MODEL 41342-30
PLATINUM TEMPERATURE PROBE

INSTRUCTION SHEET 41342-30-90
REV A110712

INTRODUCTION

The Model 41342-30 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.

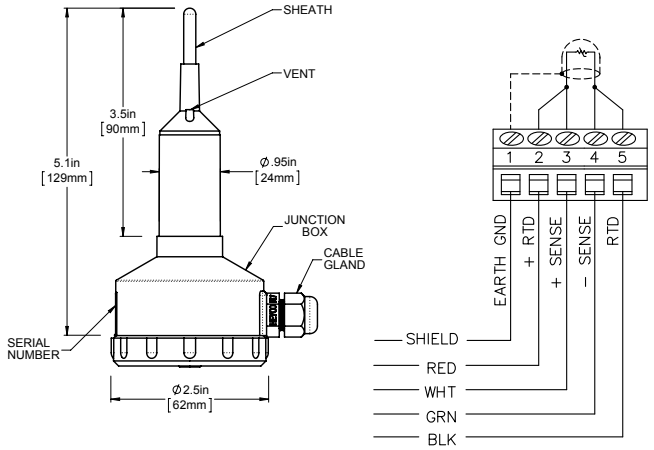
CE COMPLIANCE

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 1000Ω nominal probe
Temperature Coefficient = 0.00375 Ω/Ω/°C

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

Transfer function calculated from manufacturer's data:
$C° = (1.1279x10^{-5} . R^2) + (2.3985x10^{-1} . R) - 251.1326$
$F° = (2.0302x10^{-5} . R^2) + (4.3174x10^{-1} . R) - 420.0387$



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°C -50 to +150°F
Accuracy at 0°C:	±0.3°C ±0.1°C (optional)
Time Constant:	42 seconds in 43502 shield.
Sensor type:	1000Ω 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 41308P Multi-Plate Radiation Shield

Declaration of Conformity

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

Model 41342-30 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
R&D Manager

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