

# Servo tank gauging instrument Proservo NMS80

## High precision servo measurement for liquid level, interface and density



More information and current pricing:

[www.be.endress.com/NMS80](http://www.be.endress.com/NMS80)

### Benefits:

- Hardware and software developed according to IEC 61508 up to SIL3 (in homogeneous redundancy) for high level of safety
- Maximum reliability through accuracy up to  $\pm 0.4\text{mm}$  ( $\pm 0.02\text{''}$ )
- Developed according to international metrology recommendations such as OIML R85 and API MPMS
- Local and country-specific certifications like NMI or PTB for custody transfer applications
- Simplified installation and trouble-free operations due to easy connection to major DCS systems via open protocols
- Measurement of interfaces between up to three liquid layers, tank bottom, spot, and profile densities

### Specs at a glance

- **Accuracy** up to 0.4 mm
- **Process temperature**  $-200^{\circ}\text{C} \dots 200^{\circ}\text{C}$  ( $-328^{\circ}\text{F} \dots 392^{\circ}\text{F}$ )
- **Process pressure absolute / max. overpressure limit** 0,2...6 bar abs
- **Max. measurement distance** 36 m (118 ft)
- **Main wetted parts** 316L, AlloyC276, PTFE

**Field of application:** The intelligent tank gauge Proservo NMS80 is designed for high accuracy liquid level measurement in custody transfer and inventory control applications with NMI- and PTB-approvals. It meets the relevant requirements according to OIML R85 and API 3.1B. It fulfills the exact demands of tank inventory management and loss control and is optimized in regards of total cost saving and safe operation.

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## Features and specifications

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### Density

**Measuring principle**

Servo / Float Tank Gauging

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**Characteristic / Application**

Servo Tank Gauging: High precision measurement for liquid level, interface, spot density, profile density

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**Supply / Communication**

85-264VAC

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**Ambient temperature**

Standard:

-40°C...60°C

(-40°F...140°F)

For calibration to regulatory standards:

-25°C...55°C

(-13°F...131°F)

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**Process temperature**

-200°C...200°C

(-328°F...392°F)

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**Process pressure absolute**

0.2...6 bar abs

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**Wetted parts**

316L, AlloyC276, PTFE

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**Density****Output**

Outputs:

Fieldbus: Modbus RS485, V1, HART

Analog 4-20mA output (Exi/ Exd)

Relay output (Exd)

Inputs:

Analog 4-20mA input (Exi/ Exd)

2-, 3-, 4-wire RTD input

Discrete input (Exd, passive/ active)

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**Certificates / Approvals**

ATEX, FM, IEC Ex, NEPSI, EAC

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**Options**

Weather protection cover

Guide wire assembly

Relief valve

Gas purging nozzle connection

Pressure gauge

Cleaning nozzle connection

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## Density

**Specialities**

Custody transfer level measurement

Interface measurement

Spot density, density profile measurement

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**Measuring range**

36 m (118 ft)

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**Other approvals and certificates**

OIML, NMI, PTB

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## Continuous / Liquids

**Measuring principle**

Servo / Float Tank Gauging

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**Characteristic / Application**

Servo Tank Gauging: High precision measurement for liquid level, interface, spot density, profile density

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**Specialities**

Custody transfer level measurement

Interface measurement

Spot density, density profile measurement

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**Supply / Communication**

85-264VAC

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**Accuracy**

up to 0.4 mm

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**Continuous / Liquids****Ambient temperature**

Standard:

-40°C...60°C

(-40°F...140°F)

For calibration to regulatory standards:

-25°C...55°C

(-13°F...131°F)

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**Process temperature**

-200°C...200°C

(-328°F...392°F)

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**Process pressure absolute / max. overpressure limit**

0,2...6 bar abs

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**Main wetted parts**

316L, AlloyC276, PTFE

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**Process connection**

Flange:

DN80/3" / DN150/6"

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**Max. measurement distance**

36 m (118 ft)

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**Continuous / Liquids****Communication**

Outputs:

Fieldbus: Modbus RS485, V1, HART

Analog 4-20mA output (Exi/ Exd)

Relay output (Exd)

Inputs:

Analog 4-20mA input (Exi/ Exd)

2-, 3-, 4-wire RTD input

Discrete input (Exd, passive/ active)

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**Certificates / Approvals**

ATEX, FM, IEC Ex, NEPSI, EAC

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**Safety approvals**

Overfill protection WHG

SIL

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**Metrological approvals and certificates**

OIML, NMI, PTB

## Continuous / Liquids

### Options

Redundant fieldbus

Weather protection cover

Guide wire assembly

Relief valve

Gas purging nozzle connection

Pressure gauge

Cleaning nozzle connection

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### Application limits

Stilling well or guide wires for turbulent application

Recommend PTFE displacer for high viscosity application

Recommend AlloyC276 displacer for corrosive application

Interface measurement requires min. difference of 0.100 g/ml between layers

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