

Proline Promass S 500 Coriolis flowmeter

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os



More information and current pricing:

www.casc.endress.com/8S5B

Benefits:

- Increased process safety – easily cleanable and fully self-drainable tube design
- 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 Ethernet-APL
- Reduced complexity and variety – freely configurable I/O functionality
- Integrated verification – Heartbeat Technology

Specs at a glance

- **Max. measurement error** Mass flow (liquid): $\pm 0.10\%$ 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 70 000 kg/h (0 to 2570 lb/min)
- **Medium temperature range** -50 to $+150 \text{ }^\circ\text{C}$ (-58 to $+302 \text{ }^\circ\text{F}$)
- **Max. process pressure** PN 40, Class 150, 20K
- **Wetted materials** Measuring tube: 1.4435 (316L) Connection: 1.4435 (316L); 1.4404 (316/316L)

Field of application: Promass S is at the forefront in hygienic design and dedicated to applications in the food and beverage industry requiring optimal cleanability. The self - drainable single-tube system ensures careful treatment of fluids. With its innovative remote transmitter Promass S 500 maximizes installation flexibility and operational safety in

demanding environments. Heartbeat Technology ensures process safety at all times.

Features and specifications

Density

Measuring principle

Coriolis

Product Headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

Gas

Measuring principle

Coriolis

Product headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

Sensor features

Increased process safety – easily cleanable and fully self-drainable tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Large range of hygienic process connections. 3-A and EHEDG conform. Fast recovery from CIP/SIP.

Gas

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; hygienic sensor connection housing with IP69. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

Hygienic approvals and certificates

cGMP

Density/Concentration

Measuring principle

Coriolis

Product headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

Sensor features

Increased process safety – easily cleanable and fully self-drainable tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Large range of hygienic process connections. 3-A and EHEDG conform. Fast recovery from CIP/SIP.

Density/Concentration

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; hygienic sensor connection housing with IP69. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

Nominal diameter range

DN 8 to 50 ($\frac{3}{8}$ to 2")

Wetted materials

Measuring tube: 1.4435 (316L)

Connection: 1.4435 (316L); 1.4404 (316/316L)

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.10 %

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.50 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 70 000 kg/h (0 to 2570 lb/min)

Max. process pressure

PN 40, Class 150, 20K

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)

Density/Concentration**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; 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

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)

Density/Concentration

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)

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Liquids

Measuring principle

Coriolis

Product headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

Liquids

Sensor features

Increased process safety – easily cleanable and fully self-drainable tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Large range of hygienic process connections. 3-A and EHEDG conform. Fast recovery from CIP/SIP.

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; hygienic sensor connection housing with IP69. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

Nominal diameter range

DN 8 to 50 ($\frac{3}{8}$ to 2")

Wetted materials

Measuring tube: 1.4435 (316L)

Connection: 1.4435 (316L); 1.4404 (316/316L)

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.10 %

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.50 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 70 000 kg/h (0 to 2570 lb/min)

Liquids

Max. process pressure

PN 40, Class 150, 20K

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 (304), corrosion resistant

Sensor connection housing (standard): AlSi10Mg, coated

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

Transmitter housing material

AlSi10Mg, coated; 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

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

Liquids

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)

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

More information www.casc.endress.com/8S5B