

Promass 84F



More information and current pricing:

www.us.endress.com/84F

Benefits:

- Highest process safety – immune to fluctuating and harsh environments
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Quality – designed for custody transfer; featuring worldwide recognized metrological approvals
- Flexible data transfer options – numerous communication types
- Automatic recovery of data for servicing

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option) Volume flow (liquid): ± 0.1 % Mass flow (gas): ± 0.35 % Density (liquid): ± 0.0005 g/cm³
- **Measuring range** 0 to 2 200 000 kg/h (0 to 80 840 lb/min)
- **Medium temperature range** Standard: -50 to $+200$ °C (-58 to $+392$ °F) High temperature: -50 to $+350$ °C (-58 to $+662$ °F)
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022) Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Field of application: Promass F has a long standing reputation as a highly accurate device under varying process conditions. It is suited for broadest range of applications. Combined with the Promass 84 transmitter, Promass 84F offers premium accuracy in measurement of liquids and gases. It will be the preferred solution for customers needing custody transfer measurement.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

The flowmeter with premium accuracy, robustness and custody transfer functionality. Highest measurement performance for liquids and gases under varying, demanding process conditions.

Sensor features

Highest process safety – immune to fluctuating and harsh environments. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Mass flow: measurement error $\pm 0,05$ % (PremiumCal). pressure-rated sensor housing up to 40 bar (580 psi).

Transmitter features

Quality – designed for custody transfer; featuring worldwide recognized metrological approvals. Flexible data transfer options – numerous communication types. Automatic recovery of data for servicing. 4-line backlit display with touch control. Device in compact or remote version.

Nominal diameter range

DN 8 to 250 ($\frac{3}{8}$ to 10")

High temperature: DN 25 (1"), DN 50 (2"), DN 80 (3")

Wetted materials

Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density

Liquids

Max. measurement error

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 2 200 000 kg/h (0 to 80 840 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

Standard: -50 to $+200$ °C (-58 to $+392$ °F)

High temperature: -50 to $+350$ °C (-58 to $+662$ °F)

Ambient temperature range

Standard: -20 to $+60$ °C (-4 to $+140$ °F)

Option: -40 to $+60$ °C (-40 to $+140$ °F)

Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Powder-coated die-cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

Degree of protection

IP67, type 4X enclosure. Remote transmitter: IP67, type 4X enclosure

Display/Operation

4-line backlit display with touch control

(operation from outside)

Configuration via local display and operating tools possible

Liquids

Outputs

4 modular outputs:
0-20 mA (active)/4-20 mA (active/passive)
Pulse/frequency/switch output (passive)
phase shifted pulse
Relay

Inputs

1 modular input: status

Digital communication

HART
Modbus RS485

Power supply

DC 16 to 62 V
AC 85 to 260 V (45 to 65 Hz)
AC 20 to 55 V (45 to 65 Hz)

Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI, EAC

Other approvals and certificates

3.1 material, calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR, custody transfer, PED, CRN, AD 2000, 3-A, FDA, NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

Product safety

CE, C-tick, EAC marking

Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR
Custody transfer approvals: MI-005 (liquid), PTB 7.251 (gas), MC, NTEP

Pressure approvals and certificates

PED, CRN, AD 2000

Liquids

Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

Hygienic approvals and certificates

3-A, FDA

Gas

Measuring principle

Coriolis

Product headline

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Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Gas

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow, reference density

Max. measurement error

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

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Transmitter housing material

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Degree of protection

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Display/Operation

4-line backlit display with touch control

(operation from outside)

Configuration via local display and operating tools possible

Gas

Outputs

4 modular outputs:
0-20 mA (active)/4-20 mA (active/passive)
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Relay

Inputs

1 modular input: status

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Power supply

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Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

Other approvals and certificates

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Product safety

CE, C-tick, EAC marking

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Custody transfer approvals: MI-005 (liquid), PTB 7.251 (gas), MC

Pressure approvals and certificates

PED, CRN, AD 2000

Gas	Material certificates 3.1 material NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME,NORSOK
	Hygienic approvals and certificates 3-A, FDA
Density	Measuring principle Coriolis
	Characteristic / Application Coriolis mass flowmeter for custody transfer application.
	Ambient temperature -20...+65°C (-4...+140°F)
	Process temperature -50...+200°C (-58...+392°F)
	Process pressure PN 16...100 CI 150...600 JIS 10...63K
	Wetted parts 904L/1.4539 Alloy C-22/2.4602
	Output 4...20mA Pulse/Frequency (10KHz, 90° phase shifted, active/ passive) Relays/Status

Density**Certificates / Approvals**

ATEX
FM
CSA
TIIS

Density/Concentration**Measuring principle**

Coriolis

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Density/Concentration

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3-A, FDA

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