



# MM1220

## THERMOCOUPLE INPUT DUAL LIMIT ALARM

### FEATURES

- Provides Relay Contact Closures at Preset Thermocouple Input
- Cold Junction Compensated
- Fail-Safe, Latching, and Adjustable Deadband Available
- Red and Green LED Alarm Status Indicators
- 5 mV Minimum Input Span
- Unlimited\* Choice of Input Ranges
- Upscale Burnout Protection (Downscale Available)
- Choice of Power Options
- 10 Year Warranty

### DESCRIPTION

The MM122X monitors any thermocouple input signal and provides two sets of spdt, 5 A alarm relays with two independently adjustable setpoints. Each setpoint has a set of red/green LEDs to indicate alarm status. When the input is between the setpoints, the relays are normally de-energized. When the signal exceeds a particular setpoint, the relay becomes energized. To provide a fail-safe operation (loss of power resulting in alarm state), select Option R. The module can be

supplied as a HI/HI, HI/LO, or LO/LO alarm (HI/LO supplied if not specified).

Standard deadband on both alarms is fixed at 0.5% of span. (Option A provides adjustable deadband of 0.5% to 100% of span.) Option D, latching alarms, has no deadband control. Once the limit has been reached, the alarm latches and power to the module must be momentarily interrupted to reset the alarm.

Cold junction compensation is provided by a solid state temperature sensor embedded in the thermocouple terminal strip. All Wilkerson products are designed

with RFI filters and lightning protection to reduce susceptibility to electrical noise and damage by lightning.

Upscale burnout protection is provided as standard. In the event the thermocouple opens, the module behaves as though the input goes offscale high. Option B provides downscale burnout protection (module behaves as though the input goes low).

### TYPICAL APPLICATIONS

Heater/cooler control, HI/LO temperature alarm.

### SPECIFICATIONS

#### INPUT RANGE

select any type thermocouple  
(min span 5 mV)

#### SETPOINT

each alarm 0 to 100% of span

#### RELAY CONTACTS (spdt)

Resistive Load  
5 A max, 150 W max,  
240 VAC max, 30 VDC max

Inductive Load  
1/8 HP max at 120/240 VAC

#### DEADBAND

Standard  
fixed 0.5% of span  
(Option A)  
0.5% to 100% of span  
(Option D)  
Latching,  
Interrupt power to reset

#### TRANSISTOR OUTPUT (Option V)

relay driver  
(12 V coil,  $\geq 220$  ohms)  
or open-collector outputs sink  
100 mA, 30 V supply max

#### ACCURACY

$\pm 0.1\%$  of span

#### COMMON MODE REJECTION

120 dB, DC to 60 Hz

#### OPERATING TEMPERATURE

14°F to 140°F / -10°C to 60°C

#### TEMPERATURE STABILITY

$\pm(0.02\% \text{ of span} + 1.3 \mu\text{V})/^{\circ}\text{C}$   
max

#### POWER

115 VAC  $\pm 10\%$ , 50/60 Hz  
(2.5 W max)

230 VAC  $\pm 10\%$ , 50/60 Hz  
(2.5 W max)

(DC Power Option)

24 VDC (limits 21-32 VDC)

12 VDC (limits 10-16 VDC)

Isolation, DC power supply to  
input common: 10 megohms

\* Within specified range limits.

**ORDERING INFORMATION**

**POWER**

- 115 VAC, 50/60 Hz Power
- 230 VAC, 50/60 Hz Power
- 24 VDC, Power, Transformer Isolated
- 12 VDC, Power, Transformer Isolated

**INPUT**

**Select Units**

- Deg C  Deg F

**Enter Input**

Zero Scale

Full Scale

**Select Sensor**

- J TC
- K TC
- R TC
- S TC
- T TC
- E TC
- N TC
- B TC
- Other - Specify Notes

**Open Sensor Response**

- Upscale  Downscale

**ALARMS**

**Alarm Selection - Output**

- Relay
- Transistor, O.C.

**Alarm Type**

- High/Low
- High/High
- Low/High

**Alarm Logic**

- Normal - Energize On Alarm
- Reverse - De-Energize On Alarm

**Enter Setpoint Input Level**

Setpoint 1

Setpoint 2

**Adjustable Deadband (Option A)**

- Yes  No

**OPTIONS**

- Conformal Coating

**TAGS**

**Specify Tag Numbers**

Tag number is typed on product label at no charge.

**Enter Tag Number(s)**

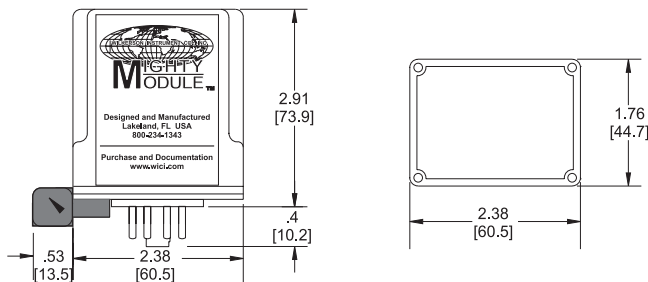
**ACCESSORIES**

**MM1220**

DR1	DIN-Rail, 35 mm Symmetrical, 39 inches (1 meter)	QTY _____
MP011	Plastic Socket, 11-pin Panel Mount or PVC Snap Track	QTY _____
TRK48	PVC Snap-Track, 4 ft. for MP008, MP011 & DMP8500	QTY _____
DMP011	DIN-Rail Mounting Socket, 11-pin, 35 mm Symmetrical Rail	QTY _____
CLP1	Holddown Assembly for MP008 and MP011	QTY _____
HKB-HK2D-11	Explosion-Proof Housing with MP011 Installed	QTY _____

**DIMENSIONS**

Inches [mm]



**CONNECTIONS**

PIN 1	Power AC L1 or DC +
PIN 2	No Connection
PIN 3	Power AC L2 or DC -
T/C Input +	T/C Terminal +
T/C Input -	T/C Terminal -
PIN 6	Relay Set 1 NO
PIN 7	Relay Set 1 C
PIN 8	Relay Set 1 NC
PIN 9	Relay Set 2 NO
PIN 10	Relay Set 2 C
PIN 11	Relay Set 2 NC