

TURBINE FLOWMETERS BY **HOFFER**

Perfecting Measurement™

HIT-4G

Digital Gas Flow Computer with
Modbus & Data Logging

Product Bulletin Hit-4G-Gas-110G

TECHNICAL DATA SHEET

The HIT-4G is a compact digital gas flow computer with temperature, pressure and compressibility compensation. The HIT-4G is configurable from the instrument front panel keypad or via Modbus communications.

OUTSTANDING FEATURES

- ◆ LCD display for Total, Rate, Temperature and Pressure
- ◆ 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
- ◆ AGA-8 compliant
- ◆ Temperature, Pressure, and Compressibility Compensation



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, TEMPERATURE, PRESSURE:

8 digits 3/8" high
Display by 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/ACF) are configurable in the range 0.001 to 9,999,999

LINEARIZATION:

2-20 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_{pp} to 30 V_{pp}

MCP/RF PICKUP INPUT

PULSE INPUT:

Opto-Isolated
Frequency Range: 2 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

TEMPERATURE INPUT:

Type: *4-20 mA, 100Ω RTD DIN385

HIT-4G ORDERING INFORMATION

PRESSURE INPUT:

Type: *4-20 mA
 *4-20 inputs not available with battery or loop power.

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

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.)

HIT-4G- <u>A</u> - <u>B</u> - <u>C</u> - <u>D</u> - <u>E</u> - <u>F</u> - <u>G</u> - <u>H</u> - <u>I</u>	
<p>A. Enclosure Style</p> <p>(2) NEMA 4X (3*) Aluminum Casting Powder Coated Enclosure (IP66) (7*) Stainless steel enclosure (IP66) (P) Panel mount ** (PD) Panel mount w/door and lock (IP40)** (PF) Panel mount w/clear flexible PVC cover (IP65 front only)**</p> <p>*Options for 3 and 7</p> <p>(_M) M20 thread (_S) Sunshade **Panel mount options not available with AC power option</p>	<p>I. Special Features</p> <p>(CE) CE mark required for Europe (pending) (X) None</p> <p>H. Communication Port</p> <p>(T) Internal terminal block (U) External USB for Nema 4X (X) None</p> <p>G. Mounting</p> <p>(X) Remote Mounting (FX) Style 3 or 7 enclosure mounted on turbine (FXHT) Style 3 or 7 enclosure w/8" riser mounted on turbine (F) NEMA 4X mounted on turbine (FHT) NEMA 4X w/8" riser mounted on turbine (NP) NEMA 4X enclosure pipe mounting kit 2" pipe & smaller</p> <p>Certified Mounting Options for Style 3 and 7 Enclosures:</p> <p>(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.</p> <p>Union Options:</p> <p>(_U1) 1" Ex-proof union for MX or RX (_U2) 3/4" Ex-proof union for MA or RA</p>
<p>B. Input Power</p> <p>(B) Battery Powered</p> <p>Note: Mag only, no analog, pulse, or alarm</p> <p>(L) 4-20 mA Loop Power</p> <p>Note: Mag only, no pulse or alarm</p> <p>(D) 12 to 30 VDC External Power</p> <p>Note: 4-20mA analog out included</p> <p>(AC_) Universal 100-240vac @ 0.15A 50/60 HZ</p> <p>Note: Not available for Ex d certified systems 4-20mA analog out included</p> <p>** AC power not available with Panel options</p>	<p>F. Compensation Method</p> <p>(X) No Compensation (TP1_) Temperature and pressure transmitter inputs (4-20mA) (TP2_) 100 OHM RTD/Pressure transmitter (4-20mA) (_Z) Compressibility option for gas</p> <p>Note: Compensation (TP, TP2) not available with (B) or (L) power inputs</p>
<p>C. Pulse Input</p> <p>(M) Magnetic Coil (R) Isolated pulse, RP, Hall (RF) Modulated Carrier Coil</p>	<p>D. Pulse Output</p> <p>(5) 0-5V TTL/CMOS (OC) Open Collector</p> <p>Note: Not available with (B) or (L) power inputs</p>
<p>E. Alarm</p> <p>(5) 0-5V TTL/CMOS (OC) Open Collector</p> <p>Note: Not available with (B) or (L) power inputs</p>	

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 Ex d Ratings: Certified Systems for Style 3 & 7
<p>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</p> <p>ATEX/IECEX:</p> <p>II 2 G Ex db IIB T6 Gb; IP66 II 2 D Ex tb IIIC T80°C Db; IP66</p>

HOFFER FLOW CONTROLS, INC.
 107 Kitty Hawk Lane, P. O. Box 2145, Elizabeth City, NC 27906-2145
 800-628-4584 252-331-1997 FAX 252-331-2886
 www.hofferflow.com email: Info@hofferflow.com

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.

Hoffer Flow Controls Quality Management System

 ANAB ACCREDITED <small>ISO 9001:2015</small> MANAGEMENT SYSTEMS CERTIFICATION BODY	Certified to ISO 9001:2015	 TÜVRheinland Precisely Right.
---	-------------------------------	---