TURBINE FLOWMETERS BY
HOFFER

Perfecting Measurement ™

HIT-4U
Rate Indicator & Dual Totalizer
with Modbus & Data Logging
Product Bulletin Hit-4U-100M

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 through enclosure

♦ Up to 20-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 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

LINEARIZATION:

2-20 points

Aluminum Casting Powder Coated Enclosure Style

K-FACTOR:

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

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 $30 V_{p-p}$

MCP PICKUP INPUT

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:

Signal Type: Contact closure

Min Time On: 25 msec

Internal Pull-up: 35 kΩ to +3.3 VDC

External Magnet: Activates internal switch

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

Nema 4X Enclosure Style shown with external USB

PULSE OUTPUT:

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

Function: Rate or Total

Dc power/loop powered:

Voltage: 8 to 30 VDC

Current: <24 mA

Loop Burden: 8 VDC

Supply Backup: C-size 3.6V Lithium battery or battery pack for Ex d certified system.

Protection: Reverse polarity, overvoltage

AC power Input Universal:

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

Battery powered:

Two (2) C-size 3.6V Lithium batteries

Battery Life: 2 years typical

Ex system - battery pack (4xAA)

Battery life 1 year typical

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: NEMA, Aluminum

(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	

HIT-4U ORDERING INFORMATION

HIT-4U– A –B– C –D –E – F – G –H - I

A. Enclosure Style

(2) NEMA 4X

(3*) Aluminum casting powder coated enclosure (IP66)

(7*) Stainless steel enclosure (IP66)

(P) Panel mount (IP40)

(PD) Panel mount w/clear door and lock (IP40)

(PF) Panel mount w/clear flexible PVC cover (IP65 front only)

Options for 3 and 7

(_M) M20 thread

(_S) Sunshade

B. Input Power

(B) Battery Powered

(L) 4-20 MA Loop Power

(D) 12 to 30 VDC External Power

(AC_) Universal 100-240vac @ 0.15A 50/60 HZ

C. Pulse Input

(M) Magnetic Coil

(R) Isolated pulse, RP, Hall

(RF) Modulated Carrier Coil

D. Pulse Output

(5) 0-5V TTL/CMOS

(OC) Open Collector

E. Alarm

(5) 0-5V TTL/CMOS

(OC) Open Collector

I. Special Features

(CE) CE mark required for Europe (pending)

(X) None

H. Communication Port

(T) Internal terminal block

(U) External USB for Nema 4X

(X) None

G. Mounting

(X) Remote Mounting

(FX) Style 3 or 7 enclosure mounted on turbine

(FXHT) Style 3 or 7 enclosure w/8" long riser mounted on turbine

(F) NEMA 4X Style 2 mounted on turbine

(FHT) NEMA 4X w/8" long riser mounted on turbine

(NP) NEMA 4X enclosure pipe mounting kit 2" pipe & smaller

Certified Mounting Options for Style 3 and 7 Enclosures:

(MX_) Meter mounted. Process temp –40°C to +78°C.

(MA_) Meter Mounted w/ ATEX riser. Process temp –40°C to +78°C.

(RX_) Remote mounted. Includes E2 junction box and 1"x3/4" SS adapter.

(RA_) Remote mounted w/ ATEX riser. Includes E2 junction box.

Union Options:

(_U1) 1" Ex-proof union for MX or RX

(_U2) 3/4"Ex-proof union for MA or RA

F. Compensation Method

(X) No compensation

Enclosure Ex d Ratings: Certified Systems for Style 3 & 7

CSA/FM: CLASS I, DIV.1, GR. C,D; CLASS II, DIV.1, GR. E,F,G; CLASS III, T6; Type 4X; CLASS I ZONE 1 AEx db IIB, T6 Gb IP66

ZONE 21 AEx tb IIIC T80°C Db IP66

Ex db IIB T6 Gb; Ex tb IIIC T80°C Db; IP66

ATEX/IECEx:

II 2 G Ex db IIB T6 Gb; IP66

II 2 D Ex tb IIIC T80°C Db; IP66

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

ilac-MRA

ACCREDITED CERT #4916.01

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