



**Digital Portable Submersible**

**Density/Specific Gravity/Concentration Meter**

**DM-250.1N**

**IN PROCESS TO EXCELLENCE**

## DM-250.1N Overview



## Sensor principle of operation

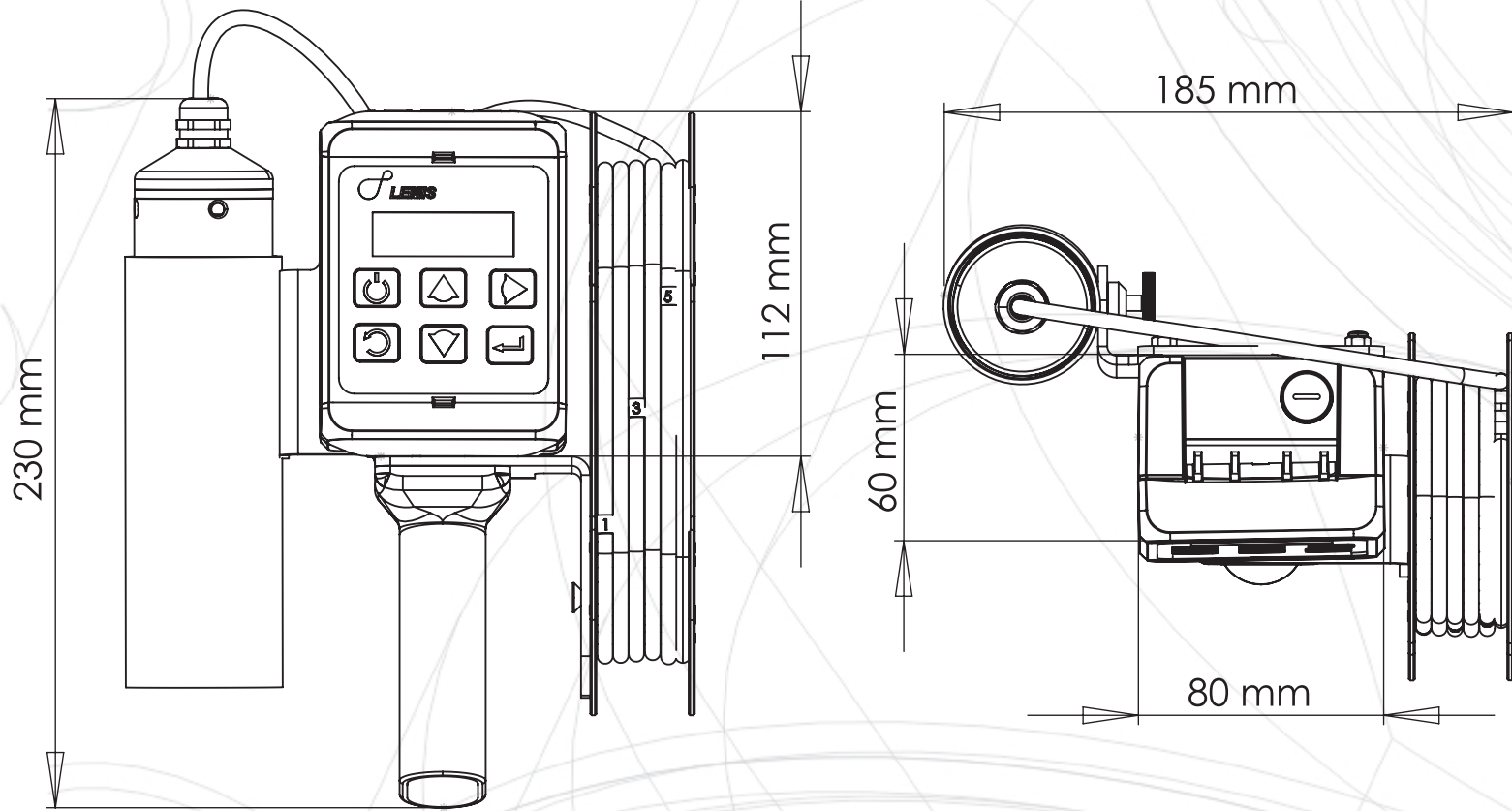
### Detection of Density and Ullage

The detection method is based upon the principle of detecting a change in resonance frequency.

### Temperature Measurement

Temperature measurement is obtained by changes in electrical resistance of a platinum element.

# Dimensions

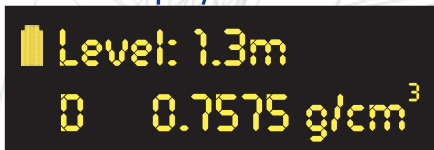


## For Easy Distinguish

Displays Density and Temperature



Displays Level



Displays Referred Density



Displays Specific Gravity related to 60°F



### Advantages

- Direct density measurement
- Record spot density and average per tank
- Automatic temperature compensation
- No sampling required
- ATEX, IEC Hazloc certification
- Safe operation, low maintenance
- At any depths up to 6 meters
- Economical and easy to operate
- Measures highly viscous liquids up to 2000 cP
- Rigid construction for heavy duty outdoor operation
- Local results storage and Bluetooth and USB data transfer

### Applications

- Petroleum industry
- Ethanol production
- Food & Beverages
- Chemical industry
- Cosmetic industries
- Pharmaceutical industry



# Specifications

## Measuring range:

Density	0... 3 g/cm <sup>3</sup> (0... 3000 kg/m <sup>3</sup> )
Density Standard calibration	0.6... 1.1 g/cm <sup>3</sup> (600... 1100 kg/m <sup>3</sup> )
Temperature	-30... +50°C (-22... +122°F)

## Accuracy:

Density	±0.0003 or ±0.0005 g/cm <sup>3</sup> (±0.3 or ±0.5 kg/m <sup>3</sup> )
Temperature	±0.1°C (±0.2°F) or ±0.2°C (±0.4°F)

## Repeatability:

Density	±0.00015 or ±0.00025 g/cm <sup>3</sup> (±0.15 or ±0.25 kg/m <sup>3</sup> )
Temperature	±0.1°C (±0.2°F)

## Resolution:

Density	0.0001 g/cm <sup>3</sup> (0.1 kg/m <sup>3</sup> )
Temperature	0.01°C (0.02°F)

## Supported measuring units

Real Density: g/cm<sup>3</sup>, kg/m<sup>3</sup>, lb/gal, lb/ft<sup>3</sup>; API; SG  
 Referred Density: at 15°C, 20°C, 60°F; API60; SG60  
 Tables ASTM D 1250  
 Alcohol Tables  
 Temperature in °C or °F

## Ambient temperature

-40... +50°C (-40... +185°F)

## Depth of submersion

Depends from cable length

## Sensor:

Type	Vibrating element (Resonance principle)
Material	Stainless steel SS 316 L; NiSpan C; Hastelloy C22

## Intrinsically safe:

Controller	ATEX II (2G) EEx ib [ia] IIB T4
Sensor	ATEX II 1G EEx ia IIB T4

## Electronic box:

Material	Antistatic Polyamide base
Power supply	NiMH 3.6V-2500 mAh rechargeable battery
Operating time without charging	Appr. 40 hours

## Dimensions, weight:

Controller	230 x 186 x 117 mm (9.0 x 7.3 x 4.6")
Sensor	210 x ø45 mm (8.2 x ø1.7 in), 1 kg (2.2 lb)

## Temperature compensation

Automatic

## Viscosity compensation

Automatic

## Data handling

OLED Display (2x12) with backlight  
 Local memory up to 3000 results  
 Build in Bluetooth for data transfer to printer or PC

## Delivery

Delivered in compact carrying case

\* Option



Multifunctional software allows to proceed the measurements results in use-convenient form;  
 Compatible for a Windows 7/8/10\*



Immediate printout of the measurements by Bluetooth  
 No need for PC\*



Delivered in compact carrying case

**For more information please visit [www.lemis-process.com](http://www.lemis-process.com)**



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