



MODEL 41342 PLATINUM TEMPERATURE PROBE

INSTRUCTION SHEET 41342-90
REV B062309

INTRODUCTION

The Model 41342 Platinum Temperature Probe is an accurate 1000 ohm Platinum RTD temperature sensor mounted in a weatherproof junction box. The probe is designed for easy installation in YOUNG Multi-plate and Aspirated Radiation Shields.

INSTALLATION

For accurate measurements, the temperature probe should be installed in a protective radiation shield. Use of the probe without a radiation shield may result in large errors due to solar heating. The probe installs easily in YOUNG naturally ventilated or aspirated shields. For best performance, the probe and shield should be placed in a location with good air circulation clear of large masses (buildings, pavement, solar panels...), exhaust vents, electrical machinery, motors, water fountains and sprinklers

MAINTENANCE

The temperature probe is designed to offer years of service with minimal maintenance. If necessary, the probe may be periodically checked or recalibrated using normal bath calibration methods. NIST traceable calibration is available from YOUNG at additional cost.

NOTE: The terminal marked "EARTH GND" should be connected to properly grounded tower or grounding conductor as close to the sensor as possible. Failure to do so may result in damage due to static discharge.

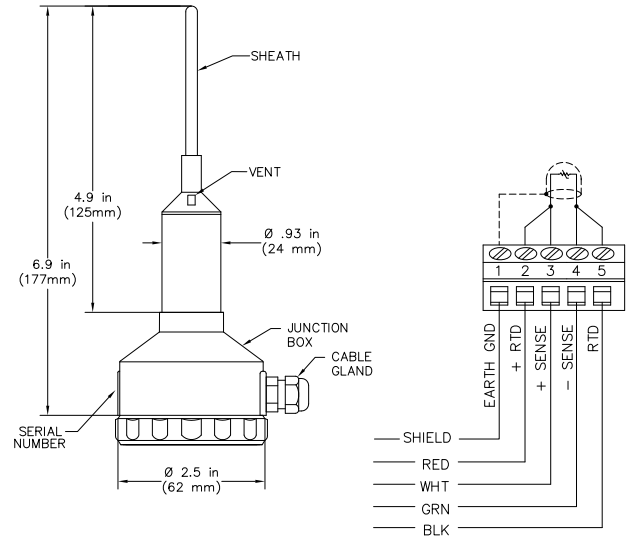
CE COMPLIANCE

This product has been tested and shown to comply with European CE requirements for the EMC Directive. Please note that shielded cable must be used.

Resistance vs. Temperature for 1000 Ω nominal probe
Temperature Coefficient = 0.00375 $\Omega/\Omega^{\circ}\text{C}$

Resistance Ω	$^{\circ}\text{F}$	$^{\circ}\text{C}$	Resistance Ω
1226.445	140	60	1226.445
1205.659	130		
1184.837	120		1189.005
1163.978	110	40	1151.445
1143.081	100		
1122.148	90		1113.764
1101.177	80	20	1075.963
1080.169	70		
1059.124	60		1038.042
1038.042	50	0	1000.000
1016.922	40		
995.766	30		961.837
974.572	20	-10	923.550
953.340	10		
932.069	0		885.132
910.759	-10	-30	846.576
889.407	-20		
868.013	-30		807.873
846.576	-40	-50	
825.093	-50		

Transfer function calculated from manufacturer's data:
 $C^{\circ} = (1.1279 \times 10^{-5}, R^2) + (2.3985 \times 10^{-1}, R) - 251.1326$
 $F^{\circ} = (2.0302 \times 10^{-5}, R^2) + (4.3174 \times 10^{-1}, R) - 420.0387$



WARRANTY

This product is warranted to be free of defects in materials and construction for a period of 12 months from date of initial purchase. Liability is limited to repair or replacement of defective item. A copy of the warranty policy may be obtained from R. M. Young Company.

SPECIFICATIONS

- Measuring range: -50 to +50 $^{\circ}\text{C}$
-50 to +150 $^{\circ}\text{F}$
- Accuracy at 0 $^{\circ}\text{C}$: $\pm 0.3^{\circ}\text{C}$
 $\pm 0.1^{\circ}\text{C}$ (optional)
- Time Constant: 42 seconds in 43408 shield.
- Sensor type: 1000 Ω Platinum RTD
- Output signal: 4 wire RTD
- Recommended Cable: 2 pair shielded, 22 AWG (#18723)
- Recommended Radiation Shields:
Model 41502 Compact Aspirated Radiation Shield
Model 41003P Multi-Plate Radiation Shield

Declaration of Conformity

R. M. Young Company
2801 Aero Park Drive
Traverse City, MI 49686 USA

Model 41342 PLATINUM TEMPERATURE PROBE

The undersigned hereby declares on behalf of R. M. Young Company that the above-referenced product, to which this declaration relates, is in conformity with the provisions of:

Council Directive 2004/108/EC (December 15, 2004)
on Electromagnetic Compatibility

David Poinsett

David Poinsett
R&D Manager