

BAT RAT

Battery Powered Ratemeter & Totalizer with Alarm Output

Features

- Magnetic Pickup Input, Contact Closure Input, DC Pulse Input (Optically Isolated)
- Displays Rate & Total Simultaneously
- 4 ^{1/2} Digit Rate Display, 8 Digit Totalizer Display
- 4-20mA Analog Output (optional)
- Powered From Internal Battery, External DC Supply or 4-20 mA Output Loop
- 10 Pt. Linearization
- Isolated Alarm Output
- Intrinsically Safe Option
- New, Attractive NEMA4 Wall Mount Enclosure

Description

Featuring 4^{1/2} digits of rate and 8 digits of total, the BAT RAT is a battery powered indicator with flow rate alarm output. It is capable of accepting magnetic pickup, DC pulse and switch closure inputs. The unit can be ordered with an optional 4-20mA output. The BAT RAT uses the 4-20mA loop to provide power when this output is used.

Specifications

Power:

BATTERY POWERED

Supplied with 2 C size Lithium battery pack.

EXTERNAL POWER INPUT

Voltage: 8.5 to 30 VDC

Current: Less than 5 mA

Supplied with 1 C size lithium battery

Protection: Reverse Polarity Protection on DC Power Input

LOOP POWERED

Voltage: 8.5 to 30 VDC

Supplied with 1 C size lithium battery

Protection: Reverse Polarity Protection on Current Loop

Loop Burden: 8.5V maximum

Display:

Rate Display: (selectable decimal)

4.5 Digits (19999), 0.35" High, 2 sec. display update rate

Rate Descriptors: /SEC, /MIN, /HR

Min. Input Frequency: .125 Hz to 10 Hz

Totalizer Display: (selectable decimal)

8 Digits (99999999), 0.2" High

Totalizer Descriptors: GAL, LIT, FT3, M3, "blank"

Warning Displays: Low battery warning "BAT"

Alarm Output:

Combination High-Low flow rate alarm output activates when flow rate is less than low set point or greater than high set point.

Type: Opto-isolated open collector transistor.

Max. voltage (off state): 100 VDC

Current (on state): 100 mA

Mounting Styles:

- | | |
|----------------------|---|
| 0- Circuit Board- | OEM option (consult factory) |
| 1- Panel Mount - | NEMA 4X Front |
| 2- Wall Mount - | NEMA 4X Enclosure with BAT RAT mounted behind clear cover |
| 3- Explosion Proof - | Class I, Division I, Groups B, C & D
Class II, Division I, Groups E, F & G |
| 5- Wall Mount - | NEMA 4X with keypad mounted outside opaque cover |



Environmental:

OPERATING TEMPERATURE

-4°F (-20°C) to + 158°F (70°C)

Extended Temp: -22°F (-30°C) to + 158°F (70°C)

HUMIDITY

0 - 90% Noncondensing

Accuracy:

0.01% Reading, ±1 count

Temperature Drift: 50 ppm/°C Worst Case

Inputs:

MAGNETIC PICKUP INPUT

Frequency Range: 0 to 3500 Hz

Trigger Sensitivity: 30 mV p-p

Over Voltage Protected: ± 30 VDC

OPTO-ISOLATED DC PULSE INPUT

High (logic 1): 4-30 VDC

Low (logic 0): Less Than 1 VDC

Minimum Current: .5 mA

Frequency Range: 0 to 5 kHz

Min. Pulse Width: 0.1 msec

CONTACT CLOSURE INPUT (contact closure to common)

Internal Pullup Resistor: 100 KΩ to +3.6 VDC

High (logic 1): Open or 4-30 VDC

Low (logic 0): Less Than .5 VDC

Internal Switch Debounce Filter: 0 to 40 Hz

RESET INPUT (contact closure to common)

Internal Pullup Resistor: 100 KΩ to +3.6 VDC

High (logic 1): Open or 4-30 VDC

Low (logic 0): Less Than .5 VDC

Minimum On : 25 msec

K-FACTOR

Range: 0.001 to 59999 (divider)

Decimal Point Locations: XX.XXX to XXXXX

Multiplier: 1, 10, 100, 1000

10 Point Linearization Option

This feature allows the user to enter 10 different frequencies with 10 different corresponding K-Factors to linearize non linear signals.

Analog Output Option:

Type: 4-20 mA follows rate display, Two wire hookup

Accuracy: 0.15% Full Scale at 20° C

Temperature Drift:

50 ppm/°C Typical (200 ppm/°C Worst Case)

Reverse Polarity Protected

NOTE: The BAT RAT uses the 4-20 mA loop power as its power source when this option is used.

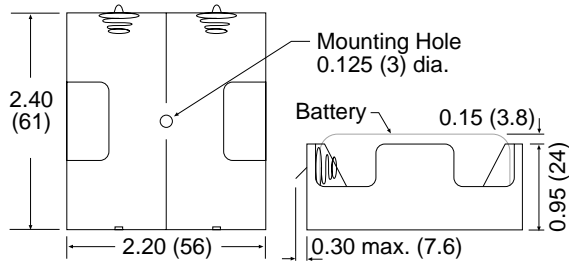
Listing:

CE Compliant,

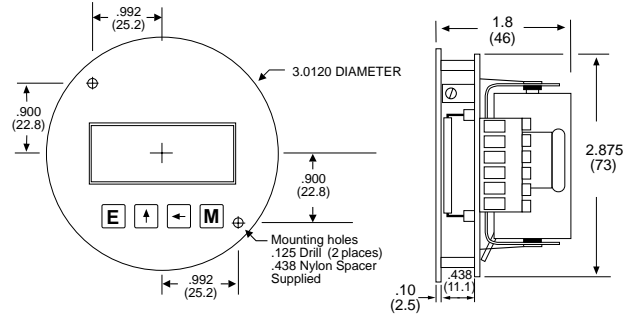
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ULIS Pending

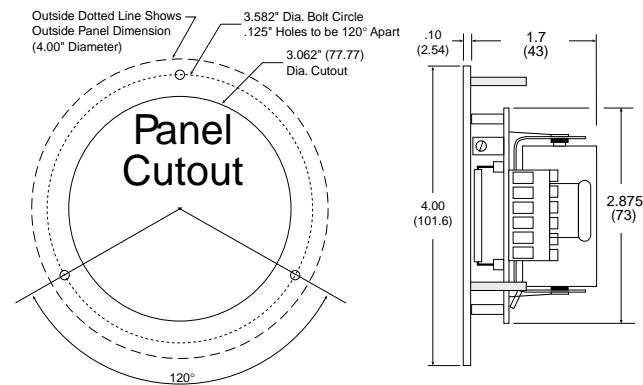
BATPACK



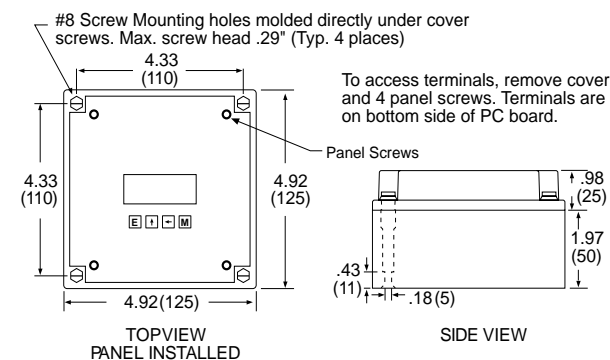
BATRAT-0



BATRAT-1

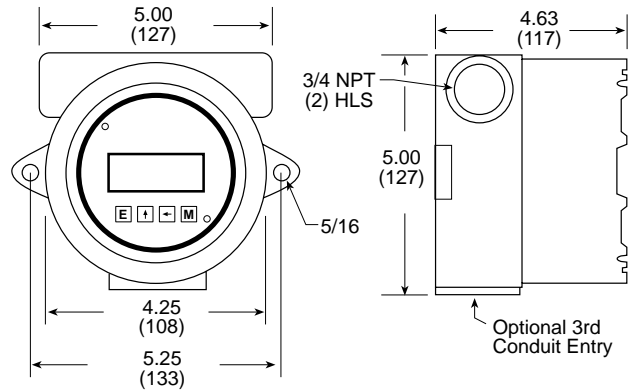


BATRAT-2

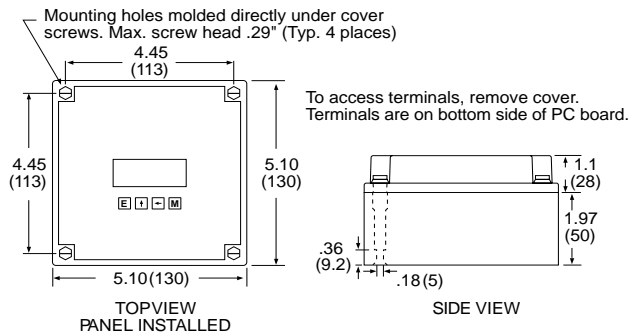


BATRAT-3

To access terminals, unscrew cover and loosen 2 panel screws. (If screws are removed, spacers may drop out.) Terminals are on bottom side of PC board.



BATRAT-5



Ordering Information

EXAMPLE: BATRAT 3 A 4 ET

Series: _____

Mounting: _____

* 0 = OEM

* 1 = Panel Mount

2 = NEMA 4X Box (Bat R/T behind clear cover)

3 = Explosion Proof Housing

5 = NEMA 4X Box (Bat R/T outside opaque cover)

6 = Double Ended Explosion Proof Housing

Power Supply: _____

* A = Battery (2 supplied)

B = External Power Supply (8.5 to 30 VDC)

C = Loop Powered with 4-20 mA Output

AC = Loop Powered with 4-20 mA Output and 2 Batteries

Options (Multiple Options Available) _____

4 = 10 Point Linearization

ET = Extended Temp.: -22°F to 158°F (-30°C to 70°C)

CE = CE Approved Version

CSA = CSA Approved Version (explosion proof)

IS** = Intrinsically Safe

TRX = NEMA7 Explosion Proof Reset Switch on Third Conduit Entry

RN = External Magnetic Reset

T = Third Conduit Entry in Ex-Proof Housing

H2 = 0.875" Hole for mounting styles 2 and 5

HF2 = 0.5" Female NPT Hub fitting

H3 = 1.125" Hole for mounting styles 2 and 5

HF3 = 0.75" Female NPT Hub fitting

Accessories:

BATPACK = External Battery Pack with Two C Size Batteries & 12" leads

BATC = Single Battery: Tadiran P/N TL2200/S 3.6V 5500mAh or equal

115-24 = 115 VAC to 24 VDC power supply

* External battery pack supplied with models BATRAT0A & BATRAT1A

** Contact factory for latest information