

# Averaging Multi Resistance Thermometer (MRT)



## DS2101

### Features:

- Stable element design that cannot sag and alter average weighting
- Suitable for use in harsh and corrosive environments
- True-averaging copper or platinised copper elements
- Compatible with industry-standard level gauges
- Element resistance is 100 ohm at 25°C or 0°C
- Essential for custody transfer applications
- Stainless steel or nylon sheath



### Description:

Multiple Resistance Thermometers (MRTs) of high accuracy for true averaging temperature measurement in a wide range of applications.

Nulectrohms are the market leader in multi-element thermometers used in a wide range of applications including storage of hydrocarbons. The high accuracy of the elements make the Nulectrohms MRT an integral part of tank gauging systems used for custody transfer and inventory control applications.

The sheath, made of stainless steel or nylon, contains a number of elements of different lengths all starting from the bottom of the sheath. The construction of the sheath and elements is such that the elements retain their dimensional properties under vibration and environmental changes which are frequently encountered in many installations.

True 3-wire compensation is possible as the element design is such that the start and finish of each element is at the bottom of the assembly, making all lead lengths equal. All elements are calibrated at 3 temperatures: high, low and mid point 'ballast' for extended accuracy. The maximum number of averaging elements is 12, plus where required a bottom spot element can be added.

### Specification

Accuracy	Copper version	$\pm 0.15 + 0.002 \times \text{ltl } ^\circ\text{C}$	$R_t = 90.48 + 0.3809t$	100Ω@25°C
	Platinised version	Pt100 Class B	ohm	100Ω@0°C
Temperature	<b>Sheath Construction</b>	<b>Type</b>	<b>Wire insulation</b>	<b>Temperature range</b>
	Thick-wall Nylon 12 (Rilsan) tube	Standard Nylon	PVC throughout	-20 to +90°C
		Standard Stainless	PVC throughout	-20 to +90°C
		Extended Temperature stainless	PTFE internal PVC external	-50 to +120°C
	Thin-wall AISI 316 Convoluted tube	High-temperature Stainless	PTFE with high temperature elements	-50 to +200°C

### Other

Maximum pressure	6 bar
Termination	Top fitting with a 12" (305mm) long stainless steel pipe with 10" (254mm) length, ½" BSP thread, or to customer specification
Fittings	1 locking ring and nut as standard Other fittings and flanges can be supplied
Tank height	2m to 40m
Cabling	Colour-coded sleeved wires (max 10m)
Element	23m max

#### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

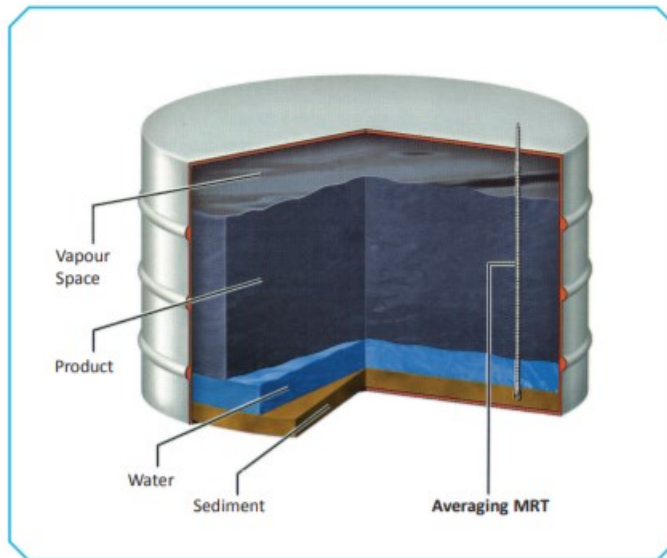
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## Approvals

The stainless steel MRT is certified to conform to the ATEX directive and the CENELEC EN50014, 50020 standards. The type of protection is Eexia IIC T3 ( $T_{amb}=+160^{\circ}\text{C}$ ), certificate number BAS No. EX97D2042X.



Other products in the range are:

Product	Datasheet
Latis	DS2202
Multi-Spot Thermometers	DS2102



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