

TURBINE FLOWMETERS BY **HOFFER**

Perfecting Measurement™

HIT-4U

Rate Indicator & Dual Totalizer
with MODBUS & Data Logging
Product Bulletin Hit-4U-100C

TECHNICAL DATA SHEET

The HIT-4U is a battery or loop-powered flow rate and total indicator, with data logger and MODBUS Communications Protocol. The HIT-4U is configurable from the instrument front panel keypad or via MODBUS communications.

OUTSTANDING FEATURES

- ◆ LCD display for Total and Rate
- ◆ Non-resettable Grand Total
- ◆ Full front panel operation with magnetic pointer via Ex enclosure
- ◆ Up to 12-point Linearization to correct for flowmeter non-linearity
- ◆ 4-20mA analog output proportional to flow rate
- ◆ Optional Scaled Pulse or Raw Pulse Output representing an incremental total volume
- ◆ Alarm Output with dual set point configurable for Rate or Total
- ◆ Magnetically operated switch for Total reset
- ◆ Internal 3.6V C-Size battery backup
- ◆ Configuration and Totals stored in non-volatile memory. Totals saved when pressing ► button.
- ◆ Data Logging: Hourly Total, Daily Total, Event Logs
- ◆ MODBUS Communications Protocol via RS485
- ◆ Real Time Clock

SPECIFICATIONS

DISPLAY:

LCD, updated every 1 second

TOTAL:

8 digits 3/8" high. Resettable using a magnet, a contact closure, front panel keypad or via MODBUS communications.

Total Units:

GAL, LIT, FT3, ACF, ACFx1000, M3, BBL, KG, LB, NM3, SCF, SCFx1000

GRAND TOTAL:

8 digits 3/8" high, non-resettable. Grand Total is displayed for 7 seconds after pressing the ▲ button.



RATE:

6 digits 1/2" high

RATE UNITS:

/SEC/MIN/HR/DAY

K-FACTOR:

The pulses per unit of Total (e.g. pulses/gallon) are configurable in the range 0.001 to 9,999,999

LINEARIZATION:

2-12 points

DECIMAL POINTS:

Decimal point positions are configurable for 0, 0.0, 0.00, or 0.000 for rate, total and K-factor.

ACCURACY:

Total and Rate: +/-0.01% of reading, +/- 1 count

MAGNETIC PICKUP INPUT:

Frequency Range: 0.2 Hz to 5000 Hz

Signal Level: 30mV_{p-p} to 30 V_{p-p}

PULSE INPUT:

Opto-Isolated

Frequency Range: 0 Hz to 3000 Hz

Internal pull-up 10KΩ to +DC

Signal Level: 0 to +DC

Low (Logic 0): <1 VDC

Min Pulse width: 0.1 msec

CONTACT CLOSURE INPUT:

Frequency Range: 0 Hz to 5000 Hz

Internal Pull-up : 220 kΩ to +3.3 VDC

RESET INPUT:

Signal Type: Contact closure

Min Time On: 25 msec

Internal Pull-up 35 kΩ to +3.3 VDC

External Magnet

DC POWER/LOOP POWERED:

Voltage: 8 to 30 VDC
Current: <24 mA
Loop Burden: 8 VDC
Supply Backup: One (1) C-size 3.6V Lithium battery
Battery Life: 4 years typical
Protection: Reverse polarity, overvoltage

BATTERY POWERED:

Two (2) C-size 3.6V Lithium batteries
Battery Life: 2 years typical

ANALOG OUTPUT:

Type: 4-20 mA follows rate
Accuracy: 0.02% Full Scale @ 20°C
Temperature Drift: 40 ppm/°C
Update Time: 0.125 seconds

PULSE OUTPUT:

Type: 0-5V TTL, 0-Supply Voltage, Open Collector (30 VDC, 100 mA max)

Divider: 0.01, 0.1, 1, 10, 100
Pulse Width: Adjustable 4ms to 300ms
Max Frequency: 100 Hz

ALARM OUT WITH DUAL SET POINT:

Type: 0-5V TTL, 0-Supply Voltage, Open Collector (30 VDC, 100 mA)
Function: Rate or Total

SERIAL PORT RS485:

Protocol: MODBUS RTU
Function: Data Logging, Configuration
Process Monitor

PHYSICAL:

Op. Temperature: -40°F(-40°C) to 176°F (80°C)
Humidity: 0-90% Non-Condensing
Enclosure: Explosion-proof
(Approx. 5"x5"x5", 3 Lbs.)

Data Logging	
Hourly Total Log:	768
Daily Total Log:	378
Event Log:	345

Accessing Logs:
Via MODBUS communication
Up to 100 latest flow logs are viewable on the front panel

Enclosure Exd Ratings:
STYLE 3 CSA/FM: CLASS I, DIV.1, GR. ABCD, CLASS II, DIV.1, GR. EFG, CLASS III, TYPE 4X; CLASS 1 ZONE1 AEx d IIC, IP66 ATEX/IECEX: II 2 G Ex d IIC Gb; IP66
STYLE 7 CSA: CLASS I, DIV.1, GR. BCD, CLASS II, DIV.1, GR. EFG, CLASS III, TYPE 4X, IP66; CLASS I ZONE 1 Ex d IIB+H2, IP66 ATEX/IECEX: II 2 G Ex d IIC Gb; IP66

Note:
Two batteries are required for battery powered units. One battery is required for all other power options to retain total display and real time clock if power fails.

ORDERING INFORMATION	
Basic Model Number Series:	HIT-4U- (A) - (B) - (C) - (D) - (E) - (F) - (G)
A. Enclosure Style:	
(3)* Explosion-Proof Enclosure (7)* Stainless Steel Explosion Proof Enclosure	
*Options for Enclosure Style 3 and 7	
(_M) Insert "M" for M20 Thread. M20 thread not available for use in Canada (_S) Sunshade	
B. Input Power:	
B Battery Powered L 4-20 mA Loop Powered	
C. Pulse Input:	
M Magnetic Coil, Pulse, Dry Contact R Isolated Pulse, RPM, RPR, Hall Effect Coils	
D. Pulse Output:	
5 0-5V TTL/CMOS OC Open Collector V Pullup to VDC + IN (8-30 VDC)	
E. Alarms:	
5 0-5V TTL/CMOS OC Open Collector V Pullup to VDC + IN (8-30 VDC)	
F. Mounting:	
FX Explosion-proof style 3 enclosure mounted on turbine. Must be used with "X" riser turbine option. FXHT 8" long temperature riser for explosion-proof style 3 enclosure mounted on turbine. Required when temperatures exceeds 140 deg. F. Must be used with "X" riser turbine option.	
G. Special Features:	
CE CE Mark required for Europe (Pending) SP Any special features that are not covered in the model number use a written description	

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The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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

