LENNTECH
Water Treatment Solutions

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 ±0.4mm (± 0.02")
- 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°C...200°C (-328°F...392°F)
- **Process pressure / 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
52-74VAC
19-64VDC

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)

Process temperature
-200°C...200°C
(-328°F...392°F)

Process pressure / max. overpressure limit
6 bar abs

Continuous / Liquids

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, WM550
HART, BPM and TRL/2 (via GE option)
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

TIIS

Safety approvals

Overfill protection WHG
SIL

Design approvals

EN 10204-3.1
NACE MR0175, MR0103

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

Density

Measuring principle

Servo / Float Tank Gauging

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Supply / Communication

85-264VAC

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Density

Process temperature

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Process pressure

6 bar abs

Wetted parts

316L, AlloyC276, PTFE

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

Density

Measuring range

22 m (72 ft)

Other approvals and certificates

EN 10204-3.1
NACE MR0175, MR0103
OIML, NMi, PTB

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