Proline Promass E 500
Coriolis flowmeter

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

FLEX

More information and current pricing:

www.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): ±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)
- **Medium temperature range** −40 to +150 °C (−40 to +302 °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.

Endress+Hauser

Features and specifications

Liquids

Measuring principle

Coriolis

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.

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 (⅜ 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

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Liquids

Max. measurement error

Mass 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 ℃ (−40 to +302 ℉)

Ambient temperature range

Standard: −40 to +60 ℃ (−40 to +140 ℉)

Option: −50 to +60 ℃ (−58 to +140 ℉)

Sensor housing material

1.4301 (304), corrosion resistant

Sensor connection housing (standard): AlSi10Mg, coated

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

Transmitter housing material

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

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

Display/Operation

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

Configuration via local display and operating tools possible

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

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

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)

Liquids

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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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.

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Gas

Nominal diameter range

DN 8 to 80 (⅜ 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): ±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 ℃ (−40 to +302 ℉)

Ambient temperature range

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Sensor housing material

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Sensor connection housing (standard): AlSi10Mg, coated
Sensor connection housing (option): 1.4301 (304); 1.4404 (316L)

Transmitter housing material

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

Gas

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

Display/Operation

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

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

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

Product safety

CE, C-tick, EAC marking

Gas

Functional safety

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

Metrological approvals and certificates

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Marine approvals and certificates

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PED, CRN

Material certificates

3.1 material

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Density

Measuring principle

Coriolis

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.

Density

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.

Steam

Measuring principle
Coriolis

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Marine approvals and certificates
LR approval, DNV GL approval, ABS approval, BV approval

Density/Concentration

Measuring principle
Coriolis

Density/Concentration

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Mass flow (liquid): ±0.15 % (standard), ±0.10 % (option)

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Mass flow (gas): ±0.50 %

Density (liquid): ±0.0005 g/cm³

Density/Concentration

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

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PN 100, Class 600, 63K

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Sensor remote version (standard): IP66/67, type 4X enclosure
Sensor remote version (option): IP69. Transmitter remote version:
IP66/67, Type 4X enclosure

Display/Operation

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

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

Density/Concentration

Inputs

Status input

4-20 mA input

Digital communication

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Power supply

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3.1 material

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