

RTP

Two Separate Ratemeters, Totalizers With Two Line LCD Display

Features

- Two pulse and three control inputs
- Two relay/Open Collector and 4-20 mA Analog outputs
- RS232/ RS485 port for serial communication and printing
- Security lockout
- NVRAM to retain data on power failure
- NEMA 4 / IP65 Front Panel



DESCRIPTION:

The RTP is a presettable Ratemeter and Totalizer from two pulse inputs. It can show rate and total at the same time on the 2 X 16 backlit LCD display. Both inputs can have up to 16 point linearizing k factors. The unit can be connected in a network for Data Acquisition.

SPECIFICATIONS:

INPUT POWER: AC: 110 V or 220 V; 6.5 VA AC
DC: +24 VDC

INPUT CURRENT: 250 mA DC maximum

INPUT A: 4-24 VDC Pulse, 10 kHz

INPUT B: 4-24 VDC Pulse, 10 kHz

INPUT C: Control Input

INPUT D: Control Input

INPUT E: Control Input

NOTE: All 5 inputs are isolated. Input levels are:
4-24 VDC (high); Open or 0 to 1 VDC (low)

OUTPUT POWER: +24VDC @25 mA (unreg), +/- 15%

DISPLAY: 2 lines of 16 characters, backlit LCD
(character size: 2.95mm x 5.55mm)

BEZEL: NEMA 4/IP65 rated membrane keypad

INDICATORS: Two LED's to indicate control output status. (Red = Output A, Green = Output B)

MEMORY: NVRAM retains data on power failure

TEMPERATURE: Operating : 0 to 50 degrees C
Storage : -40 to 90 degrees C

HUMIDITY: 10% to 90% (Non condensing)

SIZE: Bezel: 103mm X 55 mm; Depth: 97 mm

PANEL CUTOUT: 92 mm X 45 mm (1/8 DIN size cutout)

IMMUNITY TO ESD: Level 3 per IEC1000-4-2

IMMUNITY TO TRANSIENTS: Level 3 per IEC1000-4-4

RADIATED SUSCEPTIBILITY: Level 3 per IEC1000-4-3

Emissions: **EN55011 CISPR A**

PULSE INPUTS

The RTP can accept two pulse inputs (A&B). It computes rate and total of A, B, A+B and A-B. For both inputs the user can define up to 16 points of "k" factors. This allows linearization of the displayed rate, which is useful in improving the accuracy of the flowmeter.

The rate is computed within 300 ms per input. To stabilize the rate display, the user can select normalizing factor, which allows weighted average to be shown. Moreover, for rate displays, a time delay of up to 25 seconds can also be selected.

CONTROL INPUTS

The RTP has three Control Inputs (for RS-232 only), i.e. Input C, Input D and Input E. The Control inputs are isolated. Each input can be configured to start/stop each counter or reset each counter and Control Output. These inputs can also perform different control actions like printing on serial port, lock unit and freeze display.

RESET OPTIONS

The entire unit, i.e. all counters and control outputs, or Counter A, Counter B, Counter A+B, Counter A-B, Control O/P A and Control O/P B can be individually programmed to be reset on pressing the front panel RST key and also through any of the Control I/Ps C, D and E.

SERIAL COMMUNICATION

The serial port can be used for serial printing or also for data acquisition. The unit can communicate with a master device through a Modbus-RTU protocol. The data given for each parameter is in IEEE float format comprising of 2 words. The unit can be connected in a network.

CONTROL OUTPUTS

The RTP has the following Control Outputs:

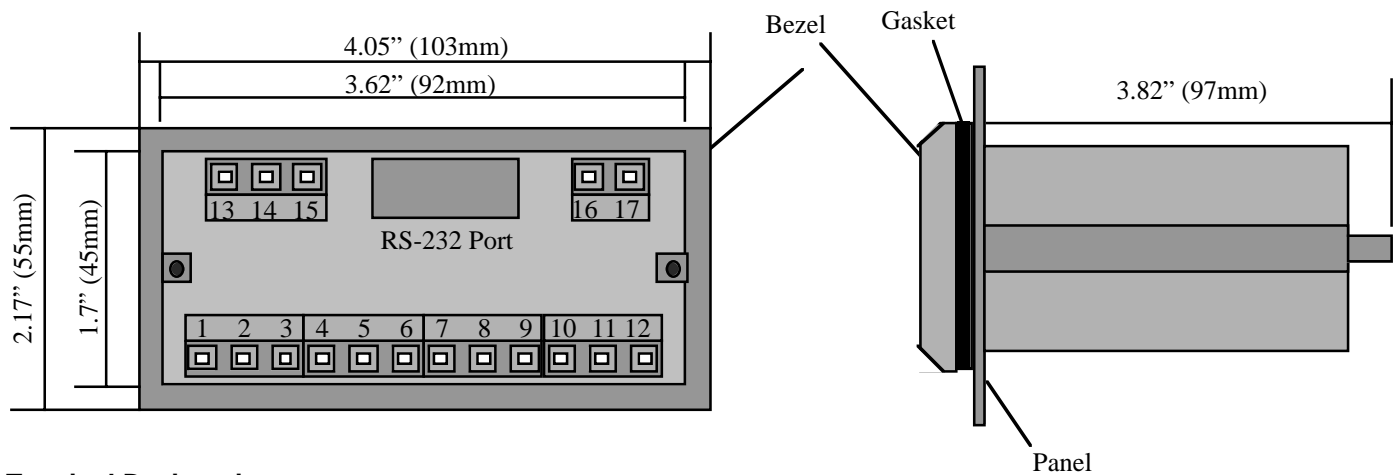
- RELAY / O.C. : 2 N.O. / N.C. relays of 5 A and 250 V OR
2 Open Collector Outputs;
100 mA maximum.

ANALOG OUTPUT: 4-20 mA output. This Analog O/P can be programmed to track any parameter. Reverse analog O/P is also available.

PRESETS: The unit supports five counters, i.e. Counter A, Counter B, Counter A+B, Counter A-B and Grand Total. The counters can either be reset to zero, set to preset or can be disabled. Counter A and B can be programmed to count UP or count DOWN. The two relays can be programmed to track the counters in Timed mode. If Low preset is selected, the relays will energize when the count

goes below the preset value and they will remain energized till the programmed time is over. On the other hand, if high preset is selected, then the relays will energize when the count goes above the preset value and they will remain energized till the programmed time is over. The two relays, A and B can be programmed to track the rate in the Hysteresis mode. In this mode, both the Low and the High preset values of the Hysteresis have to be given.

LOCKOUT: The unit program and presets can be protected with a Lock code to prevent unauthorized front panel changes. This code can be assigned with a maximum of 4 digits and is user selectable. It can be entered through front panel LOCK key or by configuring any of the Control I/Ps to "Lock unit". Alternate pulses to that I/P will lock or unlock the unit.



Terminal Designations:

- | | |
|---------------------|-------------------|
| 1 • N.O/N.C. A | 13 • EARTH |
| 2 • COMMON | 14 • 110 VAC |
| 3 • N.O/N.C. | 15 • 110 VAC |
| 4 • COMMON | 16 • DC (+24 VDC) |
| 5 • GROUND | 17 • DC (-) |
| 6 • CTRL I/P E | |
| 7 • CTRL I/P D | |
| 8 • CTRL I/P C | |
| 9 • CTRL I/P B | |
| 10 • CTRL I/P A | |
| 11 • ANALOG O/P (+) | |
| 12 • ANALOG O/P (-) | |

Ordering Information

RTP (coming soon)

Example: RTP A 1

Series: |

RTP= Pulse Input Ratemeter
 Totalizer

Operating Voltage: |

A= 110 VAC ± 15% or 12 to 15 VDC
B= 220 VAC ± 15% or 12 to 15 VDC

Options: |

1= RS-232, 3 Control Inputs
2= RS-485, 2 Control Inputs

KEYPAD FUNCTIONS		
KEY	Run Mode	Program Mode
[PROG]	Enter The Programming Mode	Toggles between menus
[VIEW]	VIEW key scrolls through the selected viewing parameters	Left key shifts digits in number entry/characters in message mode
[PRE A]	PRE A key allows Preset A to be changed if unit is not locked	Up key increments digits/characters
[CLR PRE B]	PRE B key allows Preset B to be changed if unit is not locked	CLR key clears the numeric field
[ENT LOCK]	Lock Key allows the entry of a lock code to lock/unlock the unit	ENT key saves changes and steps to next menu
[RST]	RST Key resets counters (with/without confirmation)	Unit comes out of programming at any level