



# MM4402 AND MM4408

## ADDER/SUBTRACTER TRANSMITTERS

### FEATURES

- Provides DC Output Proportional to Math Function
- Choice of Power Options
- 1 V or 1 mA Minimum Input Span
- 10 + 5 Year Warranty
- Unlimited\* Choice of Input / Output Ranges

### DESCRIPTION

The MM4402 and MM4408 provide a DC output voltage or current proportional to the sum or difference of the DC inputs. Typical input ranges are 4/20 mA, 10/50 mA, 0-1 V, 0-5 V and 0-10 VDC. Other ranges are available down to minimum spans of 1 V or 1 mA DC.

MM4402 Output =  $(A+B)/2$

MM4408 Output =  $A-B$

Seven other models are available, offering

combinations of additive and subtractive inputs. Contact Factory.

Standard calibration provides 0% output when all inputs are at 0%. Full scale (100%) output occurs when all additive inputs are at 100% and all subtractive inputs are at 0%. Other calibrations are available.

All Wilkerson products are designed with RFI filters and lightning protection to reduce

susceptibility to electrical noise and damage by lightning.

### TYPICAL APPLICATIONS

Adding and subtracting flows, weights, etc. for process monitoring, control and data acquisition.

### SPECIFICATIONS

#### INPUT RANGE

Voltage

select any range between  $\pm 250$  V (min span 1 V)

Typical inputs:

0-1 V, 0-5 V, 0-10 V

Current

select any range between  $\pm 100$  mA max (min span 1 mA)

Typical inputs:

4/20 mA or 10/50 mA

#### INPUT IMPEDANCE

Voltage

100 kilohms

Current

1.25 V drop typical, others available

#### OUTPUT RANGE

Voltage

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

Current

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

#### RESPONSE TIME

(Range Dependent)

$\leq 100$  ms

#### BALANCE BETWEEN INPUTS

$\leq 0.2\%$

#### LINEARITY

$\pm 0.01\%$  of span

#### ISOLATION

Breakdown, Power / Circuitry >1500 VAC rms

#### OPERATING TEMPERATURE

14°F to 140°F / -10°C to 60°C

#### TEMPERATURE STABILITY

$\pm 0.02\%$  of span/°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)

(DC Power Option)

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

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

**OPTIONS**

- Conformal Coating

**TAGS**

**Specify Tag Numbers**

Tag number is typed on product label at no charge.

**Enter Tag Number(s)**

**Attach equation that defines the math function desired. Also include any tables or charts.**

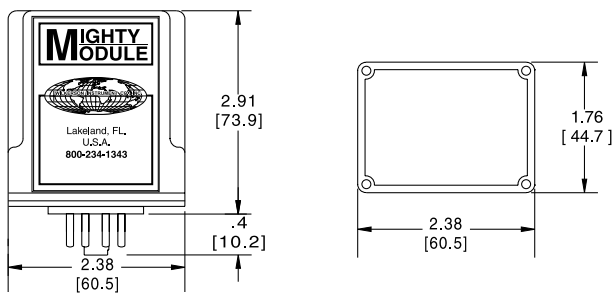
**ACCESSORIES**

**MM4402 AND MM4408**

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. (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	AC L1 or DC +
PIN 2	No Connection
PIN 3	AC L2 or DC -
PIN 4	Input A
PIN 5	Input Common
PIN 6	Input B
PIN 7	No Connection
PIN 8	No Connection
PIN 9	Output +
PIN 10	Output -