

Proline Promass E 300 Coriolis flowmeter

Mid-range Coriolis flowmeter with a compact, easily accessible transmitter



More information and current pricing:

www.de.endress.com/8E3B

Benefits:

- Cost-effective – multipurpose device; an alternative to conventional volumetric flowmeters
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in-/outlet run needs
- 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

Specs at a glance

- **Max. measurement error** Mass flow (liquid): $\pm 0.15\%$ (standard), $\pm 0.10\%$ (option) Volume flow (liquid): $\pm 0.15\%$ 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)
- **Medium temperature range** -40 to $+150\text{ }^\circ\text{C}$ (-40 to $+302\text{ }^\circ\text{F}$)
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: 1.4539 (904L) Connection: 1.4404 (316/316L)

Field of application: The robust Promass E has a long-standing reputation as a reliable solution accurately measuring liquids and gases in a wide range of standard applications in various industries. With its compact transmitter Promass E 300 offers high flexibility in terms of operation and system integration: access from one side, remote display, improved connectivity options. Heartbeat Technology ensures measurement reliability and enables extension of recalibration cycles.

Features and specifications

Density/Concentration

Measuring principle

Coriolis

Product headline

Flowmeter with minimized total cost of ownership and a compact, easily accessible transmitter.

Accurate measurement of liquids and gases for a wide range of standard applications.

Sensor features

Cost - effective – multi - purpose device; an alternative to conventional volumetric flowmeters. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Compact dual-tube sensor. Medium temperature up to +150 °C (+302 °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.

Process pressure up to 100 bar (1450 psi). Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access.

Nominal diameter range

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

Wetted materials

Measuring tube: 1.4539 (904L)

Connection: 1.4404 (316/316L)

Measured variables

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

Density/Concentration**Max. measurement error**Mass flow (liquid): $\pm 0.15\%$ (standard), $\pm 0.10\%$ (option)Volume flow (liquid): $\pm 0.15\%$ Mass flow (gas): $\pm 0.50\%$ Density (liquid): $\pm 0.0005\text{ g/cm}^3$

Measuring range0 to 180 000 kg/h (0 to 6615 lb/min)

Max. process pressurePN 100, Class 600, 63K

Medium temperature range -40 to $+150\text{ }^\circ\text{C}$ (-40 to $+302\text{ }^\circ\text{F}$)

Ambient temperature rangeStandard: -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 material1.4301 (304), corrosion resistant

Transmitter housing materialAlSi10Mg, coated; stainless steel for hygienic transmitter design

Degree of protection

Standard: 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"

Density/Concentration

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, 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)

Density/Concentration

Marine approvals and certificates

LR approval, DNV GL approval, ABS approval, BV approval, CCS approval

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Gas

Measuring principle

Coriolis

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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.

Process pressure up to 100 bar (1450 psi). Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access.

Gas

Nominal diameter rangeDN 8 to 80 ($\frac{3}{8}$ to 3")**Wetted materials**

Measuring tube: 1.4539 (904L)

Connection: 1.4404 (316/316L)

Measured variables

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

Max. measurement errorMass flow (liquid): ± 0.15 % (standard), ± 0.10 % (option)Volume flow (liquid): ± 0.15 %Mass flow (gas): ± 0.50 %Density (liquid): ± 0.0005 g/cm³**Measuring range**

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

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

-40 to +150 °C (-40 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 (304), corrosion resistant

Transmitter housing material

AlSi10Mg, coated; stainless steel for hygienic transmitter design

Degree of protection

Standard: IP66/67, Type 4X enclosure

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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)

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

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Gas**Metrological approvals and certificates**

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Steam**Measuring principle**

Coriolis

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Density**Measuring principle**

Coriolis

Density

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Liquids

Measuring principle

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Liquids

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Volume flow (liquid): ± 0.15 %

Mass flow (gas): ± 0.50 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

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Liquids

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Status input

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Liquids

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