

HOFFER

TM

HIT-4L

Temperature & Pressure

Flow Computer for LIQUIDS

Product Bulletin Hit-4L-120B

TECHNICAL DATA SHEET

The **HIT-4L** is a **compact Digital Flow Computer for Liquids** with temperature, pressure, and viscosity compensation. The HIT-4L is configurable from the instrument front panel keypad or via Modbus communications.

OUTSTANDING FEATURES

- ◆ **Temperature, Pressure, and Viscosity Compensation**
- ◆ **LCD display for Total, Rate, Temperature and Pressure**
- ◆ **Up to 20-point Linearization**
- ◆ **CSA/ATEX/IECEX hazardous location certifications available**
- ◆ Internal battery backup
- ◆ Data Logging: Hourly Total, Daily Total, Event Logs
- ◆ Non-resettable Grand Total
- ◆ Full front panel operation with magnetic pointer through enclosure
- ◆ 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
- ◆ Configuration and Totals stored in non-volatile memory. Totals saved when pressing ► button.
- ◆ 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, M3, BBL, KG, LB

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



Turbine flow meter sold separately

K-FACTOR:

The pulses per unit of Total (e.g. pulses/GAL) 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_{p-p} to 30 V_{p-p}

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

DENSITY/VISCOSITY COMPENSATION:

2-20 points table

TEMPERATURE INPUT:

Type: *4-20 mA, 100Ω RTD
DIN385

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-4L ORDERING INFORMATION

HIT-4L- A -B- C -D -E -F -G -H -I

A. Enclosure Style

(2) NEMA 4X
(3*) Aluminum Casting Powder Coated En-
closure (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)
***Options for 3 and 7**
(_M) M20 thread
(_S) Sunshade

B. Input Power

(B) Battery Powered
Note: Mag only, no analog, pulse, or alarm
(L) 4-20 MA Loop Power
Note: Mag only, no pulse or alarm
(D) 12 to 30 VDC External Power
Note: 4-20 mA analog out included
(AC_) Universal 100-240vac @ 0.15A 50/60 HZ
**Note: Not Available for Ex d certified systems
4-20 mA analog out included**

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
Note: Not available with (B) or (L) power inputs

E. Alarm

(5) 0-5V TTL/CMOS
(OC) Open Collector
Note: Not available with (B) or (L) power inputs

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

G. Mounting

(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

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
(TP1_) Temperature and pressure transmitter
inputs (4-20mA)
(TP2_) 100 OHM RTD/Pressure transmitter
(4-20mA)
(-UVC) Universal Viscosity Curve Correction
(add to TP1 or TP2 options)
**Note: Compensation (TP) not available
with (B) or (L) power inputs**

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

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

По вопросам продаж и поддержки обращайтесь:

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