

## Cat 5e Data Cable

### Standards and approvals

ISO/IEC 11801

TIA/EIA 568A

BS EN 50173

IEC 60332 part 1

IEC 61034 (LSF/ZH cable only)

IEC 60754 (LSF/ZH cable only)

### Technical specification

#### Cable Type

4 x twisted pair

#### Conductors

24 AWG solid copper.

#### Sheath

a) Flame retardant PVC or

b) Flame retardant Low Smoke & Fume, Zero Halogen.

#### Dimensions

Diameter: 4.85mm

Box Length: 305m

#### Weight

Standard PVC: 30g/m

LSF/ZH: 31g/m

#### Sheath Colour

Standard PVC: Grey

LSF/ZH: Purple

#### Wire Pairs Colour

BLUE & White/blue

GREEN & White/green

ORANGE & White/orange

BROWN & White/brown

Installation Temperature:

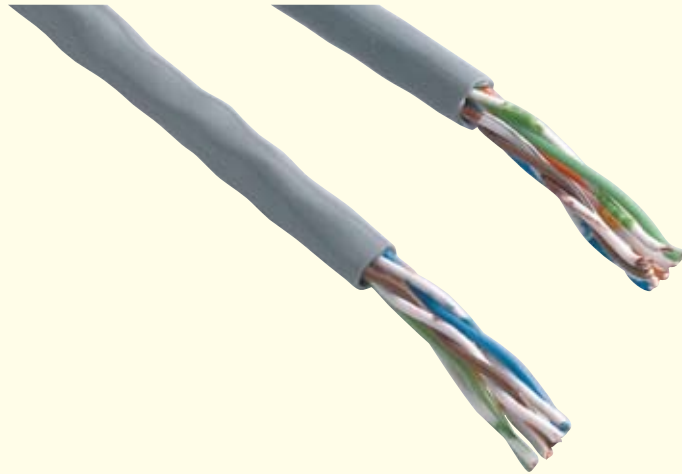
0°C to +50°C

Operating Temperature:

-20°C to +75°C

NVP:

69%



### Description

Enhanced Category 5, 100 ohm, UTP data cable for indoor applications. Designed to support high speed, full duplex protocols delivering up to 1Gbps performance at 100 MHz. Used for horizontal wiring between the patch panel IDC and the telecommunications outlet.

### Features

- Cat 5e performance
- UTP
- Cable length marked at 1m intervals
- Flame retardant cable sheath
- Available in Standard PVC or LSF/ZH versions
- Backward compatible
- Supplied in snag free boxes
- Industry standard colour coded cable pairs

### Installation

For termination details refer to specific RJ45 Outlet or Patch Panel data sheet.

Basic guidelines for installation of cable:

Minimum bend radii

a) During installation: 40mm

b) After installation: 20mm

Maximum cable pull force: 85N

Minimum installation temperature: 0°C

Maximum cable run length: 90m

Note:

For detailed installation guidelines contact your local Authorised Training Centre or Authorised Stockist for details of installation training courses available for MK Dataworks Structured Cabling systems.

### Boxes

Refer to specific RJ45 Outlet or Patch Panel data sheet.

## Patch Panels

### Standards and approvals

Comply with ISO/IEC 11801, TIA/EIA 568, BS EN 50173 and IEC 60297 part 1

#### Technical specification

##### Weight

16 port panel : 570g (inc. fixing kit)

24 port panel : 572g (inc. fixing kit)

32 port panel : 1186g (inc. fixing kit)

48 port panel : 1143g (inc. fixing kit)

##### Colour

Black

##### IDC Contacts

Phosphor Bronze

##### IDC Style

Krone compatible

##### Jack Contacts

Phosphor Bronze with 50 microns Gold on 100 microns Nickel

Minimum 750 insertions



### Description

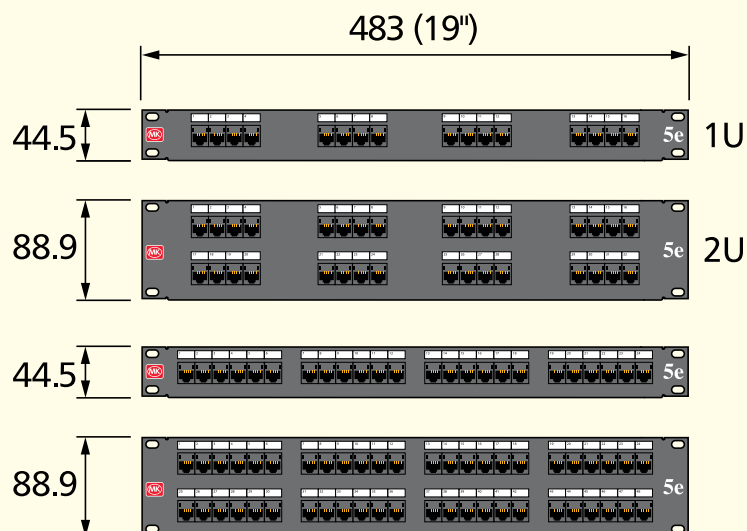
MK 19" rack mounted patch panel offers a proven Cat 5e performance using state of the art printed circuit technology. This enables a higher pack density to be achieved and allows maximum utilisation of cabinet space.

All ports are numerically identified with an additional writeable surface for port identification.

#### Features

- Cat 5e performance
- UTP
- Colour coded IDC terminals (for TIA 568B wiring configuration)
- Write on labelling panels
- Fits industry standard 19" equipment cabinets and racks
- Supplied complete with Fixing Screws, Cage Nuts and Cable Ties
- 16, 24, 32 and 48 port panels
- LSA compatible IDC Terminals
- Unshuttered ports

### Dimensions (mm)



## Patch Leads

### Standards and approvals

ISO/IEC 11801

TIA/EIA 568A

BS EN 50173

### Technical specification

#### Lengths

1m, 2m, 3m or 5m

#### Weight

1m: 37g (add 4g for booted leads)

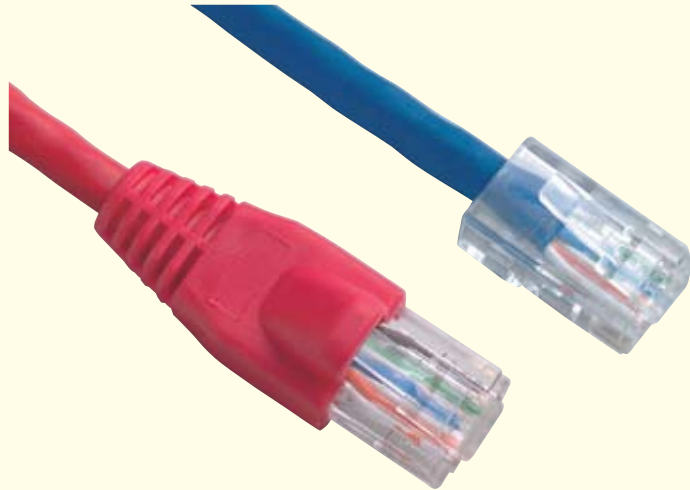
2m: 72g (add 4g for booted leads)

3m: 107g (add 4g for booted leads)

5m: 177g (add 4g for booted leads)

#### Colour

Red, Blue, Green, Yellow or Grey



### Description

Patch leads are for connecting either to the patch panel or to the module. It is typically recommended to use booted leads when connecting to the patch panel to provide strain relief on the cable and prevent snagging or breaking of the latch.

### Features

- RJ45 to RJ45 patch leads
- Cat 5e performance
- Constructed from quality stranded data cable
- Available in 4 standard lengths: 1m, 2m, 3m, 5m, (other lengths available to special order)
- Available in 5 colours: Red, Blue, Green, Yellow, Grey
- Booted and unbooted versions
- Booted versions have matching colour boots and these are not bonded to the cable
- All individually tested

## Data Connectors (Slimline and Keystone)

### Standards and approvals

ISO/IEC 11801

TIA/EIA 568A

BSEN 50173

### Technical specification

#### Dimensions

Height: 50mm

Width: 25mm

Depth: 24.5mm (Keystone: 35mm)

Label Size: 16 x 12mm

Weight: 14g (Keystone: 12g)

#### Colour

MK White

#### IDC Contacts

Phosphor Bronze

#### IDC Style

110 and LSA compatible

#### Jack Contacts

Phosphor Bronze with 50 microns Gold on 100 microns Nickel

#### Reliability

RJ45 jack: 750 insertions

IDC: 200 insertions



Slimline



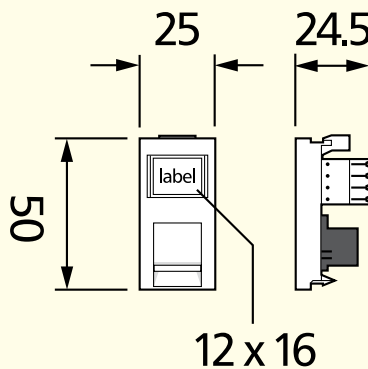
Keystone

### Description

Telecommunication outlets are designed for fitting standard Euro sized apertures (25mm x 50mm).

These have a shuttered RJ45 socket which allows quick connection to devices directly or via line adopters.

### Dimensions (mm)



### Boxes

Slimline connectors are suitable for mounting in flush or surface boxes with a minimum depth of 25mm.

When used in conjunction with MK Aspect and Edge Euro frontplates a flush mounted box of minimum box depth 30mm is required.

## Data Connectors (Slimline and Keystone)

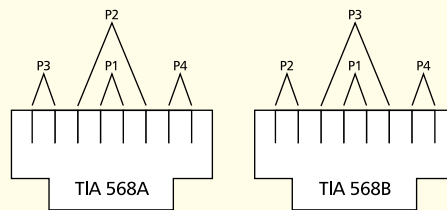
### Features

- Cat 5e performance
- UTP
- Slimline design facilitates use of shallower back box or slower bend radii of cable
- Keystone design (require deeper back box) supplied with cable retention block
- LSA/110 compatible IDC terminals
- Slimline design colour coded IDC terminals (for 568B wiring configuration)
- Keystone design colour coded IDC terminals (for 568A and 568B wiring configurations)
- Shuttered
- Cable tie anchor point
- Supplied with cable tie
- Standard 12mm labelling system and window (compatible with Brother labelling printers)
- Supplied with blank label and protective window
- Industry standard (Euro) snapfit
- Standard Euro module size: 25 x 50mm
- Module blank (12.5 x 50mm) available
- Available individually or pre-mounted in frontplates (see product selector)

### Installation

The wires enter from the rear of the jack between the two rows of IDC terminals. The wires are then folded out to the side through the appropriate IDC maintaining the twist as much as possible. The wires are then punched down using the IDC insertion/punchdown tool with the excess wire automatically trimmed off by the tool.

MK Dataworks Slimline modules are colour coded



- Pair 1 – WHITE/blue & BLUE (or BLUE/white)
- Pair 2 – WHITE/orange & ORANGE (or ORANGE/white)
- Pair 3 – WHITE/green & GREEN (or GREEN/white)
- Pair 4 – WHITE/brown & BROWN (or BROWN/white)

for TIA 568B wiring shown. For 568A wiring transpose the orange and green pairs.

The amount of outer sheath stripped from the cable should be kept to a minimum.

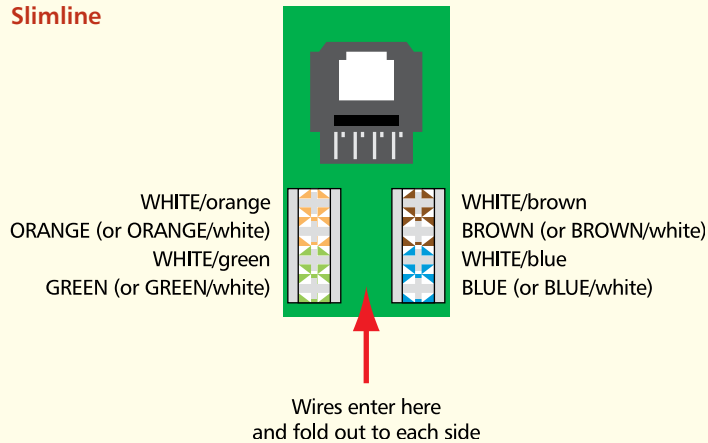
The cables should be secured to the cable tie points provided, (cable ties must not be over tightened).

Ensure that when the modules are fitted to the frontplates and wall box that the cables are not twisted, kinked or pinched within the box, as this will affect the system performance. Maintain the minimum cable bend radii of 40mm during installation and 20mm after installation.

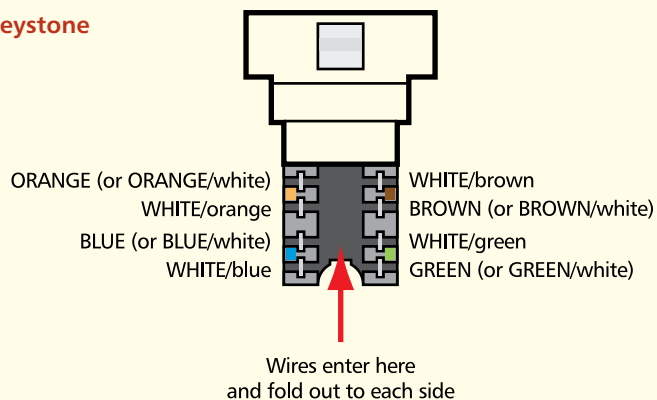
Note:

For detailed installation guidelines contact your local Authorised Training Centre or Authorised Stockist for details of installation training courses available for MK Dataworks Structured Cabling systems.

### Slimline



### Keystone



## Telephone Adaptors

### Standards and approvals

BS EN 60603 part 7

BS 6312 part 2

FCC 68.500

### Technical specification

#### Dimensions

|               |        |
|---------------|--------|
| Height:       | 22mm   |
| Width:        | 25mm   |
| Length:       | 56.3mm |
| Cable length: | 150mm  |

#### Label Size:

16 x 12mm

#### Weight

|                |     |
|----------------|-----|
| BT Master:     | 30g |
| BT Secondary:  | 23g |
| BT PBX Master: | 28g |
| ISDN:          | 23g |
| RJ11/12:       | 23g |

#### Colour

MK White



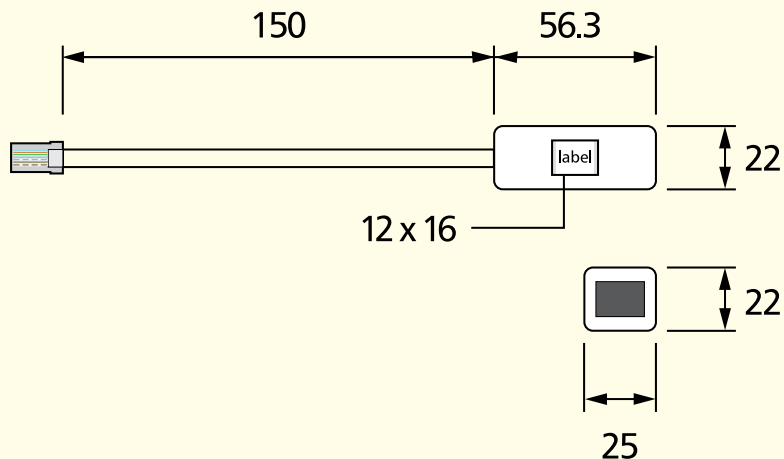
### Description

Line adaptors (or tailed adaptors) converts RJ45 interface to that of a standard BT telephone, PABX, ISDN or RJ11/12 interface, without the need for rewiring.

### Features

- Converts standard RJ45 plug to following formats/functions:
  - BT socket (Full Master)
  - BT socket (Secondary)
  - BT socket (PABX Master)
  - RJ11/12 socket
  - ISDN socket (line terminator)
  - Unshuttered
- Standard labelling system and window (compatible with Brother labelling printers)
- Supplied with blank label and protective window

### Dimensions (mm)



## Frontplates

### Standards and approvals

BS 5733: 1995

#### Technical specification

##### Dimensions

|         |                              |
|---------|------------------------------|
| Height: | 85.75mm                      |
| Width:  | 85.75mm (1G)<br>147mm (2G)   |
| Depth:  | 9mm (Logic Plus frontplates) |

##### Aperture Dimensions

|         |                         |
|---------|-------------------------|
| Height: | 50mm                    |
| Width:  | 50mm (1G)<br>100mm (2G) |

##### Weight

|              |                               |
|--------------|-------------------------------|
| 1G 1 module: | 32g (including fixing screws) |
| 1G 2 module: | 28g (including fixing screws) |
| 2G 4 module: | 39g (including fixing screws) |

##### Colour

MK White

#### Features

- 1G and 2G frontplates
- Logic Plus style
- Colour matched to MK Logic Plus range
- Accept industry standard (Euro) snapfit modules
- K181 WHI frontplate accepts 1 Euro modules, (25 x 50mm aperture)
- K182 WHI frontplate accepts 2 Euro modules, (50 x 50mm aperture)
- K184 WHI frontplate accepts 4 Euro modules, (100 x 50mm aperture)
- Tough thermo-plastic construction
- Available pre-mounted with modules (see product selector)



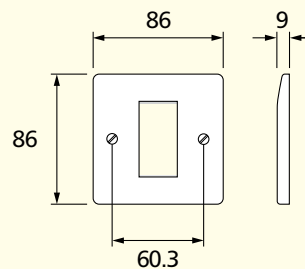
### Description

Frontplates are used for mounting snapfit data modules. Logic Plus frontplates are available to match other wiring devices.

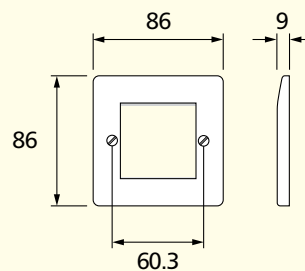
### Dimensions (mm)

#### Logic Plus Frontplates

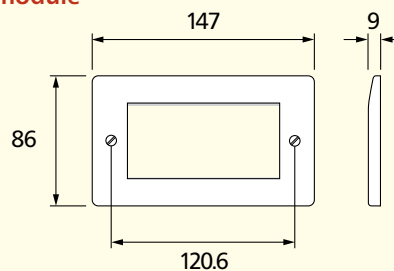
##### 1 gang 1 module



##### 1 gang 2 module



##### 2 gang 4 module



## RJ45/ISDN Data Outlets

### Standards and approvals

BS EN 50173.

IEC 11801.

TIA/EIA 568A.

TIA/EIA TSB40A.



### Description

Suitable for use in all LUJ6C, Euro and MK Modular frontplates, available in all MK ranges, Cat5/5e and ISDN modules suitable for use in structured cabling distribution systems. ISDN modules incorporate a line terminating resistor.

### Installation

- Maximum cable length 90m.
- Cable bend radii, 40mm during installation, 20mm after installation.
- Maximum pull force 8.7kg.
- Do not over tighten cable ties.
- Do not unwind the twists in the wire pairs by more than 13mm max.

#### BOX TYPES

| Cat 6  | Depth | Note  |
|--------|-------|---|
| UTP    | 32mm  | Edge/Insignia and Aspect require 45mm box depth |
| STP    | 32mm  | Edge/Insignia and Aspect require 45mm box depth |
| Cat 5e | Depth | Note  |
| UTP    | 25mm  | Edge/Insignia and Aspect require 32mm box depth |
| STP    | 32mm  | Edge/Insignia and Aspect require 45mm box depth |

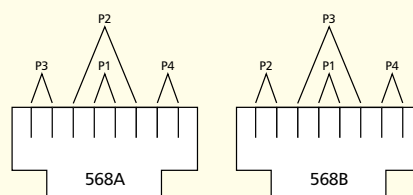
#### DIMENSIONS

| Euro        | 25 x 50mm |   |
|-------------|-----------|---|
| LUJ6C       | 22 x 37mm |   |
| MK Modular: |           |   |
| Logic Plus  | 25 x 58mm | (only fit into MK modular frontplates K191/2/3/4)                                       |
| Decorative  | 25 x 50mm | (only fit into MK decorative modular frontplates and require grid plus mounting frames) |

### Installation details and wiring diagram illustrations

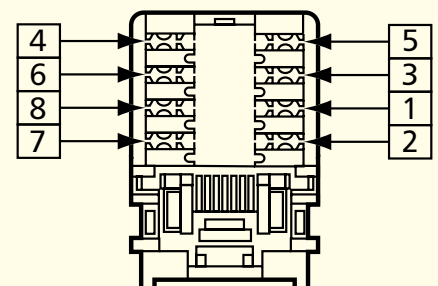
#### TIA WIRING SCHEME COLOUR CODES:

| Pin No. | 568A           | 568B           |
|---------|----------------|----------------|
| 1       | WHITE / green  | WHITE / orange |
| 2       | GREEN / white  | ORANGE / white |
| 3       | WHITE / orange | WHITE / green  |
| 4       | BLUE / white   | BLUE / white   |
| 5       | WHITE / blue   | WHITE / blue   |
| 6       | ORANGE / white | GREEN / white  |
| 7       | WHITE / brown  | WHITE / brown  |
| 8       | BROWN / white  | BROWN / white  |



Pair 1 – BLUE/white & WHITE/blue  
 Pair 2 – ORANGE/white & WHITE/orange  
 Pair 3 – GREEN/white & WHITE/green  
 Pair 4 – BROWN/white & WHITE/brown

**Euro and LUJ6C modules are to be wired as follows**





## Telephone, RJ11/12, BNC Data and Blank Modules

### Standards and approvals

Telephone sockets K5820 and K5821 comply with the following:  
 BS 6312: 2.2, OFTEL Approval NS/G/23/L/100005.  
 Data sockets K5801, BS 5733:1995 (where applicable).  
 K5887 complies with FCC68.



### Technical specification

#### Electrical

##### Cable types:

Telephone: CW1311, CW1293, CW1308, CW1316

##### No. of cables per termination:

Telephone: 2  
 RJ11/12: 1

##### BNC

50. impedance cable – RG58, RG141, URM43 Belden 9907

##### Frequency range:

BNC connector: 0 to 4GHz

##### Impedance:

BNC Connector: 50. nominal

##### Termination type:

Telephone module – IDC  
 BNC module – Crimped connection

#### Physical

##### Temperature range:

Ambient air –20°C to +60°C

##### IP rating:

IP2XD – K5820, K5821, K5801 and K5787.  
 IP4X – K180, K188, K186 and K170

##### Max. installation altitude:

2000 metres

### DIMENSIONS(mm)

| List No.                               | Dimensions |
|--|------------|
| K5820 / K5821 /<br>K5801/ K188 / K5887 | 25 x 50    |
| K180                                   | 50 x 50    |
| K186                                   | 12.5 x 50  |
| K5787/K170                             | 22 x 37    |

### Features

- Meet all relevant BS, OFTEL and cabling standards
- Interchangeable modules clip into frontplates
- Front fixing facilitates easy exchange of modules
- Part of a complete range of products for telephone and data processing requirements

#### Telephone sockets

- 100% tested before delivery
- Quick, simple and reliable IDC connectors

### Description

A range of telephone, data and blank modules to fit Euro and U6UC front plates. BNC Euro modules with a 500ohm crimp connector suitable for use with RG58, URM43, URM76 and Beldon 9907 type co-axial cables are also available.

### Installation (Telephone socket modules)

#### Product performance, systems compatibility

Master Sockets: For use as the first socket outlet on a direct exchange. They contain the required surge protector (for line protection against electrical surges) and ringing capacitor.

Secondary Sockets: for use as extension sockets when connected on the same line as a Master Socket.

#### Installation tools required IDCConnectors (telephone & RJ45 outlets)

MK insertion tool List No. 400 or 22630.  
 Wire pull-out force: 10.5 Newtons when installed correctly.

#### Wiring regulation restrictions

Domestic Installations: The total REN (Ring Equivalent Number) value of all telephone equipment connected on a line must not exceed 4.

### BOX TYPES

|                       |      |
|-----------------------|------|
| K5820 / K5821         | 16mm |
| K5801 / K5887 / K5787 | 25mm |

- Can be specified for all applications
- Fit in plaster depth boxes

#### Data sockets

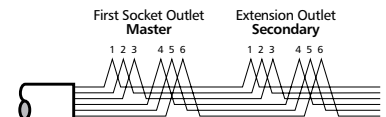
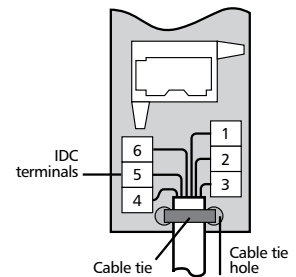
- Latest specification for high performance systems
- Made to stringent quality assurance procedures
- Wide range of data connectors available

For information on TV Satellite and FM Modules see pages TD28 – TD30

### BT Wiring Scheme

- 1 GREEN / white
- 2 BLUE / white
- 3 ORANGE / white
- 4 WHITE / orange
- 5 WHITE / blue
- 6 WHITE / green

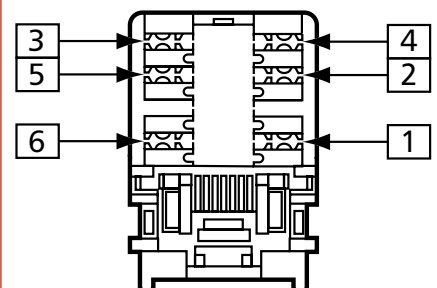
**Note:** Main wire colour is shown in capitals



### RJ11/12 Wiring Scheme

| PIN NO. | STRIPPED COLOUR WIRE | SOLID COLOUR WIRE |
|---------|----------------------|-------------------|
| 1       | WHITE / green        | White             |
| 2       | WHITE / orange       | Black             |
| 3       | <b>BLUE / white</b>  | <b>Red</b>        |
| 4       | <b>WHITE / blue</b>  | <b>Green</b>      |
| 5       | ORANGE / white       | Yellow            |
| 6       | GREEN / white        | Blue              |

**Note:** Main wire colour is shown in capitals



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