METEOROLOGICAL INSTRUMENTS

MODEL 41372/43372
TEMPERATURE / RELATIVE HUMIDITY SENSOR

INSTRUCTIONS

MANUAL PN 41372/43372-90

YOUNG

WARRANTY AND ASSISTANCE

R.M. YOUNG PRODUCTS are warranted by CAMPBELL SCIENTIFIC (CANADA) CORP. ("CSC") to be free from defects in materials and workmanship under normal use and service for **twelve (12) months** from date of shipment unless specified otherwise. CSC's obligation under this warranty is limited to repairing or replacing (at CSC's option) defective products. The customer shall assume all costs of removing, reinstalling, and shipping defective products to CSC. CSC will return such products by surface carrier prepaid. This warranty shall not apply to any CSC products which have been subjected to modification, misuse, neglect, accidents of nature, or shipping damage. This warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. CSC is not liable for special, indirect, incidental, or consequential damages.

Products may not be returned without prior authorization. To obtain a Return Merchandise Authorization (RMA), contact CAMPBELL SCIENTIFIC (CANADA) CORP., at (780) 454-2505. An RMA number will be issued in order to facilitate Repair Personnel in identifying an instrument upon arrival. Please write this number clearly on the outside of the shipping container. Include description of symptoms and all pertinent details.

CAMPBELL SCIENTIFIC (CANADA) CORP. does not accept collect calls.

Non-warranty products returned for repair should be accompanied by a purchase order to cover repair costs.

CAMPBELLSCIENTIFIC
CANADA CORP.
11564 - 149 street - edmonton - alberta - T5M 1W7
tel 780.454.2505 fax 780.454.2655
www.campbellsci.ca

MODEL 41372VC/VF

RELATIVE HUMIDITY/TEMPERATURE PROBE, 0-1V OUTPUT

INSTRUCTION SHEET 41372V-90
REV 04-00

INTRODUCTION

The Model 41372VC/VF Relative Humidity/Temperature Probe combines a high accuracy humidity sensor and 1000 ohm platinum RTD temperature sensor in one probe. The probe is available in Celsius or Fahrenheit calibration. Output signal is 0-1 VDC for both Relative Humidity and Temperature.

INSTALLATION

The Relative Humidity/Temperature probe should always be installed in a protective radiation shield to ensure accurate data. Use of the probe without a radiation shield may result in large errors. The probe installs easily in YOUNG naturally ventilated or motor 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 Relative Humidity/Temperature probe is designed to offer years of service with minimal maintenance. As with most humidity sensors, humidity calibration may drift slightly with time. The probe is designed to provide a minimum two years service at the accuracy values stated. After this time, the sensing element should be replaced to ensure correct calibration. Replacement sensing elements (Part No. 41372-02) are carefully standardized for interchangeability.

In areas of high dust or contamination (ie: smokestacks, seawater), periodic cleaning of the RH sensor protective membrane is recommended. Soaking in clean water or a mild soap solution is recommended. DO NOT USE SOLVENTS.

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.

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: 41372 (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

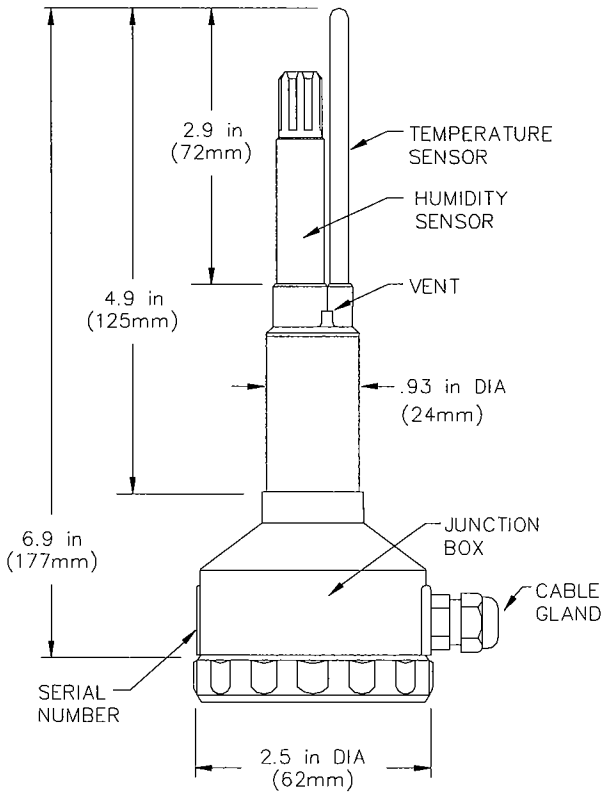
David Poinsett
R & D Manager, R. M. Young Company

SPECIFICATIONS

Power Required:	8-24 VDC, 9 mA @12 VDC
RELATIVE HUMIDITY:	
Operating Temperature:	-10 to 60°C (14 to 140°F) (Below -10°C, accuracy reduced)
Measuring range:	0-100% RH
Accuracy at 20°C:	3% from 10 to 90% RH 4% from 0 to 10 & 90 to 100% RH
Stability:	Better than ±2% in 2 years
Time constant:	15 seconds
Sensor type:	Vaisala Intercap
Output signal:	0-1 VDC
TEMPERATURE:	
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
Sensor type:	1000Ω Platinum RTD
Output signal:	0-1 VDC
Recommended cable:	5 cond shielded 22 AWG (#18446)

Recommended Radiation Shields:

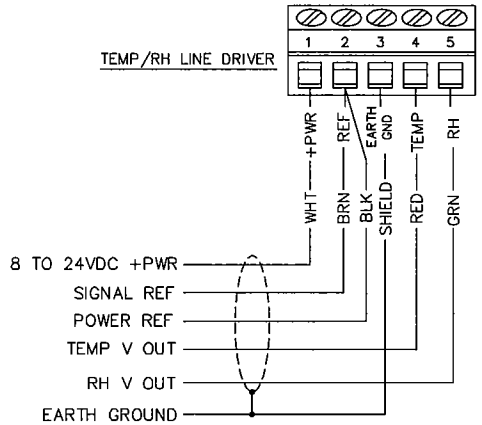
Model 43408P	Gill Aspirated Radiation Shield
Model 41002P	Gill Multi-Plate Radiation Shield

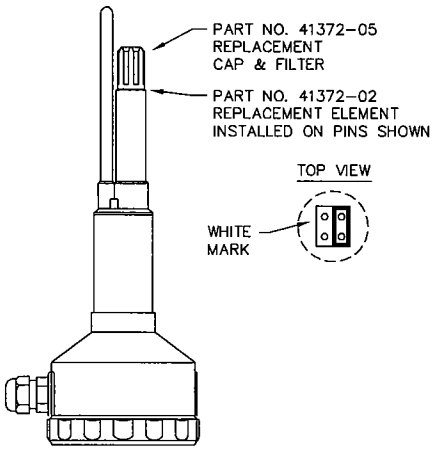


R. M. YOUNG COMPANY 2801 Aero-Park Drive , Traverse City, Michigan 49686 U.S.A.
TEL (231) 946-3980 FAX (231) 946-4772

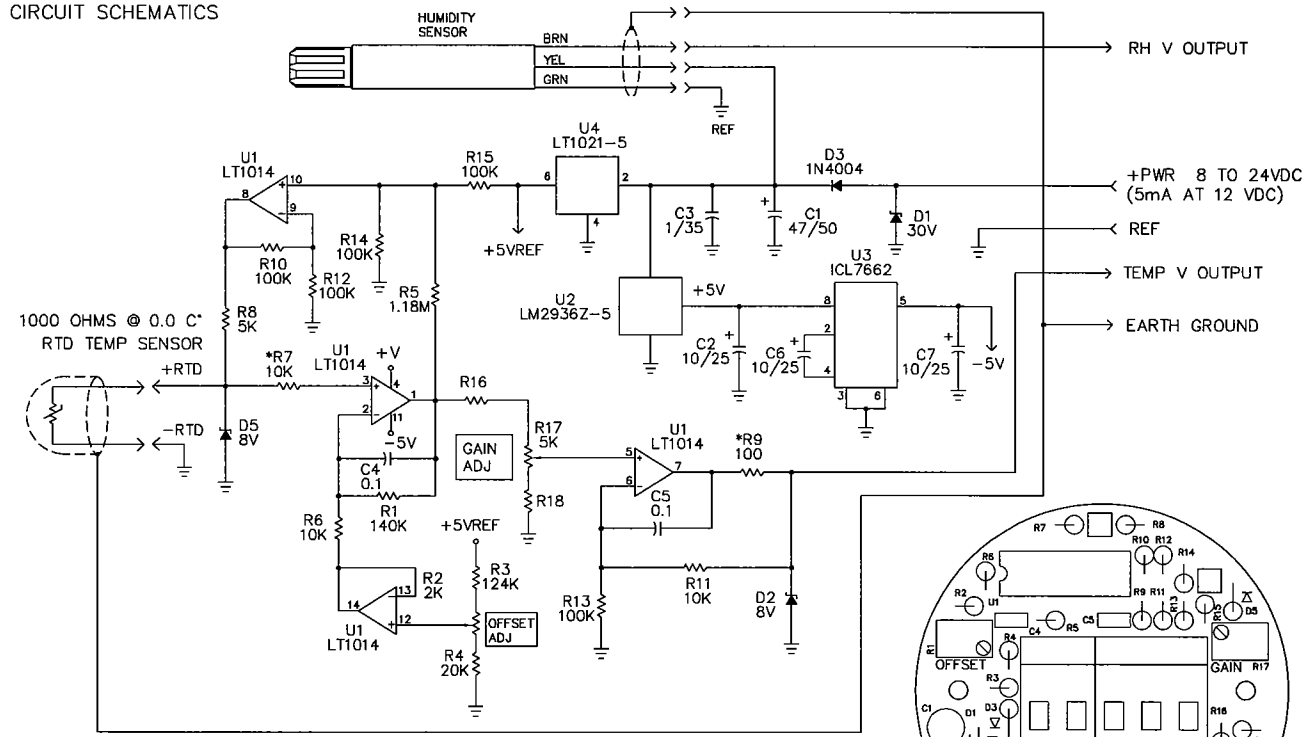
YOUNG

WIRING DIAGRAM





CIRCUIT SCHEMATICS



	RESISTOR VALUES	
MODEL	41372VC	41372VF
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:			
CELSIUS		FAHRENHEIT	
−50 C°	807.673 OHMS	−50 F°	825.093 OHMS
0 C°	1000.000 OHMS	0 F°	932.069 OHMS
+50 C°	1189.005 OHMS	+150 F°	1247.192 OHMS

NOTES:
1. ALL RESISTORS ARE 5ppm, 0.1% UNLESS NOTED
   RESISTORS MARKED WITH "*" ARE 100ppm METAL FILM
2. ALL CAPACITORS ARE IN uF, UNLESS OTHERWISE NOTED.

MODEL 41372V TEMP/RH LINE DRIVER	DWG A	PRD 12-96
0-1 V OUTPUT	DWN KL	DWG 04-00
COMPONENT LAYOUT & CIRCUIT SCHEMATIC	CHK Y.C.	C41372V
R.M. YOUNG CO. TRAVERSE CITY, MI 49686 U.S.A. 231-946-3980		