

# Proline Promass Q 300 Przepływomierz masowy Coriolisa

Innowacyjny przepływomierz z kompaktowym przetwornikiem do wymagających zastosowań.



Więcej informacji i aktualne ceny:

[www.pl.endress.com/8Q3B](http://www.pl.endress.com/8Q3B)

## Korzyści:

- Najwyższa jakość pomiaru – wyjątkowa dokładność pomiaru masowego natężenia przepływu, objętościowego natężenia przepływu i gęstości
- Optymalne parametry pracy dla cieczy zawierających gaz – technologia wzbudzenia wieloczęstotliwościowego (MFT)
- Mniej punktów pomiarowych w instalacji – pomiar wieloparametrowy (przepływ, gęstość, temperatura)
- Niewielka przestrzeń montażowa – nie wymaga prostych odcinków dolotowych i wylotowych
- Pełny dostęp do informacji o procesie i diagnostycznych – liczne wejścia/wyjścia i elementy komunikacyjne dające możliwość tworzenia dowolnych kombinacji
- Mniejsza złożoność – możliwość tworzenia dowolnych kombinacji wejść/wyjść
- Zintegrowana diagnostyka i weryfikacja – Technologia Heartbeat

## Kluczowe parametry

- **Maksymalny błąd pomiaru** Mass flow (liquid):  $\pm 0.10\%$  (standard),  $0.05\%$  (option) Volume flow (liquid):  $\pm 0.10\%$  Mass flow (gas):  $\pm 0.35\%$  Density (liquid):  $\pm 0.2\text{ kg/m}^3$
- **Zakres pomiarowy** 0 to 400 000 kg/h (0 to 14 697 lb/min)
- **Zakres temperatury medium** Standard:  $-50$  to  $+205^\circ\text{C}$  ( $-58$  to  $+401^\circ\text{F}$ ) Option:  $-196$  to  $+150^\circ\text{C}$  ( $-321$  to  $+302^\circ\text{F}$ )
- **Maks. ciśnienie procesu** PN 100, Class 600, 63K
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**Materiały w kontakcie z medium** Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications Connection: 1.4404 (316/316L)

**Zastosowanie:** Przepływomierz Promass Q 300 zapewnia najwyższą dokładność pomiaru przepływu masowego i objętościowego, a także gęstości. Został zoptymalizowany dla cieczy wielofazowych oraz zagazowanych. Jest idealnym wyborem do pomiarów rozliczeniowych zgodnych z MID. Kompaktowy przetwornik oferuje wysoką elastyczność obsługi i integracji systemów: dostęp z jednej strony, rozdzielny wyświetlacz i udoskonalone możliwości przyłączenia. Wbudowana technologia Heartbeat pozwala przeprowadzić diagnostykę i weryfikację bez przerywania pomiaru. Zapewnia bezpieczeństwo i zgodność z obowiązującymi przepisami.

## Funkcje i specyfikacja

Para

### Zasada pomiaru

Coriolis

### Product headline

Innovative specialist for challenging applications with a compact, easily accessible transmitter. Secured measuring quality – unmatched accuracy of mass flow, volume flow and density. Highest measurement performance for custody transfer, density and tough process conditions.

### Marine approvals and certificates

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

Gaz

### Zasada pomiaru

Coriolis

## Gaz

**Product headline**

Innovative specialist for challenging applications with a compact, easily accessible transmitter. Secured measuring quality – unmatched accuracy of mass flow, volume flow and density. Highest measurement performance for custody transfer, density and tough process conditions.

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**Sensor features**

Optimized performance for liquids with entrained gas – MFT (Multi-Frequency Technology). Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Mass flow: measurement error  $\pm 0.05$  % (PremiumCal). Density: measurement error  $\pm 0.2$  kg/m<sup>3</sup>.

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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. Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access.

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**Średnica nominalna**

DN 25 to 100 (1 to 4")

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**Materiały w kontakcie z medium**

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

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**Wielkości mierzone**

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

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**Maksymalny błąd pomiaru**

Mass flow (liquid):  $\pm 0.10$  % (standard),  $0.05$  % (option)

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

Mass flow (gas):  $\pm 0.35$  %

Density (liquid):  $\pm 0.2$  kg/m<sup>3</sup>

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## Gaz

**Zakres pomiarowy**

0 to 400 000 kg/h (0 to 14 697 lb/min)

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**Maks. ciśnienie procesu**

PN 100, Class 600, 63K

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**Zakres temperatury medium**

Standard: -50 to +205°C (-58 to +401 °F)

Option: -196 to +150 °C (-321 to +302 °F)

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**Temperatura otoczenia**

Standard: - 20 to +60 °C (-40 to +140 °F)

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

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**Materiał obudowy czujnika**

1.4404 (316L), highest corrosion resistance

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**Materiał obudowy przetwornika**

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygenic transmitter design

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**Stopień ochrony**

IP66/67, type 4X enclosure

IP69

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**Wyświetlacz**

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

Configuration via local display and operating tools possible

Remote display available

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**Wyjścia**

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

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## Gaz

**Wejścia**

Status input

4-20 mA input

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**Komunikacja cyfrowa**

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

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**Zasilacz**

DC 24 V

AC 100 to 230 V

AC 100 to 230 V / DC 24 V (non-hazardous area)

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**Dopuszczenia do stosowania w strefach zagrożonych wybuchem**

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)

MI-005 Liquids other than water (Hydrocarbons, Liquified gases, Cryogenic liquids)

OIML R117 (Liquids other than water, Liquified gases, Cryogenic liquids)

NTEP (Liquids other than water, Cryogenic liquids)

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**Marine approvals and certificates**

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

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**Pressure approvals and certificates**

PED, CRN, AD 2000

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## Gaz

**Material certificates**

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

**Hygienic approvals and certificates**

3-A, EHEDG, cGMP

## Gęstość

**Zasada pomiaru**

Coriolis

**Product Headline**

Innovative specialist for challenging applications with a compact, easily accessible transmitter. Secured measuring quality – unmatched accuracy of mass flow, volume flow and density. Highest measurement performance for custody transfer, density and tough process conditions.

**Sensor features**

Sensor features

**Transmitter features**

Transmitter features

**Nominal diameter range**

DN 25 to 100 (1 to 4")

**Wetted materials**

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

**Measured variables**

Measured variables

**Gęstość****Max. measurement error**

Mass flow (liquid):  $\pm 0.10$  % (standard), 0.05 % (option)

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

Mass flow (gas):  $\pm 0.35$  %

Density (liquid):  $\pm 0.2$  kg/m<sup>3</sup>

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**Measuring range**

Measuring range

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**Max. process pressure**

Max. process pressure

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**Medium temperature range**

Standard:  $-50$  to  $+205$ °C ( $-58$  to  $+401$  °F)

Option:  $-196$  to  $+150$  °C ( $-321$  to  $+302$  °F)

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**Ambient temperature range**

Standard:  $-20$  to  $+60$  °C ( $-40$  to  $+140$  °F)

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

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**Sensor housing material**

1.4404 (316L), highest corrosion resistance

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**Transmitter housing material**

Transmitter housing material

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**Degree of protection**

IP66/67, type 4X enclosure

IP69

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**Display/Operation**

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

Configuration via local display and operating tools possible

Remote display available

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**Outputs**

Outputs

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Gęstość

**Inputs**

Inputs

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**Digital communication**

Digital communication

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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**

Hazardous area approvals

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**Gęstość****Other approvals and certificates**

CE, C-tick, EAC marking

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

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)

MI-005 Liquids other than water (Hydrocarbons, Liquified gases, Cryogenic liquids)

OIML R117 (Liquids other than water, Liquified gases, Cryogenic liquids)

NTEP (Liquids other than water, Cryogenic liquids)

MC (Liquids other than water, Cryogenic liquids)

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

PED, CRN, AD 2000

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

3-A, EHEDG, cGMP

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**Ciecze****Zasada pomiaru**

Coriolis

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## Ciecze

### Product headline

Innovative specialist for challenging applications with a compact, easily accessible transmitter. Secured measuring quality – unmatched accuracy of mass flow, volume flow and density. Highest measurement performance for custody transfer, density and tough process conditions.

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### Sensor features

Optimized performance for liquids with entrained gas – MFT (Multi-Frequency Technology). Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Mass flow: measurement error  $\pm 0.05$  % (PremiumCal). Density: measurement error  $\pm 0.2$  kg/m<sup>3</sup>.

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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. Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access.

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### Średnica nominalna

DN 25 to 100 (1 to 4")

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### Materiały w kontakcie z medium

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

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### Wielkości mierzone

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

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### Maksymalny błąd pomiaru

Mass flow (liquid):  $\pm 0.10$  % (standard),  $0.05$  % (option)

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

Mass flow (gas):  $\pm 0.35$  %

Density (liquid):  $\pm 0.2$  kg/m<sup>3</sup>

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**Ciecze****Zakres pomiarowy**

0 to 550 000 kg/h (0 to 20 210 lb/min)

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**Maks. ciśnienie procesu**

PN 100, Class 600, 63K

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**Zakres temperatury medium**

Standard: -50 to +205°C (-58 to +401 °F)

Option: -196 to +150 °C (-321 to +302 °F)

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**Temperatura otoczenia**

Standard: - 20 to +60 °C (-40 to +140 °F)

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**Materiał obudowy czujnika**

1.4404 (316L), highest corrosion resistance

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**Materiał obudowy przetwornika**

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygenic transmitter design

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**Stopień ochrony**

IP66/67, type 4X enclosure

IP69

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**Wyświetlacz**

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

Configuration via local display and operating tools possible

Remote display available

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**Wyjścia**

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

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**Ciecze****Wejścia**

Status input  
4-20 mA input

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**Komunikacja cyfrowa**

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

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**Zasilacz**

DC 24 V  
AC 100 to 230 V  
AC 100 to 230 V / DC 24 V (non-hazardous area)

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**Dopuszczenia do stosowania w strefach zagrożonych wybuchem**

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)

MI-005 Liquids other than water (Hydrocarbons, Liquified gases, Cryogenic liquids)

OIML R117 (Liquids other than water, Liquified gases, Cryogenic liquids)

NTEP (Liquids other than water, Cryogenic liquids)

MC (Liquids other than water, Cryogenic liquids)

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**Marine approvals and certificates**

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

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## Ciecze

**Pressure approvals and certificates**

PED, CRN, AD 2000

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**Material certificates**

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

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**Hygienic approvals and certificates**

3-A, EHEDG, cGMP

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## Density/Concentration

**Zasada pomiaru**

Coriolis

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**Product headline**

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**Sensor features**

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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. Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access.

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**Średnica nominalna**

DN 25 to 100 (1 to 4")

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**Density/Concentration****Materiały w kontakcie z medium**

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

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**Wielkości mierzone**

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

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**Maksymalny błąd pomiaru**

Mass flow (liquid):  $\pm 0.10$  % (standard), 0.05 % (option)

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

Mass flow (gas):  $\pm 0.35$  %

Density (liquid):  $\pm 0.2$  kg/m<sup>3</sup>

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**Zakres pomiarowy**

0 to 550 000 kg/h (0 to 20 210 lb/min)

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**Maks. ciśnienie procesu**

PN 100, Class 600, 63K

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**Zakres temperatury medium**

Standard: -50 to +205°C (-58 to +401 °F)

Option: -196 to +150 °C (-321 to +302 °F)

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**Materiał obudowy czujnika**

1.4404 (316L), highest corrosion resistance

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**Materiał obudowy przetwornika**

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygenic transmitter design

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**Stopień ochrony**

IP66/67, type 4X enclosure

IP69

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## Density/Concentration

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### Wyświetlacz

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

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### Wyjścia

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

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### Wejścia

Status input  
4-20 mA input

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### Komunikacja cyfrowa

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

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### Zasilacz

DC 24 V  
AC 100 to 230 V  
AC 100 to 230 V / DC 24 V (non-hazardous area)

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### Dopuszczenia do stosowania w strefach zagrożonych wybuchem

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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## Density/Concentration

### **Metrological approvals and certificates**

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)

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MI-005 Liquids other than water (Hydrocarbons, Liquified gases, Cryogenic liquids)

OIML R117 (Liquids other than water, Liquified gases, Cryogenic liquids)

NTEP (Liquids other than water, Cryogenic liquids)

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### **Marine approvals and certificates**

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

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### **Pressure approvals and certificates**

PED, CRN, AD 2000

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### **Material certificates**

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

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### **Hygienic approvals and certificates**

3-A, EHEDG, cGMP

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Więcej informacji [www.pl.endress.com/8Q3B](http://www.pl.endress.com/8Q3B)