

# TURBINE FLOWMETERS BY HOFFER

Perfecting Measurement™

# HIT-2A

Rate Indicator & Totalizer  
Product Bulletin Hit-2A-107M

## TECHNICAL DATA SHEET

### OUTSTANDING FEATURES

- ◆ 5 Digit Rate Display, 8 Digit Totalizer Display
- ◆ Local Magnetic or Remote Reset
- ◆ 4-20mA Analog Output
- ◆ Powered From Battery, DC Supply, 4-20mA Output Loop, or AC Line
- ◆ 20 Pt. Linearization Option
- ◆ Isolated Scaled Pulse Output
- ◆ Alarm Output for Rate or Total
- ◆ Windows® Configuration Program
- ◆ RS 232 Port for Configuration and Monitoring
- ◆ Diagnostics for Pulse, Alarm and Analog output
- ◆ Password Protection for Menu and Reset

### GENERAL DESCRIPTION

Featuring 5 digits of rate and 8 digits of total, the HIT-2A is a DC, AC, loop or battery powered indicator capable of accepting magnetic pickup, DC pulse or switch closure inputs. The unit can be ordered with an optional loop powered 4-20mA output. The HIT-2A uses the 4-20mA loop to provide power when this output is used.

### SPECIFICATIONS

#### Power Supply:

##### BATTERY POWERED

Supplied with 2 C-size Lithium battery pack

Battery Life Expectancy*	
Power Supply Option	RUN TIME—continuous operation
A	4 years minimum.
B, C, and AC	10 years minimum.
*Life expectancy without pulse or alarm outputs selected.	

##### DC POWER INPUT

Voltage: 8 to 30 VDC  
 Current: Less than 4 mA  
 Supplied with 1 C-size lithium battery  
 Protection: Reverse Polarity Protection  
 Loop Burden: 8V maximum

##### AC POWER INPUT UNIVERSAL

Voltage: 100-240 VAC @ 0.15A 50/60 Hz

#### Display:

##### RATE DISPLAY: (SELECTABLE DECIMAL)

5 Digits (99999), 0.5" High, Display updates once every two seconds  
 Rate Descriptors: /MIN, /HR, /DAY  
 10 segment bar graph display for rate trend

##### TOTALIZER DISPLAY:

##### (SELECTABLE DECIMAL)

8 Digits (99999999), 0.26" High  
 Totalizer Descriptors: GAL, LIT, FT3, M3, BBL "blank" (for other descriptors)



Explosion-proof Enclosure Style Option

##### LOW BATTERY WARNING DISPLAY

(Displays with approx. 10% of the power remaining)

#### Pulse Output:

The pulse output advances with the least significant digit of the totalizer.  
 Opto-isolated open collector transistor: 100 VDC, 100 mA  
 Pulse Duration: Selectable (see below)  
 Pulse Output Rate: Selectable (see below)  
 Pulse output divider: User selectable, ÷1, ÷10, ÷100 or OFF. **NOTE:** Select OFF for max. battery life

SPEED (HZ)	1	2	4	8
Min. on/off (msec)	500	250	125	62.5

#### Alarm Output:

Configurable for rate or total  
 Opto-isolated open collector transistor: 100 VDC, 100 mA

#### Environmental:

##### OPERATING TEMPERATURE

-40°F (-40°C) to + 158°F (70°C)  
 -58°F (-50°C) with optional heater

##### HUMIDITY

0 - 90% Non-condensing

#### Accuracy:

0.01% Reading, ±1 count  
 Temperature Drift: 50 ppm/°C Worst Case



Nema and Panel Mount Enclosure Style Options

**Inputs:**

**MAGNETIC PICKUP INPUT**

Frequency Range: 0.2 to 5000 Hz  
 Trigger Sensitivity: 30 mV p-p

**OPTO-ISOLATED DC PULSE INPUT**

High (logic 1): 4-30 VDC  
 Low (logic 0): Less than 1 VDC  
 Minimum Current: 1 mA  
 Frequency Range: 0 to 3000 Hz  
 Min. Pulse Width: 0.1 msec

**CONTACT CLOSURE INPUT**

(CONTACT CLOSURE TO COMMON)

Internal Pullup Resistor: 220 KΩ to +3.3 VDC  
 High (logic 1): Open or 4-30 VDC  
 Low (logic 0): Less than .5 VDC

**RESET INPUT (CONTACT CLOSURE TO COMMON)**

Internal Pullup Resistor: 100 KΩ to +3.3 VDC  
 High (logic 1): Open or 4-30 VDC  
 Low (logic 0): Less than .5 VDC

With local resettable external magnet or optional remote reset.

**K-FACTOR**

Range: 0.001 to 99999999

**Decimal Point**

Locations: XX.XXX to XXXXX

**20 POINT LINEARIZATION OPTION**

This feature allows the user to enter up to 20 different frequencies with 20 different corresponding K-Factors to improve flowmeter accuracy to ±0.1%.

**Analog Output Option:**

Type: 4-20 mA follows rate display, Two Wire hookup  
 Accuracy: 0.02% Full Scale @ 20°C  
 Temperature Drift: 40 ppm/°C  
 Reverse Polarity Protected

**NOTE:** The Hit-2A can use the 4-20 mA loop power as its power source when this option is used.

**Approvals:** CE approval (optional)

**HIT-2A ORDERING INFORMATION**

<b>Basic Model Number</b>	HIT-2A - ( A ) - ( B ) - ( C ) - ( D ) - ( E ) - ( F )
<b>Series:</b>	
<b>A. Enclosure Style:</b>	
2	NEMA 4X Enclosure (Hit-2A behind clear cover).
3	Explosion-Proof Housing. Class I, Division I, Groups B, C & D. Class II, Division I, Groups E, F & G.
3A	ATEX Exd Enclosure.
P	Panel Mount Enclosure.
PD	Panel Mount Enclosure with Clear Door and Lock.
4	Nema 1 Enclosure. HIT-2A Mounted to the outside of Clear Cover. For indoor/dry installation only.
5	Nema 4X Enclosure (HIT-2A behind Clear Cover) with Sunshade.
6	Explosion-Proof Enclosure with Sunshade.
6A	ATEX Exd Enclosure, Standard Blue with Sunshade
<b>B. Input Power:</b>	
A	Internal Batteries, two supplied. (Option A not available for use with Redi-Pulse coil).
B	External Power Supply (8 to 30 VDC).
AC	Universal 100-240 VAC @ 0.15A 50/60 Hz.
X	Enter (X) if loop powered analog output option C or D below is selected.
<b>C. Loop Powered Analog Output:</b>	
C	Loop Powered with 4-20mA Output (8 to 30 VDC).
D	Loop Powered with 4-20mA Output and 2 internal batteries.
<b>D. Options:</b>	
L	20-Point Linearization.
RR	Remote Reset.
AL	Low Alarm* opto isolated open collector.
AH	High Alarm* opto isolated open collector.
	*Note: Either low or high alarm available, not both.
HT	Heater (requires DC input power option).
<b>E. Mounting:</b>	
F	Nema 4x Style 2 enclosure mounted on turbine. Must be used with "X" riser turbine option.
FHT	8" long temperature riser for Nema 4x Style 2 enclosure mounted on turbine. Required when fluid temperature exceeds 140 deg. F. Must be used with "X" riser turbine option.
FX	Explosion-proof Style 3 enclosure mounted on turbine. Must be used with "X" riser option on turbine.
FXHT	8" long temperature riser for Explosion-Proof Style 3 enclosure mounted on turbine. Required when temperatures exceed 140 deg. F. Must be used with "X" riser turbine option.
NP	Nema 4X enclosure pipe mounting kit 2" pipe or smaller. Specify if pipe is vertical or horizontal.
<b>F. Special Features: (Multiple Options Available)</b>	
CE	CE Mark required for Europe.1
SP	Any Special Features that are not covered in the Model Number. Use a written description of the -SP.

**Notes:**

1. Opto-isolated open collector transistor is standard with all units.
2. A local reset magnet is standard with all units except if remote reset option is selected.
3. Two batteries are required for battery powered units. One battery is required for all other power options to retain total display if power fails.
4. Windows based setup disk and 6 foot communication cable optional.

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The quality system covering the design, manufacture and testing of our products is certified to International Standard ISO 9001.

