

# Proline Promass A 500 / 8A5B



More information and current pricing:

[www.be.endress.com/8A5B](http://www.be.endress.com/8A5B)

## Benefits:

- Highest process safety – self-drainable measuring 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 fieldbuses
- Reduced complexity and variety – freely configurable I/O functionality
- Integrated verification – Heartbeat Technology

## Specs at a glance

- **Max. measurement error** Mass flow (liquid):  $\pm 0.10\%$  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 450 kg/h (0 to 16.5 lb/min)
- **Medium temperature range**  $-50$  to  $+205 \text{ }^\circ\text{C}$  ( $-58$  to  $+401 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 40, Class 300, 20K, 400 bar (5800 psi)
- **Wetted materials** Measuring tube: 1.4539 (904L); Alloy C22, 2.4602 (UNS N06022) Connection: 1.4539 (904L); Alloy C22, 2.4602 (UNS N06022); 1.4404 (316/316L)

**Field of application:** The self-drainable Promass A accurately measures lowest flow rates of liquids and gases, also under high pressure. It enables continuous process control for a wide range of very demanding applications. With its innovative remote transmitter Promass A 500 maximizes installation flexibility and operational safety in demanding environments. Heartbeat Technology ensures compliance and process safety at all times.

## Features and specifications

## Liquids

### Measuring principle

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#### Product headline

std\_productprofile\_product\_usp\_7832.

Measuring accurately smallest quantities of liquids and gases for continuous process control.

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#### Sensor features

Highest process safety – self-drainable measuring tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Nominal diameter: DN 1 to 4 ( $\frac{1}{24}$  to  $\frac{1}{8}$ " ). Process pressure up to 400 bar (5800 psi). Medium temperature up to +205 °C (+401 °F).

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

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#### Wetted materials

Measuring tube: 1.4539 (904L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4539 (904L); Alloy C22, 2.4602 (UNS N06022); 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):  $\pm 0.10\%$

Volume flow (liquid):  $\pm 0.10\%$

Mass flow (gas):  $\pm 0.50\%$

Density (liquid):  $\pm 0.0005\text{ g/cm}^3$

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**Measuring range**

0 to 450 kg/h (0 to 16.5 lb/min)

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**Max. process pressure**

PN 40, Class 300, 20K, 400 bar (5800 psi)

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**Medium temperature range**

$-50$  to  $+205\text{ }^\circ\text{C}$  ( $-58$  to  $+401\text{ }^\circ\text{F}$ )

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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 traceable verification according to ISO 9001:2008 – Section 7.6 a (TÜV SÜD attestation)

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## Liquids

### Pressure approvals and certificates

CRN

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### Material certificates

3.1 material

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### Hygienic approvals and certificates

3-A, EHEDG

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## Gas

### Measuring principle

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### Product headline

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Measuring accurately smallest quantities of liquids and gases for continuous process control.

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### Sensor features

Highest process safety – self-drainable measuring tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Nominal diameter: DN 1 to 4 ( $\frac{1}{24}$  to  $\frac{1}{8}$ "). Process pressure up to 400 bar (5800 psi). Medium temperature up to +205 °C (+401 °F).

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

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## Gas

**Wetted materials**

Measuring tube: 1.4539 (904L); Alloy C22, 2.4602 (UNS N06022)  
Connection: 1.4539 (904L); Alloy C22, 2.4602 (UNS N06022); 1.4404 (316/316L)

**Measured variables**

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

**Max. measurement error**

Mass flow (liquid):  $\pm 0.10$  %  
Volume flow (liquid):  $\pm 0.10$  %  
Mass flow (gas):  $\pm 0.50$  %  
Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

**Measuring range**

0 to 450 kg/h (0 to 16.5 lb/min)

**Max. process pressure**

PN 40, Class 300, 20K, 400 bar (5800 psi)

**Medium temperature range**

-50 to +205 °C (-58 to +401 °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): AISi10Mg, coated  
Sensor connection housing (option): 1.4301 (304); 1.4404 (316L)

**Transmitter housing material**

AISi10Mg, coated; 1.4409 (CF3M) similar to 316L; Polycarbonat

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Status input

4-20 mA input

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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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**Product safety**

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**Gas****Functional safety**

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3.1 material

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**Hygienic approvals and certificates**

3-A, EHEDG

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**Density****Measuring principle****Product Headline**

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## Density

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## Density/Concentration

### Measuring principle

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## Density/Concentration

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3-A, EHEDG

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