

Servo tank gauging instrument Proservo NMS83

High precision servo measurement for liquid level, interface and density for hygienic applications



More information and current pricing:

www.at.endress.com/NMS83

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** 6 bar abs
- **Max. measurement distance** 22 m (72 ft)
- **Main wetted parts** 316L, AlloyC276, PTFE

Field of application: The intelligent tank gauge Proservo NMS83 is designed for high accuracy liquid level measurement in custody transfer and inventory control applications with NMI- and PTB-approvals. It meets all requirements for hygienic applications. It fulfills the exact demands of tank inventory management and loss control and is optimized in regards of total cost saving and safe operation.

Features and specifications

Continuous / Liquids

Measuring principle

Servo / Float Tank Gauging

Characteristic / Application

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

Specialities

Custody transfer level measurement

Interface measurement

Spot density, density profile measurement

Supply / Communication

85-264VAC

Accuracy

up to 0.4 mm

Ambient temperature

Standard:

-40°C...60°C

(-40°F...140°F)

For calibration to regulatory standards:

-25°C...55°C

(-13°F...131°F)

Continuous / Liquids**Process temperature**

-200°C...200°C

(-328°F...392°F)

Process pressure absolute / max. overpressure limit

6 bar abs

Main wetted parts

316L, AlloyC276, PTFE

Process connection

Flange:

DN80/3" / DN150/6"

Max. measurement distance

22 m (72 ft)

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)

Certificates / Approvals

ATEX, FM, IEC Ex, NEPSI, EAC

Continuous / Liquids

Safety approvals

Overfill protection WHG

SIL

Design approvals

EN 10204-3.1

NACE MR0175, MR0103

Metrological approvals and certificates

OIML, NMI, PTB

Options

Redundant fieldbus

Weather protection cover

CIP (Cleaning in Place)

Relief valve

Gas purging nozzle connection

Pressure gauge

Cleaning nozzle connection

Application limits

Stilling well or guide wires for turbulent application

Recommend PTFE displacer for high viscosity application

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

Density

Measuring principle

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Density**Output**

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Analog 4-20mA output (Exi/ Exd)

Relay output (Exd)

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ATEX, FM, IEC Ex, NEPSI, EAC

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Density

Specialities

Custody transfer level measurement

Interface measurement

Spot density, density profile measurement

Measuring range

22 m (72 ft)

Other approvals and certificates

EN 10204-3.1

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