

Servo tank gauging instrument Proservo NMS83

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



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

More information and current pricing:

www.ch.endress.com/NMS83

Specs at a glance

- **Accuracy** up to 0.4 mm
- **Process temperature** -200°C ... 200°C (-328°F ... 392°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

Density

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

Supply / Communication

85-264VAC

Ambient temperature

Standard:

-40°C...60°C

(-40°F...140°F)

For calibration to regulatory

standards:

-25°C...55°C

(-13°F...131°F)

Process temperature

-200°C...200°C

(-328°F...392°F)

Process pressure absolute

6 bar abs

Wetted parts

316L, AlloyC276, PTFE

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)

Certificates / Approvals

ATEX, FM, IEC Ex, NEPSI, EAC

Options

Redundant fieldbus

Weather protection cover

CIP (Cleaning in Place)

Relief valve

Gas purging nozzle connection

Pressure gauge

Cleaning nozzle connection

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

NACE MR0175, MR0103

OIML, NMi, PTB

Continuous / Liquids

Measuring principle

Servo / Float Tank Gauging

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Supply / Communication

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Accuracy

up to 0.4 mm

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Process temperature

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Process pressure absolute / max. overpressure limit

6 bar abs

Main wetted parts

316L, AlloyC276, PTFE

Continuous / Liquids

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

Safety approvals

Overfill protection WHG
SIL

Design approvals

EN 10204-3.1
NACE MR0175, MR0103

Metrological approvals and certificates

OIML, NMI, PTB

Continuous / Liquids

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

More information www.ch.endress.com/NMS83