# Flow Instruments FIELD INDICATORS

## BAT D/

#### **Features**

- Magnetic Pickup Input, Contact Closure Input, DC Pulse Input (Optically Isolated)
- Displays 5 Digit Resettable Total 8 Digit Grand Total
- Powered From Internal Battery, External DC Supply or 4-20 mA Output Loop
- 10 Pt. Linearization
- New & Improved Isolated Scaled Pulse Output
- Intrinsically Safe Option

### **LCD Dual Totalizer** (Resettable & Non-Resettable)



 New, Attractive NEMA4 Wall Mount Enclosure with User Access to Keypad

#### Description

Featuring 5 digits of resettable total and 8 digits of grand total, the BAT D/T is a battery powered indicator capable of accepting magnetic pickup, DC pulse and switch closure inputs from pulse producing flowmeters.

#### **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 for standby operation Protection: Reverse Polarity Protection on DC Power Input LOOP POWERED

Voltage: 8.5 to 30 VDC

Supplied with 1 or 2 C size lithium battery(ies) for standby operation

Protection: Reverse Polarity Protection on Current Loop Loop Burden: 8.5V maximum

#### **Battery Life Expectancy**

**RUN TIME** 

	Idle	2hrs/day	8hrs/day	24hrs/day
BATDT A or AC	5 yrs	4.5 yrs	3.5 yrs	2.1 yrs
BATDT <b>A 4</b>	5 yrs	3.7 yrs	2.7 yrs	1.5 yrs
BATDT <b>B</b> or <b>C</b> Standby Operation	2.5 yrs	2.25 yrs	1.75 yrs	1 yr
BATDT <b>B</b> or <b>C</b> External or Loop Pov	10 years wer			

All of the above values are calculated with the pulse output ON. Turn the pulse output OFF to prolong battery life up to 30%.

#### **DISPLAY:**

#### Resettable Total Display

5 Digits (99999), 0.35" High, Display updates once every two seconds

Grand Totalizer Display: (selectable decimal)

8 Digits (99999999), 0.2" High

- Totalizer Descriptors: GAL, LIT, FT3, M3, "blank" Warning Displays: Low battery warning "BAT"

#### ACCURACY:

±1 count

- Listing: CE Compliant,
  - CSA(NRTL/C)(File No. LR91109) (x-proof only) UL IS Listed

#### **PULSE OUTPUT:**

The pulse output advances with the least significant digit of the totalizer or decimal multiples thereof (see Pulse output divider).

Type: Isolated photomos relay Max. voltage (off state): 30 VDC

Current (on state): 100mA

Pulse Duration: 62.5 mSec (max. output speed: 8 Hz)

Pulse output divider: User selectable, +1, +10, +100 or OFF

NOTE: Select OFF for max. battery life.

#### MOUNTING STYLES:

0- Circuit Board-	OEM option (consult factory)				
1 - Panel Mount -	NEMA 4X Front				
2- Wall Mount -	NEMA 4X Enclosure with BAT D/T				
	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 Témp: -22°F (-30°C) to + 158°F (70°C) HUMIDITY 0 - 90% Noncondensing **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 Hysteresis: 0.4 VDC Frequency Range: 0 to 5 kHz Min. Pulse Width: 0.1 msec CONTACT CLOSURE INPUT (contact closure to common) Internal Pullup Resistor: 100 K $\Omega$  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

Decimal Point Locations: XX.XXX to XXXXX

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 flow rate, Two wire hookup scaled per second, minute or hour. Scaling:

0.000 to 59999 (selectable decimal)

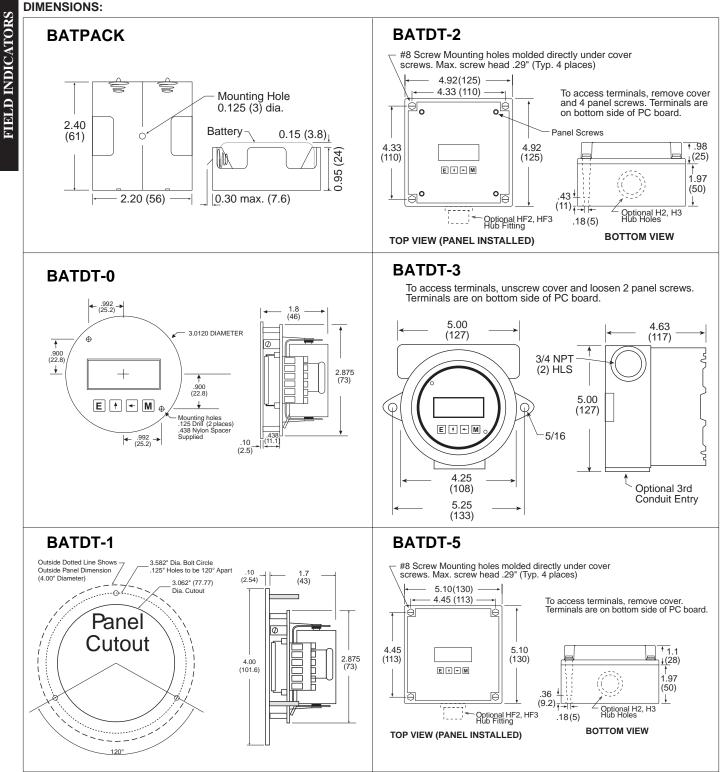
Accuracy: 0.15% Full Scale at 20° C

Temperature Drift:

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

**Reverse Polarity Protected** 

NOTE: The BAT D/T uses the 4-20 mA loop power as its power source when this option is used. The battery is still required to power the display.

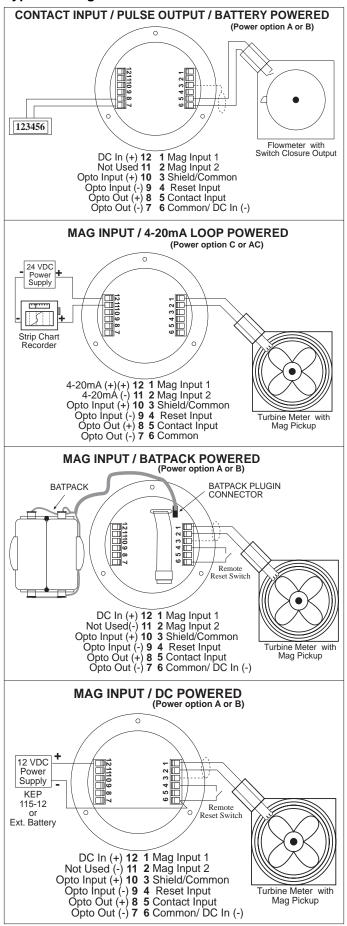


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#### **Typical Wiring:**

KEP



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Ordering Information
EXAMPLE: BATDT 3 A 4 ET
Series:
Mounting:
* 0 = OEM
* 1 = Panel Mount
2 = NEMA 4X Box (Bat D/T behind clear cover)
3 = Explosion Proof Housing
5 = NEMA 4X Box (Bat D/T outside opaque cover)
6 = Double Ended Explosion Proof Housing (consult factory)
Power Supply:
* A = Battery (2 supplied)
<b>B</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 Compliant
CSA = CSA Listed Explosion Proof IS = UL listed IS
TRX = NEMA7 Explosion Proof Reset Switch (mount style 3 only)
RN = External Magnetic Reset
T = Third Conduit Entry in Ex-Proof Housing (mount style 3 only) H2 = 0.875" Hole for mounting styles 2 and 5
HZ = 0.575 Hole for mounting styles 2 and 5 HF2 = 0.5" Female NPT Hub fitting for mounting styles 2 and 5
H3 = $1.125$ " Hole for mounting styles 2 and 5
HF3 = 0.75" Female NPT Hub fitting for mounting styles 2 and 5
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 BATDT0A & BATDT1A