

# Proline Promass I 100 Coriolis flowmeter

Combines in-line viscosity and flow measurement with an ultra-compact transmitter



More information and current pricing:

[www.ca.endress.com/811B](http://www.ca.endress.com/811B)

## Benefits:

- Energy-saving – full bore design enables minimal pressure loss
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Space-saving transmitter – full functionality on smallest footprint
- Time-saving local operation without additional software and hardware – integrated web server
- Integrated verification – Heartbeat Technology

## Specs at a glance

- **Max. measurement error** Mass flow (liquid):  $\pm 0.1\%$  Volume flow (liquid):  $\pm 0.1\%$  Mass flow (gas):  $\pm 0.5\%$  Density (liquid):  $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 180 000 kg/h (0 to 6600 lb/min)
- **Medium temperature range**  $-50$  to  $+150 \text{ }^\circ\text{C}$  ( $-58$  to  $+302 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: Titanium grade 9 Connection: Titanium grade 2

**Field of application:** The straight single-tube design of the Promass I 100, provides the regular Coriolis flowmeter outputs of mass flow, density and temperature, additionally it provides in-line viscosity measurement as an optional output. Combined with the smallest transmitter housing available today it delivers full performance on the smallest footprint. Promass I 100 will be the preferred choice for system integrators, skid builders and equipment manufacturers.

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## Features and specifications

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### Density/Concentration

**Measuring principle**

Coriolis

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**Product headline**

Combines in-line viscosity and flow measurement with an ultra-compact transmitter.

Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

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**Sensor features**

Energy - saving – full-bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology. Measuring tube made of Titanium.

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**Transmitter features**

Space - saving transmitter – full functionality on the smallest footprint. Time - saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology. Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

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**Nominal diameter range**

DN 8 to 80 ( $\frac{3}{8}$  to 3")

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**Wetted materials**

Measuring tube: Titanium grade 9

Connection: Titanium grade 2

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**Measured variables**

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

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**Density/Concentration****Max. measurement error**Mass flow (liquid):  $\pm 0.1\%$ Volume flow (liquid):  $\pm 0.1\%$ Mass flow (gas):  $\pm 0.5\%$ Density (liquid):  $\pm 0.0005\text{ g/cm}^3$ 

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**Measuring range**0 to 180 000 kg/h (0 to 6600 lb/min)

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**Max. process pressure**PN 100, Class 600, 63K

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**Medium temperature range** $-50$  to  $+150\text{ }^\circ\text{C}$  ( $-58$  to  $+302\text{ }^\circ\text{F}$ )

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**Ambient temperature range**Standard:  $-40$  to  $+60\text{ }^\circ\text{C}$  ( $-40$  to  $+140\text{ }^\circ\text{F}$ )Option:  $-50$  to  $+60\text{ }^\circ\text{C}$  ( $-58$  to  $+140\text{ }^\circ\text{F}$ )

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**Sensor housing material**1.4301/1.4307 (304L), corrosion resistant

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**Transmitter housing material**

Compact: AlSi10Mg, coated

Compact/ultra - compact: 1.4301 (304)

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**Degree of protection**

Standard: IP66/67, type 4X enclosure

Option: IP69

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**Display/Operation**

4 - line backlit display available (no local operation)

Configuration via web browser and operating tools possible

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**Outputs**

4 - 20 mA HART (active)

Pulse/frequency/switch output (passive)

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**Density/Concentration****Inputs**

None

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**Digital communication**

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

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**Power supply**

DC 20 to 30 V

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**Hazardous area approvals**

ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

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**Product safety**

CE, C-Tick, EAC marking

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**Metrological approvals and certificates**

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)

Heartbeat Technology complies with the requirements for measurement traceability according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

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**Pressure approvals and certificates**

PED, CRN

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**Material certificates**

3.1 material

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**Hygienic approvals and certificates**

3-A, EHEDG, cGMP

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**Viscosity****Measuring principle**

Coriolis

## Viscosity

### Product headline

Combines in-line viscosity and flow measurement with an ultra-compact transmitter.

Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

### Sensor features

Energy - saving – full-bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Straight, easy-to-clean single-tube system. TMB technology. Measuring tube made of Titanium.

### Transmitter features

Space - saving transmitter – full functionality on the smallest footprint.

Time - saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology.

Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

### Nominal diameter range

DN 8 to 80 ( $\frac{3}{8}$  to 3")

### Wetted materials

Measuring tube: Titanium grade 9

Connection: Titanium grade 2

### Measured variables

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

### Max. measurement error

Mass flow (liquid):  $\pm 0.1$  %

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas):  $\pm 0.5$  %

Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

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## Viscosity

**Measuring range**

0 to 180 000 kg/h (0 to 6600 lb/min)

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**Max. process pressure**

PN 100, Class 600, 63K

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**Medium temperature range**

-50 to +150 °C (-58 to +302 °F)

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**Ambient temperature range**

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

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**Sensor housing material**

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Compact: AlSi10Mg, coated

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**Inputs**

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**Digital communication**

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

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## Viscosity

**Power supply**

DC 20 to 30 V

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ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

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**Material certificates**

3.1 material

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3-A, EHEDG, cGMP

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## Gas

**Measuring principle**

Coriolis

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**Product headline**

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## Gas

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**Ambient temperature range**

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

Option: -50 to +60 °C (-58 to +140 °F)

**Sensor housing material**

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**Transmitter housing material**

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Compact/ultra - compact: 1.4301 (304)

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Standard: IP66/67, type 4X enclosure

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**Inputs**

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**Power supply**

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## Liquids

### **Measuring principle**

Coriolis

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## Liquids

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## Liquids

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## Liquids

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PED, CRN

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### **Material certificates**

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