Servo tank gauging instrument
Proservo NMS80

High precision servo measurement for liquid level, interface and density

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
-准确度 up to 0.4 mm
-过程温度 Process temperature：-200°C...200°C (-328°F...392°F)
-过程压力 / 最大超压限 Process pressure / max. overpressure limit：0,2...6 bar abs
-最大测量距离 Max. measurement distance：36 m (118 ft)
-主要湿润部件 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.

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, profile density

**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**
0,2...6 bar abs

**Main wetted parts**
316L, AlloyC276, PTFE
Continuous / Liquids

**Process connection**
Flange:
DN80/3" / DN150/6"

**Max. measurement distance**
36 m (118 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**
ATEX, FM, IEC Ex, EAC, JPN Ex, KC Ex,
INMETRO, NEPSI, UK Ex

**Safety approvals**
Overfill protection WHG
SIL

**Metrological approvals and certificates**
OIML, NMi, PTB

**Options**
Redundant fieldbus
Weather protection cover
Guide wire assembly
Relief valve
Gas purging nozzle connection
Pressure gauge
Cleaning nozzle connection
Continuous / Liquids

**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

Density

**Measuring principle**
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**Characteristic / Application**
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**Supply / Communication**
85-264VAC

**Ambient temperature**
- Standard:
  - -40°C...60°C
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- For calibration to regulatory standards:
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**Process temperature**
- -200°C...200°C
  - (-328°F...392°F)

**Process pressure**
0.2...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
Weather protection cover
Guide wire assembly
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
36 m (118 ft)

Other approvals and certificates
OIML, NMi, PTB

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