



**OPERATING MANUAL
FOR
SNOW-THERM INFRARED TEMPERATURE SENSOR**

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TABLE OF CONTENTS

	<u>INFORMATION</u>	<u>PAGE</u>
Section 1	INTRODUCTION	3
Section 2	UNPACKING	4
Section 3	INSTALLATION	5
	3.1 Millivolt Output	5
	3.2 Field of View	7
Section 4	MOUNTING	8
Section 5	MAINTENANCE	9
Section 6	SPECIFICATIONS	10
Section 7	LIMITED WARRANTY INSTRUCTIONS	11

INSTRUCTION MANUAL FOR SNOW-THERM INFRARED TEMPERATURE SENSORS

SECTION 1 INTRODUCTION

Thank you for purchasing an Everest Interscience Infrared SNOW-THERM. This precision temperature measurement sensor is standard with Analog Millivolt output. In addition, these sensors are available with optional 4-20 mA (with which user must provide 15-26 Volts DC) and 0-5 Volt.

The specifications for the Model 4000 SNOW-THERM are listed in Section 6 of this Manual.

We are pleased that you chose an Everest Infrared Temperature Sensor for your temperature measurement requirements. We are positive that you will find it to be fast, simple to use, dependable and reliable with repeatable accuracy.

If you have any questions about a particular application, or about the operation of your temperature sensor, do not hesitate to contact us at our Toll-Free Hot Line – (800) 422-4342. For foreign users, our telephone number is (520) 792-4545. Our facsimile number is (520) 792-4546 and our E-mail address is info@EverestInterscience.com.

To learn more about Everest's line of products, please log on to our website at www.everestinterscience.com.

SECTION 2 UNPACKING

Remove the Packing List and verify that you have received all of the following items:

- 1 SNOW-THERM Infrared Temperature Sensor
- 2 Six Foot Cable
- 3 Instruction Manual
- 4 A Certificate of Calibration
- 5 Your Warranty
- 6 A Warranty Registration Card
- 7 Any Accessories Ordered

If there are any questions about the contents of the shipment, please call Everest's Customer Service Department at 1-800-422-4342 or (520) 792-4545.

When you receive the shipment, inspect the container and equipment for any signs of damage. Note any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

NOTE

Our carrier will not honor any claims unless all shipping materials are saved for their examination. After examining and removing contents, save packing material and carton in the event reshipment is necessary.

If any shipment has to be returned to Everest, please go on-line to get a Return Material Authorization Form at <http://www.everestinterscience.com/Forms/rmarequest.htm> or call us at the following numbers: Domestic – (800) 422-4342 or for Foreign Calls – (520) 792-4545; we will provide you with an RMA Number.

SECTION 3 INSTALLATION

3.1 Analog Millivolt Output

An Analog Millivolt Output is standard on the SNOW-THERM (10.0 mV/ °C). The following drawing (Figure 1) is the Series 4000.4 SNOW-THERM with its connector and cable for the Analog Millivolt Output.

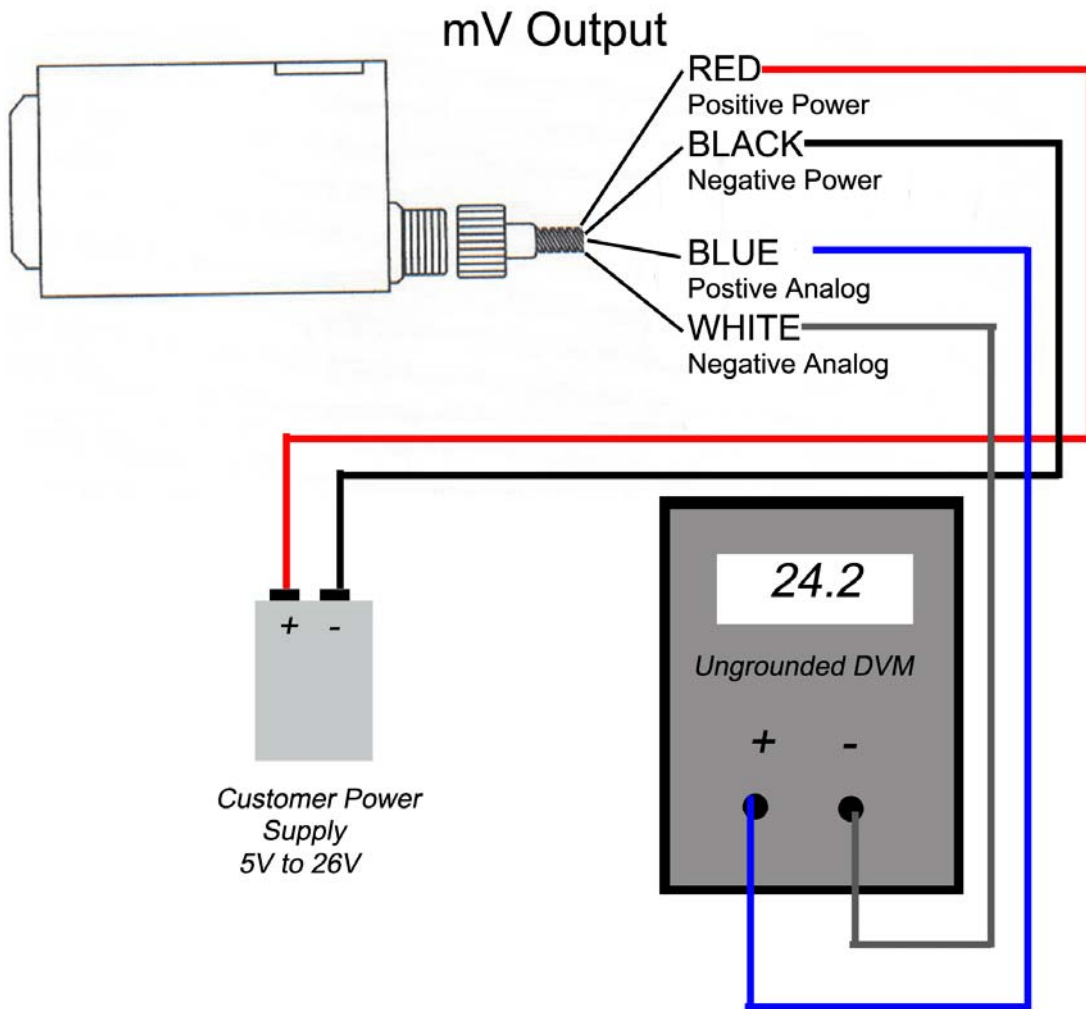


Figure 1

The wiring Pin Designator Numbers for the Power Supply Input and Signal Output are as follows:

COLOR	Use for Power Input/Signal Output
RED	Voltage= +5 to 26 Volts DC
BLACK	Power Supply Ground
BLUE	+Analog Output mV, mA, or Thermocouple (+)
WHITE	-Analog Ground, Thermocouple (-)

3.2 Field of View

Figure 2 gives the target to distance ratio for a standard low-temperature SNOW-THERM with a 4° field of view (FOV).

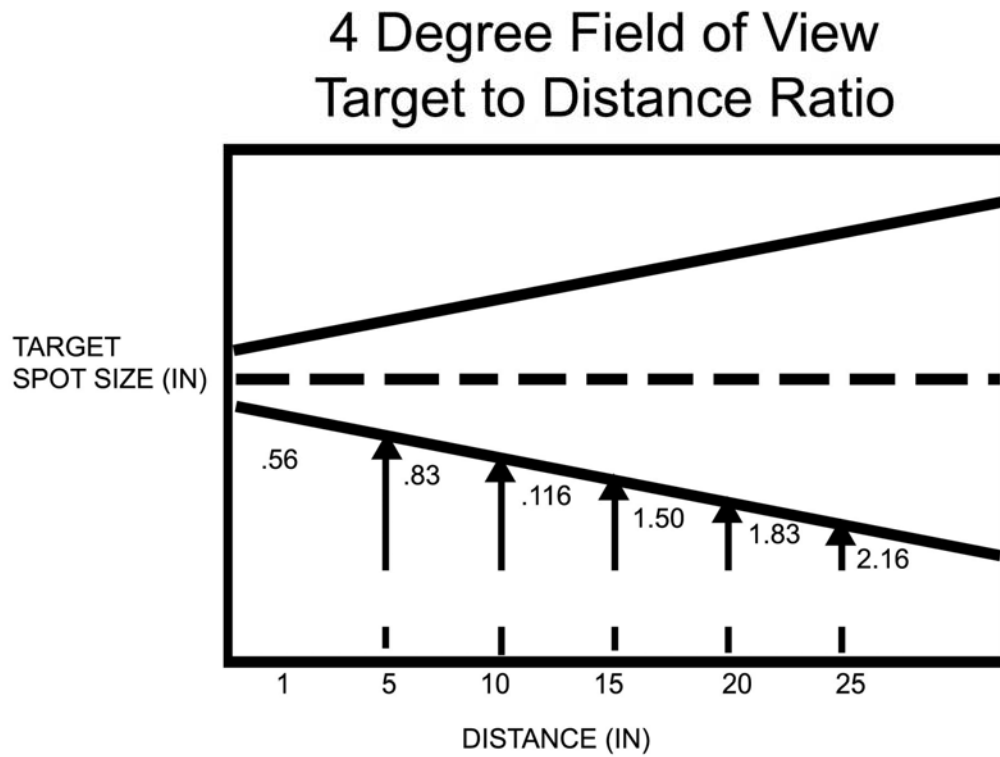


Figure 2

SECTION 4 MOUNTING

A $\frac{1}{4}$ x 20 threaded hole is located in the bottom of the stud for use with standard camera mounting accessories, such as universal positioning ball mounts or tripods. The infrared temperature sensor can also be affixed to the customer's fixture with a $\frac{1}{4}$ " x 20 bolt.

SECTION 5 MAINTENANCE

The Everest SNOW-THERM Infrared Temperature Sensors are relatively free of maintenance. However, when impurities begin to deposit on the lens or window, use only alcohol or warm water for cleaning. Gentle cleaning, as well as cleaning with a cotton swab, is preferable.

It is important not to leave any residue on the lens after cleaning. Even films that are transparent to the human eye can cause errors in accuracy.

SECTION 6 SPECIFICATIONS

SNOW-THERM INFRARED TEMPERATURE SENSOR SPECIFICATIONS

TEMPERATURE MEASUREMENT

Scale Range:	-40°C to 70°C
Resolution:	0.1°C
Accuracy:	±0.3°C from -10°C to +10°C ±0.5°C over +10°C or under -10°C
Repeatability:	±0.1°C
Temperature:	All Functions in °C
Noise Effective Temperature:	±0.2°C

OPTICAL CONSIDERATIONS

Optical Configuration:	Robust, aerospace-quality, double-coated Zinc Selenide Optics per Military Specification MIL-C-13508
Spectral Pass Band:	8 < Wavelengths < 14 Microns
Sighting:	Line of Sight
Field of View:	4°

OPERATING CONDITIONS

Operating Environment:	-40°C to 70°C up to 99% Relative Humidity, Non-Condensing
Storage Temperature:	Same as Operating Environment Temperature

GENERAL

Response Time:	0.10 Second
Emissivity Compensation:	0.2 to 0.98 Settable
Operating Distance:	2 cm to 300 meters
Mounting	Ball & Socket Swivel Mount

ELECTRICAL INTERFACE

Power Requirements:	5V to 26V DC (Current Draw: 10 mA + Current Signal)
Output Signal:	Standard: Analog Millivolt (10.0mV/°C) Optional: 4-20 mA*; 0-5 Volt

WARRANTY

Warranty:	One-Year Limited Warranty of Parts & Labor
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*with mA output, user must provide 15-26 V DC

Everest Interscience, Inc. has a policy of continued design upgrade. Therefore, we reserve the right to change specifications without notice.

SECTION 7 ONE-YEAR LIMITED WARRANTY SERVICE INSTRUCTIONS

Everest Interscience warrants each instrument to be free of defects in material or workmanship for a period of one year from the date of shipment to the original purchaser.

When examination of the instrument reveals that the fault has not occurred because of misuse or abnormal conditions of operation, Everest Interscience will service, replace or adjust any defective part or parts when the instrument is returned freight prepaid. ***OEM clients must show that recurring errors are not a part of the customer's assembly integration process. Upon the advice of Everest Interscience, certain malfunctions will be considered to be due to these process techniques and this warranty will be considered null and void for any instruments subjected to those methods.***

Instruments repaired when abnormal usage has occurred or beyond the effective date of the warranty will be charged at applicable rates. Everest Interscience will submit a quotation for the estimated charges before commencing repair. The customer must provide a Purchase Order or credit card information in the amount of the repair and return shipping before work will commence. After Everest has sent the repair quotation, the customer has up to one year to provide a Purchase Order or credit card information to Everest for either the repair and return or the return only of the instrument. If the customer does not provide this information within one year, Everest will recycle the instrument.

Instruments whose warranty expiration dates exceed five years from the current date may be subject to denial for service and repair. In such instances, please contact the Service & Repair Division at (520) 792-4545.

This warranty includes recalibration and battery replacement during the warranty period, if required.

NOTE: THE WARRANTY IS NULL AND VOID IF:

- The instrument has been dismantled, or***
- The instrument case has been deformed such as dented, gouged, tool marks are present, etc.***

If shipping from within the United States, please call 1-800-422-4342 for a Return Materials Authorization (RMA) number. Outside of the US, please call 1-520-792-4545. Then for the United States and all other countries, please ship the instrument insured, freight prepaid to: