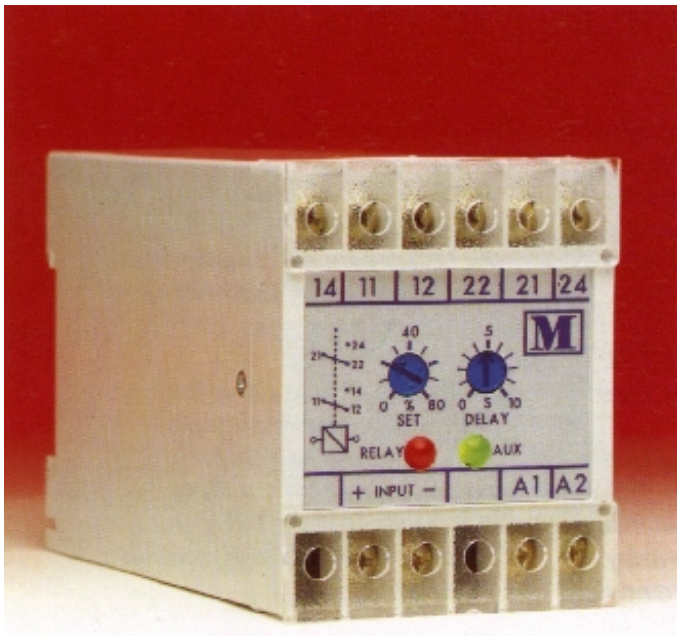
PC&S Panel Components & Systems
149 Main St. - Stanhope, New Jersey 07874 - Phone 800-523-9194 - Fax 973-448-1674

THERMOCOUPLE



SELECTION GUIDE

M200-TJU	*J type thermocouple under trip*
M200-TJO	*J type thermocouple over trip*
M200-TKU	*K type thermocouple under trip*
M200-TKO	*K type thermocouple over trip*

TYPICAL APPLICATIONS

Designed to monitor thermocouples and provide a relay signal if the temperature being monitored exceeds the pre-set limit. J and K type thermocouples inputs are available covering a wide range of temperatures. As is common with all the M200 relays, on over units the relay energises when the input signal exceeds the trip point and on under units the relay de-energises when the input signal goes below the trip point. A red LED indicates the state of the relay, whilst a green LED indicates the condition of the power supply.

TECHNICAL SPECIFICATION

INPUT	
Type J Fe/const	*Min range 0-185ºC (min span 10mV)*
	Max range 0-870ºC (max span 50mV)
Type K NiCr/NiAl	*Min range 0-245ºC (min span 10mV)*
	Max range 0-1230ºC (max span 50mV)
Thermocouple break protection	*Upscale energise*
Cold junction Compensation	*Automatic over range 0-50 C*
Overload	*10 x Input continuous*
SETPOINT	
Range Over	*Adjustable 40% to 120% for both voltage and current input*
Range Under	*Adjustable 0% to 80% for both voltage and current input*
Repeatability	*Better than 0.5% of full span*
Time delay	*Adjustable 200ms to 10 seconds*
Differential	*Fixed 2%*
AUXILIARY	
AC Voltage	*115/230/400V*
	± 25% / 45-65Hz / 2VA
DC Voltage	*24 volt (± 20% / galvanically isolated)*
	<3 Watt
WEIGHT & CASE SIZE	*Approx. 0.4kg 55mm case*

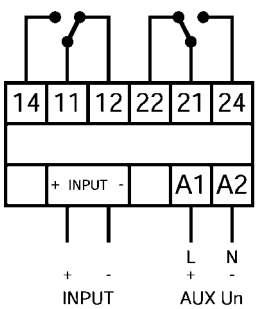
ORDERING INFORMATION

Product Code Temp range Aux Freq Options
M200-TJO 0-300ºC 120V 60Hz 0-30 sec T/D

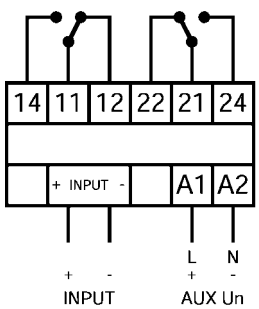
OPTIONS

1. Adjustable time delay max 30 seconds
2. AC auxiliary in the range 57.7 to 480 volts
3. Calibration at temperature other than 23º C

CONNECTION DIAGRAMS



M200TJO M200TKO



M200TJU M200TKU

GENERAL SPECIFICATIONS

ENVIRONMENTAL

Working temperature	*0 to +60 deg C*
Functional temperature	*-25 to + 70 deg C*
Storage temperature	*-40 to +85 deg C*
Temperature Coefficient	*0.03% per deg C (3OOppm/^{0}C)*
Relative humidity	*95% non condensing*
Class of climate	*HSE complying with DIN 40040 -3 complying with VDE/VDJ 3540*

INSULATION

Test voltage	*4kV RMS 50Hz 1min between Input / Case /Auxiliary*
Impulse test	*EMC 5kV transient complying with IEC 801 / EN55020*
HF interference test	*EHF 2.5kv 1MHz complying with IEC 255-4*
Protection class	*II complying with IEC 348*

APPLIED STANDARDS

General	*IEC 144/ BS 5420/ VDE/ VDI 0435/ IEC 947/ EN60947*
Safety	*BS EN 61010 DIN 57411 / VDE 0411 ANSI C37*
Surge withstand	*IEC 801 / EN 55020 ANSI C37-90a*
Radio screening	*RFI degree N complies with VDEO87S*
EMC	*Emissions EN50081-2 Immunity EN50082-1*

RELAY OUTPUT

Relay type	*dual pole change over*
Material	*Silver / Cadmium*
Contact resistance	*200mOhm max Typically <50m Ohm*
Rating AC	*250V 5A non resistive 1200VA*
Rating DC	*125V 1A resistive 120 watts*
Electrical lije	*1 x 10^6 at above load*
Mechanical life	*5 x 10^6*
Operating time approx.	*7ms (20ms max)*
Dielectric strength	*Between coil and contacts 5kV RMS 1min Between open contacts 1kV RMS Imin Between adjacent contacts 1kV RMS imin*
Insulation resistance	*1000M Ohm at 5OOV DC*
Operating temperature	*-30 to + 75 deg C*
Approval	*UL and CSA recognised*

ENCLOSURE

Fixing	*Snap on to DIN rail 35 x7.5 mm complies with DIN-EN 50022 BS 5584*
Mounting	*Any position*
Enclosure Code	*Case IP 50/ terminals IP 30 Complies with IEC 529 BS 5490 DIN 40050*
Material	*Complying with UL 94 VO*

APPROVALS

U.L. Approval File No E157034

CASE DIMENSIONS

All Dimensions in mm