

Proline Promass A 300 Coriolis flowmeter

Accurate single-tube flowmeter for lowest flow rates with a compact, easily accessible transmitter



Benefits:

- Space-saving installation – compact, lightweight sensor
- Highest product quality – self-drainable measuring tube in all line sizes
- Optimum process safety – resistant to corrosive ambient conditions and internal clogging
- Full access to process and diagnostic information – numerous, freely combinable I/Os and Ethernet
- Reduced complexity and variety – freely configurable I/O functionality
- Integrated verification – Heartbeat Technology

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ± 0.1 % Volume flow (liquid): ± 0.1 % Mass flow (gas): ± 0.35 % Density (liquid): ± 0.0005 g/cm³
- **Measuring range** 0 to 450 kg/h (0 to 16.54 lb/min)
- **Medium temperature range** -50 to 205 °C (-58 to 401 °F)
- **Max. process pressure** 430.9 bar (6250 psi)
- **Wetted materials** Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

Field of application: Promass A is ideal for continuous process control in very demanding applications. Its unique self-drainable single-tube system enables accurate measurement of liquids and gases at lowest flow rates and high pressure. With its compact transmitter Promass A 300 offers high flexibility in terms of operation and system integration: access from one side, remote display, improved connectivity options. Heartbeat Technology enables measurement reliability and compliant verification.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Accurate single-tube flowmeter for lowest flow rates with a compact, easily accessible transmitter.

Suitable for applications with smallest flow quantities in all industries.

Sensor features

Space-saving installation – compact, lightweight sensor. Highest product quality – self-drainable measuring tube design in all line sizes. Optimum process safety – resistant to corrosive ambient conditions and internal clogging.

Nominal diameter: DN 1 to 4 ($\frac{1}{24}$ to $\frac{1}{8}$ "). Process pressure up to 430.9 bar (6250 psi). Medium temperature up to +205 °C (+401 °F).

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 1 to 4 ($\frac{1}{24}$ to $\frac{1}{8}$ ")

Wetted materials

Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

Measured variables

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

Liquids

Max. measurement error

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

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

Mass flow (gas): $\pm 0.35\%$ Density (liquid): $\pm 0.0005\text{ g/cm}^3$

Measuring range

0 to 450 kg/h (0 to 16.54 lb/min)

Max. process pressure

430.9 bar (6250 psi)

Medium temperature range

-50 to 205 °C (-58 to 401 °F)

Ambient temperature range

-40 to 60 °C (-40 to +140 °F)

Sensor housing material

Stainless steel, 1.4404 (316L)

Transmitter housing material

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

Degree of protection

Compact version: IP66/67, type 4X enclosure.

External WLAN antenna: IP67

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 WirelessHART

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Double pulse 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, INMETRO, NEPSI, UK Ex

Product safety

CE, C-TICK

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)

Liquids

Pressure approvals and certificates

CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, cGMP

Gas

Measuring principle

Coriolis

Product headline

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Nominal diameter: DN 1 to 4 ($\frac{1}{24}$ to $\frac{1}{8}$ "). Process pressure up to 430.9 bar (6250 psi). Medium temperature up to +205 °C (+401 °F).

Transmitter features

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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 1 to 4 ($\frac{1}{24}$ to $\frac{1}{8}$ ")

Gas

Wetted materials

Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.1 %

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 % Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 450 kg/h (0 to 16.54 lb/min)

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430.9 bar (6250 psi)

Medium temperature range

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Sensor housing material

Stainless steel, 1.4404 (316L)

Transmitter housing material

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Degree of protection

Compact version: IP66/67, type 4X enclosure.

External WLAN antenna: IP67

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 WirelessHART
4-20 mA (active/passive)
Pulse/frequency/switch output (active/passive)
Double pulse 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, INMETRO, NEPSI, UK Ex

Product safety

CE, C-TICK

Functional safety

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

Gas

Metrological approvals and certificates

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Pressure approvals and certificates

CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, cGMP

Density/Concentration

Measuring principle

Coriolis

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Nominal diameter range

DN 1 to 4 ($\frac{1}{24}$ to $\frac{1}{8}$ ")

Wetted materials

Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

Measured variables

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

Max. measurement error

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Max. process pressure

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Sensor housing material

Stainless steel, 1.4404 (316L)

Density/Concentration**Transmitter housing material**

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

Degree of protection

Compact version: IP66/67, type 4X enclosure.

External WLAN antenna: IP67

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 WirelessHART

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Double pulse 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, INMETRO, NEPSI, UK Ex

Density/Concentration

Product safety

CE, C-TICK

Functional safety

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Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, cGMP



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