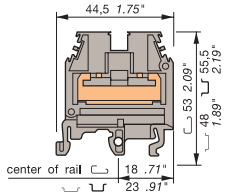
Thermocouple terminal blocks

Compression clamp

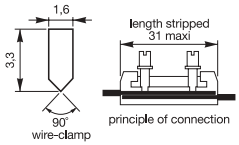
DIN 1 - 3

MTC 6

Spacing 6 mm .238"



6 mm block for thermocouple wires.



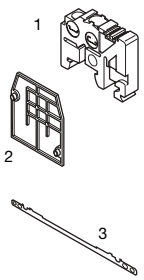
End stop	th. 9,1 mm	**BADL**	V0	**0199 408.02**
End stop	th. 9,1 mm	**BAM**		**0103 002.26**
Other end stops : See Accessories section				
Rail	35 x 7,5 x 1	**PR30**	prepunched	**0173 220.05**
Rail	35 x 15 x 2,3	**PR4**		**0168 500.12**
Rail	35 x 15 x 1,5	**PR5**	prepunched	**0101 598.26**
Rail	32 x 15	**PR1Z2**		**0163 050.04**
Other rails : See Accessories section				

		Type	Part number
Block standard	Grey body	**MTC 6**	**0115 206.22**

Characteristics

		NFC DIN	UL	CSA
Wire size mm² / AWG		2 conductors for thermocouple (DIA. 0,5 - 1,5 mm)		
Rated voltage	V	500 V Gr.C		
Rated current				
Rated wire size				
Wire stripping length	mm / *inches*	31 mm max. / 1.22"		
Recommended torque	Nm / *lb.in*	0,4-0,6 Nm / 3.5-5.3 lb.in		

Accessories



			Type		Part number
1	End section	grey	**FEM6**	th. 2,8	**0118 368.16**
3	Shield connector		**CBM5**	th. 0,5	**0178 745.14**
			CBM8	th. 0,8	**0178 746.15**

R See section on markers marking method

(11) Sides of block (12) Top of block

Thermocouple terminal blocks

Entrelec's MTC 6 thermocouple terminal block provides an interface for connecting thermocouple wire with virtually no loss of signal integrity. The interface design ensures positive wire continuity and allows selection and inventory of one terminal block for all thermocouple material.

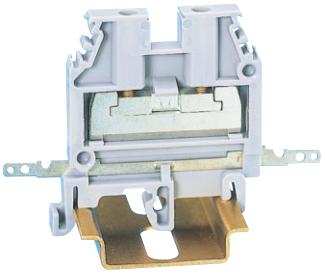


Figure 1. MTC 6 with shield connector

The thermocouple principle is based on the reaction of different metals to temperature. When thermocouple wires are terminated or connected, the "metal balance" must be maintained. The introduction of a foreign material (such as copper) results in loss of signal strength and integrity.

When running extended or intermittent lengths of thermocouple wire, to a measurement instrument, two solutions are available :

1. When signals are carried over a long distance, a thermocouple transmitter is required. The thermocouple signal, in millivolts (mV), is converted to a milliampere (mA) signal (i.e. 4-20 mA) for ease of transmission.

2. When thermocouple wire is of insufficient length, termination and interconnection, using terminal blocks, will extend its length.

Universal terminal block

Other thermocouple terminal blocks are available with hardware (screws, clamps and connecting bar) which match the thermocouple material being used. This requires inventory of many different terminal block types.

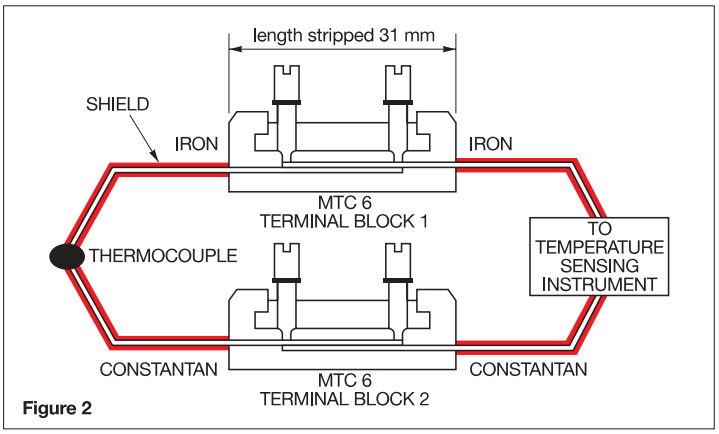


Figure 2

Entrelec's MTC 6 terminal block adapts to all thermocouple material. This "neutral" method of connection limits the introduction of foreign materials to an insignificant level. The thermocouple wire insulation is stripped (31 mm maximum) and the bare wires are superimposed on one another. The thermocouple wires are in contact over their complete 31 mm length and tightened at two points by round tip screws (see figure 2). The screws, made of plated brass, have only a mechanical function, that of holding the wires together with a point contact. Thus, the pressure points are not relevant in the connection environment.

One thermocouple lead connects through one terminal block (see figure 2). The MTC 6 requires only 6 mm of space, allowing 50 terminals per foot of rail.

Thermocouple shield wire connector bar

The MTC 6 can be field or factory equipped with a shield connector bar (see figure 1). This bar, made of treated brass, mounts in the lower part of the terminal block. It ensures the continuity of the thermocouple wire shield through the terminal block or to ground with no additional spacing.