

Datasheet

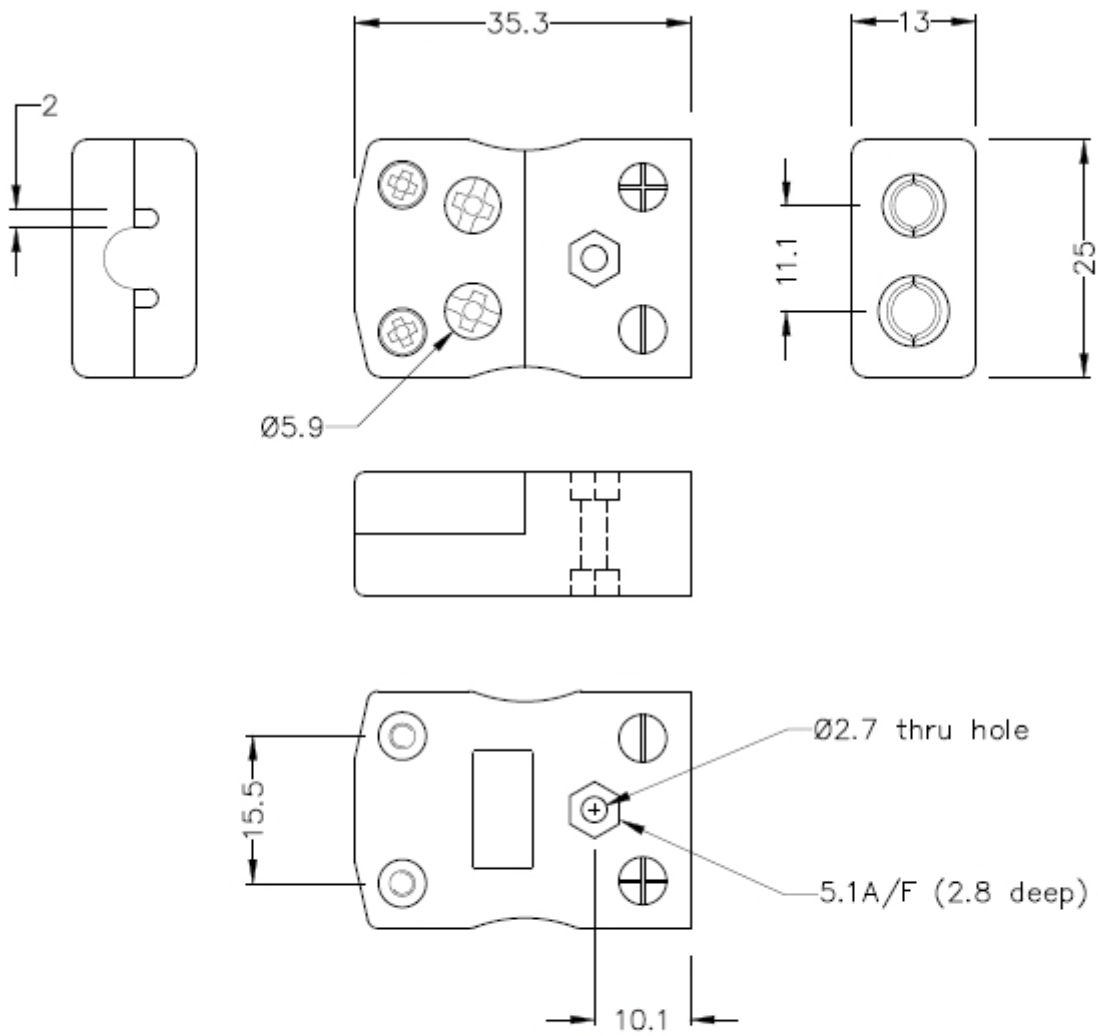
IEC Standard Thermocouple Connector Quick Wire Sockets

Types K, J, T, E, N, R/S, B & Copper
(IEC Colour Code)



- Standard in-line quick wire socket allowing rapid termination of wires
- Easy 'jab-in' connection, just push-in wire & tighten screw
- Accepts standard round plug pins
- Available in Thermocouple Types K, J, T, E, N, R/S, B & Copper
- For Types K, J, T, E & N contacts are made from true Thermocouple alloys
- R/S type has compensating copper/copper nickel alloy contacts (for R or S Type Thermocouples)
- B type has compensating copper/copper contacts (for B Type Thermocouples)
- Contacts are polarised to prevent incorrect connection
- Colour coded in accordance with IEC specification
- Maximum continuous temperature 220°C

| T/C Type | Colour Code (IEC) | +Positive Contact (alloy type) | -Negative Contact (alloy type) | Allied Code | RS order Code |
|----------|-------------------|--------------------------------|--------------------------------|-------------|-----------------|
| K | Green | +Nickel Chromium | -Nickel Alloy | 70643590 | 363-0008 |
| J | Black | +Iron | -Copper Nickel | 70643588 | 362-9979 |
| T | Brown | +Copper | -Copper Nickel | 70643592 | 363-0020 |
| E | Violet | +Nickel Chromium | -Copper Nickel | 70652518 | 774-7289 |
| N | Pink | +Nickel/Chro/Silicon | -Nickel Silicon | 70643594 | 363-0042 |
| R/S | Orange | +Copper | -Copper Alloy | 70643596 | 363-0064 |
| B | Grey | +Copper | -Copper | 70652513 | 774-7270 |
| Copper | White | +Copper | -Copper | 70652484 | 774-3782 |

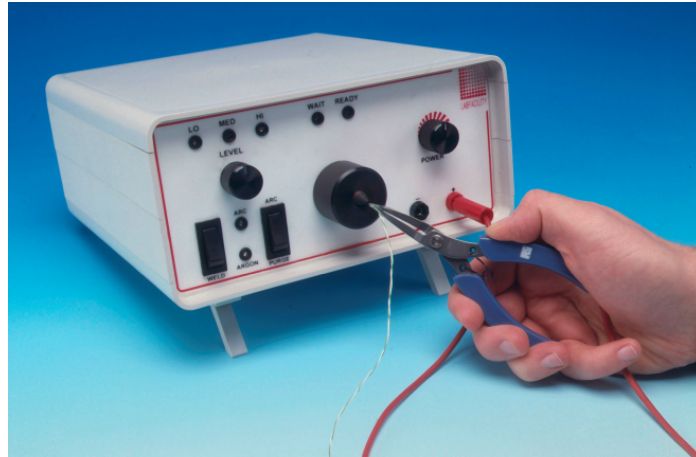


Standard in-line Socket - Quick Wire

(dimensions in mm)

Making your own Thermocouples?

L60 Thermocouple & Fine Wire Welder



The Thermocouple Welder is a compact, simple-to-use instrument designed for thermocouple and fine wire welding

It is primarily designed for use by sensor manufacturers to produce commercial grade thermocouple junctions; it is ideal for producing large numbers of exposed junction thermocouples for test and development laboratories. The L60 Thermocouple Welder is ideally suited to transducer and RTD extension lead attachment

Use of the Thermocouple Welder does not require special skills and most operatives will be capable of producing quality work with little practice. The instrument is supplied with a full range of user accessories including a footswitch

Suitable for use with wires of up to 1.1mm diameter an argon gas shield facility is included but a satisfactory thermocouple junction is produced without the need for argon. The output energy of the L60 Thermocouple Welder can be varied up to 60 Joules

- Simple to use Thermocouple Welder
- Designed for the production of commercial grade thermocouple junctions (See below for range of thermocouple cables)
- Also suitable for other fine wire work
- Front panel or footswitch operation
- Argon gas shield facility



Supplied complete with the following accessories:

- Wire Holding Pliers & Lead
- Safety Glasses
- Magnifying Eyeglass
- Carbon Electrodes
- Spare 2A Fuse
- Argon Hose
- Mains Lead
- Footswitch for greater ease of use

Carbon Electrode

ORDERING INFORMATION

MODEL
FINE WIRE WELDER

Allied Code
70825788

RS ORDER NUMBER
363-0351

RS150/0816

Spare Carbon Electrodes (x5) for 1.1mm 250V Fine Wire Welder

70656473

814-0184

SPECIFICATIONS

General

Energy Output 0-60 Joules
Welding Capacity Wires up to 1.1mm diameter
Duty Cycle Minimum 5-10 welds/min

MECHANICAL

Physical Dimensions 220mm Wide x 120mm High x 250mm Depth
Weight 4kg

ELECTRICAL

Power Supply 110-120 Vac or 220-250 Vac, 50-60Hz
Power Consumption Max 170VA dropping to 20VA during charging

MAINTENANCE

Apart from keeping the electrode in good order, no other maintenance is required

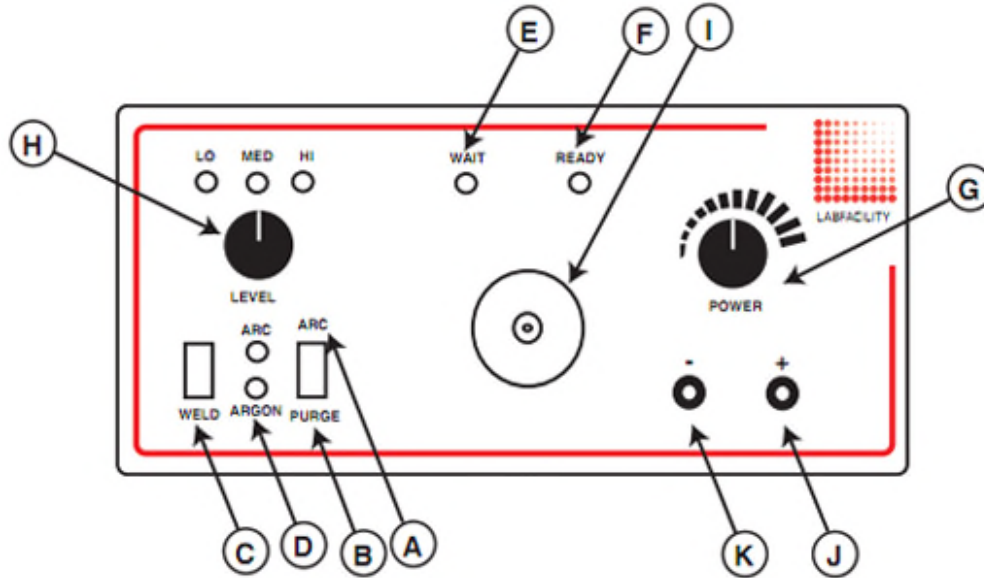
(Front View)



(Rear View)



Thermocouple Welder Controls



- A Arc Argon gas and weld current controlled by the "Weld" switch. LED indication
- B Purge Allows the gas line and electrode shield to be purged of air prior to a new welding period
- C Weld Switch Initiates a welding operation (in "arc" mode also opens the Argon valve)
- D Argon LED Indicates when the Argon control valve is open and gas is flowing
- E Wait LED Glows when weld charge is building
- F Ready LED "Ready to Weld" indication
- G Power Rotary control of the capacitor charge voltage
- H Level Selector Selects the total capacitance available giving the following values with LED indication

"LO" = 0 to 6 Joules
 "MED" = 0 to 28 Joules
 "HI" = 0 to 64 Joules

- I Electrode Holder Holds the replaceable carbon electrode which is accessible by removing the outer Argon Shield
- J Red Socket Output socket for using the pliers supplied
- K Black Socket Output socket, this provides an additional earth

IEC PTFE Insulated Twin Twisted Pair Thermocouple Cable

Available in Thermocouple Types K, J T & N



Type 'K'

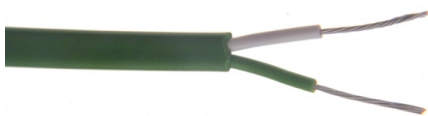
Type 'T'

- PTFE twin twisted pair for extending or making simple thermocouples
- Single pair of PTFE insulated conductors twisted together
- Good mechanical strength and flexibility, resistant to oils, acids and other adverse fluids
- Suitable for steam & pressure applications, autoclaves, sterilizers etc.
- 25 & 50 metre reel lengths
- Tolerance Class 1 for optimum accuracy
- Insulation rating -75°C to 260°C
- Colour coded to IEC-584-3

| T/C Type | Conductors | Cores | Reel Length | Allied code | RS order code |
|----------|------------|---------------|-------------|-------------|-----------------|
| J | 1/0.2mm | +Black/-White | 25 metres | 70657194 | 827-5980 |
| J | 1/0.2mm | +Black/-White | 50 metres | 70657195 | 827-5984 |
| J | 1/0.315mm | +Black/-White | 25 metres | 70657198 | 827-5993 |
| J | 1/0.315mm | +Black/-White | 50 metres | 70657199 | 827-5996 |
| K | 1/0.315mm | +Green/-White | 25 metres | 70657200 | 827-6000 |
| K | 1/0.315mm | +Green/-White | 50 metres | 70657205 | 827-6019 |
| T | 1/0.315mm | +Brown/-White | 25 metres | 70657208 | 827-6028 |
| T | 1/0.315mm | +Brown/-White | 50 metres | 70657206 | 827-6022 |
| J | 1/0.508mm | +Black/-White | 25 metres | 70657197 | 827-5990 |
| J | 1/0.508mm | +Black/-White | 50 metres | 70657201 | 827-6003 |
| K | 1/0.508mm | +Green/-White | 25 metres | 70657203 | 827-6012 |
| K | 1/0.508mm | +Green/-White | 50 metres | 70657204 | 827-6016 |
| J | 7/0.2mm | +Black/-White | 25 metres | 70657202 | 827-6006 |
| K | 7/0.2mm | +Green/-White | 25 metres | 70657207 | 827-6025 |
| T | 7/0.2mm | +Brown/-White | 25 metres | 70657209 | 827-6031 |
| N | 7/0.2mm | +Pink/-White | 25 metres | 70657210 | 827-6034 |

IEC PVC Insulated Flat Pair Thermocouple Extension & Compensating Cable

PVC Insulated Flat Pair (to IEC-584)



- PVC insulated flat pair construction

RS150/0816

- Conductors laid flat PVC insulated with overall PVC sheath
- All round general purpose cable, both waterproof and very flexible
- Thermocouple extension types for K, J, T & N
- Compensating types VX (KCB) & U (RCA) for types K & R/S Thermocouples respectively
- Stranded conductors available, either 7/0.2mm or 13/0.2mm
- Available in 10, 25, 100 & 200 metre lengths
- Tolerance Class 2
- Insulation rating -10°C to 105°C
- Colour code (cores & jacket) to IEC-584-3

| | Conductors | Cores | Jacket | Reel Length | Allied Code | RS order code |
|----------------------|------------|----------------|--------|-------------|-------------|-----------------|
| Extension: | | | | | | |
| KX | 7/0.2mm | +Green/-White | Green | 10 metres | 70657084 | 827-5615 |
| KX | 7/0.2mm | +Green/-White | Green | 25 metres | 70641729 | 236-3820 |
| KX | 7/0.2mm | +Green/-White | Green | 50 metres | 70657085 | 827-5619 |
| KX | 7/0.2mm | +Green/-White | Green | 100 metres | 70646156 | 611-7889 |
| KX | 7/0.2mm | +Green/-White | Green | 200 metres | 70657088 | 827-5628 |
| | | | | | | |
| JX | 7/0.2mm | +Black/-White | Black | 10 metres | 70641640 | 219-4753 |
| JX | 7/0.2mm | +Black/-White | Black | 25 metres | 70657078 | 827-5592 |
| JX | 7/0.2mm | +Black/-White | Black | 50 metres | 70657079 | 827-5596 |
| JX | 7/0.2mm | +Black/-White | Black | 100 metres | 70641737 | 236-3915 |
| JX | 7/0.2mm | +Black/-White | Black | 200 metres | 70657081 | 827-5606 |
| | | | | | | |
| TX | 7/0.2mm | +Brown/-White | Brown | 10 metres | 70641637 | 219-4703 |
| TX | 7/0.2mm | +Brown/-White | Brown | 25 metres | 70641734 | 236-3870 |
| TX | 7/0.2mm | +Brown/-White | Brown | 50 metres | 70657095 | 827-5653 |
| TX | 7/0.2mm | +Brown/-White | Brown | 100 metres | 70651749 | 762-1146 |
| TX | 7/0.2mm | +Brown/-White | Brown | 200 metres | 70657098 | 827-5662 |
| | | | | | | |
| NX | 7/0.2mm | +Pink/-White | Pink | 10 metres | 70641635 | 219-4668 |
| NX | 7/0.2mm | +Pink/-White | Pink | 25 metres | 70657091 | 827-5637 |
| NX | 7/0.2mm | +Pink/-White | Pink | 50 metres | 70657089 | 827-5631 |
| NX | 7/0.2mm | +Pink/-White | Pink | 100 metres | 70657092 | 827-5640 |
| | | | | | | |
| | Conductors | Cores | Jacket | Reel Length | Allied Code | RS order code |
| Compensating: | | | | | | |
| VX (KCB) | 7/0.2mm | +Green/-White | Green | 10 metres | 70657082 | 827-5609 |
| VX (KCB) | 7/0.2mm | +Green/-White | Green | 25 metres | 70641629 | 219-4551 |
| VX (KCB) | 7/0.2mm | +Green/-White | Green | 50 metres | 70657080 | 827-5603 |
| VX (KCB) | 7/0.2mm | +Green/-White | Green | 100 metres | 70641630 | 219-4573 |
| VX (KCB) | 7/0.2mm | +Green/-White | Green | 200 metres | 70657083 | 827-5612 |
| | | | | | | |
| VX (KCB) | 13/0.2mm | +Green/-White | Green | 10 metres | 70657086 | 827-5621 |
| VX (KCB) | 13/0.2mm | +Green/-White | Green | 25 metres | 70657087 | 827-5625 |
| VX (KCB) | 13/0.2mm | +Green/-White | Green | 50 metres | 70657090 | 827-5634 |
| VX (KCB) | 13/0.2mm | +Green/-White | Green | 100 metres | 70651750 | 762-1152 |
| | | | | | | |
| U (RCA) | 7/0.2mm | +Orange/-White | Orange | 10 metres | 70657096 | 827-5656 |
| U (RCA) | 7/0.2mm | +Orange/-White | Orange | 25 metres | 70646158 | 611-7902 |
| U (RCA) | 7/0.2mm | +Orange/-White | Orange | 50 metres | 70657097 | 827-5659 |

| | | | | | | |
|---------|----------|----------------|--------|-----------|----------|-----------------|
| U (RCA) | 13/0.2mm | +Orange/-White | Orange | 10 metres | 70641641 | 219-4769 |
| U (RCA) | 13/0.2mm | +Orange/-White | Orange | 25 metres | 70657093 | 827-5643 |
| U (RCA) | 13/0.2mm | +Orange/-White | Orange | 50 metres | 70657094 | 827-5647 |

IEC PTFE Single Shot Thermocouple Cable

Type K, :

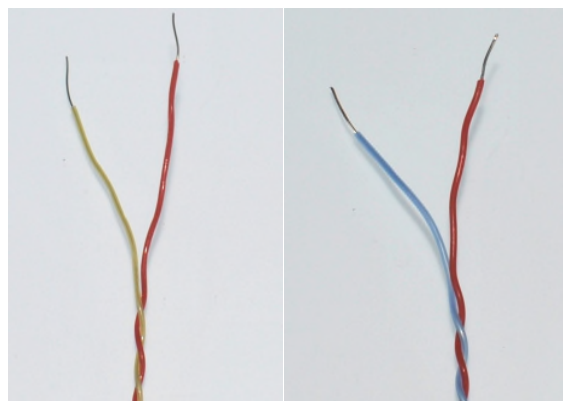


- Thermocouple type K
- 10 metre spool length
- 7/0.2mm diameter conductor
- Operating range: -75°C to +250°C
- Teflon insulated single shot construction
- Resistant to chemicals, oils and fluids
- Suitable for aerospace applications and is widely used in autoclaves
- Colour coded to IEC-584-3

| Type | Outer | Length | Allied code | RS Code |
|------|-------------|-----------|-------------|----------|
| K | Green/White | 10 metres | 70657216 | 827-6053 |

ANSI PFA Insulated Twin Twisted Pair Thermocouple Cable

Available in Thermocouple Types K & T (ANSI MC96.1)



Type KX

Type TX

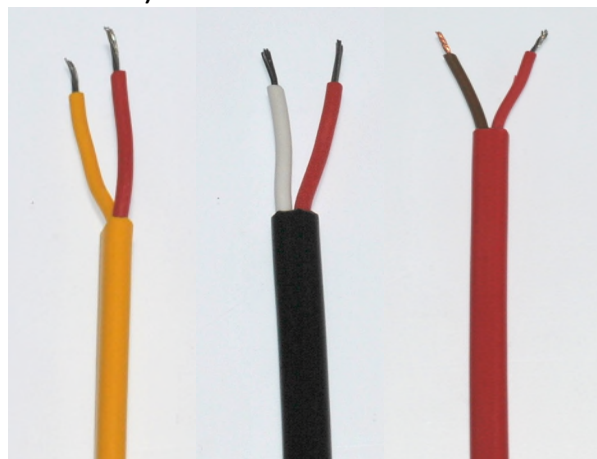
- PFA Teflon® twin twisted pair for extending or making simple thermocouples
- Single pair of PFA insulated conductors twisted together

- Good mechanical strength and flexibility, resistant to oils, acids and other adverse fluids, gasses, steam etc.
- Thermocouple types K & T with 1/0.2mm OR 1/0.3 conductors. 7/0.2mm option available for type K
- 25, 50 & 100 metre reel lengths
- Tolerance Class 1 for optimum accuracy
- Insulation rating -75°C to 260°C
- Colour coded to ANSI MC96.1

| T/C Type | Conductors | Cores | Reel Length | Allied code | RS order code |
|----------|------------|--------------|-------------|-------------|-----------------|
| KX | 1/0.2mm | +Yellow/-Red | 25 metres | 70656106 | 814-0030 |
| KX | 1/0.2mm | +Yellow/-Red | 50 metres | 70656111 | 814-0049 |
| KX | 1/0.2mm | +Yellow/-Red | 100 metres | 70656109 | 814-0042 |
| KX | 7/0.2mm | +Yellow/-Red | 25 metres | 70656110 | 814-0046 |
| KX | 7/0.2mm | +Yellow/-Red | 50 metres | 70656113 | 814-0055 |
| KX | 7/0.2mm | +Yellow/-Red | 100 metres | 70656114 | 814-0058 |
| KX | 1/0.3mm | +Yellow/-Red | 25 metres | 70656104 | 814-0024 |
| KX | 1/0.3mm | +Yellow/-Red | 50 metres | 70656107 | 814-0033 |
| KX | 1/0.3mm | +Yellow/-Red | 100 metres | 70656108 | 814-0036 |
| TX | 1/0.3mm | +Blue/-Red | 25 metres | 70656121 | 814-0080 |
| TX | 1/0.3mm | +Blue/-Red | 50 metres | 70656126 | 814-0099 |
| TX | 1/0.3mm | +Blue/-Red | 100 metres | 70656124 | 814-0092 |
| TX | 1/0.2mm | +Blue/-Red | 25 metres | 70656125 | 814-0096 |
| TX | 1/0.2mm | +Blue/-Red | 50 metres | 70656128 | 814-0106 |
| TX | 1/0.2mm | +Blue/-Red | 100 metres | 70656129 | 814-0109 |

ANSI PVC Thermocouple Extension & Compensating Cable

PVC Insulated Flat Pair (ANSI MC96.1)



Type KX

Type JX

Type TX

- PVC insulated flat pair construction
- RS150/0816

- Conductors laid flat PVC insulated with overall PVC sheath
- All round general purpose cable, both waterproof and very flexible
- Thermocouple extension types for K, J, & T
- Compensating types VX (KCB) for types K Thermocouples
- Stranded conductors available, 7/0.2mm
- Available in 25, 100 & 200 metre lengths
- Tolerance Class 2
- Insulation rating -10°C to 105°C
- Colour code (cores & jacket) to ANSI MC96.1

| T/C Type | Conductors | Cores | Jacket | Reel Length | Allied code | RS order code |
|----------------------|-------------------|--------------|---------------|--------------------|--------------------|----------------------|
| Extension: | | | | | | |
| KX | 7/0.2mm | +Yellow/-Red | Yellow | 25 m | 70656102 | 814-0018 |
| KX | 7/0.2mm | +Yellow/-Red | Yellow | 100 m | 70656105 | 814-0027 |
| KX | 7/0.2mm | +Yellow/-Red | Yellow | 200 m | 70656103 | 814-0020 |
| JX | 7/0.2mm | + White/-Red | Black | 25 m | 70656096 | 813-9995 |
| JX | 7/0.2mm | + White/-Red | Black | 100 m | 70656098 | 814-0005 |
| JX | 7/0.2mm | + White/-Red | Black | 200 m | 70656099 | 814-0008 |
| TX | 7/0.2mm | +Blue/-Red | Blue | 25 m | 70656119 | 814-0074 |
| TX | 7/0.2mm | +Blue/-Red | Blue | 100 m | 70656122 | 814-0083 |
| TX | 7/0.2mm | +Blue/-Red | Blue | 200 m | 70656123 | 814-0086 |
| Compensating: | | | | | | |
| VX (KCB) | 7/0.2mm | +Yellow/-Red | Yellow | 25 m | 70656127 | 814-0103 |
| VX (KCB) | 7/0.2mm | +Yellow/-Red | Yellow | 100 m | 70656130 | 814-0112 |
| VX (KCB) | 7/0.2mm | +Yellow/-Red | Yellow | 200 m | 70656131 | 814-0115 |