

Proline t-mass 65F thermal mass flowmeter

Robust flowmeter with adaptation to changing process conditions



More information and current pricing:

www.fi.endress.com/65F

Benefits:

- Measurement of gases and gas mixtures in small line sizes
- Plant safety – high accuracy and repeatability for a wide range of utility and process gases
- Cost-effective measurement – easy installation, negligible pressure loss and maintenance-free
- Reliable flow trending – multivariable measurement
- Fast and efficient commissioning – guided operating menus
- High plant availability – self-diagnostics and error monitoring
- Automatic recovery of data for servicing

Specs at a glance

- **Max. measurement error** Gas: 1.5% o.r. (10 to 100% o.f.s.), 0.15% o.f.s. (1 to 10% o.f.s.)
- **Measuring range** 0.5 to 3750 kg/h (1.1 to 8250 lb/h)
- **Medium temperature range** -40 °C to +100 °C (-40 °F to +212 °F)
- **Max. process pressure** PN40 / Cl. 300 / 20K
- **Wetted materials** Transducer: 1.4404 (316L); Alloy C22, 2.4602 (UNS N06022) Process connections: 1.4404 (316L/316) Sensor body: DN 15 to 25 (1/2" to 1"): CF3M-A351 DN 40 to 100 (1-1/2" to 4"): 1.4404 (316/316L) Bushing: PEEK GF30, PVDF O-ring seals: EPDM, Kalrez 6375, Viton FKM

Field of application: The t-mass 65F inline device is specially designed for the direct mass flow measurement of industrial gases and compressed air. With a turndown of typically 100:1 it can measure accurately operational flow rates and off line leakage. The integrated gas engine allows the customer to configure the device for 20 freely selectable gases.

Features and specifications

Gas

Measuring principle

Thermal

Product headline

High-performing flowmeter with intelligent and dynamic adaptation to changing process conditions.

Measurement of gases and gas mixtures in small line sizes.

Sensor features

Plant safety – high accuracy and repeatability for a wide range of utility and process gases. Cost-effective measurement – easy installation, negligible pressure loss and maintenance-free.

Inline version: nominal diameter DN 15 to 100 (½ to 4"). Process pressure up to PN 40, Class 300. High accuracy: ±1.5 % o.r. (10 to 100 % o.f.s.).

Transmitter features

Reliable flow trending – multivariable measurement. Flexible device configuration to suit the application – integrated "Gas Engine" functionality. For demanding applications – user-definable gas mixtures, high repeatability and accuracy.

Device as compact or remote version. 4-20 mA HART, PROFIBUS PA/DP, Modbus RS485, FF. Worldwide approvals (Hazardous areas).

Nominal diameter range

DN 15 to 100 (1/2" to 4")

Wetted materials

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

Process connections: 1.4404 (316L/316)

Sensor body:

DN 15 to 25 (1/2" to 1"): CF3M-A351

DN 40 to 100 (1-1/2" to 4"): 1.4404 (316/316L)

Bushing: PEEK GF30, PVDF

O-ring seals: EPDM, Kalrez 6375, Viton FKM

Gas

Measured variables

Mass flow, temperature, volume flow, energy flow

Max. measurement error

Gas: 1.5% o.r. (10 to 100% o.f.s.), 0.15% o.f.s. (1 to 10% o.f.s.)

Measuring range

0.5 to 3750 kg/h (1.1 to 8250 lb/h)

Max. process pressure

PN40 / Cl. 300 / 20K

Medium temperature range

-40 °C to +100 °C (-40 °F to +212 °F)

Ambient temperature range

-20 °C to +60 °C (-4 °F to +140 °F)

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

Transmitter housing material

Transmitter housing:

Compact: powder coated die-cast aluminium

Wall-mount: powder coated die-cast aluminium

Remote field: powder coated die-cast aluminium

Connection housing (remote version): powder coated die-cast aluminium

Degree of protection

IP 67

NEMA 4x

Display/Operation

Liquid crystal: back-lit, two lines with 16 characters per line

Configuration via local display and operating tools possible

Outputs

4-20mA HART (active/passive selectable), pulse, frequency, status

Inputs

4-20mA, status input

Gas**Digital communication**

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus
RS485

Power supply

85 to 260 VAC, 45 to 65 Hz
20 to 55 VAC, 45 to 65 Hz
16 to 62 VDC

Hazardous area approvals

ATEX, FM, CSA, NEPSI

Product safety

CE, C-tick, EAC marking

Pressure approvals and certificates

PED, CRN

Hygienic approvals and certificates

Oxygen service (certified acc. To BS IEC 60877)

More information www.fi.endress.com/65F