

VA12

Economical Pulse Input Totalizer/Ratemeter



Features

- Separate Scaling Factors For A & B Inputs
- Display Rate & Total
- Pulse Input - 10 kHz Max.
- RS422/RS232 Serial Communication (optional)
- Modbus RTU RS422/RS485/RS232 (optional)
- NEMA 4X / IP65 Front Panel
- Separate Add/Subtract Simultaneous Inputs
- Quadrature and Up/Down Direction Control Inputs (optional)
- 30mV Magnetic Pickup Inputs (optional)
- 4-20mA or 0-20mA Analog Output (optional)
- CSA Listed

Application:

Any rate, total or blending application where 2 preset alarms and scaling are required.

Description:

The VA12 is a 6 digit totalizer / ratemeter with two level, 5 digit preset alarm control of total or rate. Inputs A & B have separate scaling K-factors. The totalizer can be programmed for "A" subtract "B", "A" add "B" or A & B as separate totalizers, with display and control of the "net" total and rate of "A". The VA12 can accept up to 10,000 pulses per second. It has a 5 digit floating decimal scale factor allowing total readout in true engineering units and rate per second, minute or hour. Input "A" simultaneously drives a ratemeter which can be programmed to display the basic frequency (rate per second) or factored to show rate per minute or rate per hour. Simply push the "VIEW" button to see either total or rate without losing a count. Two separate 5 A relay contacts can be set to operate at either rate or total presets in a latch or auto-recycle mode with output timing from 0.1 to 99.9 seconds. Two control outputs can be assigned to either the totalizer or ratemeter and can automatically recycle at the batch or stay latched until reset. Up to 99 units can communicate to a host computer on a single RS232 loop.

Specifications:

Display: 6 digit, 0.55" High LED

Input Power:

110 VAC \pm 15% or 12 to 15 VDC

220 VAC \pm 15% or 12 to 15 VDC

24VAC \pm 15% or 12 to 15 VDC

Current: 250 mA DC max. or 6.5 VA AC

Output Power: (AC powered units only)
+12 VDC @ 50 mA, unregulated -10 + 50%

Temperature:

Operating: +32°F (0°C) to +130 F (+54°C)

Storage: -40 F (-40°C) to +200°F (93°C)

Humidity:

0-90% Noncondensing

Memory: EEPROM stores data for 10 years if power is lost.

Inputs:

High Impedance DC pulse input 4-30 VDC (high), Open or 0-1 VDC (low), 10 K Ω imp. 10 kHz max. speed. Accepts simultaneous inputs.

Approvals: CSA File# LR91109-7, CE Compliant

Reset:

Front Panel:

Resets displayed value and control output

Remote:

4-30 VDC negative edge resets Totalizer "A" and control output

Control Outputs:

Relays:

2 each N.O. Relay; 5 Amps 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 .5 V @ 100 mA)

Analog Output:

An optional 4-20mA (0-20mA) output is available for the VA12 series. The output can be programmed to track rate or total. This feature is available by adding suffix A to the part number. Connections are via a 2 terminal pluggable screw connector. Programming is accomplished by using the front panel in conjunction with rear dip switches. Accuracy: \pm .25% FS worst case.

Compliance Voltage: 3 to 30 VDC non inductive.

Scaling Factor (K-Factor): In the standard unit, a user programmable K-Factor is used to convert the input pulses to engineering units. The 5 digit K-Factor dividers, with

decimal keyed into any position, allow easy direct entry of any K-Factor from 0.0001 to 99999. Separate factors may be entered for the 2 separate input channels.

Presets: Two control outputs are provided. To set relay values, press "menu" button until "Relay" appears on the display, the A and B outputs can be assigned to the ratemeter (high/low), one preset for rate and one for total, or two presets on the A and B totalizers. A 5 digit value can be entered for both presets and the decimal point location is the same as the counter. The outputs can be set to energize from 0.1 to 99.9 seconds or latch (0.0). If a value other than 0.0 is entered, the totalizers will auto reset at the preset. In the A-B or A+B versions, the relays will be assigned to either net total or A rate.

Lockout: Unauthorized front panel changes can be prevented by entering a user selected 5 digit code in the "LOC" mode. The front panel can be completely locked out or the presets can remain accessible.

Ratemeter: Accuracy: 0.01% FS (± 1 display digit). The rate display updates once per second. The rate meter can be programmed to accept almost any number of pulses per unit of measurement, sample from 2 to 24 seconds

maximum, and auto-range up to 5 digits of significant information. In the "RPS" mode, the ratemeter displays in units per second, and in the "scale" mode, units per hour or per minute. The unit will display the rate of the A Input only.

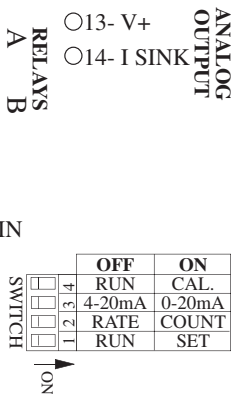
Totalizer: The two 6-digit totalizers can count at 10 kHz max. Each can have a 5-digit dividing scale factor. The totalizer advances on the positive edge of each pulse. Count up or down modes available, as are quadrature inputs from encoders for position or flow measurement. The unit can be programmed to view the net value of "A+B" or "A-B", or A and B as separate totalizers.

RS232: If the serial interface option is supplied, multiple units can be linked together. (The terminal addressing the unit must be capable of driving all loads in the loop.) Unit status and new set points can be communicated by serial communication. Mode changes, however, must always be made on the front panel.

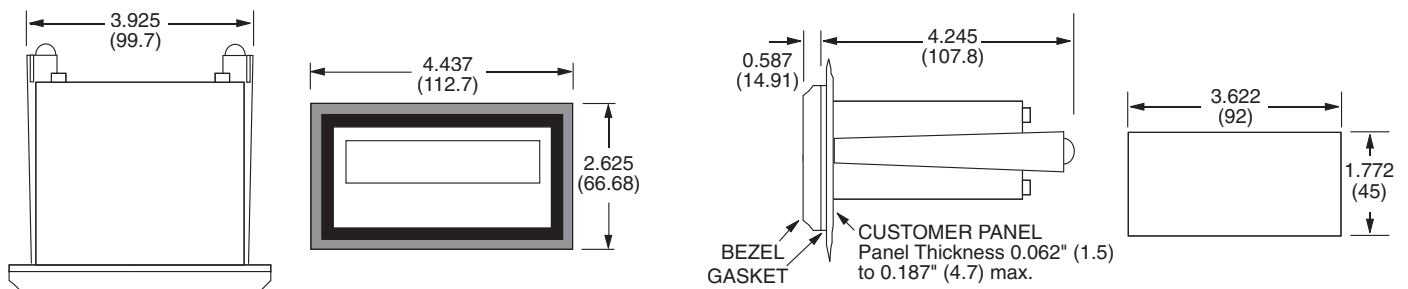
Data is received and transmitted over standard EIA RS232 levels. Unit number, baud rate and parity are entered in the "Program Setting" set up mode and remain in memory even if power is off.

Termination:

- 1- COMMON
- 2- N.O.(N.C./NPN)
- 3- COMMON
- 4- N.O.(N.C./NPN)
- 5- A INPUT
- 6- B INPUT
- 7- 12VDC OUT/+DC IN
- 8- -DC (GROUND)
- 9- RESET INPUT
- 10- NOT USED
- 11- A.C. INPUT
- 12- A.C. INPUT
- 13- V+
- 14- I SINK



Mounting:



Ordering Information

Example: VA12 A 3 1

Series: VA12= 6 digits, ratemeter/totalizer with presets and scaling.

Operating Voltage:

- A= 110 VAC \pm 15% or 12 to 15 VDC
- B= 220 VAC \pm 15% or 12 to 15 VDC
- C= 24 VAC \pm 15% or 12 to 15 VDC

Count Inputs: 3 = Standard, 4-30 VDC simultaneous inputs.

Options:

- 1= RS232 Communications
- A= Analog Output (4-20/0-20 mA)

NOTE: RS232 & Analog Output options can not be combined



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