

# FR1000

## DC INPUT, FIELD RANGEABLE SINGLE ALARM, DPDT RELAY LATCHING OR NON-LATCHING

### FEATURES

- Allows Inputs to  $\pm 256$  V or  $\pm 100$  mA
- 16 mV or 0.8 mA Minimum Input Span
- Red and Green LED Alarm Status Indicators
- Adjustable Deadband
- Provides Relay Contact Closures at Preset DC Input
- Configure as HI or LO Alarm
- Alarm Normal or Reverse Acting
- Configure as Latching Alarm
- Fully Labeled Jumper Positions for Easy Range and Configuration Settings
- Choice of Power Options
- Size, Pinouts, and Performance Identical to MM1000
- Permanent Warranty

### DESCRIPTION

The FR1000 monitors a DC input signal and provides one dpdt, 5 A alarm relay with an independently adjustable setpoint. The setpoint has a set of red/green LEDs to indicate alarm status. The configuration of the alarm relay is user-settable as follows:

**High or Low** - High selects alarm on an increasing signal. Low selects alarm on a decreasing signal.

**Normal or Reverse** - Normal position selects fail-safe operation (loss of

power will result in alarm condition). The relay is energized in the non-alarm condition. When the setpoint is exceeded, the relay de-energizes. Selecting the reverse position reverses this logic.

**Deadband or Latching** - Deadband selects the independently adjustable deadband control. Deadband for the alarm is adjustable from 0.1% to 100% of the input span. The deadband is symmetrical about the setpoint. With latching selected, the alarm will latch

when the setpoint is exceeded, and can not be reset unless the input no longer exceeds the setpoint. Reset may be accomplished by remote contact closure or by momentary power interruption. (Several reset inputs may be tied to one reset contact, but note that all negative inputs will be tied together.)

All Wilkerson products are designed with RFI filters and lightning protection to reduce susceptibility to electrical noise and damage by lightning.

### SPECIFICATIONS

#### INPUTS

Limits  
select any voltage between -256 and +256 VDC  
select any current between -100 and +100 mA

Span (Selectable Ranges)

Voltage	Current
16-32 mV	.8-1.6 mA
32-64 mV	1.6-3.2 mA
64-128 mV	3.2-6.4 mA
128-256 mV	6.4-12.8 mA
256-512 mV	12.8-25 mA
.5-1 V	25-50 mA
1-2 V	50-100 mA
2-4 V	
4-8 V	
8-16 V	
16-32 V	
32-64 V	
64-128 V	
128-256 V	

#### INPUT OFFSET

$\pm 0, 25, 50, 75, 100\%$  of F.S.

#### INPUT IMPEDANCE

Voltage  
1 megohm  
Current  
20 ohms

#### SETPOINT

0 to 100% of span

#### DEADBAND

0.1% to 100% of span

#### LATCHING ALARM

Reset by remote contact closure or by momentary power interruption

#### RELAY CONTACTS

One dpdt  
Resistive Load  
5 A max, 150 W max,  
240 VAC max, 30 VDC max  
Inductive Load  
 $\frac{1}{8}$  HP max at 120/240 VAC

#### RESPONSE TIME

20 ms typical

#### 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

$\pm(0.02\%$  of span +30  $\mu$ V)/°C max

#### POWER

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

115/230 VAC (Selectable)  
(DC Power Option)

24 VDC (limits 21-32 VDC)  
12 VDC (limits 10-16 VDC)  
(2.5 W max)

Isolation, DC power supply to input common: 100 megohm

**ORDERING INFORMATION**

**POWER**

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

**INPUT**

**Select Units**

- VDC     mADC

**Enter Input**

Zero Scale

Full Scale

**ALARMS**

**Alarm Type**

- High     Low

**Alarm Logic**

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

**Enter Setpoint Input Level**

Setpoint 1

**Latching Mode**

- Latching     Non-Latching

**OPTIONS**

- Conformal Coating

**TAGS**

**Specify Tag Numbers**

Tag number is typed on product label at no charge.

**Enter Tag Number(s)**

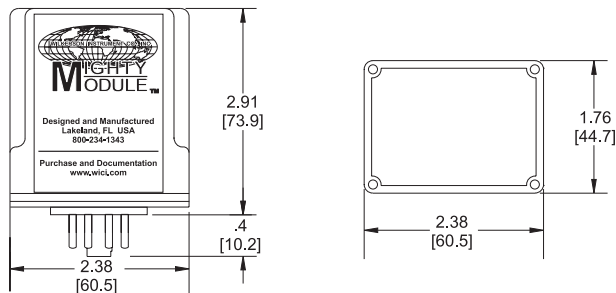
**ACCESSORIES**

**FR1000**

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 Latch Reset
- PIN 3 Power AC L2 or DC -
- PIN 4 Input +
- PIN 5 Input -
- 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