# Proline Promass I 100
# Coriolis flowmeter

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

More information and current pricing:
www.it.endress.com/8I1B

**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): ±0.1 % Volume flow (liquid): ±0.1 % Mass flow (gas): ±0.5 % Density (liquid): ±0.0005 g/cm³
- **Measuring range** 0 to 180 000 kg/h (0 to 6600 lb/min)
- **Medium temperature range** −50 to +150 °C (−58 to +302 °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.

# Features and specifications

## Liquids

**Measuring principle**

Coriolis

**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 (⅜ 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

## Liquids

**Max. measurement error**

Mass flow (liquid): ±0.1 %
Volume flow (liquid): ±0.1 %
Mass flow (gas): ±0.5 %
Density (liquid): ±0.0005 g/cm³

**Measuring range**

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

**Max. process pressure**

PN 100, Class 600, 63K

**Medium temperature range**

−50 to +150 °C (−58 to +302 °F)

**Ambient temperature range**

Standard: −40 to +60 °C (−40 to +140 °F)
Option: −50 to +60 °C (−58 to +140 °F)

**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

**Transmitter housing material**

Compact: AlSi10Mg, coated
Compact/ultra-compact: 1.4301 (304)

**Degree of protection**

Standard: IP66/67, type 4X enclosure
Option: IP69

**Display/Operation**

4-line backlit display available (no local operation)
Configuration via web browser and operating tools possible

**Outputs**

4-20 mA HART (active)
Pulse/frequency/switch output (passive)

## Liquids

**Inputs**
None

**Digital communication**
HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

**Power supply**
DC 20 to 30 V

**Hazardous area approvals**
ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

**Product safety**
CE, C-Tick, EAC marking

**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)

**Pressure approvals and certificates**
PED, CRN

**Material certificates**
3.1 material

**Hygienic approvals and certificates**
3-A, EHEDG, cGMP

## Gas

**Measuring principle**
Coriolis

## Gas

**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 (⅜ 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): ±0.1 %
Volume flow (liquid): ±0.1 %
Mass flow (gas): ±0.5 %
Density (liquid): ±0.0005 g/cm³

## Gas

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

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

**Medium temperature range**
−50 to +150 °C (−58 to +302 °F)

**Ambient temperature range**
Standard: −40 to +60 °C (−40 to +140 °F)
Option: −50 to +60 °C (−58 to +140 °F)

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

**Transmitter housing material**
Compact: AlSi10Mg, coated
Compact/ultra-compact: 1.4301 (304)

**Degree of protection**
Standard: IP66/67, type 4X enclosure
Option: IP69

**Display/Operation**
4-line backlit display available (no local operation)
Configuration via web browser and operating tools possible

**Outputs**
4-20 mA HART (active)
Pulse/frequency/switch output (passive)

**Inputs**
None

**Digital communication**
HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

## Gas

**Power supply**
DC 20 to 30 V

**Hazardous area approvals**
ATEX, IECEx, cCSAus, INMETRO, NEPSI

**Metrological approvals and certificates**
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**Pressure approvals and certificates**
PED, CRN

**Material certificates**
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3-A, EHEDG, cGMP

## Density/Concentration

**Measuring principle**
Coriolis

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

## Density/Concentration

**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 (⅜ 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): ±0.1 %
Volume flow (liquid): ±0.1 %
Mass flow (gas): ±0.5 %
Density (liquid): ±0.0005 g/cm³

**Measuring range**

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

**Max. process pressure**

PN 100, Class 600, 63K

**Medium temperature range**

–50 to +150 °C (–58 to +302 °F)

**Ambient temperature range**

Standard: –40 to +60 °C (–40 to +140 °F)
Option: –50 to +60 °C (–58 to +140 °F)

## Density/Concentration

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

**Transmitter housing material**
Compact: AlSi10Mg, coated
Compact/ultra-compact: 1.4301 (304)

**Degree of protection**
Standard: IP66/67, type 4X enclosure
Option: IP69

**Display/Operation**
4-line backlit display available (no local operation)
Configuration via web browser and operating tools possible

**Outputs**
4-20 mA HART (active)
Pulse/frequency/switch output (passive)

**Inputs**
None

**Digital communication**
HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

**Power supply**
DC 20 to 30 V

**Hazardous area approvals**
ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

**Product safety**
CE, C-Tick, EAC marking

## Density/Concentration

**Metrological approvals and certificates**

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**Pressure approvals and certificates**

PED, CRN

**Material certificates**

3.1 material

**Hygienic approvals and certificates**

3-A, EHEDG, cGMP

## Viscosity

**Measuring principle**

Coriolis

**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.

## Viscosity

**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 (⅜ 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): ±0.1 %
Volume flow (liquid): ±0.1 %
Mass flow (gas): ±0.5 %
Density (liquid): ±0.0005 g/cm³

**Measuring range**

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

**Max. process pressure**

PN 100, Class 600, 63K

**Medium temperature range**

–50 to +150 °C (–58 to +302 °F)

**Ambient temperature range**

Standard: –40 to +60 °C (–40 to +140 °F)
Option: –50 to +60 °C (–58 to +140 °F)

**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

## Viscosity

**Transmitter housing material**
Compact: AlSi10Mg, coated
Compact/ultra-compact: 1.4301 (304)

**Degree of protection**
Standard: IP66/67, type 4X enclosure
Option: IP69

**Display/Operation**
4-line backlit display available (no local operation)
Configuration via web browser and operating tools possible

**Outputs**
4-20 mA HART (active)
Pulse/frequency/switch output (passive)

**Inputs**
None

**Digital communication**
HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

**Power supply**
DC 20 to 30 V

**Hazardous area approvals**
ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

**Product safety**
CE, C-Tick, EAC marking

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

## Viscosity

**Pressure approvals and certificates**
PED, CRN

**Material certificates**
3.1 material

**Hygienic approvals and certificates**
3-A, EHEDG, cGMP

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