



Nulectrohms

An **RMC** Brand**LEVEL**

Product Data Sheet

DS2102

## Multi-spot Thermometers

Intrinsically Safe, Multiple Spot Thermometers (MSTs) of high accuracy for spot-temperature measurement in a wide range of applications.

- Common or independent Pt100 sensors with true 3- or 4 wire compensation
- Options available for extreme temperatures (cryogenic and bitumen)
- Number of elements and positions to suit customer requirements
- Suitable for use in harsh and corrosive environments
- Compatible with industry-standard level gauges
- Stainless steel or nylon sheath

Nulectrohms are the market leader in multi-element thermometers used in a wide range of applications including storage of hydrocarbons, LPG, LNG and Liquid Nitrogen.

The high accuracy of the elements makes the Nulectrohms MST an integral part of the tank gauging systems used for custody transfer and inventory control applications.

The sheath, made of stainless steel or nylon, contains a number of spot elements in different positions along the length of the sheath.



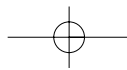
Unless otherwise specified, Pt100 1/5DIN elements are used, but other options available include the use of copper elements (100 ohm at 25 C) and 3 x Pt33.3 ohm elements.

The MSTs can also be made with Type T thermocouple elements.

The sheath, made of stainless steel or nylon, contains a number of elements set at different positions, 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



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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** +/-0.15 + 0.002 x IttC

Temperature	Sheath Construction	Type	Wire insulation	Temperature range
	Thick-wall Nylon 12 (Rilsan) tube	Standard Nylon	PVC throughout	-20 to +90 C
	Thin-wall AISI 316 Convolute tube	Standard Stainless	PVC throughout	-20 to +90 C
		Extended Temperature stainless	PTFE internal PVC external	-50 to +120 C
		High-temperature Stainless	PTFE with high temperature elements	-50 to +200 C
		Cryogenic	PTFE	-200 to +50 C
		Bitumen	Double glass on nickel/copper wire	-20 to +280 C

**Other**

Maximum pressure 6 bar

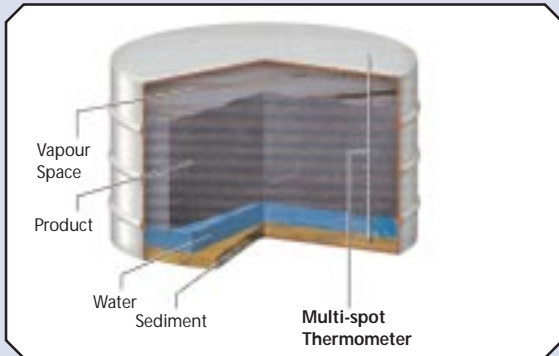
Termination Top fitting with a 12" (305mm) long stainless steel pipe with 10" (254mm) length, 1/2" BSP thread, or to customer specification.

Fittings 1 locking ring and nut as standard. Other fittings and flanges can be supplied.

Tank height 2m to 100m

Cabling Colour-coded sleeved wires (max 10m) For high temps (-20 to +280°C) wires are numbered

**Approvals** The stainless steel MST is certified to conform to the ATEX directive and the CENELEC EN50014, 50020 standards. The type of protection is Eexia IIC T3 (T<sub>amb</sub>=+160 C), certificate number BAS No. EX97D2042X.



Other products in the range are:

Product	Data sheet
Latis	DS2202
Averaging MRT	DS2101

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Head Office: 2 Downgate Drive, Sheffield, S4 8BT, England  
Tel: +44(0)114 244 2521 Fax: +44(0)114 243 4838



2 Downgate Drive, Sheffield, S4 8BT, England  
Tel: +44(0)114 2442521 Fax: +44(0)114 2434838  
email: sales@roxspur.com www.roxspur.com



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