DATASHEET

HEFM

H SERIES SENSORS

Pre-attached grounding rings included along with necessary cables

Highlights

- Measurement is independent of fluid density, viscosity, temperature, and pressure
- Provides best-in-class seamless PTFE lining material
- Remote mount version provides 33 ft (10 m) of extension from the meter
- Obstructionless design eliminates pressure drop
- No moving parts minimizes maintenance
- Capable of measuring electric conductive liquid and fluids with low solid contents
- Accuracy: ± 0.2 % Conforms to Class 0.3 accuracy tolerance of 0.2 % as defined in the NIST Handbook 44, Section 3.30 for Liquid-Measuring Devices
- Output signal options:
  RS485 Modbus / 4-20 mA / 2-8 KHz Pulse Output
- Wide measurement range & high efficiency
- Minimal upstream/downstream piping requirements:
  5 pipe diameters upstream
  2 pipe diameters downstream
- Backlit LCD with integral push button interface
- Advanced features including smart self-detection and self-diagnosis for checking magnetized signal, empty pipe, and contaminated electrode
- Provides various options of electrode materials, grounding options, and more
- Low power consumption
- Ambient temperature: -40 to 70 °C (-40 to 158 °F)
  LCD: -20 to 70 °C (-4 to 158 °F)
- Process/lining temperature: -20 to 120 °C (-4 to 248 °F)
- IP67 protection, robust construction and materials
- IEC 61010-1

IECEx

Measure Flow with Confidence

Ordering Information

H E F M 0 2 - 0 3 0 A C - L D 2 L

Mounting Type
02 = Remote Mount Head with 33 ft (10 m) Ext. Cable

Tube Size

005 = 0.5" / 13 mm	040 = 4" / 100 mm
010 = 1" / 25 mm	050 = 5" / 125 mm
015 = 1.5" / 40 mm	060 = 6" / 150 mm
020 = 2" / 50 mm	080 = 8" / 200 mm
025 = 2.5" / 65 mm	100 = 10" / 250 mm
030 = 3" / 80 mm	120 = 12" / 300 mm

Process Connection Type
A = ANSI B16.5 Class 150
B = ANSI B16.5 Class 300

Flange Sensor Material
A = 304 SS
C = Carbon Steel (Default)
L = 316L SS

Electrode Material
H = Hastelloy Alloy (C-276)
L = 316L SS

Power Supply
D = 24 Vdc

Grounding Material
H =Hastelloy Alloy (C-276)
L = 316L SS

Technical Specifications

HARDWARE

Device Functionality	· Electromagnetic Flow Meter (RS485 Modbus, 4-20 mA, or 2-8 KHz Pulse Output)
Configuration	· Integral LCD with Push Button Interface or Modbus
Accuracy	· ± 0.2 %
Fluid Conductivity	· > 5 µS/cm (AC Power), > 20 µS/cm (24 Vdc)
Measuring Scope	· 0.328 ft/sec (0.1 meters/sec) to 32.8 ft/sec (10 meters/sec)
Current Output Accuracy	· 0.1% of Pulse Output Accuracy; Temperature Coefficient (0.01 %/°C or 0.0056 %/°F)
Maximum Operating Pressure	· Class 150: 0.5" to 12": 285 psi · Class 300: 0.5" to 12": 740 psi The final pressure rating depends on the temperature. Refer to ANSI B16.5 Class 150 or 300 specifications table in the User Guide.
Current Output Mode	· Active (Loop Power is Not Required)
Analog Output	· 4-20 mA
Maximum Load of Current Output	· < 700 Ω
Alarming Current	· 3.6 mA or 22 mA
Frequency Output Scope	· 2-8 KHz
Pulse Width / Pulse Mode	· Automatic (Pulse Width 50 %) / NPN Transistor Output 32 Vdc/200 mA
Time Constant	· 1-100 s
Control Output (DO)	· NPN Transistor Output 32 Vdc/200 mA; 2-CH
Control Input (DI)	· Dry Contact ON < 200 Ω; 1,000 Ω < OFF; 1-CH
Interface / Baud Rate	· RS485 Modbus / 1200-57,600 bps
Local LCD Display	· 128 x 64 Pixel Backlit Type
Lining Material	· PTFE (-20 to 120 °C / -4 to 248 °F), Seamless, Maximum Operating Pressure: Class 150: 285 psi / Class 300: 740 psi

CERTIFICATIONS & COMPLIANCE

Safety	· IEC 61010-1:2010

MECHANICAL SPECIFICATIONS

Mechanical (WxDxH) / Net Weight (Per Tube Size)	· 0.5" ANSI 150 lbs: 3.5" x 7.9" x 8.9" / 10.1 lbs | ANSI 300 lbs: 3.8" x 7.9" x 9.1" / 11.2 lbs
	· 1" ANSI 150 lbs: 4.2" x 7.9" x 9.5" / 13.4 lbs | ANSI 300 lbs: 4.9" x 7.9" x 9.8" / 16.1 lbs
	· 1.5" ANSI 150 lbs: 5" x 7.9" x 10.7" / 14.3 lbs | ANSI 300 lbs: 6.1" x 7.9" x 11.2" / 20 lbs
	· 2" ANSI 150 lbs: 6" x 7.9" x 11.2" / 18.3 lbs | ANSI 300 lbs: 6.5" x 7.9" x 11.4" / 22.8 lbs
	· 2.5" ANSI 150 lbs: 7" x 7.9" x 12.1" / 23.8 lbs | ANSI 300 lbs: 7.9" x 7.9" x 12.3" / 28.2 lbs
	· 3" ANSI 150 lbs: 7.5" x 7.9" x 12.3" / 27 lbs | ANSI 300 lbs: 8.3" x 7.9" x 12.7" / 36.3 lbs
	· 4" ANSI 150 lbs: 9" x 9.8" x 14.1" / 39.3 lbs | ANSI 300 lbs: 10" x 9.8" x 14.5" / 58.7 lbs
	· 5" ANSI 150 lbs: 10" x 9.8" x 14.5" / 46.2 lbs | ANSI 300 lbs: 11" x 9.8" x 15" / 72.7 lbs
	· 6" ANSI 150 lbs: 11" x 11.8" x 16.8" / 59.6 lbs | ANSI 300 lbs: 12.5" x 11.8" x 17.5" / 96.6 lbs
	· 8" ANSI 150 lbs: 13.5" x 13.8" x 18.7" / 94 lbs | ANSI 300 lbs: 15" x 13.8" x 21.8" / 149.1 lbs
	· 10" ANSI 150 lbs: 16" x 15.8" x 21.2" / 144.8 lbs | ANSI 300 lbs: 17.5" x 15.8" x 24.1" / 218 lbs
	· 12" ANSI 150 lbs: 19" x 19.7" x 23.4" / 220.5 lbs | ANSI 300 lbs: 20.5" x 19.7" x 26.7" / 321.9 lbs
Connection Fitting	· Two 1/2" NPT Female
Enclosure Casing Material	· Aluminum; IP67

ELECTRICAL SPECIFICATIONS (Specify When Ordering)

DC Power Input / Consumption	· DC 24 Vdc, 32 Vdc Max / RS485: 3 W; 4-20 mA: 3.8 W

GENERAL SPECIFICATIONS

Operating Conditions	· Ambient Temperature: -40 °C to 70 °C (-40 °F to 158 °F) · LCD Screen -20 °C to 70 °C (-4 °F to 158 °F) · Humidity: 0 to 99 %, Non-Condensing
Warranty	· 2-Year Parts and Labor

FLOW RATES

Tube Size (in)	Flow Span Default BBL/D (GPM)	Flow Span Min BBL/D (GPM)	Flow Span Max BBL/D (GPM)	Tube Size (in)	Flow Span Default BBL/D (GPM)	Flow Span Min BBL/D (GPM)	Flow Span Max BBL/D (GPM)
0.5	960 (28)	9.6 (0.28)	960 (28)	4	42,000 (1225)	426 (12.4)	42,681 (1245)
1	2600 (75.8)	26 (0.76)	2667 (77.8)	5	66,000 (1925)	666 (19.4)	66,690 (1945)
1.5	6800 (198)	68 (2.0)	6829 (199)	6	96,000 (2800)	960 (28.0)	96,033 (2801)
2	10,000 (292)	106 (3.1)	10,670 (311)	8	170,000 (4959)	1707 (49.8)	170,726 (4980)
2.5	18,000 (525)	180 (5.2)	18,032 (526)	10	260,000 (7583)	2667 (77.8)	266,760 (7780)
3	27,000 (787)	273 (8.0)	27,316 (797)	12	380,000 (11,083)	3841 (112.0)	384,134 (11,204)

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