# CONNECTORS & CABLES FOR THERMOCOUPLES & RESISTANCE THERMOMETERS

Europe's leading manufacturer of connectors and supplier of cables for thermocouples and resistance thermometers.

LABFACILITY

TEMPERATURE & PROCESS TECHNOLOGY

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# THERMOCOUPLE & RESISTANCE THERMOMETER CONNECTORS

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## MINIATURE PLUGS & SOCKETS
### Types J,K,T,N,E,R/S & Copper

- Range of miniature thermocouple connectors with flat pins having terminal and contact material to suit the thermocouple type
- Socket ideal for general purpose use
- All contacts are polarized to ensure correct connection
- Connectors will accept thermocouple cable up to 4mm diameter
- Cable clamps available for securing cable to plugs and sockets
- Uncompensated copper connectors also available
- Maximum continuous operating temperature 220°C
- Wide range of accessories available, see page 5

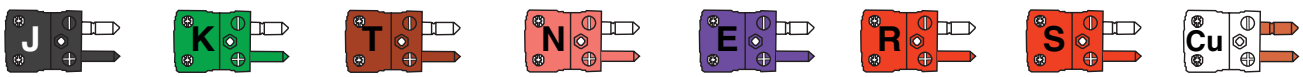
## MINIATURE TWIN CONTACT SOCKET
### Types J,K,T,N,E,R/S & Copper

- Range of miniature thermocouple sockets with "Twin Contacts" designed for applications requiring duty cycle use
- All contacts are polarized to ensure correct connection
- Connectors will accept thermocouple cable up to 4mm diameter
- Cable clamps available for securing cable to socket
- Uncompensated copper connectors also available
- Maximum continuous operating temperature 220°C
- Wide range of accessories available, see page 5

## MINIATURE *QUICK WIRE* PLUGS & SOCKETS
### Types J,K,T,N,E,R/S & Copper

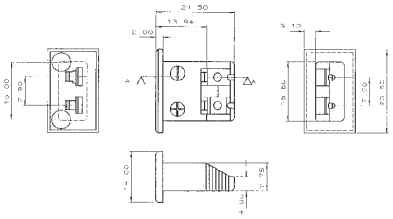
- These quick connect versions allow rapid termination
- Quick, easy "jab-in" connection, just push in wire and tighten screw
- Will accept wide range of wire sizes
- Maximum continuous operating temperature 220°C
- Compatible with the other miniature plugs and sockets





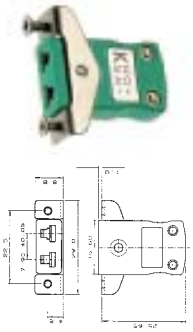
# THERMOCOUPLE & RESISTANCE THERMOMETER CONNECTORS

## MINIATURE RECTANGLAR PANEL MOUNTING FASCIA SOCKETS Types J,K,T,N,E,R/S & Copper



- Clip mounting
- Quick, simple fixing to panel, see page 5
- Maximum continuous operating temperature 120°C

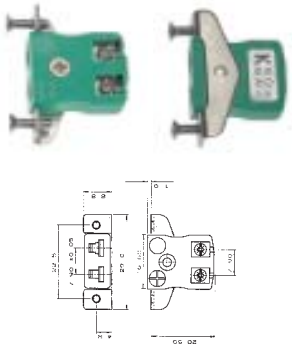
## MINIATURE PANEL SOCKET WITH MOUNTING BRACKET Types J,K,T,N,E,R/S & Copper



| *TYPE* | *SOCKET* |
|---|---|
| J | IM-J-SSPF |
| K | IM-K-SSPF |
| T | IM-T-SSPF |
| N | IM-N-SSPF |
| E | IM-E-SSPF |
| R/S | IM-R-SSPF |
| Copper | FMTC-CU-SSPF |

- Miniature socket fitted with stainless steel bracket
- Fully enclosed terminals with cable port seal
- Quick simple fixing to panel
- Maximum continuous operating temperature 220°C

## MINIATURE *QUICK WIRE* PANEL SOCKET WITH MOUNTING BRACKET Types J,K,T,N,E,R/S & Copper



| *TYPE* | |
|---|---|
| J | IM-J-SSPFQ |
| K | IM-K-SSPFQ |
| T | IM-T-SSPFQ |
| N | IM-N-SSPFQ |
| E | IM-E-SSPFQ |
| R/S | IM-R-SSPFQ |
| Copper | FMTC-CU-SSPFQ |

- Miniature socket with quick wire facility – fitted with stainless steel mounting bracket
- Quick, easy "jab-in" connection, just push in wire and tighten screw
- These quick connect versions allow rapid termination
- Maximum continuous operating temperature 220°C

## MINIATURE PCB MOUNTING SOCKET TYPES K,T & Copper

- Versatile, high quality, circuit board mounting miniature socket
- Specially designed for PCBs
- Solid pins for direct PCB mounting
- Provision for CJC sensor
- Compatible with flow soldering assembly
- Maximum continuous operating temperature 220°C

## MINIATURE HIGH TEMPERATURE, PLASTIC PLUGS AND SOCKETS Types J & K

- All connectors have type identification on body
- High temperature polyester bodies for use up to 425°C
- All contacts are polarized to ensure correct connection
- For R,S & B compensating alloys limit the maximum usable temperature to 260°C

## MINIATURE VERY HIGH TEMPERATURE, CERAMIC PLUGS & SOCKETS Types J,K & N

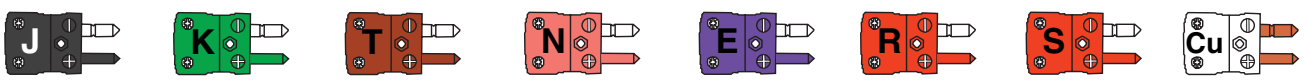
- Heavy duty ceramic body for use up to 560°C
- All connectors are coloured white with type identification on body
- For types R,S & B compensating alloys limit the maximum usable temperature to 260°C

## CABLE TIDY THERMOCOUPLE WITH FITTED MINIATURE PLUG

- A complete, precision fine wire, high sensitivity thermocouple

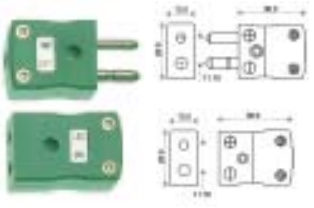
See page 9





# THERMOCOUPLE & RESISTANCE THERMOMETER CONNECTORS

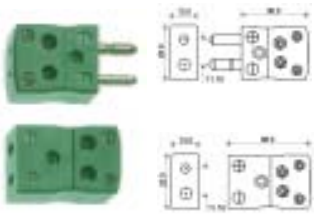
## STANDARD PLUGS & SOCKETS
### Types J,K,T,N,E,R/S & copper



| TYPE | PLUG | SOCKET |
|---|---|---|
| J | IS-J-M | IS-J-F |
| K | IS-K-M | IS-K-F |
| T | IS-T-M | IS-T-F |
| N | IS-N-M | IS-N-F |
| E | IS-E-M | IS-E-F |
| R/S | IS-R-M | IS-R-F |
| COPPER | FSTC-CU-M | FSTC-CU-F |

- A range of standard sized connectors with round pins to suit the thermocouple type being used
- Intended for use in more industrial applications
- Plugs fitted with solid thermocouple pins
- All contacts are polarized to ensure correct connection
- Cable clamps available for securing cable
- Maximum continuous operating temperature 220°C
- Wide range of accessories available, see page 5

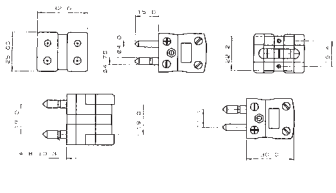
## STANDARD *QUICK WIRE* PLUGS & SOCKETS
### Types J,K,T,N,E,R/S & copper



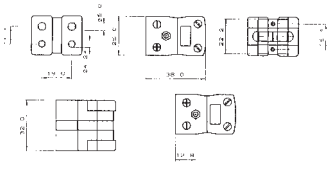
| TYPE | PLUG | SOCKET |
|---|---|---|
| J | IS-J-MQ | IS-J-FQ |
| K | IS-K-MQ | IS-K-FQ |
| T | IS-T-MQ | IS-T-FQ |
| N | IS-N-MQ | IS-N-FQ |
| E | IS-E-MQ | IS-E-FQ |
| R/S | IS-R-MQ | IS-R-FQ |
| COPPER | FSTC-CU-MQ | FSTC-CU-FQ |

- Physically compatible with alternative standard, round pin connectors
- These quick connect versions allow rapid termination
- Quick easy "jab-in" connection, just push in wire and tighten screw
- Plugs fitted with solid thermocouple pins
- Suits wide range of wire sizes
- Maximum continuous operating temperature 220°C

## STANDARD DUPLEX PLUGS AND SOCKETS
### Types J,K,T,N,E,R/S & copper

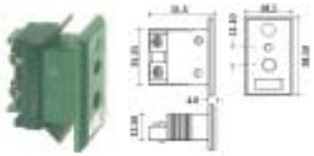


| TYPE | PLUG | SOCKET |
|---|---|---|
| J | IS-J-MD | IS-J-FD |
| K | IS-K-MD | IS-K-FD |
| T | IS-T-MD | IS-T-FD |
| N | IS-N-MD | IS-N-FD |
| E | IS-E-MD | IS-E-FD |
| R/S | IS-R-MD | IS-R-FD |
| COPPER | FSTC-CU-MD | FSTC-CU-FD |



- Duplex (Two channel) connectors using thermocouple material contacts and pins
- Bodies supplied coloured black with spacer in IEC thermocouple colour coding
- Plugs fitted with solid thermocouple pins
- Rugged glass filled polyester bodies
- All contacts are polarized to ensure correct connection
- Maximum continuous operating temperature 220°C
- Wide range of accessories available, see page 5

## STANDARD RECTANGULAR PANEL MOUNTING FASCIA SOCKETS
### Types J,K,T,N,E,R/S & copper

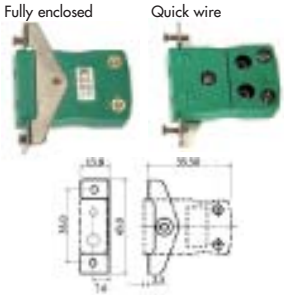


| TYPE | SOCKET |
|---|---|
| J | IS-J-FF |
| K | IS-K-FF |
| T | IS-T-FF |
| N | IS-N-FF |
| E | IS-E-FF |
| R/S | IS-R-FF |
| COPPER | FSTC-CU-FF |

- Quick, simple fixing to panel, see page 5
- Clip mounting
- Maximum continuous operating temperature 120°C

## STANDARD PANEL OR *QUICK WIRE* SOCKET WITH MOUNTING BRACKET
### Types J,K,T,N,E,R/S & copper

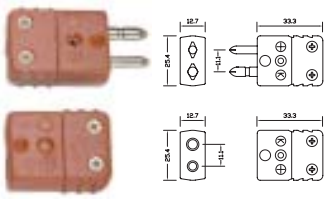
Fully enclosed Quick wire



| TYPE | SOCKET | SOCKET (Quick Wire) |
|---|---|---|
| J | IS-J-SSPF | IS-J-SSPFQ |
| K | IS-K-SSPF | IS-K-SSPFQ |
| T | IS-T-SSPF | IS-T-SSPFQ |
| N | IS-N-SSPF | IS-N-SSPFQ |
| E | IS-E-SSPF | IS-E-SSPFQ |
| R/S | IS-R-SSPF | IS-R-SSPFQ |
| COPPER | FSTC-CU-SSPF | FSTC-CU-SSPFQ |

- Standard sockets with fully enclosed terminals and cable port seal, fitted with stainless steel bracket
- Standard quick wire sockets fitted with stainless steel bracket
- Maximum continuous operating temperature 220°C

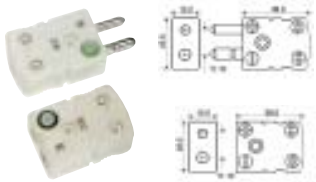
## STANDARD HIGH TEMPERATURE PLASTIC PLUGS AND SOCKETS Types J & K



| TYPE | PLUG | SOCKET |
|---|---|---|
| J | IS-J-M-HTP | IS-J-F-HTP |
| K | IS-K-M-HTP | IS-K-F-HTP |

- High temperature polyester bodies for use up to 425°C
- All contacts are polarised to ensure correct connection
- For R,S & B compensating alloys limit the maximum usable temperature to 260°C
- Hollow pins in plug

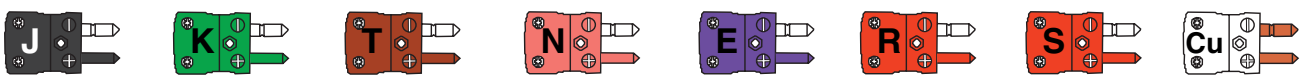
## STANDARD VERY HIGH TEMPERATURE CERAMIC PLUGS & SOCKETS
### Types J,K & N



| TYPE | PLUG | SOCKET |
|---|---|---|
| J | IS-J-M-HTC | IS-J-F-HTC |
| K | IS-K-M-HTC | IS-K-F-HTC |
| N | IS-N-M-HTC | IS-N-F-HTC |

- Heavy duty ceramic body for use up to 560°C
- All connectors supplied coloured white with coloured dot on body
- For types R,S & Cu compensating alloys limit the maximum usable temperature to 260°C





# CONNECTOR ACCESSORIES

## PLUG & SOCKET CRIMP ON BRASS PROBE SUPPORTS, MINIATURE & STANDARD

To suit 1.5mm & 3.0mm (Blank fittings available for other sizes)

| SIZE | Miniature | Standard |
|---|---|---|
| 0.5mm | CA-160 | – |
| 1.0mm | CA-161 | CA-171 |
| 1.5mm | CA-162 | CA-172 |
| 2.0mm | POA | CA-176 |
| 3.0mm | CA-163 | CA-173 |
| 4.5mm | – | CA-175 |
| 6.0mm | – | CA-174 |
| Blank | CA-033 | CA-105 |

## PLUG & SOCKET BRAZE ON BRASS PROBE SUPPORTS, STANDARD

| SIZE | Standard |
|---|---|
| 1.5mm | CA-062 |
| 3.0mm | CA-064 |

To suit 1.5mm & 3.0mm

## PLUG & SOCKET COMPRESSION CABLE CLAMP, STANDARD

| Standard |
|---|
| CA-075 |

## PLUG & SOCKET EXTERNAL CABLE CLAMPS MINIATURE AND STANDARD

| Miniature | Standard |
|---|---|
| CA-087 | CA-076 |

## PLUG & SOCKET EXTERNAL CABLE CLAMP, DUPLEX

| Standard |
|---|
| CA-077 |

## PLUG & SOCKET BRAZE ON PROBE SUPPORT, DUPLEX

| SIZE | Standard |
|---|---|
| 3.0mm | CA-072 |
| 4.5mm | CA-073 |
| 6.0mm | CA-074 |

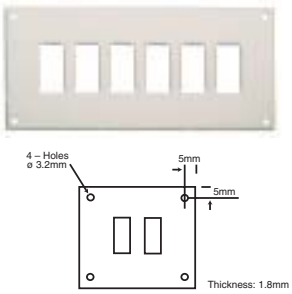
To suit 3.0mm, 4.5mm & 6.0mm

## PLUG & SOCKET CABLE STRAIN RELIEF WASHER, MINIATURE & STANDARD

| Miniature | Standard |
|---|---|
| CA-060 | CA-061 |

Supplied in packs of 100
Material: Silicone rubber

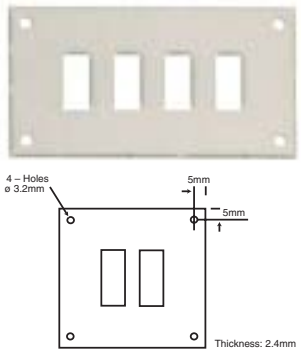
## PANELS FOR MINIATURE FASCIA SOCKETS (Type FF)




| WAY | PART NO |
|---|---|
| 1 | CA-001 |
| 2 | CA-002 |
| 3 | CA-003 |
| 4 | CA-004 |
| 5 | CA-005 |
| 6 | CA-006 |
| 8 | CA-007 |
| 10 | CA-008 |
| 12 | CA-009 |
| 16 | CA-010 |
| 18 | CA-011 |
| 20 | CA-012 |
| 24 | CA-013 |

Formula for dimension:
Length = (N x15) + 25mm (N= Number of ways per row)
Height = 45mm (single row), 75mm (Double row)
Up to 12 ways in a single row, 16 to 24 ways in two rows

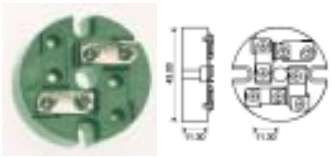
## PANELS FOR STANDARD FASCIA SOCKETS (Type FF)




| WAY | PART NO |
|---|---|
| 1 | CA-014 |
| 2 | CA-015 |
| 3 | CA-016 |
| 4 | CA-017 |
| 5 | CA-018 |
| 6 | CA-019 |
| 8 | CA-020 |
| 10 | CA-021 |
| 12 | CA-022 |
| 16 | CA-023 |
| 18 | CA-024 |
| 20 | CA-025 |
| 24 | CA-026 |

Formula for dimensions:
Length = (Nx19) + 31mm (N = number of ways per row)
Height = 66mm (single row), 111mm (Double row)
Up to 12 ways in a single row, 16 to 24 ways in two rows

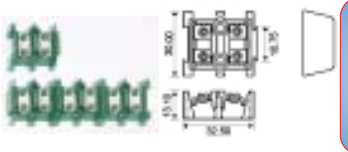
## TERMINAL BLOCKS FOR IN-HEAD MOUNTING Types J,K,T & copper



| TYPE | SIMPLEX | DUPLEX |
|---|---|---|
| J | HT-053 | HT-056 |
| K | HT-058 | HT-059 |
| T | HT-050 | |
| COPPER | N/A | HT-054 |

- Colour coded terminal blocks are for in-head mounting
- Connections made from thermocouple material
- Maximum continuous operating temperature 220°C
- Available as Simplex or Duplex

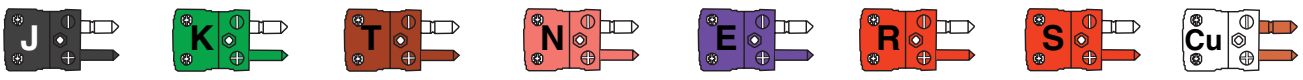
## BARRIER TERMINAL BLOCKS Types J,K,T,R/S & copper



| TYPES | |
|---|---|
| J | CA-151 |
| K | CA-135 |
| T | CA-136 |
| R/S | CA-137 |
| COPPER | CA-138 |

- Colour coded barrier terminal blocks
- Supplied in single interlocking pairs
- Connections in thermocouple material
- Maximum continuous operating temperature 220°C





| T/C | Type | Size | (mm) | I |
|---|---|---|---|---|
| Type | J | 7/5.2 | WJ-200 | |
| Type | J | 13/5.2 | - | |
| Type | K | 7/5.2 | WK-150 | |
| Type | K | 13/5.2 | WK-151 | |
| Type | K | 23/5.2 | WK-152 | |
| Type | T | 7/5.2 | WT-200 | |
| Type | T | 13/5.2 | WT-201 | |
| Type | T | 23/5.2 | - | |
| Type | N | 7/5.2 | WN-100 | |
| Type | N | 13/5.2 | - | |
| Type | N | 23/5.2 | - | |
| Type | Vx | 7/5.2 | -W00 | |
| Type | Vx | 13/5.2 | -W01 | |
| Type | Vx | 23/5.2 | -W03 | |
| Type | U | 7/5.2 | W | |
| Type | U | 13/5.2 | | |

Lengths of 10, 50

50

| T/C Type | Size (mm) | IEC PART No. |
|---|---|---|
| Type J | 1/0.2 | WJ-244 |
| Type J | 1/0.508 | WJ-246 |
| Type J | 7/0.2 | WJ-243 |
| Type K | 1/0.2 | WK-200 |
| Type K | 1/0.315 | WK-201 |
| Type K | 1/0.508 | WK-202 |
| Type K | 7/0.2 | WK-303 |
| Type K | 10/0.12 | XS-699 |
| Type T | 1/0.2 | WT-300 |
| Type T | 1/0.315 | WT-301 |
| Type T | 7/0.2 | WT-303 |
| Type N | 1/0.2 | WN-120 |
| Type N | 7/0.2 | WN-140 |

Lengths of 25 & 120m

pe K Type T Type N Type E Type R Type S

# THERMOCOUPLE & RESISTANCE THERMOMETER CABLE PRODUCTS

## L60+ THERMOCOUPLE WIRE AND FINE WIRE WELDER

- Designed for producing thermocouple junctions
- Suitable for wires up to 1.1mm diameter
- Argon gas shield facility
- Can join wires to each other or metal surfaces
- Includes footswitch for convenient operation
- Comes with 1 electrode fitted & 1 spare
- 110/230Vac Power supply

| *Codes* | |
|---|---|
| Welder | IL-070 |
| Pkt 5 spare electrodes | IL-015 |

## EXPOSED WELDED TIP THERMOCOUPLES

*Also known as naked bead, fine-wire & exposed junction thermocouples*

### Welded tip, exposed junction, fast response thermocouples in types J,K &T

**Specifications**

| | |
|---|---|
| Sensor Type | Thermocouple type J,K or T to IEC 60584. Exposed welded junction |
| Operating Temperature | PFA/PTFE insulated, 250°C. Fibreglass insulation, 350°C |
| Insulation | Glassfibre (silicone varnished) or PFA/PTFE |
| Termination | Bare wire tails |

**Specifications**

| Glassfibre Insulated | Type J | Type K | Type T |
|---|---|---|---|
| Wire diameter | 1/0.315mm | 1/0.315mm | 1/0.315mm |
| Overall diameter | 1.5mm | 1.5mm | 1.5mm |
| Temperature range | -50°C to +350°C | -50°C to +350°C | -50°C to +350°C |
| Positive leg | Iron | Nickel chromium | Copper |
| Negative leg | Constantan | Nickel aluminium | Constantan |
| **PFA/PTFE Insulated** | | | |
| Wire diameter | | 1/02mm | 1/02mm |
| Overall diameter | - | 1.3mm | 1.3mm |
| Temperature range | - | -50°C to +250°C | -50°C to 250°C |
| Positive leg | - | Nickel Chromium | Copper |
| Negative leg | - | Nickel aluminium | Constantan |

**Welded tip thermocouple codes**

| Glassfibre Insulated | Code |
|---|---|
| Type J, 2m | Z3-J-2 |
| Type K, 1m | Z3-K-1 |
| Type K, 2m | Z3-K-2 |
| Type T, 2m | Z3-T-2 |
| **PFA/PTFE Insulated** | |
| Type K, 1m | Z2-K-1 |
| Type K, 2m | Z2-K-2 |
| Type T, 1m | Z2-T-1 |
| Type T, 2m | Z2-T-2 |

## EXPOSED, WELDED TIP THERMOCOUPLES WITH FITTED MINI-PLUGS PFA/PTFE

**Types J,K & T, PFA/PTFE insulated thermocouple wire with welded junction and fitted miniature plug**

**Specifications**

| | |
|---|---|
| Sensor type | Thermocouple type J,K or T to IEC 60584. Exposed, Welded junction. |
| Tip temperature Rating | -75°C to 250°C (limited by PFA/PTFE insulation properties) |
| Wire type | Twin, twist pair, PFA/PTFE insulated over 1/0.2mm conductors |
| Termination | Colour coded miniature plug |

**Dimensions & Codes**

| Type | Code | Type | Code |
|---|---|---|---|
| Type J x 1m | Z2-J-1-MP | Type J x 2m | Z2-J-2-MP |
| Type K x 1m | Z2-K-1-MP | Type K x 2m | Z2-K-2-MP |
| Type T x 1m | Z2-T-1-MP | Type T x 2m | Z2-T-2-MP |

## EXPOSED, WELDED TIP THERMOCOUPLE WITH FITTED MINI-PLUGS, GLASSFIBRE

**Types J & K, Glassfibre insulated thermocouple wire with welded junction and fitted miniature plug**

**Specifications**

| | |
|---|---|
| Sensor Type | Thermocouple type J or K to IEC60584. Exposed, welded junction. |
| Tip temperature Rating | -50°C to +350°C (limited by glassfibre insulation properties) |
| Wire type | Flat pair, silicone varnished glassfibre insulated over 1/0.315mm conductors |
| Termination | Colour coded miniature plug |

**Dimension & Codes**

| Type | Code | Type | Code |
|---|---|---|---|
| Type J x 1m | Z3-J-1-MP | Type J x 2m | Z3-J-2-MP |
| Type K x 1m | Z3-K-1-MP | Type K x 2m | Z3-K-2-MP |

## CAB
## FITTED

- A complete, precis
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- Quick and eas
- Type K & T the
- Class 1 wire fo
- PFA/PTFE insula
- Rated 220°C con
  Ideal & convenient

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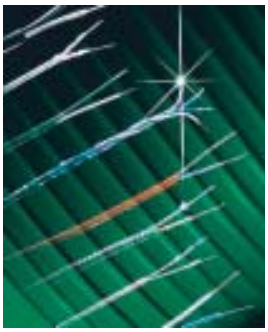

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**SOUTHERN UK & EXPORT DIVISION**: Units 5,6 & 7, Block K, Southern Cross Industrial Estate, Shripney Road, Bognor Regis, West Sussex PO22 9SD

**Export Sales:** **tel: +44(0)1243 871287 fax: +44(0)1243 871281 email: exportsales@labfacility.co.uk**

**Southern UK Sales:** **tel: +44(0)1243 871280 fax: +44(0)1243 871281 email: southernsales@labfacility.co.uk**

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