-45 Keystone Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The jacks have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that minimises the time required by the installer to complete each termination.

Each category 6 Tool Free RJ-45 Keystone Jack complies with IEC 60603-7-Pt 4 (unscreened) and support all applications designed for CLASS D networks, as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition);2010 including ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

### Features

- > Screened and unscreened versions available
- > Repeatable tool-free terminations
- > Colour coded stuffer-cap for easy cable lacing
- > Keyed stuffer-cap for reliable termination
- > Low insertion force `clam action` assists tool-free termination (LSA & 110 punch-down tools can also be used to effect termination)
- > Integral cable strain relief
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone style face plates and floor boxes
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

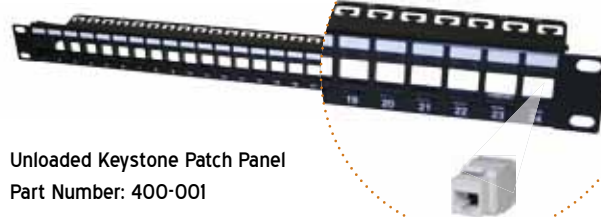
### Applications

- > Class E/category 6 standards compliant
- > Independent third party verified performance
- > Terminates 22AWG to 26AWG cables

### Conformance

- > Electrically compliant through 250MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

### Unloaded Keystone Patch Panel for use with Tool Free Unscreened Category 6 RJ-45 Keystone Jacks

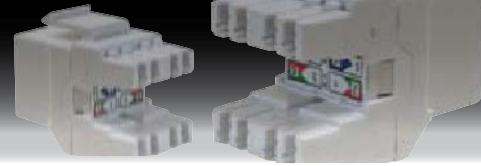


Unloaded Keystone Patch Panel  
Part Number: 400-001

### Ordering Information

DESCRIPTION	PART NO.
Unscreened category 6 Tool free Keystone Jack - Black	600-101
Unscreened category 6 Tool free Keystone Jack - White	600-102
Unloaded Keystone Patch Panel	400-001





Optronics category 6 RJ-45 Keystone Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The jacks have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that optimises the termination process through the use of a universal wiring block.

Each category 6 RJ-45 Keystone Jack complies with IEC 60603-7-Pt 4 (unscreened) and support all applications designed for CLASS E networks as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 such as ATM 1200, 1000BASE-T (Gigabit Ethernet), and 1G FCBASE-T.

**Features**

- > Universal wiring block accommodates both 110 and LSA tools
- > Colour coded wiring blocks assist termination
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone style face plates and floor boxes
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

**Applications**

- > Class E/category 6 standards compliant

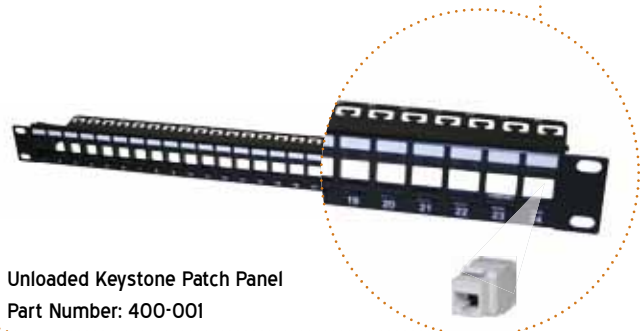
**Conformance**

- > Electrically compliant through 250MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Unscreened category 6 Keystone Jack - Black	600-103
Unscreened category 6 Keystone Jack - White	600-104
Unloaded Keystone Patch Panel	400-001

**Unloaded Keystone Patch Panel for use with Unscreened Category 6 RJ-45 Keystone Jacks**





P/N: 600-301



P/N: 600-401



Rear view

Optronics category 6 Low Profile Shuttered RJ-45 Modules exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The products have been designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that is optimised for shallow back boxes.

Each category 6 low profile shuttered RJ-45 module complies with IEC 60603-7-Pt 4 and support all applications designed for CLASS E networks as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition):2010 including ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

Features

- > Euro-Mod and LJ6C versions
- > Integral shuttered facia
- > Integral label window
- > Universal, colour coded wiring block for easy termination
- > Integral cable strain relief
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Part of the 25 year Optronics systems warranty programme

Applications

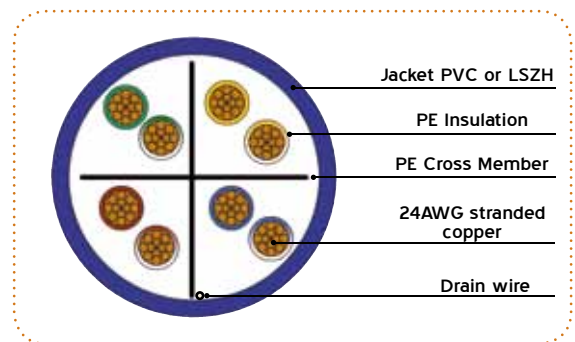
- > Class E/category 6 standards compliant

Conformance

- > Electrically compliant beyond 250MHz
- > Supports TIA 568 A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

Ordering Information

DESCRIPTION	PART NO.
Unscreened LJ6C category 6 Low Profile Shuttered Module 38.5mm x 25mm White	600-301
Unscreened category 6 Low Profile Shuttered Module 50mm x 25mm White	600-401



Optronics category 6 Unscreened Patchcords exceeds the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The patchcords are designed for mechanical and electrical reliability, using quality materials and processes, to provide a patchcord solution which delivers a consistent high level of systems performance whilst incorporating design features that allow a "one style fits all" cord application. The low profile moulded boot and snag free latching allows the cords to be deployed within even the most densely populated network installations deploying the latest blade server technology.

Each category 6 Patchcord is manufactured and tested in accordance with IEC 61935-2 and comply with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS E/category 6 applications such as ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

**Features**

- > Electrically compliant beyond 250MHz
  - > Low Smoke Zero Halogen sheathed cable / PVC sheathed cable
  - > Low profile moulded strain relief boot for use with blade servers
  - > Integral anti-snag latch as standard
  - > 8 standard colours
  - > 7 standard lengths (1m, 2m, 3m, 5m, 10m, 15m, & 20m)
  - > Other lengths and colours available upon request\*
  - > Individually bagged with traceability information
  - > Part of the 25 year Optronics systems warranty programme
- \* Subject to MOQ

**Applications**

- > Class E/category 6 standards compliant

**Conformance**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Technical Specifications**

CONSTRUCTION	VALUE	
	AWG	24
Conductors	Size mm	7/0.20 +/- 0.008
	Material	Bare Copper
	Diameter mm	0.98 +/- 0.05
Insulators	Material	Polyolefin
	External O.D.	6.0 +/- 0.20
Jacket	Thickness mm	0.5
	Material	PVC/LSZH

### Unscreened Category 6 U/UTP Patchcords PVC

	PART NUMBER	METRE
grey	610-101	1
	610-102	2
	610-103	3
	610-105	5
	610-110	10
	610-115	15
	610-120	20
	610-201	1
	610-202	2
	610-203	3
red	610-205	5
	610-210	10
	610-215	15
	610-220	20
	610-301	1
blue	610-302	2
	610-303	3
	610-305	5
	610-310	10
	610-315	15
	610-320	20

	PART NUMBER	METRE
yellow	610-401	1
	610-402	2
	610-403	3
	610-405	5
	610-410	10
	610-415	15
	610-520	20
	610-501	1
	610-502	2
	610-503	3
green	610-505	5
	610-510	10
	610-515	15
	610-520	20
	610-601	1
white*	610-602	2
	610-603	3
	610-605	5
	610-610	10
	610-615	15
	610-620	20

	PART NUMBER	METRE
black*	610-701	1
	610-702	2
	610-703	3
	610-705	5
	610-710	10
	610-715	15
	610-720	20
	610-801	1
	610-802	2
	610-803	3
orange*	610-805	5
	610-810	10
	610-815	15
	610-820	20

\*White, Orange and Black may be subject to minimum order quantities

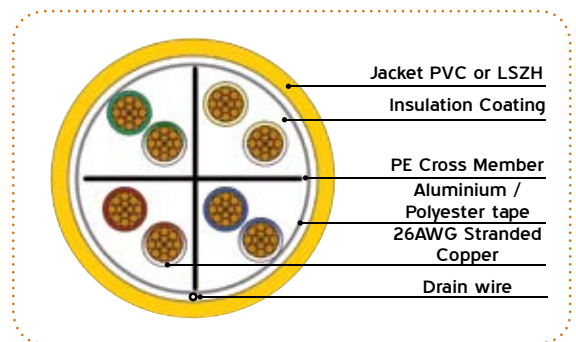
### Unscreened Category 6 U/UTP Patchcords LSZH

	PART NUMBER	METRE
grey	620-101	1
	620-102	2
	620-103	3
	620-105	5
	620-110	10
	620-115	15
	620-120	20
	620-201	1
	620-202	2
	620-203	3
red	620-205	5
	620-210	10
	620-215	15
	620-220	20
	620-301	1
blue	620-302	2
	620-303	3
	620-305	5
	620-310	10
	620-315	15
	620-320	20

	PART NUMBER	METRE
yellow	620-401	1
	620-402	2
	620-403	3
	620-405	5
	620-410	10
	620-415	15
	620-420	20
	620-501	1
	620-502	2
	620-503	3
green	620-505	5
	620-510	10
	620-515	15
	620-520	20
	620-601	1
white*	620-602	2
	620-603	3
	620-605	5
	620-610	10
	620-615	15
	620-620	20

	PART NUMBER	METRE
black*	620-701	1
	620-702	2
	620-703	3
	620-705	5
	620-710	10
	620-715	15
	620-720	20
	620-801	1
	620-802	2
	620-803	3
orange*	620-805	5
	620-810	10
	620-815	15
	620-820	20

\*White, Orange and Black may be subject to minimum order quantities



Optronics category 6 Screened Patchcord exceeds the transmission line performance requirements of IEC and TIA for CLASS E/category 6 systems. The products are designed for mechanical and electrical reliability using quality materials and processes to deliver a patchcord solution which delivers a consistent high level of systems performance whilst incorporating design features that allow a “one style fits all” cord application. The low profile moulded boot and snag free latching allows the cords to be deployed within even the most densely populated network installations deploying the latest blade server technology.

Each category 6 Patchcord is manufactured and tested in accordance with IEC 61935-2 and comply with the requirements of ISO/IEC 11801 (2nd Edition): 2010 and TIA 568C and support all applications designed for CLASS E/category 6 applications such as ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

**Features**

- > Electrically compliant beyond 250MHz
  - > Low Smoke Zero Halogen / PVC sheathed cable
  - > Low profile moulded strain relief boot for use with blade servers
  - > Aluminised polyester tape screen and drain wire
  - > Screened plug
  - > Integral anti-snag latch as standard
  - > 8 standard colours
  - > 7 standard lengths (1m, 2m, 3m, 5m, 10m, 15m, & 20m)
  - > Other lengths and colours available upon request\*
  - > Individually bagged with traceability information
  - > Part of the 25 year Optronics systems warranty programme
- \* Subject to MOQ

**Applications**

- > Class E/category 6 standards compliant

**Conformance**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Technical Specifications**

CONSTRUCTION	VALUE	
Conductors	AWG	26
	Size mm	0.915 +/- 0.008
	Material	Bare Copper
Insulators	Diameter mm	0.97 +/- 0.05
	Material	Polyolefin
Jacket	External O.D.	6.0 +/- 0.20
	Thickness mm	0.5
	Material	PVC/LSZH
Tape	Material	Aluminium/Polyester
	Coverage (%)	125

### Screened Category 6 F/UTP Patchcords PVC

	PART NUMBER	METRE
grey	630-101	1
	630-102	2
	630-103	3
	630-105	5
	630-110	10
	630-115	15
red	630-120	20
	630-201	1
	630-202	2
	630-203	3
	630-205	5
	630-210	10
blue	630-215	15
	630-220	20
	630-301	1
	630-302	2
	630-303	3
	630-305	5
	630-310	10
	630-315	15
	630-320	20

	PART NUMBER	METRE
yellow	630-401	1
	630-402	2
	630-403	3
	630-405	5
	630-410	10
	630-415	15
green	630-520	20
	630-501	1
	630-502	2
	630-503	3
	630-505	5
	630-510	10
white*	630-515	15
	630-520	20
	630-601	1
	630-602	2
	630-603	3
	630-605	5
	630-610	10
	630-615	15
	630-620	20

	PART NUMBER	METRE
black*	610-701	1
	610-702	2
	610-703	3
	610-705	5
	610-710	10
	610-715	15
orange*	610-720	20
	610-801	1
	610-802	2
	610-803	3
	610-805	5
	610-810	10
	610-815	15
	610-820	20

\*White, Orange and Black may be subject to minimum order quantities

### Screened Category 6 F/UTP Patchcords LSZH

	PART NUMBER	METRE
grey	640-101	1
	640-102	2
	640-103	3
	640-105	5
	640-110	10
	640-115	15
red	640-120	20
	640-201	1
	640-202	2
	640-203	3
	640-205	5
	640-210	10
blue	640-215	15
	640-220	20
	640-301	1
	640-302	2
	640-303	3
	640-305	5
	640-310	10
	640-315	15
	640-320	20

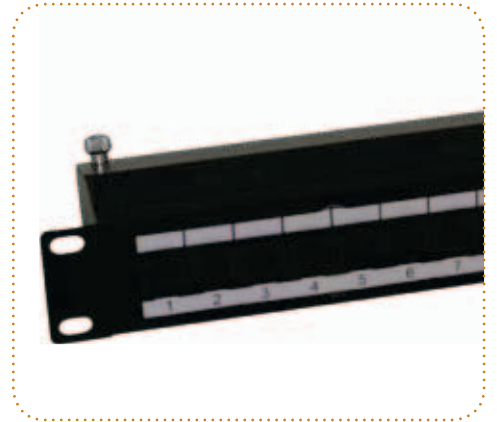
	PART NUMBER	METRE
yellow	640-401	1
	640-402	2
	640-403	3
	640-405	5
	640-410	10
	640-415	15
green	640-420	20
	640-501	1
	640-502	2
	640-503	3
	640-505	5
	640-510	10
white*	640-515	15
	640-520	20
	640-601	1
	640-602	2
	640-603	3
	640-605	5
	640-610	10
	640-615	15
	640-620	20

	PART NUMBER	METRE
black*	640-701	1
	640-702	2
	640-703	3
	640-705	5
	640-710	10
	640-715	15
orange*	640-720	20
	640-801	1
	640-802	2
	640-803	3
	640-805	5
	640-810	10
	640-815	15
	640-820	20

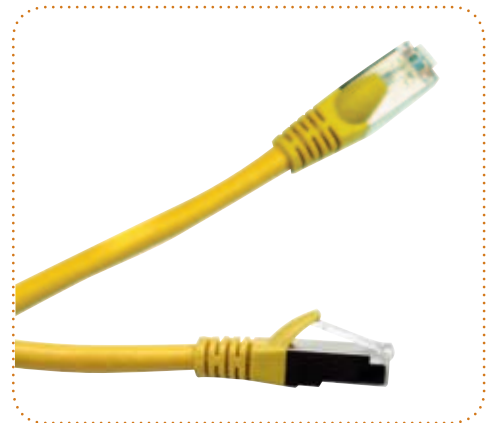
\*White, Orange and Black may be subject to minimum order quantities

# Category 6<sub>A</sub> Copper Products

> Patch Panels



> Patchcords

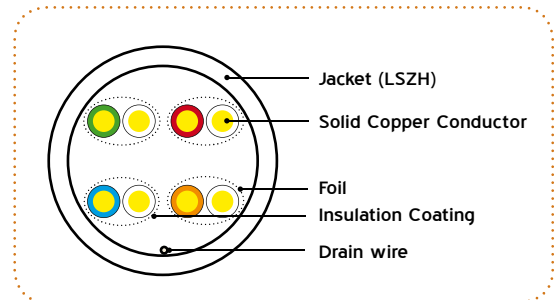


> Keystone Tool Free Jack



> Faceplates





Optronics category 6<sub>A</sub> U/FTP LSZH cable is designed to deliver robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Our category 6<sub>A</sub> U/FTP LSZH cable exceeds the minimum specified performance for category 6<sub>A</sub> U/FTP cables and support all CLASS E<sub>A</sub> applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 100GBASE-T (Gigabit Ethernet), 2G FCBASE-T, 4G FCBASE-T and 1000BASE-T (Gigabit Ethernet).

**Applicable Standards**

The category 6<sub>A</sub> U/FTP LSZH Cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

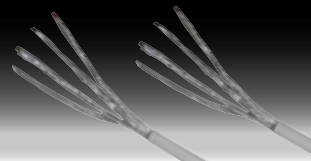
- > RoHS Compliant 2002/95/EC
- > REACH / SVHC Compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
Pair 1: Orange and White/Orange  
Pair 2: Blue and White/Blue  
Pair 3: Brown and White/Brown  
Pair 4: Green and White/Green

**Fire Performance**

category 6<sub>A</sub> U/FTP LSZH cables exceed the requirements of:

- > IEC 60332-1-2
- > IEC 60754-2
- > IEC 61034





**Technical Specifications**

CONSTRUCTION	
Conductors	A single strand of 23AWG (0.574mm) solid copper
Insulation	Expanded Polyethylene
Cable	8 insulated wires formed into 4 pairs. Each pair is individually screened with an aluminised polyester tape. (The aluminium side of the tape is in continuous contact with the tinned copper drain wire)
Sheath	A uniform layer of Violet coloured Low Smoke Zero Halogen (LSZH) compound (RAL 4005)
Diameter	7.2mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz) (100-250MHz)	100 ± 15Ω 100 ± 18Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Delay Skew	≤ 40ns/100m @ 100MHz
Nominal Velocity of Propagation	78%
Propagation Delay (Nominal)	≤ 534ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 55dB

**Mechanical Characteristics**

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

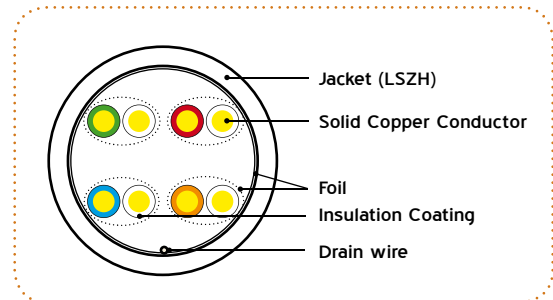
MAXIMUM TENSILE FORCE	
During Installation	100N

**Transmission Line Performance at 20°C**

FREQUENCY MHZ	ATTENUATION dB/100M	NEXT MIN dB	ACR MIN dB	PSNEXT MIN dB	ELFEXT MIN dB	PSELFEXT MIN dB	PSANEXT MIN dB	RETURN LOSS
1	1.8	95.	93.2	95.0	68.0	65.0	-	-
4	3.8	66.3	62.5	66.3	58.0	55.0	76.5	23
10	5.9	60.3	54.4	60.3	50.0	47.0	72.5	25
20	8.4	55.8	47.4	55.8	44.0	41.0	69.5	25
62.5	15.0	48.4	33.4	48.4	34.1	31.1	64.5	21.5
100	19.1	45.3	26.2	45.3	30.0	27.0	62.5	20.1
250	31.1	39.3	8.2	39.3	22.0	19.0	56.5	17.3
500	45.3	34.8	-10.5	34.8	16.0	13.0	52.0	17.3

**Ordering Information**

DESCRIPTION	PART NO.
Category 6 <sub>A</sub> U/FTP LSZH 500m Reel	UFTP6A500LSZH



Optronics category 6<sub>A</sub> S/FTP LSZH cables is designed to deliver robust standards based performance ensuring optimum bandwidth for today's high speed network applications. The cable is designed to support horizontal networking applications over distances up to 100 metres.

Cable performance is routinely verified by the independent testing laboratory 3P as part of an ongoing maintenance programme.

Our category 6<sub>A</sub> S/FTP LSZH cable exceeds the minimum specified performance for category 6<sub>A</sub> S/FTP cables and support all CLASS E<sub>A</sub> applications as defined within ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 such as 100GBASE-T (Gigabit Ethernet), 2G FCBASE-T, 4G FCBASE-T and 1000BASE-T (Gigabit Ethernet).

**Applicable Standards**

The category 6<sub>A</sub> S/FTP LSZH Cable is manufactured and tested directly in accordance with the major industry standards:

- > ISO/IEC 11801 2<sup>nd</sup> Edition
- > ANSI/TIA 568-C.2
- > EN 50173
- > IEC 61156-5
- > EN 50288-3-1

**Other Relevant Information**

- > RoHS Compliant 2002/95/EC
- > REACH / SVHC Compliant regulation (EC) No. 1907/2006
- > Pair colour code:  
 Pair 1: Orange and White/Orange  
 Pair 2: Blue and White/Blue  
 Pair 3: Brown and White/Brown  
 Pair 4: Green and White/Green

**Fire Performance**

Category 6<sub>A</sub> S/FTP LSZH cables exceed the requirements of:

- > IEC 60332-1-2
- > IEC 60754-2
- > IEC 61034

**Technical Specifications**

CONSTRUCTION	
Conductors	A single strand of 23AWG (0.574mm) solid copper
Insulation	Expanded Polyethylene
Cable	8 insulated wires formed into 4 pairs. Each pair is individually screened with an aluminised polyester tape. (The aluminium side of the tape is in continuous contact with the tinned copper drain wire)
Sheath	A uniform layer of Violet coloured Low Smoke Zero Halogen (LSZH) compound (RAL 4005)
Diameter	7.2mm

ELECTRICAL PROPERTIES AT 20°C	
Characteristic Impedance (1-100MHz) (100-250MHz)	100 ± 15Ω 100 ± 18Ω
DC Loop Resistance	≤ 19.0Ω/100m
Resistance Unbalance	≤ 2%
Capacitance Unbalance to Earth	≤ 1600 pF/km
Delay Skew	≤ 40ns/100m @ 100MHz
Nominal Velocity of Propagation	78%
Propagation Delay (Nominal)	≤ 534ns/100m
Test Voltage (d.c. for 1 minute) Conductor/Conductor	1000V
Insulation Resistance (500V d.c)	≥ 500MΩ.km
Transfer Impedance	≥ 55dB

**Mechanical Characteristics**

TEMPERATURE RANGE	
Operation	-20°C to + 60°C
Installation	0°C to +50°C
Storage	-20°C to + 70°C

MINIMUM BEND RADII	
Installation	8 x cable Diameter
Installed	4 x cable Diameter

MAXIMUM TENSILE FORCE	
During Installation	100N

**Transmission Line Performance at 20°C**

FREQUENCY MHZ	ATTENUATION dB/100M	NEXT MIN dB	ACR MIN dB	PSNEXT MIN dB	ELFEXT MIN dB	PSELFEXT MIN dB	PSANEXT MIN dB	RETURN LOSS
1	1.8	95.	93.2	95.0	68.0	65.0	-	-
4	3.8	66.3	62.5	66.3	58.0	55.0	76.5	23
10	5.9	60.3	54.4	60.3	50.0	47.0	72.5	25
20	8.4	55.8	47.4	55.8	44.0	41.0	69.5	25
62.5	15.0	48.4	33.4	48.4	34.1	31.1	64.5	21.5
100	19.1	45.3	26.2	45.3	30.0	27.0	62.5	20.1
250	31.1	39.3	8.2	39.3	22.0	19.0	56.5	17.3
500	45.3	34.8	-10.5	34.8	16.0	13.0	52.0	17.3

**Ordering Information**

DESCRIPTION	PART NO.
Category 6 <sub>A</sub> S/FTP LSZH 500m Reel	SFTP6A500LSZH



24 Ports



Front view



Rear view

Optronics category 6<sub>A</sub> Patch panel exceeds the transmission line performance requirements of IEC and TIA for CLASS E<sub>A</sub>/category 6<sub>A</sub> systems. The panels are designed for mechanical and electrical reliability, using quality materials and processes, to deliver a panel solution which delivers a consistent high level of systems performance.

Each category 6<sub>A</sub> Patch panel complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS E<sub>A</sub>/category 6<sub>A</sub> applications including 10GBASE-T (10 Gigabit Ethernet), 2G FCBASE-T, 4G FCBASE-T and 1000BASE-T (Gigabit Ethernet).

**Features**

- > 19" rack mountable
- > 24 ports in 1U space
- > 8 - port RJ-45 modules
- > Finger screw - easy open screen cover
- > Universal wiring blocks for easy termination
- > Right-angled wiring block orientation for friendlier installation
- > Colour coded wiring blocks for easy cable lacing
- > Integral rear cable management
- > Durability:
  - Socket Contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

**Applications**

- > Class E/category 6<sub>A</sub> standards compliant
- > Independent third party verified performance
- > Terminates 22AWG to 26AWG cables

**Conformance**

- > Electrically compliant beyond 500MHz
- > Supports TIA 568A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Screened category 6 <sub>A</sub> Patch Panel - 24 port Black 1U	800-001

48  
Ports



Front view



Rear view

Optronics category 6<sub>A</sub> "High Density" Patch panel exceeds the transmission line performance requirements of IEC and TIA for CLASS E<sub>A</sub>/category 6<sub>A</sub> systems. These are 'real' cabinet space saving products designed for mechanical and electrical performance reliability. The "High Density" panel delivers a consistent high level of systems performance whilst halving the cabinet space required in high density installations.

Each category 6<sub>A</sub> "High Density" Patch panel complies with the requirements of ISO/IEC 11801 (2<sup>nd</sup> Edition): 2010 and support all applications designed for CLASS E<sub>A</sub>/category 6<sub>A</sub> applications such as 10GBASE-T (10 Gigabit Ethernet), 2G FCBASE-T, 4G FCBASE-T and 1000BASE-T (Gigabit Ethernet).

**Features**

- > 19" rack mountable
- > 48 ports in 1U space
- > 8 - port RJ-45 modules
- > Finger screw - easy open screen cover
- > Universal wiring blocks for easy termination
- > Right-angled wiring block orientation for friendlier installation
- > Colour coded wiring blocks for easy cable lacing
- Integral rear cable management
- > Durability:
  - Socket Contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Earthing kit and cage nuts included as standard
- > Part of the 25 year Optronics systems warranty programme

**Applications**

- > Class E/category 6<sub>A</sub> standards compliant
- > Independent third party verified performance
- > Terminates 22AWG to 26AWG cables

**Conformance**

- > Electrically compliant beyond 500MHz
- > Supports TIA 568A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Ordering Information**

DESCRIPTION	PART NO.
Screened category 6 <sub>A</sub> "HD" Patch Panel - 48 port Black 1U	800-002



Optronics category 6<sub>A</sub> Screened Tool Free Modular RJ-45 Jacks exceed the transmission line performance requirements of IEC and TIA for CLASS E<sub>A</sub>/category 6<sub>A</sub> systems. Their compact design has been engineered to optimise density in high performance applications such as data centres. Designed for mechanical and electrical reliability, using quality materials, to deliver a jack solution that minimises the time required by the installer to complete each termination.

Each category 6<sub>A</sub> Screened RJ-45 Keystone Jack complies with IEC 60603-7-Pt 51 (screened) and support all applications designed for CLASS E<sub>A</sub> networks, as defined within ISO/IEC 11801 (2nd Edition):2010 including 10GBASE-T (10 Gigabit Ethernet), 2G FCBASE-T, 4G FCBASE-T and 1000BASE-T (Gigabit Ethernet).

Features

- > Screened, for reliable transmission line performance
- > Repeatable tool-free terminations
- > Interoperable and backwards compatible
- > Spring loaded 360° screen termination
- > Colour coded stuffer-cap for easy cable lacing
- > Keyed stuffer-cap for reliable termination
- > Low insertion force 'clam action' assists tool-free termination. (LSA & 110 punch-down tools can also be used to effect termination)
- > Durability:
  - Jack contacts: 750 plug insertion cycles minimum
  - Wiring block: 25 termination cycles minimum
- > Fits all keystone style face plates and floor boxes
- > Integral cable strain relief
- > Suitable for modular patch panel installation
- > Part of the 25 year Optronics systems warranty programme

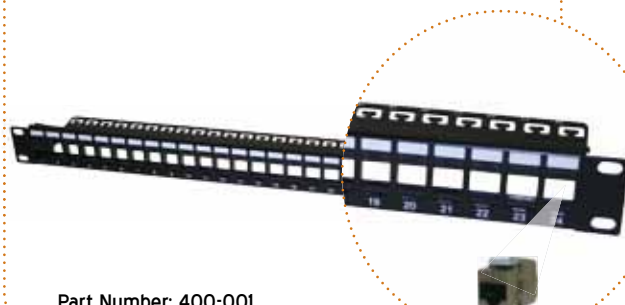
Applications

- > Independent third party verified component performance
- > Electrically compliant through 500MHz

Conformance

- > CLASS E<sub>A</sub>/category 6<sub>A</sub> standards compliant
- > Supports TIA 568A & B wiring configurations
- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

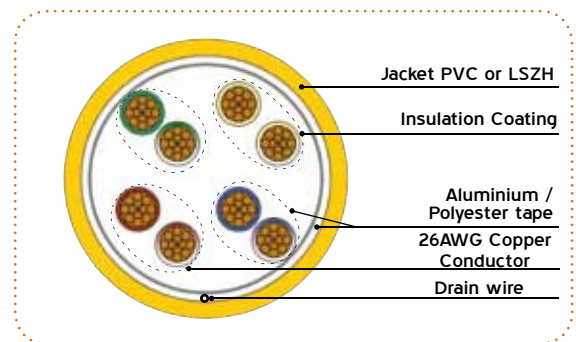
Unloaded Keystone Patch Panel for use with Tool free Screened 6<sub>A</sub> RJ-45 Keystone Jack



Part Number: 400-001

Ordering Information

DESCRIPTION	PART NO.
Screened category 6 <sub>A</sub> Tool Free Keystone Jack	800-101
Unloaded Keystone Patch Panel	400-001



Optronics category 6<sub>A</sub> Screened Patchcords exceed the transmission line performance requirements of IEC and TIA for CLASS E/category 6<sub>A</sub> systems. The products are designed for mechanical and electrical reliability using quality materials and processes to deliver a patchcord solution which delivers a consistent high level of systems performance whilst incorporating design features that allow a “one style fits all” cord application. The low profile moulded boot and snag free latching allows the cords to be deployed within even the most densely populated network installations deploying the latest blade server technology.

Each category 6<sub>A</sub> Patchcord is manufactured and tested in accordance with IEC 61935-2 and comply with the requirements of ISO/IEC 11801 (2nd Edition): 2010 and TIA 568C and support all applications designed for CLASS E/category 6<sub>A</sub> applications such as ATM 1200, 1000BASE-T (Gigabit Ethernet) and 1G FCBASE-T.

**Features**

- > Electrically compliant beyond 250MHz
  - > Low Smoke Zero Halogen / PVC sheathed cable
  - > Low profile moulded strain relief boot for use with blade servers
  - > PimF style cable (Individual foil screened pairs with overall foil screen)
  - > Screened category 6<sub>A</sub> RJ-45 plug
  - > Integral anti-snaq latch as standard
  - > 8 standard colours
  - > 7 standard lengths (1m, 2m, 3m, 5m, 10m, 15m, & 20m)
  - > Other lengths and colours available upon request\*
  - > Individually bagged with traceability information
  - > Part of the 25 year Optronics systems warranty programme
- \* Subject to MOQ

**Applications**

- > Class E<sub>A</sub>/category 6<sub>A</sub> standards compliant

**Conformance**

- > RoHS compliant 2002/95/EC
- > REACH / SVHC compliant regulation (EC) No. 1907/2006

**Technical Specifications**

CONSTRUCTION	VALUE	
Conductors	AWG	26
	Size mm	7/0.20 +/- 0.008
	Material	Bare Copper
Insulators	Diameter mm	0.98 +/- 0.05
	Material	Polyolefin
Jacket	External O.D.	6.0 +/- 0.20
	Thickness mm	0.5
	Material	PVC/LSZH
Tape	Material	Aluminium/Polyester
	Coverage (%)	125

### Screened Category 6<sub>A</sub> S/FTP Patchcords PVC

	PART NUMBER	METRE
grey	991-101	1
	991-102	2
	991-103	3
	991-105	5
	991-110	10
	991-115	15
	991-120	20
red	991-201	1
	991-202	2
	991-203	3
	991-205	5
	991-210	10
	991-215	15
	991-220	20
blue	991-301	1
	991-302	2
	991-303	3
	991-305	5
	991-310	10
	991-315	15
	991-320	20

	PART NUMBER	METRE
yellow	991-401	1
	991-402	2
	991-403	3
	991-405	5
	991-410	10
	991-415	15
	991-520	20
green	991-501	1
	991-502	2
	991-503	3
	991-505	5
	991-510	10
	991-515	15
	991-520	20
white*	991-601	1
	991-602	2
	991-603	3
	991-605	5
	991-610	10
	991-615	15
	991-620	20

	PART NUMBER	METRE
black*	991-701	1
	991-702	2
	991-703	3
	991-705	5
	991-710	10
	991-715	15
	991-720	20
orange*	991-801	1
	991-802	2
	991-803	3
	991-805	5
	991-810	10
	991-815	15
	991-820	20

\*White, Orange and Black may be subject to minimum order quantities

### Screened Category 6<sub>A</sub> S/FTP Patchcords LSZH

	PART NUMBER	METRE
grey	992-101	1
	992-102	2
	992-103	3
	992-105	5
	992-110	10
	992-115	15
	992-120	20
red	992-201	1
	992-202	2
	992-203	3
	992-205	5
	992-210	10
	992-215	15
	992-220	20
blue	992-301	1
	992-302	2
	992-303	3
	992-305	5
	992-310	10
	992-315	15
	992-320	20

	PART NUMBER	METRE
yellow	992-401	1
	992-402	2
	992-403	3
	992-405	5
	992-410	10
	992-415	15
	992-420	20
green	992-501	1
	992-502	2
	992-503	3
	992-505	5
	992-510	10
	992-515	15
	992-520	20
white*	992-601	1
	992-602	2
	992-603	3
	992-605	5
	992-610	10
	992-615	15
	992-620	20

	PART NUMBER	METRE
black*	992-701	1
	992-702	2
	992-703	3
	992-705	5
	992-710	10
	992-715	15
	992-720	20
orange*	992-801	1
	992-802	2
	992-803	3
	992-805	5
	992-810	10
	992-815	15
	992-820	20

\*White, Orange and Black may be subject to minimum order quantities



# Faceplates & Accessories

> Faceplates



> Blanks



> Modules





**SINGLE GANG BEVELLED**

UK style single gang bevelled faceplate. Suitable for installing 1 to 2 ports.  
Dimensions: 86 x 86mm

**Ordering Information**

DESCRIPTION	PART NO.
Single Gang Faceplate Bevelled 1-2 port	100-007



**DOUBLE GANG BEVELLED**

UK style double gang bevelled faceplate. Suitable for installing 1 to 4 ports.  
Dimensions: 86 x 146mm

**Ordering Information**

DESCRIPTION	PART NO.
Double Gang Faceplate Bevelled 1-4 port	100-008



**SINGLE GANG FLAT**

UK style single gang flat faceplate. Suitable for installing 1 to 2 ports.  
Dimensions: 86 x 86mm

**Ordering Information**

DESCRIPTION	PART NO.
Single Gang Faceplate Flat 1-2 port	100-001



**DOUBLE GANG FLAT**

UK style double gang flat faceplate. Suitable for installing 1 to 4 ports.  
Dimensions: 86 x 146mm

**Ordering Information**

DESCRIPTION	PART NO.
Double Gang Faceplate Flat 1-4 port	100-002



**BLANKS**

Blanks & unloaded angled module. Fits with any UK style faceplates.

**Ordering Information**

DESCRIPTION	PART NO.
50 X 25mm Blank	100-009
50 X 12.5mm Blank	100-010
50 X 25mm Angled module	100-006



**LJ6C SINGLE PORT FLAT**

LJ6C single port flat faceplate. Suitable for installing 1 LJ6C module.  
Dimensions: 86 x 86mm

**Ordering Information**

DESCRIPTION	PART NO.
LJ6C Flat Single Gang 1 Port Faceplate	100-003



**LJ6C DOUBLE PORT FLAT**

LJ6C double port flat faceplate. Suitable for installing 2 LJ6C module.  
Dimensions: 86 x 86mm

**Ordering Information**

DESCRIPTION	PART NO.
LJ6C Flat Double Gang 1-2 Port Faceplate	100-004



**LJ6C ANGLED MODULE**

Angled Module. Fits with any LJ6C style faceplates.

**Ordering Information**

DESCRIPTION	PART NO.
LJ6C Angled Module 38.5 x 25mm	100-005



**EUROPEAN ANGLED INSERT**

European style curved faceplate. Comes with unloaded modules in 1 or 2 port versions.

**Ordering Information**

DESCRIPTION	PART NO.
Optronics Angled Insert 45 x 45 Single Port	200-006
Optronics Angled Insert 45 x 45 Double Port	200-007



**EUROPEAN FACEPLATE BEVELLED**

Bevelled faceplate. Suitable for installing 1 to 2 ports.

**Ordering Information**

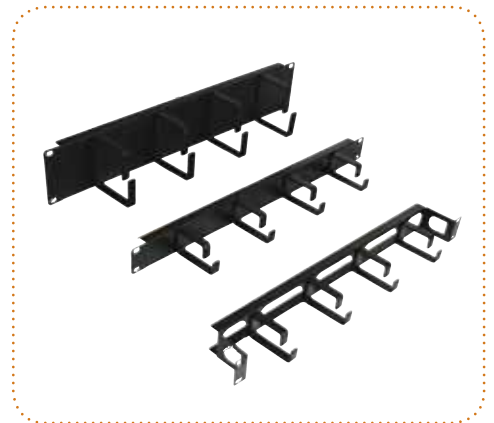
DESCRIPTION	PART NO.
Bevelled 80 x 80mm 1-2 Port Faceplate	100-011

# Installation Accessories

> Brush Strip



> Cable Management Bar



> Cutters and Stripper



> Crimp and Insertion Tool





**BRUSH STRIP**

Our 1U brush strip fits all 19" equipment and is designed to hide unsightly wiring and give a professional look.

**Technical Specifications**

DESCRIPTION	
Material	Cold Rolled Steel 1.2mm
Surface Finish	Degreasing, Phosphate Dip, Powder Coated
Color	Black RAL9005

**Ordering Information**

DESCRIPTION	PART NO
Brush Strip 1U	1UBRUSHSTRIP03
Cable Bar 1U with Brush Strip	1UCABLEBAR/BR



**CABLE MANAGEMENT BAR**

Our standard and recessed cable bars will fit all 19"

**Technical Specifications**

DESCRIPTION	
Material	Cold Rolled Steel 1.2mm
Surface Finish	Degreasing, Phosphate Dip, Powder Coated
Color	Black RAL9005

**Ordering Information**

DESCRIPTION	PART NO
Cable Management 1U	1UCABLEBAR
Recessed Cable Management 1U	1UCABLEBAR/REC
Cable Management 2U	2UCABLEBAR



**CAGE NUTS**

These cage nuts allow an easy installation from the front of the rack without having to reach behind.

**Ordering Information**

DESCRIPTION	PART NO
Cage Nuts - Box of 50pcs	178-45D



**HOOK AND LOOP WRAPS**

A 25m roll of 9mm hook and loop re-useable tie wraps

**Ordering Information**

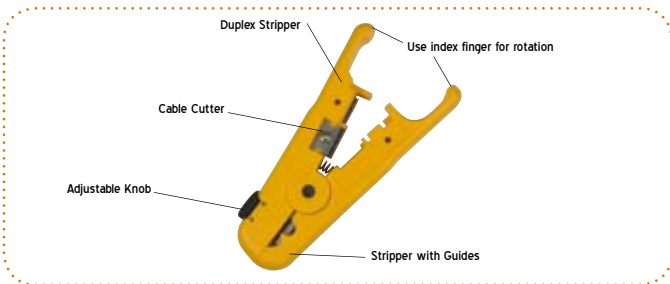
DESCRIPTION	PART NO
Hook and Loop Tie Wraps 25m	169-19B



### CABLE CUTTERS

#### Ordering Information

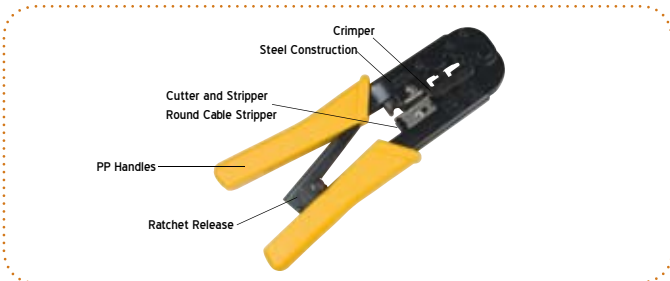
DESCRIPTION	PART NO
Cable Cutters	OPT•CC



### UNIVERSAL STRIPPER

#### Ordering Information

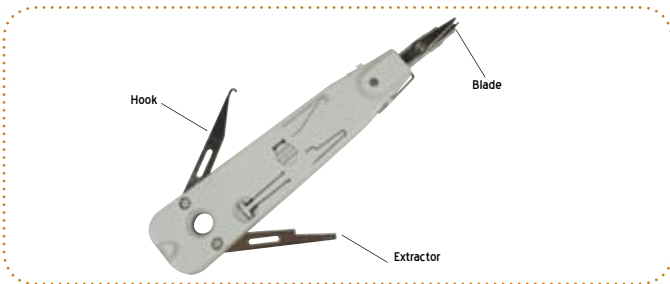
DESCRIPTION	PART NO
Universal Data Stripper	OPT•UTPS



### RJ45 CRIMP TOOL

#### Ordering Information

DESCRIPTION	PART NO
RJ45 / RJ11 Crimp Tool	OPT•RJCT



### INSERTION TOOL

#### Ordering Information

DESCRIPTION	PART NO
Impact Tool for Krone Type Terminal Block	OPT•IDC



### IMPACT TOOL

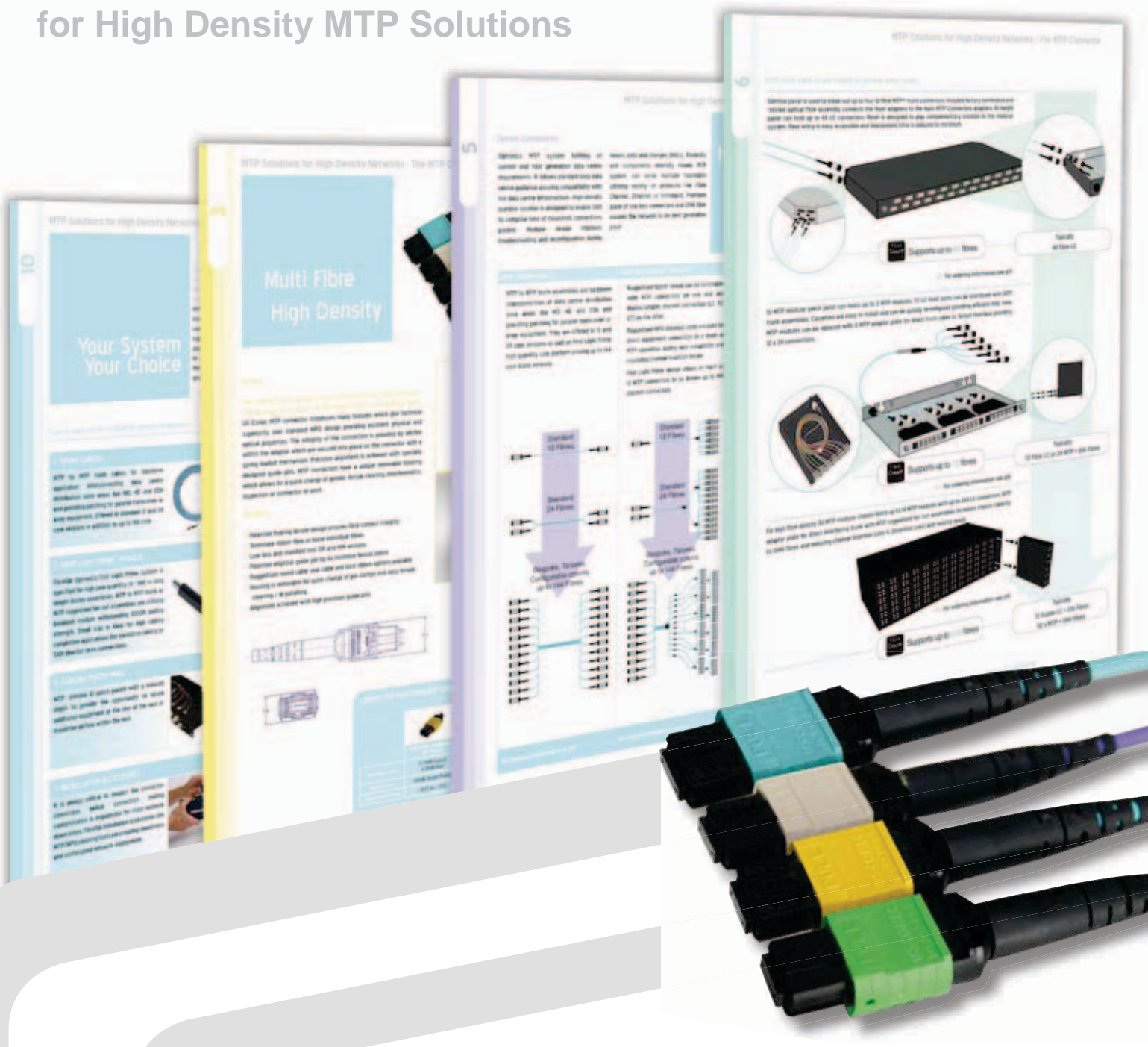
#### Ordering Information

DESCRIPTION	PART NO
Termination Tool with Krone Scissors Blade	OPT•IPDT-S
Replacements Scissors Blade - Krone	OPT•IPDT-SB
Blade for Krone Type Block w/o Scissors	OPT•KRSB1

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