



MODEL 41342VC/VF
PLATINUM TEMPERATURE PROBE, 0-1V Output

INSTRUCTION SHEET 41342V-90
 REV: C111215

INTRODUCTION

The Model 41342VC/VF Platinum Temperature Probe is an accurate 1000 ohm Platinum RTD temperature sensor and low power voltage interface circuit mounted in a weatherproof junction box. The probe is available in Celsius or Fahrenheit calibration. Output signal is 0-1 VDC full scale. 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. YOUNG naturally ventilated or motor aspirated shields are recommended. 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. Temperature calibration should be accurate for the life of the probe. If necessary, the probe may be periodically checked or recalibrated using normal bath calibration methods. NIST traceable calibration is available from YOUNG at nominal cost.

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.

CE COMPLIANCE

This product has been tested and complies with European CE Requirements for the EMC Directive. Please note that shielded cable must be used.

EMC COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

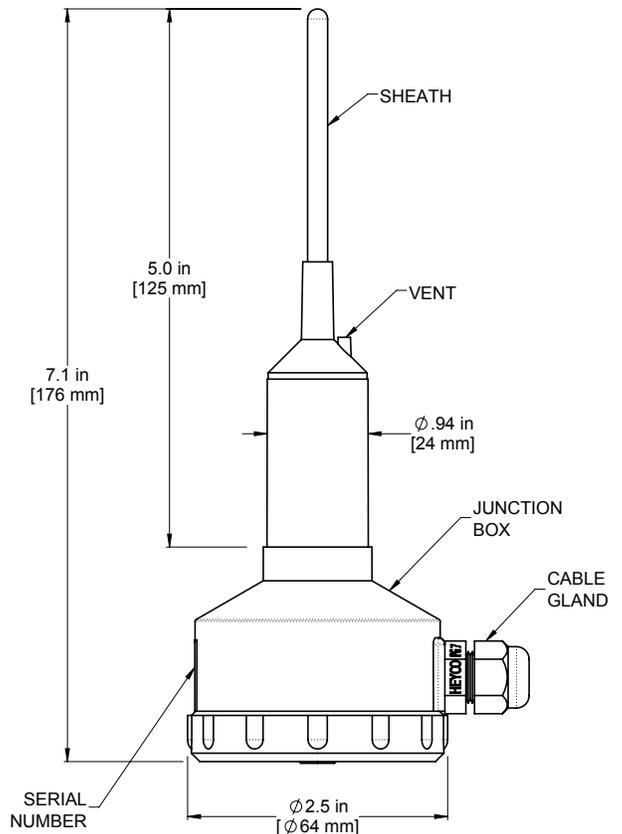
This ISM device complies with Canadian ICES-001.
 Cet appareil ISM est conforme à la norme NMB-001 du Canada.

EN55011/CISPR 11, Group 1, Class B device.
 Class B equipment is suitable for use in domestic establishments and in establishments directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.

To meet EMC Compliance, (2) YOUNG 18500 ferrite chokes must be installed on the cable, one near the sensor, and one near the recording instrument. (Each choke must have the cable pass through the center hole at least 2 times, creating 1 loop around the outside as shown in the diagram on the back page.)

SPECIFICATIONS

Power Requirement:	8 - 24 VDC, 5mA
Calibrated measuring range:	-50 to +50°C (suffix C) -50 to +150°F (suffix F)
Accuracy at 0°C:	±0.3°C (Differential Measurement)
Time Constant:	42 seconds in 43502 shield.
Sensor type:	1000Ω Platinum RTD
Output signal:	0-1 VDC
Recommended Cable:	2 pair shielded, 22 AWG (#18723)
Recommended Radiation Shields:	
Model 43502	Aspirated Radiation Shield
Model 41003P	Multi-Plate Radiation Shield

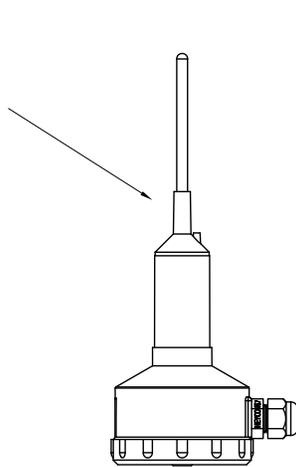
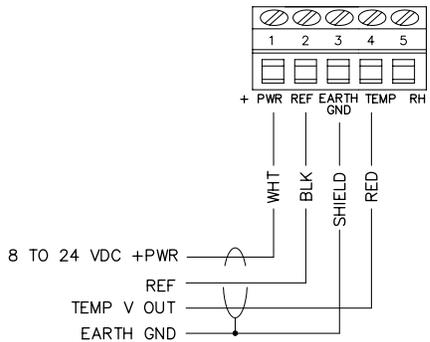




WIRING INFORMATION

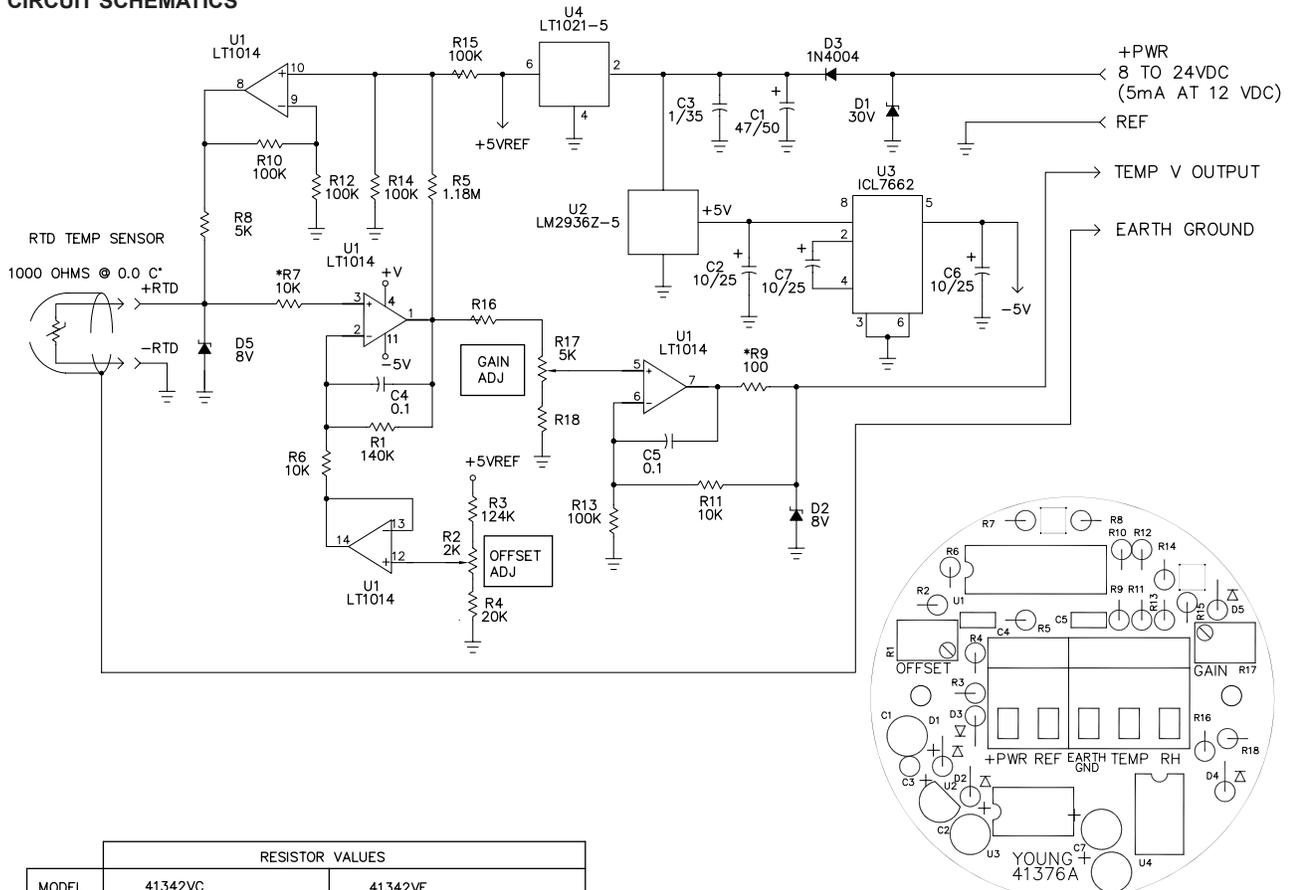
MODEL 41342V TEMPERATURE SENSOR

WIRING INFORMATION



18500 FERRITE CHOKE (2)
(SEE EMC SECTION FOR USAGE)

CIRCUIT SCHEMATICS



RESISTOR VALUES		
MODEL	41342VC	41342VF
RANGE	CELSIUS (-50° TO +50°)	FAHRENHEIT (-50° TO +150°)
OUTPUT	0 TO 1.000V	0 TO 1.000V
R16	95.3K	100K
R18	20K	17.7K

RTD TEMP SENSOR CALIBRATION POINTS:	
-50° C	807.873 OHMS
0° C	1000.000 OHMS
+50° C	1189.005 OHMS
-50° F	825.093 OHMS
0° F	932.069 OHMS
+150° F	1247.192 OHMS

NOTES:

- ALL RESISTORS ARE 5ppm, 0.1% UNLESS OTHERWISE NOTED.
- RESISTORS MARKED WITH "*" ARE 100ppm
- ALL CAPACITORS ARE IN uF OR uF/WV, UNLESS OTHERWISE NOTED.