

MR1000 Series MB1000 Series

Mini Rate/Totalizer Mini Batch Controller

Description

The MR1000 Miniature Rate/Totalizer provides two-level preset control of flow rate and total. Two pulse input channels enable the MR1000 to handle add/subtract and quadrature inputs, in addition to a standard single channel input. Five-digit floating decimal scale factors allow the MR1000 to display total count in engineering units and rate in units per second, minute, or hour. Two separate 10 A relay contacts can be used to operate secondary control devices.

The MB1000 Miniature Batch Controller provides two-level preset control of batch total. One output is dedicated to the batch amount (preset A) and the other may be activated for Prewarn or Batch Grand Total. Start, Stop and Reset functions can be activated from the front panel or remote inputs. An analog output, assignable for Rate or Batch Total, is available for datalogging.

RS232 or RS422 serial communication is available with either unit above for data exchange with a host computer.

Features

- Display rate and total flow
- Two presets outputs
MR1000: rate and total
MB1000: batch amount and prewarn or batch total
- 5-digit floating decimal scaling factor
- Two-stage lockout
- Add/subtract and quadrature input (MR1000 only)
- 12 VDC sensor excitation
- RS232/RS422 serial communication
- NEMA 4/IP 65 front panel
- 30 mV magnetic pickup inputs
- 4–20 mA or 0–20 mA analog output



MR1000 Series/MB1000 Series
Mini Rate/Totalizer/Mini Batch Controller

Specifications

Display	6 digit, 0.55" high LED
Input Power	110 VAC $\pm 15\%$ or 12–15 VDC 220 VAC $\pm 15\%$ or 12–15 VDC 24 VAC $\pm 15\%$ or 12–15 VDC
Output Power	+12 VDC at 50 mA, unregulated -10 +50% (AC powered units only)
Maximum Current	250 mA DC or 6.5 VA at rated AC voltage
Count Inputs	
MR1000/MB1000	
3:	High impedance DC open, or 0–1 VDC (low), 4–30 VDC (high), 10 K Ω imp. 10 kHz max.
3M:	Magnetic pick-up, A only, 30 mV (50V max. P/P) signals 10 K Ω imp., 5 KHz max. (input B, 4–30V)
MR1000 only	
3MB:	Magnetic pick-up, inputs A & B, 30 mV (50V max. P/P), signals 10 K Ω imp., 5 kHz max.
9:	Quadrature, 4–30 VDC pulse, 10 kHz max.
9MB:	Quadrature, 30 mV (50V max. P/P) pulses, 9.99 kHz max. (MR1000 only)
Control Outputs	
Relay	Two N.O. relays; 10 amps at 120/240 VAC or 28 VDC (N.C. relay contacts and NPN transistor output available with solder jumpers. Transistor output is internally pulled up to 10 VDC through relay coil, sinks from 10 VDC to 0.5 V at 100 mA)

Specifications (cont'd)

Analog An optional 4–20mA (0–20mA) output is available to track rate or total

Accuracy: ± .25% F.S. — worst case

Compliance

Voltage: 3–30 VDC non-inductive

Temperature

Operating +32° F to +130° F (0° C to +54° C)
Storage -40° F to +200° F (-40° C to +93° C)

Reset

Front Button
MR1000: Functions as a reset/enter and displayed in numbers for control outputs

MB1000: Also functions as a stop/enter, reset and prewarn mode

Remote 4–30 VDC negative edge resets Counter A and control output

Memory

EEPROM stores data if power is lost

CE

Marked compliant w/ EMC directive
89/336/EEC (1989) Light Industrial Class 1

Model Numbering System



Controller Type

MR10 = Rate/totalizer *

MB10 = Batch controller *

Operating Voltage

A = 110 VAC±15% or 11–15 VDC *

B = 220 VAC±15% or 11–15 VDC

C = 24 VAC±15% or 11–15 VDC

Control Inputs

3 = High impedance DC pulse 4–30 VDC *

3M = Magnetic pick-up input 30 mV on input A only, 4–30 VDC on input B

MR1000 only:

3MB = Magnetic pick-up input 30 mV on inputs A & B

9 = Quadrature pulse, 4–30 VDC

9MB = Quadrature pulse, 30 mV

Options (Choose One)

0 = None *

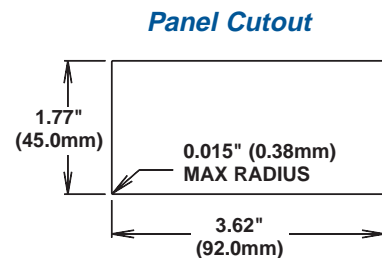
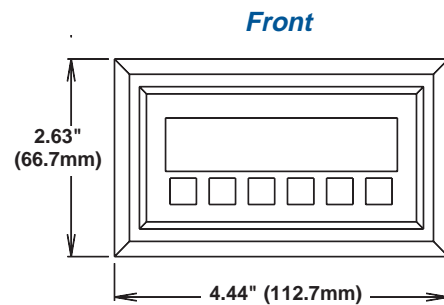
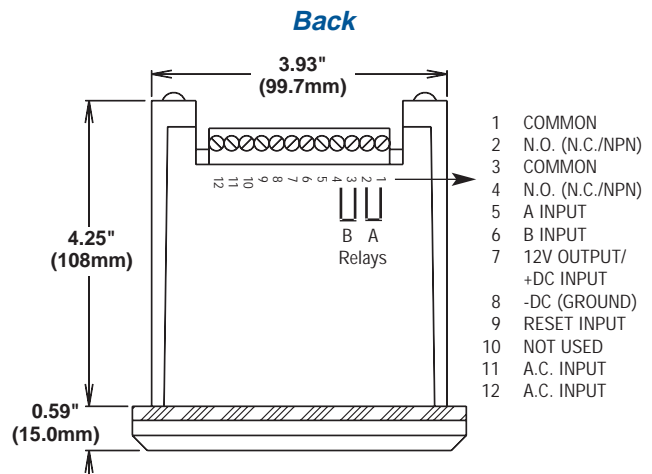
1 = RS232 serial communication

2 = RS422 serial communication

A = Analog output (4–20/0–20mA)

* Standard Configuration

Dimensions & Terminal Allocations



Enclosure

Model NEA885AB3

Description: NEMA 4X Enclosure for mounting 1 or 2 MR1000/MB1000 displays.

Part Number:

73-65956-01 1 Panel Cutout

73-65956-02 2 Panel Cutouts

Enclosure Outside Dimensions: 7.40 x 7.40 x 5.20 in.
(188 x 188 x 132 mm)

Specifications are for reference only and are subject to change without notice.

Local Representative:



8930 S. Beck Avenue, Ste 107, Tempe, Arizona 85284 USA

Tel: (480) 240-3400 • Fax: (480) 240-3401 • Toll Free: 1-800-528-4225

E-mail: ftimarket@ftimeters.com • Web: www.ftimeters.com



DB 65118 Rev C © 2003 FTI Flow Technology, Inc. Printed in USA