

## Proline t-mass 65F thermal mass flowmeter

Robust flowmeter with adaptation to changing process conditions



More information and current pricing:

[www.cz.endress.com/65F](http://www.cz.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.

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## Features and specifications

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### Gas

**Measuring principle**

Thermal

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**Product headline**

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

Measurement of gases and gas mixtures in small line sizes.

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**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.).

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**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).

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**Nominal diameter range**

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

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**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

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## Gas

**Measured variables**

Mass flow, temperature, volume flow, energy flow

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**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.)

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**Measuring range**

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

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**Max. process pressure**

PN40 / Cl. 300 / 20K

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**Medium temperature range**

-40 °C to +100 °C (-40 °F to +212 °F)

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**Ambient temperature range**

-20 °C to +60 °C (-4 °F to +140 °F)

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

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**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

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**Degree of protection**

IP 67

NEMA 4x

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**Display/Operation**

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

Configuration via local display and operating tools possible

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**Outputs**

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

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**Inputs**

4-20mA, status input

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**Gas****Digital communication**

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

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**Power supply**

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

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**Hazardous area approvals**

ATEX, FM, CSA, NEPSI

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**Product safety**

CE, C-tick, EAC marking

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**Pressure approvals and certificates**

PED, CRN

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**Hygienic approvals and certificates**

Oxygen service (certified acc. To BS IEC 60877)

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