



MM440X

ADDER/SUBTRACTER TRANSMITTERS

FEATURES

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

DESCRIPTION

The math function module provides 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.

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.

Models and Functions

MM4400 Output = $(A+B+C+D)/4$

MM4401 Output = $(A+B+C)/3$

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

MM4403 Output = $(A+B+C-D)/3$

MM4404 Output = $(A+B-C-D)/2$

MM4405 Output = $(A-B-C-D)/2$

MM4406 Output = $(A+B-C)/2$

MM4407 Output = $(A-B-C)$

MM4408 Output = $(A-B)$

SPECIFICATIONS

INPUT RANGE

Voltage

select any range between ± 250 V (min span 1 V)

Typical inputs:

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

Current

select any range between ± 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)

≤ 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 $\pm 10\%$, 50/60 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

- VDC mADC

Enter Input

Zero Scale

Full Scale

OUTPUT

Select Units

- VDC mADC

Enter Output

Zero Scale

Full Scale

OPTIONS

- Conformal Coating
- Isolation

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.

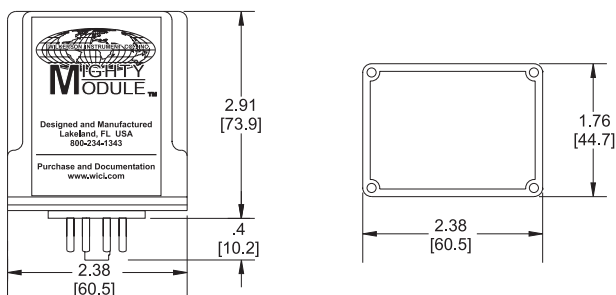
ACCESSORIES

MM440X

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. (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	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	Input C +
PIN 8	Input D +
PIN 9	Output +
PIN 10	Output -