



# MM4310

## DC INPUT, LOW INPUT SPAN FIXED RANGE, ISOLATED TRANSMITTER

### FEATURES

- Provides a Fully Isolated DC Output Proportional to DC Input
- 10 mV Minimum Input Span
- Unlimited\* Choice of Input/Output Ranges
- Choice of Power Options
- 10 + 5 Year Warranty

### DESCRIPTION

The MM4310 provides a DC output, fully isolated from input, line power and ground, proportional to a DC input. It is useful in eliminating ground loops and common mode signals. The MM4310 contains a superior input amplifier for narrow span inputs down to 10 mV. All Wilkerson products are designed

with RFI filters and lightning protection to reduce susceptibility to electrical noise and damage by lightning. It utilizes pulse width modulation to develop a pulse train with a duty cycle proportional to the input signal amplitude. This pulse train is coupled through a pulse transformer where the duty cycle data is converted to a proportional DC level in the output circuits.

### TYPICAL APPLICATIONS

Eliminates ground loops and large common mode signals. Use for voltage/current scaling and conversion with isolation for buffering and noise reduction.

### SPECIFICATIONS

#### INPUT RANGE

Voltage  
select any range between  
 $\pm 20$  V max (min span 10 mV)

Current  
select any range between  
 $\pm 5$  A max (min span 1 mA,  
internal shunt)

#### Current

select any range from 0 to  
50 mA max, >24 V compliance  
(1200 ohms max at 20 mA)  
18 V compliance if full-scale  
output > 20 mA

#### LINEARITY

$\pm 0.05\%$  of span

#### COMMON MODE REJECTION

120 dB, DC to 60 Hz

#### OPERATING TEMPERATURE

14°F to 140°F / -10°C to 60°C

#### INPUT IMPEDANCE

Voltage: 200 kilohms  
Current:

Input	Input Shunt Value
1 mA	100 Ohm
10 mA	10 Ohm
20 mA	5 Ohm
4/20 mA	61.9 Ohm
100 mA	1 Ohm
1 A	0.1 Ohm
5 A	0.01 Ohm

#### ISOLATION

Breakdown, Output / Input  
>500 megohms  
>1000 VAC rms

Breakdown, Power / Circuitry  
>1500 VAC rms

#### TEMPERATURE STABILITY

$\pm(0.02\%$  of span +1.3  $\mu$ V)/°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)

#### RESPONSE TIME

(Range Dependent)  
 $\leq 100$  ms

(DC Power Option)

24 VDC (limits 21-32 VDC)  
(2.5 W max)

#### OUTPUT RANGE

Voltage  
select any range from -10 V to  
+15 V, 10 mA max load (min  
span 0.2 V)

#### ACCURACY

$\pm 0.1\%$  of span

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
- 12 VDC, Power, Transformer Isolated
- 24 VDC, Power, Transformer Isolated

**INPUT**

**Select Units**

- VDC     mADC

**Enter Input**

Zero Scale

Full Scale

**OUTPUT**

**Select Units**

- 
- VDC     mADC

**Enter Output**

Zero Scale

Full Scale

**Select Output Logic**

- Normal Acting
- Reverse Acting

**OPTIONS**

Conformal Coating

**TAGS**

**Specify Tag Numbers**

Tag number is typed on product label at no charge.

**Enter Tag Number(s)**

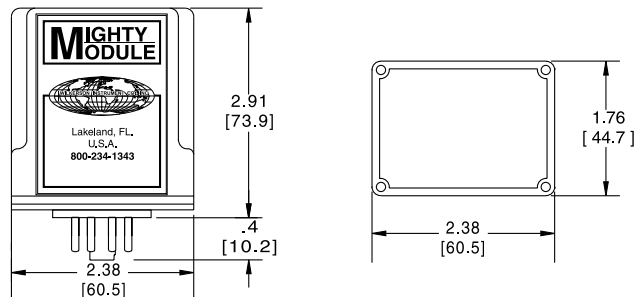
**ACCESSORIES**

**MM4310**

DR1	DIN-Rail, 35 mm Symmetrical, 39 inches (1 meter)	Qty_____
MP008	Plastic Socket, 8-Pin, for Flat Surface or PVC Track	Qty_____
TRK48	PVC Snap-Track, 4 ft, for MP008, MP011, & DMP8500	Qty_____
DMP008	DIN-Rail Mounting Socket, 8-Pin, 35 mm Symmetrical Rail	Qty_____
CLP1	Holddown Assembly for MP008 and MP011	Qty_____
HKB-HK2D-8	Explosion-Proof Housing with MP008 Installed	Qty_____

**DIMENSIONS**

Inches [mm]



**CONNECTIONS**

PIN 1	Power AC or DC+
PIN 2	No Connection
PIN 3	Power AC or DC -
PIN 4	No Connection
PIN 5	Signal Input +
PIN 6	Signal Input -
PIN 7	Signal Output +
PIN 8	Signal Output -