

# Proline Promass E 500 Coriolis flowmeter

## Mid-range Coriolis flowmeter as remote version with up to 4 I/Os



More information and current pricing:

[www.sg.endress.com/8E5B](http://www.sg.endress.com/8E5B)

### 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 innovative remote transmitter Promass E 500 maximizes installation flexibility and operational safety in demanding environments. Heartbeat Technology ensures measurement reliability and enables extension of recalibration cycles.

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## Features and specifications

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### Liquids

**Measuring principle**

Coriolis

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**Product headline**

Flowmeter with minimized total cost of ownership, as remote version with up to 4 I/Os.

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

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**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). Process pressure up to 100 bar (1450 psi).

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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.

Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

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**Nominal diameter range**

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

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**Wetted materials**

Measuring tube: 1.4539 (904L)

Connection: 1.4404 (316/316L)

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**Measured variables**

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

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## Liquids

**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):  $\pm 0.0005\text{ g/cm}^3$

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**Measuring range**

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

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**Max. process pressure**

PN 100, Class 600, 63K

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**Medium temperature range**

$-40$  to  $+150\text{ }^\circ\text{C}$  ( $-40$  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 (304), corrosion resistant

Sensor connection housing (standard): AlSi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L)

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**Transmitter housing material**

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; Polycarbonat

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**Degree of protection**

Sensor remote version (standard): IP66/67, type 4X enclosure

Sensor remote version (option): IP69. Transmitter remote version:

IP66/67, Type 4X enclosure

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**Display/Operation**

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

Configuration via local display and operating tools possible

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## Liquids

### Outputs

4 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

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### Inputs

Status input

4-20 mA input

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### Digital communication

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

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### 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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### Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

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### Product safety

CE, C-tick, EAC marking

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### Functional safety

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

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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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## Liquids

**Marine approvals and certificates**

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

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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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## Density

**Measuring principle**

Coriolis

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**Product Headline**

Flowmeter with minimized total cost of ownership, as remote version with up to 4 I/Os.  
Accurate measurement of liquids and gases for a wide range of standard applications.

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## Gas

**Measuring principle**

Coriolis

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**Product headline**

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**Gas****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). Process pressure up to 100 bar (1450 psi).

**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.

Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

**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

**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):  $\pm 0.0005$  g/cm<sup>3</sup>

**Measuring range**

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

**Max. process pressure**

PN 100, Class 600, 63K

## Gas

**Medium temperature range**

-40 to +150 °C (-40 to +302 °F)

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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)

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**Display/Operation**

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

Configuration via local display and operating tools possible

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**Outputs**

4 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

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**Inputs**

Status input

4-20 mA input

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## Gas

**Digital communication**

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

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**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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**Hazardous area approvals**

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

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**Product safety**

CE, C-tick, EAC marking

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**Functional safety**

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PED, CRN

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**Material certificates**

3.1 material

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## Density/Concentration

### Measuring principle

Coriolis

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### Measured variables

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

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**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):  $\pm 0.0005$  g/cm<sup>3</sup>

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

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

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**Medium temperature range**-40 to +150 °C (-40 to +302 °F)

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**Ambient temperature range**

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

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**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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## Density/Concentration

### **Marine approvals and certificates**

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

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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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## Steam

### **Measuring principle**

Coriolis

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### **Product headline**

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### **Marine approvals and certificates**

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