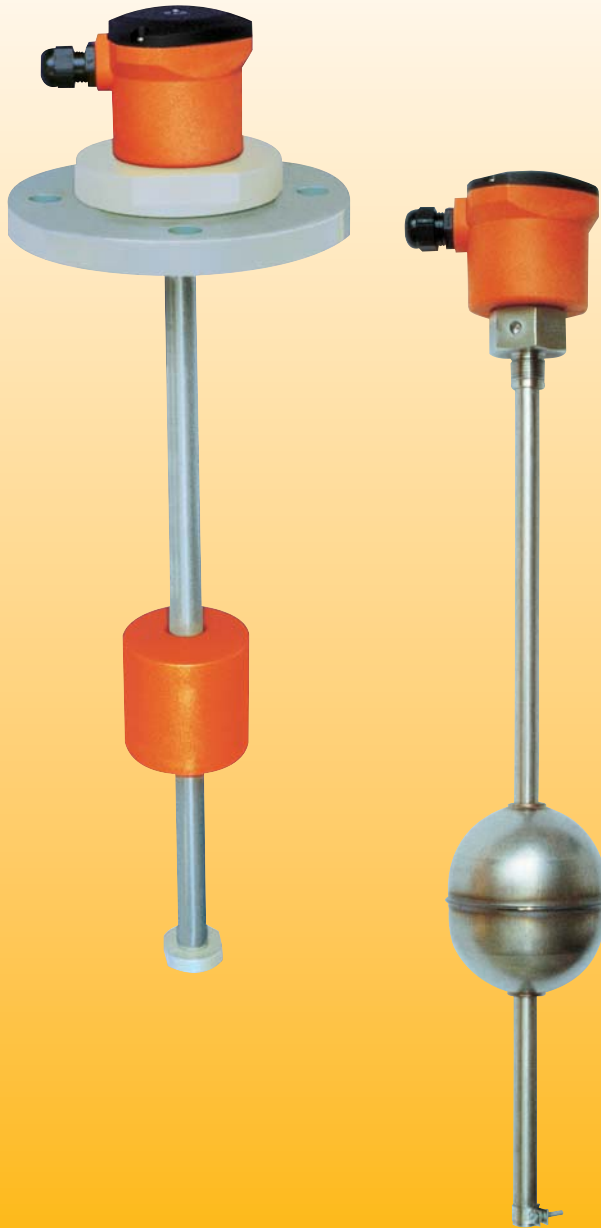


NM LIQUID LEVEL TRANSDUCER



Flow
Pressure
Level
Temperature
measurement
monitoring
control



- Continuous Level Measurement
- Undisturbed by Foam
- Vapor Insensitive
- Liquid Interface Detection
- Range of Wetted Parts

N2



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Model:
NM

The NM series of level transducers is applicable to a wide variety of industrial level indicating applications. A reed chain and travelling float design allow the system to function independently of liquid electrical properties, temperature, pressure, foaming or the presence of vapors. With proper float weighting, the system can be constructed to detect the interface level of two liquids with dissimilar specific gravities. A selection of materials ranging from stainless steel, to plastic, to PTFE, provide compatibility with a large variety of process liquids.

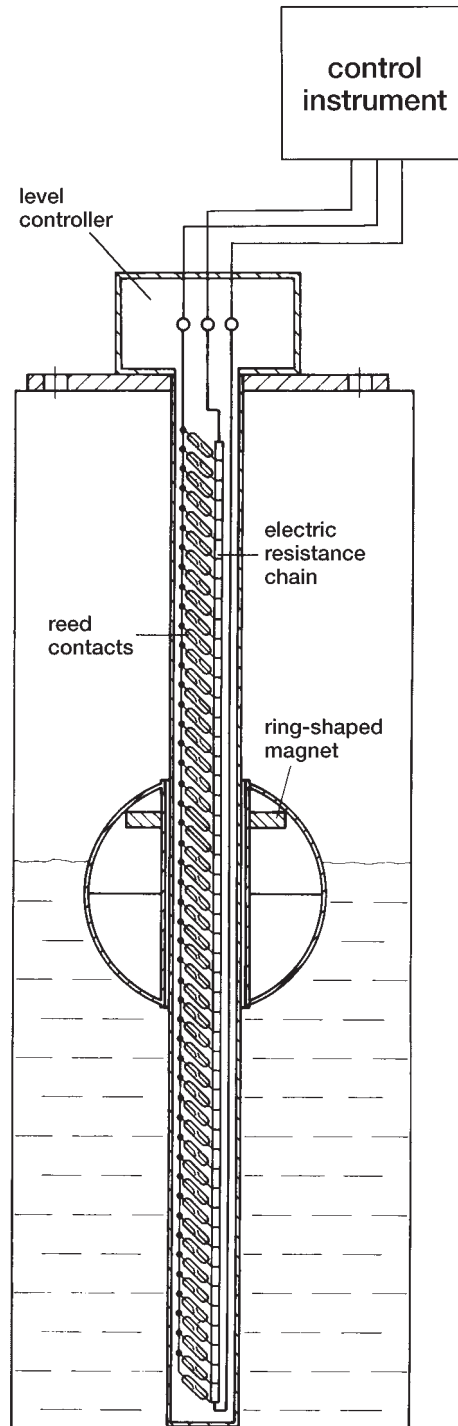
Typical NM applications include waste water and sewage treatment plants, charging and mixing bins, containers for chemicals, beverages or vegetable oils, remote level indication for rivers or reservoirs. High reliability is assured by keeping the moving part count down to a single, non-friction component (the float.)

Function

The transducer consists of a guide tube onto which a float is inserted. A magnet inside the float actuates a series of reed switches inside the tube. One contact of the reed switches is connected to a resistance chain every fraction of an inch, and the other contact to a common terminal. The entire system functions as a three-tap potentiometer whose resistance is determined by the location of the float on the guide tube. An optional electronic signal converter module (suffix code: "RT") uses this variable resistance as part of a Wheatstone Bridge circuit and converts the resistance to an 4-20 mA, 2-wire analog signal for use with an external display or PLC input. This module can be specified for any unit with an integral junction box.

The accuracy of the system is a function of the reed switch spacing. This spacing varies from 10 mm (0.4 inches) to 20 mm (0.8 inches) depending on transducer model and overall length. The magnet closes either one or two switches at all times. Interpolation allows accuracies of $\frac{1}{2}$ the switch spacing.

NM Series Level Gauge



Models NM-298 and NM-299: Stainless Steel

The NM-298 and NM-299 are stainless steel level transducers which are installed upwards into a threaded fitting. This arrangement requires access to the interior of the vessel into which the units are installed.

Each transducer comes standard with 3.3 feet (1 meter) of pigtail cable. Extra cable lengths are available.

The NM-298 is ideal for installations 6.6 feet (2 meters) and shorter. The NM-299 can be obtained in lengths to 19.8 feet (6 meters).

Specifications

Maximum Length

NM-298: 6.6 feet
 NM-299: 19.8 feet

Fittings

NM-298: 3/8" NPT male
 NM-299: 1/2" NPT male

Wetted Parts: 316-Ti SS

Accuracy: ± 15 mm (0.6 in.)

Minimum Liquid Specific Gravity

Standard: 0.8
 Optional: 0.7

Temperature Range: - 4 to 250 °F

Max. Pressure

NM-298: 210 PSIG
 NM-299: 290 PSIG

Electrical Data

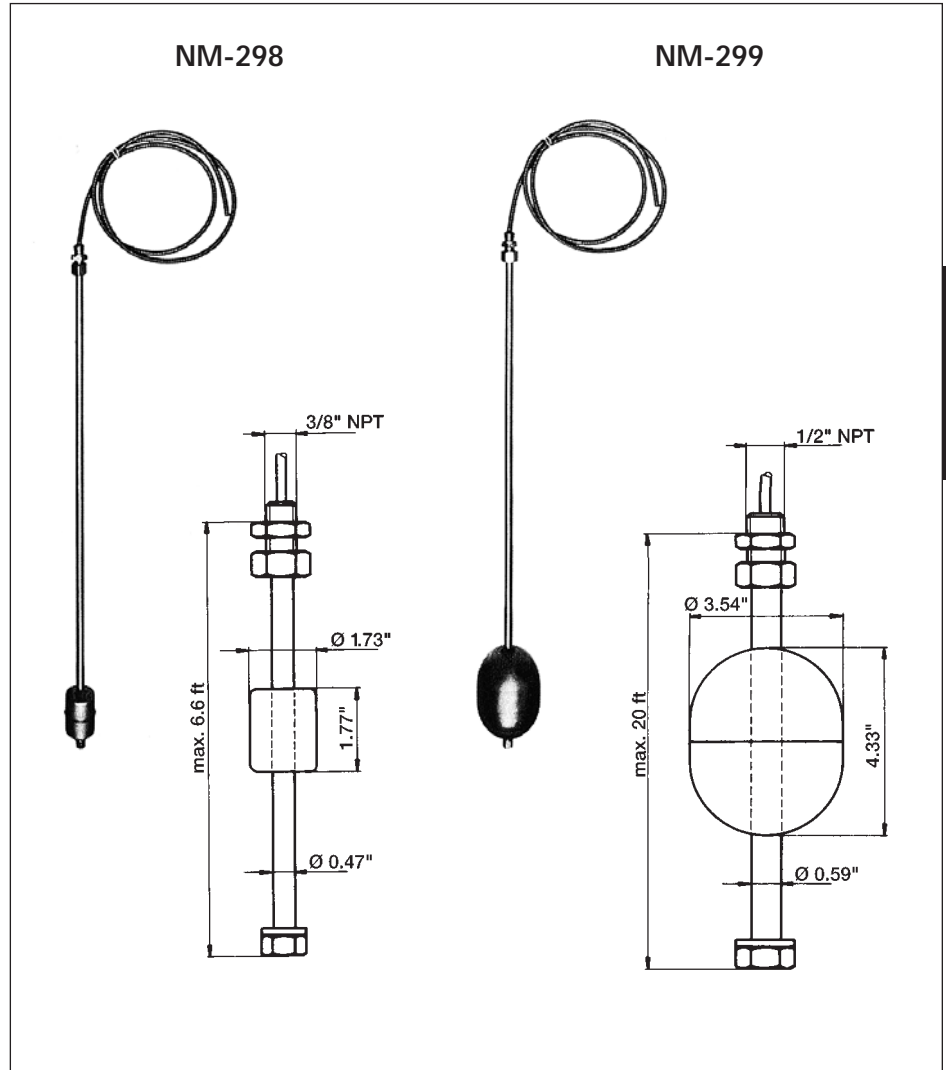
Sensing Voltage: 20 VDC max.
 Sensing Current: 100mA max.

Total Resistance

Standard: Approx. 5,000 Ω

Cable Length: 3.3 feet standard (longer available)

Protection: NEMA 4X/IP65



N2

NM-298 and NM-299 Ordering Information

Model Number		
Series Number	Fittings	Length
NM-298	-N 3/8": 3/8" NPT -R 3/8": 3/8" bsp	-L =: Specify Length
NM-299	-N 1/2": 1/2" NPT -R 1/2": 1/2" bsp	

Example: NM-298-N 3/8"-L 40"



Models NM-301 and NM-302: Stainless Steel

The NM-301 and NM-302 are stainless steel level transducers with flanged or threaded fittings. Use of the 1 1/2" NPT fitting or flange allows the units to be installed from the top of your vessel or mounting bracket. These larger fittings will accommodate the floats with which the transducers are equipped. Each transducer comes standard with a NEMA 4 terminal box.

The NM-302 is intended for installations 6.6 feet (2 meters) and shorter. The NM-301 can be obtained in lengths to 19.8 feet (6 meters.)

Specifications

- Minimum Length:** 12 inches
- Maximum Length**
 - NM-301: 19.8 feet
 - NM-302: 6.6 feet
- Fittings**
 - NM 301: 1/2" NPT male
4" ANSI flange
 - NM-302: 1 1/2" NPT male,
2", 2 1/2" 3" or 4"
ANSI flange
- Wetted Parts:** 316-Ti SS
- Accuracy**
 - NM-302: ± 10 mm (0.6 in.)
 - NM-301
 - L < 6.6 feet: ± 10 mm (0.4 in.)
 - L > 6.6 feet: ± 20 mm (0.8 in.)

Minimum Liquid Specific Gravity

- Standard:** 0.8
- Optional:** 0.7

Temperature Range: - 4 to 250 °F

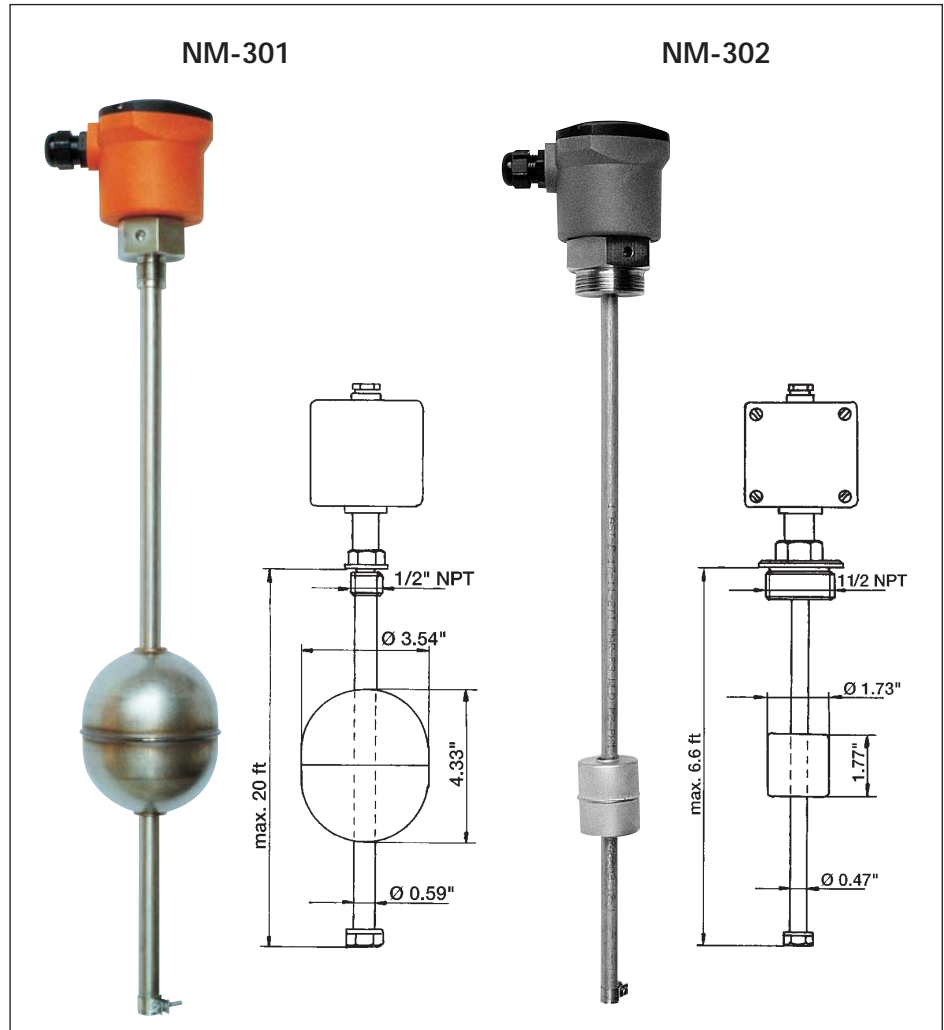
Max. Pressure

- NPT Threads**
 - NM-301: 290 PSIG
 - NM-302: 210 PSIG

Electrical Data

- Sensing Voltage:** 20 VDC max.
- Sensing Current:** 100 mA max
- Total Resistance**
 - Standard:** Approx. 5,000 Ω

- Terminal Box:** Polyamide
- Protection:** NEMA 4X/IP65
- Optional Transmitter:** 2-wire, 4-20 mA,
16-32 VDC input power



NM-301 and NM-302 Ordering Information

Model Number		
Series Number	Fittings	Length
NM-301	-N 1/2": 1/2" NPT -FL 4": 4" 150 lb ANSI flange	-L =: Specify Length
NM-302	-N 1 1/2": 1 1/2" NPT -FL 2": 2" 150 lb ANSI flange -FL 2 1/2": 2 1/2" 150 lb ANSI flange -FL 3": 3" 150 lb ANSI flange -FL 4": 4" 150 lb ANSI flange	
Options		
-RT	Integral 2-wire 4-20 mA Transmitter	

Example: NM-302-FL 3", L = 128"

Models NM-300 and NM-308: Synthetic

The NM-300 and NM-308 are PVC, polypropylene (PP) or PTFE level transducers with flanged or threaded fittings. PVC floats and flanges are unavailable. Polyethylene (PE) floats and polypropylene (PP) flanges will be provided with PVC units. PVC threaded fittings are available.

Each transducer comes with a NEMA 4 terminal box.

Specifications

Maximum Length

NM-300: 3.3 feet
 NM-308: 19.8 feet

Fittings

NM-300: 2 NPT male
 2 1/2" ANSI flange
 NM-308: 1" NPT male
 3" ANSI flange

Wetted Parts

NM-300:
Stem: PVC or Polypropylene (PP)
Float: Polyethylene with PVC stem or PP with PP stem
NPT Fittings: PVC or PP
Flanged: PP only

NM-308:
Stem: PVC, PP or PTFE
Float: Polyethylene with PVC stem, PP or PTFE
NPT Fittings: PVC, PP or PTFE
Flanged: PP or PTFE

Accuracy

NM-300: ± 10 mm (0.4 in.)
 NM-308
 Below 6.6 feet: ± 10 mm (0.4 in.)
 Above 6.6 feet: ± 20 mm (0.8 in.)

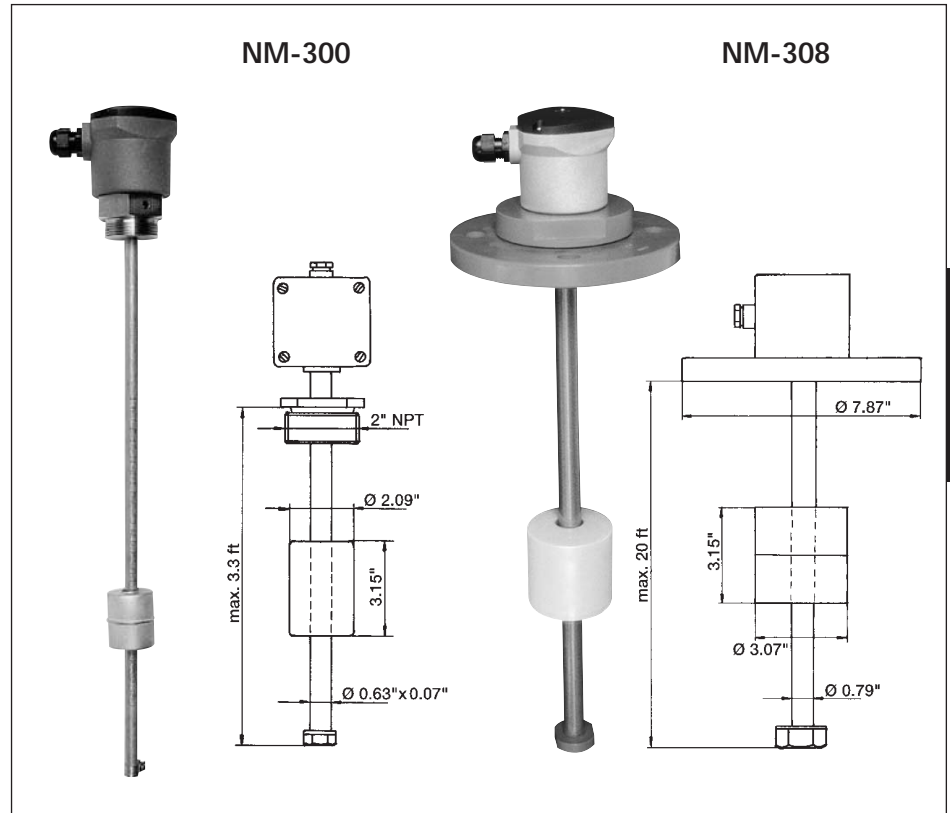
Minimum Liquid Specific Gravity

NM-300: 0.5
 NM-308: 0.8

Operating Temperature Range

PVC/PE: - 4 to 140 °F
 Polypropylene: - 4 to 190 °F
 PTFE: - 4 to 250 °F

Max. Pressure: 85 PSIG



Electrical Data

Sensing Voltage: 24 VDC max.
Total Resistance Standard: Approx. 5,000 Ω

Terminal Box:

Polyamide
Protection: NEMA 4X/IP65
Optional Transmitter: 2-wire, 4-20 mA, 16-32 VDC

NM-300 and NM-308 Ordering Information

Model Number			
Series Number	Fittings (PVC Units w. PP Flange)	Length	Tube & Float Material
NM-300 (PVC or PP)	-N 2": 2 NPT -FL 2 1/2": 2 1/2" 150 lb ANSI flange	-L =: Specify Length	-PVC: PVC (Polyethylene float)
NM-308 (PVC, PP or PTFE)	-N 1 1/2": 1 1/2" NPT -FL 2": 2" 150 lb ANSI flange -FL 2 1/2": 2 1/2" 150 lb ANSI flange -FL 3": 3" 150 lb ANSI flange -FL 4": 4" 150 lb ANSI flange		-PP: Polypropylene -PTFE : PTFE (NM-308 only)
Options			
-RT	Integral 2-wire 4-20 mA Transmitter		

Example: NM-300-FL 2 1/2" PVC, L=23"