



MODEL 41342LC/LF
PLATINUM TEMPERATURE PROBE 4-20mA OUTPUT

INSTRUCTION SHEET 41342L-90
REV 9-97

INTRODUCTION

The Model 41342LC/LF Platinum Temperature Probe is an accurate 1000 ohm Platinum RTD temperature sensor and 4-20mA line driver interface mounted in a weatherproof junction box. The probe is available in Celsius or Fahrenheit calibration. 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. 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

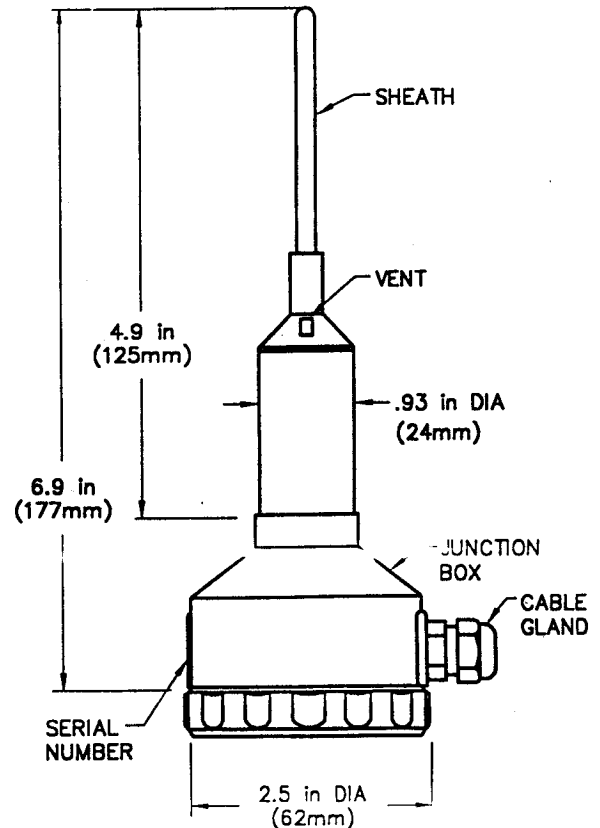
This product has been tested and shown to comply with European CE requirements for the EMC Directive. Please note that shielded cable must be used.

SPECIFICATIONS

Power Requirement:	12 - 30 VDC, 20mA
Calibrated measuring range:	-50 to +50°C (suffix C) -50 to +150°F (suffix F)
Accuracy at 0°C:	±0.3°C
Time Constant:	42 seconds in 43408 shield.
Sensor type:	1000Ω Platinum RTD
Output signal:	4-20 mA
Recommended Cable:	2 conductor shielded, 22 AWG (#18641)

Recommended Radiation Shields:

Model 43408P	Gill Aspirated Radiation Shield
Model 41002P	Gill Multi-Plate Radiation Shield



Declaration of Conformity

Application of Council Directives: 89/336/EEC
Standards to which Conformity is Declared: EN 50082-1 (IEC 801-2, 3, 4)

Manufacturer's Name and Address: R. M. Young Company
Traverse City, MI, 49686, USA

Importer's Name and Address: See Shipper or Invoice
Type of Equipment: Meteorological Instruments
Model Number / Year of Manufacture: 41342 (V, L)/1996

I, the undersigned, hereby declare that the equipment specified conforms to the above Directives and Standards.

Date / Place: Traverse City, Michigan, USA February 19, 1996

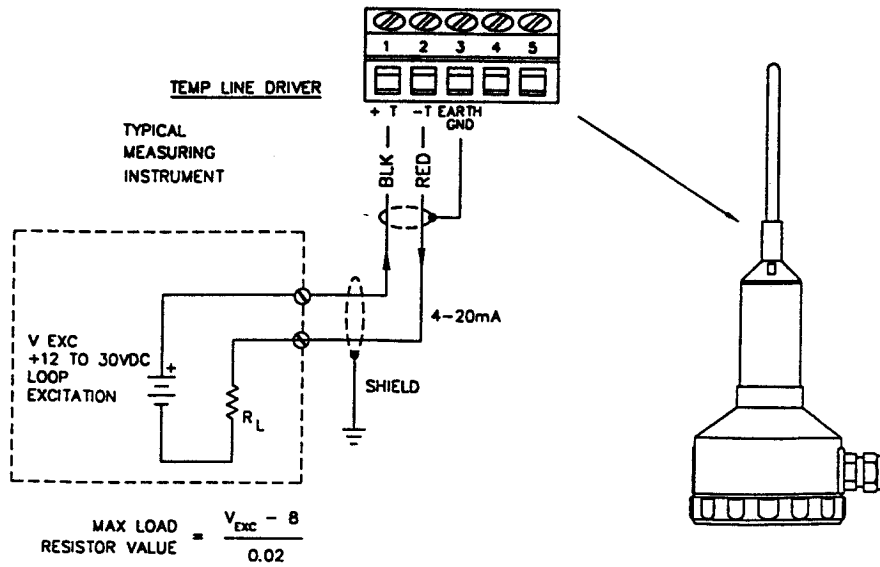
David Poinsett

David Poinsett
R & D Manager, R. M. Young Company

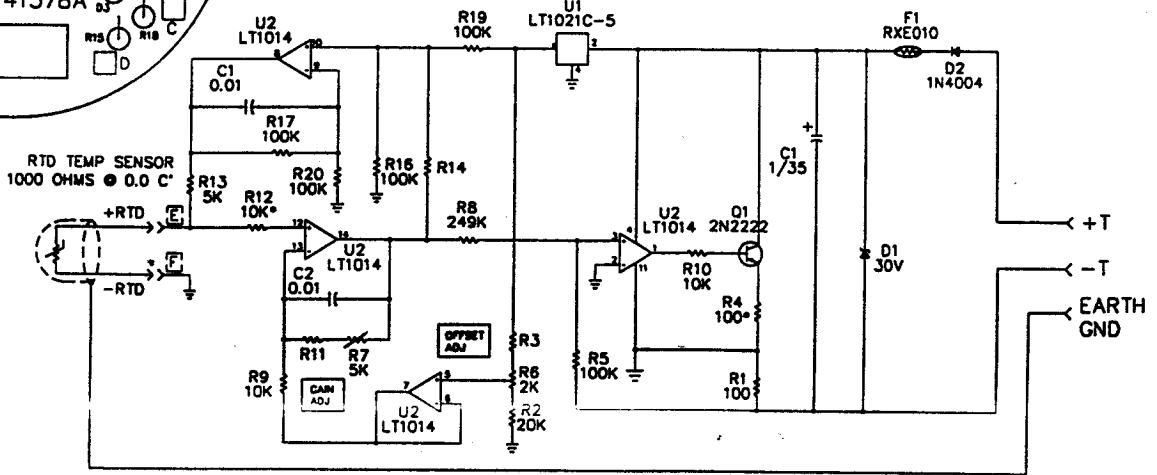
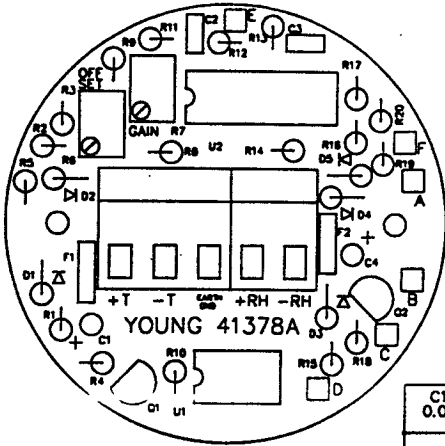


WIRING DIAGRAM

1 600
2 250



CIRCUIT SCHEMATICS



RESISTOR VALUES

MODEL	41342LC	41342LF
RANGE	CELSIUS (-50° TO +50°)	FAHRENHEIT (-50° TO +150°)
OUTPUT	4 TO 20 mA	4 TO 20 mA
R14	931K	845K
R11	107K	95.3K
R3	140K	137K

- NOTES:
- ALL RESISTORS ARE 5ppm, 0.1% UNLESS NOTED. RESISTORS MARKED WITH "*" ARE 100ppm METAL FILM.
 - ALL CAPACITORS ARE IN μ F, UNLESS OTHERWISE NOTED.
 - ⊥ SYMBOL DESIGNATES REFERENCE FOR THIS CIRCUIT ONLY. IT DOES NOT REPRESENT EARTH GROUND.

RTD TEMP SENSOR CALIBRATION POINTS:

CELSIUS		FAHRENHEIT	
-50 C°	807.87 OHMS	-50 F°	825.093 OHMS
0 C°	1000.00 OHMS	0 F°	932.069 OHMS
+50 C°	1189.01 OHMS	+150 F°	1247.192 OHMS

CALIBRATE BY ADJUSTING GAIN AND ZERO TRIMPOTS FOR:

12.00 ± 0.01 mA	AT	0.0 C°
20.00 ± 0.01 mA	AT	+50.0 C°

CALIBRATE BY ADJUSTING GAIN AND ZERO TRIMPOTS FOR:

8.00 ± 0.01 mA	AT	0.0 F°
20.00 ± 0.01 mA	AT	+150.0 F°

MODEL 41342L TEMP LINE DRIVER	DWG A	PRD 12-96
4 TO 20 mA CURRENT LOOP	DWN KL	DWG 05-98
COMPONENT LAYOUT & CIRCUIT SCHEMATIC	CHK <i>S.L.</i>	C41342L
R.M. YOUNG CO. TRAVERSE CITY, MI 49684 U.S.A. 616-946-3980		