

Proline Promass I 300 coriolis-flowmeter

Combineert inline-viscositeits- en flowmetingen met een compacte, makkelijk bereikbare transmitter



Meer informatie en actuele prijzen:

www.be.endress.com/813B

Voordelen:

- Energiebesparend – ontwerp met 'full bore' zorgt voor minimaal drukverlies
- Minder procesmeetpunten – multivariabele meting (flow, dichtheid, temperatuur)
- Ruimtebesparende installatie – geen in-/uitlaatlengten
- Volledige toegang tot proces- en diagnose-informatie – talrijke, vrij te combineren I/O's en procesbussen
- Verminderde complexiteit en verscheidenheid – vrij configureerbare I/O-functionaliteit
- Geïntegreerde verificatie – Heartbeat Technology

Overzicht specificaties

- **Max. meetfout** Mass flow (liquid): $\pm 0.10\%$ Volume flow (liquid): $\pm 0.10\%$ Mass flow (gas): $\pm 0.50\%$ 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

Toepassingsgebied: De rechte enkelbuis Promass I flowmeter levert behalve massaflow-, dichtheids- en temperatuurmetingen ook in-line viscositeitsmetingen. Met zijn compacte transmitter biedt de Promass I 300 een hoge flexibiliteit wat betreft bediening en systeemintegratie: toegang vanaf één zijde, weergave op afstand en verbeterde

connectiviteitsopties. Heartbeat Technology waarborgt de compatibiliteit en de procesveiligheid.

Kenmerken en specificaties

Liquids

Meetprincipe

Coriolis

Product headline

Combines in-line viscosity and flow measurement with a compact, easily accessible 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

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

Nominal diameter range

DN 8 to 80 (3/8 to 3")

Wetted materials

Measuring tube: Titanium grade 9

Connection: Titanium grade 2

Liquids

Measured variables

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

Max. meetfout

Mass flow (liquid): ± 0.10 %

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.50 %

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

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygienic transmitter design

Degree of protection

IP66/67, type 4X enclosure

IP69

Display/Operation

4-line backlit display with touch control (operation from outside)

Configuration via local display and operating tools possible

Remote display available

Liquids

Outputs

3 outputs:

4-20 mA HART (active/passive)

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Relay output

Inputs

Status input

4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, Profinet, Ethernet/IP, OPC-UA

Power supply

DC 24 V

AC 100 to 230 V

AC 100 to 230 V / DC 24 V (non-hazardous area)

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC, UK Ex

Product safety

CE, C-tick, EAC marking

Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

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

Liquids

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Gas

Meetprincipe

Coriolis

Product headline

Combines in-line viscosity and flow measurement with a compact, easily accessible 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

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

Nominal diameter range

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

Gas

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

Max. meetfout

Mass flow (liquid): $\pm 0.10\%$

Volume flow (liquid): $\pm 0.10\%$

Mass flow (gas): $\pm 0.50\%$

Density (liquid): $\pm 0.0005\text{ g/cm}^3$

Measuring range

0 to 180 000 kg/h (0 to 6615 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

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

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 $+140\text{ }^\circ\text{F}$)

Sensor housing material

1.4301 (304), corrosion resistant

Transmitter housing material

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygenic transmitter design

Degree of protection

Standard: IP66/67, Type 4X enclosure

Option: IP69

Gas**Display/Operation**

4-line backlit display with touch control (operation from outside)
Configuration via local display and operating tools possible
Remote display available

Outputs

3 outputs:
4-20 mA HART (active/passive)
4-20 mA (active/passive)
Pulse/frequency/switch output (active/passive)
Relay output

Inputs

Status input
4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus
RS485, Profinet, Ethernet/IP, OPC-UA

Power supply

DC 24 V
AC 100 to 230 V
AC 100 to 230 V / DC 24 V (non-hazardous area)

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC, UK Ex

Product safety

CE, C-tick, EAC marking

Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

Gas**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

Density**Meetprincipe**

Coriolis

Product Headline

Combines in-line viscosity and flow measurement with a compact, easily accessible 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.

Density

Transmitter features

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

Density/Concentration

Meetprincipe

Coriolis

Product headline

Combines in-line viscosity and flow measurement with a compact, easily accessible 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

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

Nominal diameter range

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

Density/Concentration**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. meetfout

Mass flow (liquid): ± 0.10 %

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.50 %

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

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygienic transmitter design

Degree of protection

IP66/67, type 4X enclosure

IP69

Density/Concentration**Display/Operation**

4-line backlit display with touch control (operation from outside)
Configuration via local display and operating tools possible
Remote display available

Outputs

3 outputs:
4-20 mA HART (active/passive)
4-20 mA (active/passive)
Pulse/frequency/switch output (active/passive)
Relay output

Inputs

Status input
4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus
RS485, Profinet, Ethernet/IP, OPC-UA

Power supply

DC 24 V
AC 100 to 230 V
AC 100 to 230 V / DC 24 V (non-hazardous area)

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC, UK Ex

Product safety

CE, C-tick, EAC marking

Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

Density/Concentration

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

Viscosity

Meetprincipe

Coriolis

Product headline

Combines in-line viscosity and flow measurement with a compact, easily accessible 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

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

Nominal diameter range

DN 8 to 80 (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. meetfout

Mass flow (liquid): ± 0.10 %

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.50 %

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)

Viscosity

Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygienic transmitter design

Degree of protection

"IP66/67, type 4X enclosure
IP69"

Display/Operation

4-line backlit display with touch control (operation from outside)
Configuration via local display and operating tools possible
Remote display available

Outputs

3 outputs:
4-20 mA HART (active/passive)
4-20 mA (active/passive)
Pulse/frequency/switch output (active/passive)
Relay output

Inputs

Status input 4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus
RS485, Profinet, Ethernet/IP, OPC-UA

Power supply

DC 24 V
AC 100 to 230 V
AC 100 to 230 V / DC 24 V (non-hazardous area)

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC, UK Ex

Viscosity

Product safety

CE, C-tick, EAC marking

Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

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

Meer informatie www.be.endress.com/8I3B