

Proline t-mass 65I thermal mass flowmeter

Robust flowmeter with adaptation to changing process conditions



More information and current pricing:

www.us.endress.com/65I

Benefits:

- Measurement of gases and gas mixtures in circular piping or rectangular ducts
- 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** 20 to 720000 kg/h (44 to 1587328 lb/h)
- **Medium temperature range** -40 °C to +130 °C (-40 °F to +266 °F)
- **Max. process pressure** -0.5 to 20 bar gauge (-7.25 to 290 psi gauge)
- **Wetted materials** Transducer: 1.4404 (316L); Alloy C22, 2.4602 (UNS N06022) Insertion tube: 1.4404 (316/316L); Alloy C22, 2.4602 (on request) Transducer guard: 1.4404 (316L) Compression fitting: 1.4404 (316/316L) Ferrules: PEEK 450G, PVDF Bonded seals: EPDM, Kalrez 6375, Nitrile and 316/316L

Field of application: The t-mass 65I was 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. The t-mass 65I insertion version is suitable for large pipelines or rectangular ventilation ducts.

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 circular piping or rectangular ducts.

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. Reliable flow trending – multivariable measurement.

Insertion version for nominal diameter DN 80 to 1500 (3 to 60").

Medium temperature up to +130 °C (266 °F). High accuracy: ± 1.5 % o.r. (10 to 100 % o.f.s.).

Transmitter features

Flexible device configuration to suit the application – integrated "Gas Engine" functionality. For demanding applications – user-definable gas mixtures, high repeatability and accuracy. Automatic recovery of data for servicing.

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

Nominal diameter range

DN 80 to 1500 (3 to 60")

Gas**Wetted materials**

Transducer: 1.4404 (316L); Alloy C22, 2.4602 (UNS N06022)
Insertion tube: 1.4404 (316/316L); Alloy C22, 2.4602 (on request)
Transducer guard: 1.4404 (316L)
Compression fitting: 1.4404 (316/316L)
Ferrules: PEEK 450G, PVDF
Bonded seals: EPDM, Kalrez 6375, Nitrile and 316/316L

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

20 to 720000 kg/h (44 to 1587328 lb/h)

Max. process pressure

-0.5 to 20 bar gauge (-7.25 to 290 psi gauge)

Medium temperature range

-40 °C to +130 °C (-40 °F to +266 °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

IP67 (NEMA 4X) for transmitter and sensor

Gas

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

Digital communication

Profibus DP, Profibus PA, Foundation Fieldbus, Modbus

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

More information www.us.endress.com/65I