

Infrared Heat Tracers

The Scotchtrak™ Infrared Heat Tracer is a rugged, highly accurate, and easy-to-use portable non-contact (infrared) thermometer. It is an invaluable tool for monitoring operating temperatures of mechanical and electrical plant and production equipment without removing the equipment from service.

The Scotchtrak infrared heat tracer allows the electrician and/or technician to locate and identify overheating conditions in electrical wiring connections, panels, switchgear, motors, and mechanical equipment, and to perform preventive maintenance before catastrophic failure occurs.

Scotchtrak IR-750B Heat Tracers

The Scotchtrak IR-750B Infrared Heat Tracer covers the basics of temperature measurement. It is lightweight and constructed of rugged plastic to withstand use in industrial environments. It has a temperature measurement range of 0°F (-18°C) to 750°F (400°C) which encompasses the normal operating temperature of most industrial motors and equipment.

The IR-750B heat tracer is user friendly with a back-lit LCD display and point-and-shoot operation. A minimum amount of training is required making it a versatile tool. The IR-750B heat tracer is available with (optional) NIST Certification.

Scotchtrak IR-750EXB Series Heat Tracers

The Scotchtrak IR-750EXB and IR-750EXBL2 Infrared Heat Tracers cover an increased temperature range of -4°F (-20°C) to 930°F (500°C) and are equipped with added features such as data storage, which allows recall of the maximum, minimum, differential, average and last temperature readings; a scan mode with alarm, which displays the maximum, minimum, differential or average temperature while the trigger is pulled; a selectable high or low alarm which is adjustable throughout the temperature range of the heat tracers; and adjustable emissivity. The IR-750EXBL2 features built-in Class II laser sighting. All IR-750EXB and IR-750EXBL2 Series Heat Tracers are available with (optional) NIST Certification.

Scotchtrak IR-16 Series Heat Tracers

The Scotchtrak IR-16 Infrared Heat Tracer Series offers sophisticated temperature measurement across a broad range of applications. The IR-16 heat tracer features a tighter field of view. This combined with laser sighting (IR-16L3) provides greater accuracy and improved reliability of readings. For performance and price the IR-16 series is your best choice.

Scotchtrak IR-16EX Series Heat Tracers

For full featured performance choose from one of the three models in the Scotchtrak IR-16EX Series. Like the IR-16 series, the IR-16EX series provides readings up to 1600°F (870°C) and has a 50:1 field of view. For close focus, the IR-16EXCFO Heat Tracer offers a 3:1 field of view. All IR-16EX heat tracers also offer current maximum/minimum and



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differential and average temperature readings, all of which can be stored in memory for recall at a later time. The IR-16EX Series can provide real time temperature measurement data in either digital or analog format. Software is available, upon placing an order, to allow connection to a PC.

Available Options

The IR-750B, IR-750EXB, IR-16 and IR-16EX series heat tracers are available with the options listed below.

Model	IS Intrinsically Safe	NI NIST Certification	ISNI Intrinsically Safe & NIST Certification
IR-750B	No	Yes	No
IR-750EXB	No	Yes	No
IR-750EXBL2	No	Yes	No
IR-16	Yes	Yes	Yes
IR-16L3	Yes	Yes	Yes
IR-16EX	Yes	Yes	Yes
IR-16EXCFO	No	Yes	No
IR16EXL3	Yes	Yes	Yes

Note: Heat tracers with the IS and ISNI option are not available with the backlit LCD display. See "Specification Information for Scotchtrak Infrared Heat Tracers" chart on page 162 for more information.

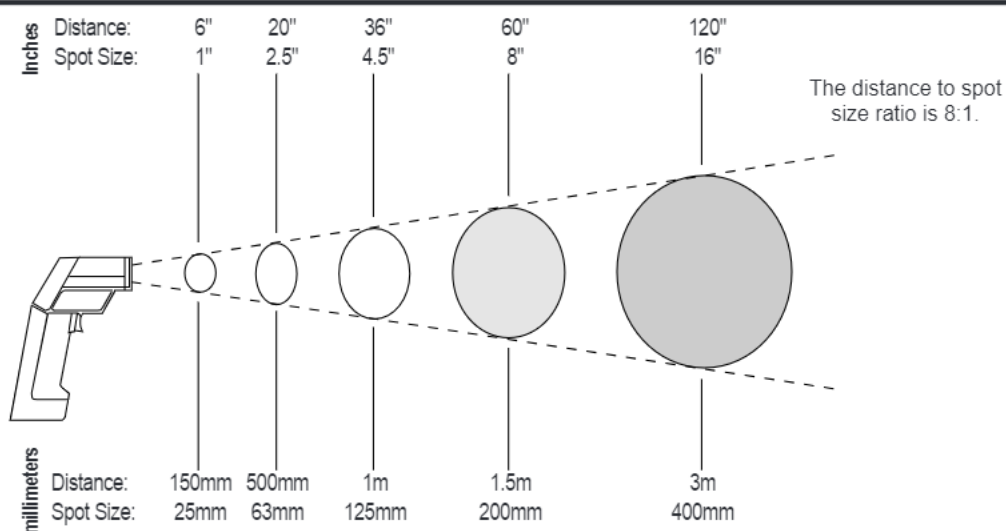
The IS, NI, or ISNI suffix is added to the model number to designate any additional options a heat tracer may have. See "Glossary of Terms" on page 159.

Scotchtrak™ Infrared Heat Tracer Field of View Comparison

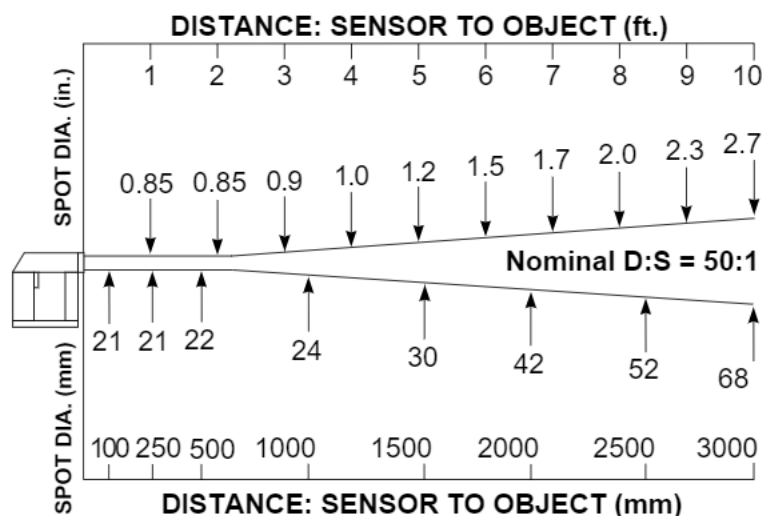
Model Number

Field of View

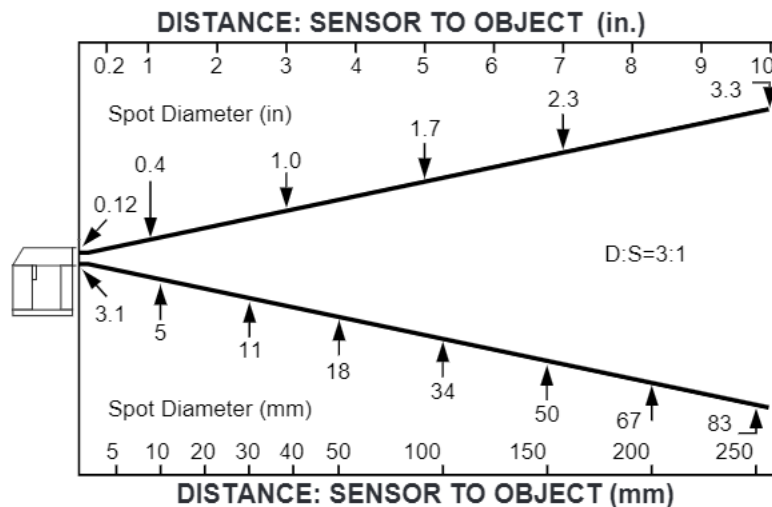
IR-750B
IR-750EXB
IR-750EXBL2



IR-16
IR-16EX
IR-16L3
IR-16EXL3



IR-16EXCFO



Specification Information for Scotchtrak™ Infrared Heat Tracers

Product Number	Model IR-750B	Model IR-750EXB	Model IR-750EXBL2
			
Features			
Measurement Range	0°F (-18°C) to 750°F (400°C)	-4°F (-20°C) to 930°F (500°C)	-4°F (-20°C) to 930°F (500°C)
Accuracy	±2% of Reading or ±3°F (2°C) whichever is greater, @ ambient 73±9°F (23±5°C)	±2% of Reading or ±3°F (2°C) whichever is greater, @ ambient 73±9°F (23±5°C)	±2% of Reading or ±3°F (2°C) whichever is greater, @ ambient 73±9°F (23±5°C)
Repeatability	±1% of Reading, or ±2°F (±1°C) whichever is greater	±1% of Reading, or ±2°F (±1°C) whichever is greater	±1% of Reading, or ±2°F (±1°C) whichever is greater
Response Time (95% Response)	500 msec.	500 msec.	500 msec.
Spectral Response	7 – 18 microns	7 – 18 microns	7 – 18 microns
Field of View D:S	8:1	8:1	8:1
Emissivity	Pre-set 0.95	Adjustable 0.3 to 1.0	Adjustable 0.3 to 1.0
Temperature Display	°F or °C, switch selectable	°F or °C, switch selectable	°F or °C, switch selectable
Locking Trigger	No	No	No
Temperature Measure Parameters Current and Maximum temperature	No	Yes	Yes
Minimum Temperature Differential and Average temperature	No	Yes	Yes
Alarms Adjustable High Level and Low Level Alarms	No	Yes	Yes
Data Storage Current max./min., diff., and avg. temperatures stored in memory for recall at a later time	No	Yes	Yes
Data Output RS-232C or 1mv/°F or °C	No	No	No
Laser Sighting Laser Type: Gallium Arsenide Class: FDA II Power: <1 milliwatt Wavelength: 0.670 microns Range: Up to 50 feet (depends on ambient light)	No	No	Yes
Operating Temperature	32°F (0°C) to 122°F (50°C)	32°F (0°C) to 122°F (50°C)	32°F (0°C) to 122°F (50°C)
Storage Temperature	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery
Operating Humidity	95% rh maximum	95% rh maximum	95% rh maximum
Size (L x W x H)	5.4 in x 1.5 in x 7.7 in (13.7 cm x 3.8 cm x 19.5 cm)	5.4 in x 1.5 in x 7.7 in (13.7 cm x 3.8 cm x 19.5 cm)	5.4 in x 1.5 in x 7.7 in (13.7 cm x 3.8 cm x 19.5 cm)
Weight	9.5 oz. (270 g)	9.5 oz. (270 g)	9.5 oz. (270 g)
Power Source Battery	9 volt alkaline, NEDA No. 1604A	9 volt alkaline, NEDA No. 1604A	9 volt alkaline, NEDA No. 1604A
External 9 VDC @ 100ma: input jack	No	No	No
Approximate battery life	50 hrs. (w/o backlight)	50 hrs. (w/o backlight or laser)	50 hrs. (w/o backlight or laser)
Tripod Mount	No	No	No
LCD Backlight	Yes	Yes	Yes

Note: Heat tracers with the IS and ISNI option are not available with the backlit LCD display.

Specification Information for Scotchtrak™ Infrared Heat Tracers

Product Number	Model IR-16	Model IR-16L3
		
Features		
Measurement Range	0°F (-18°C) to 1600°F (870°C)	0°F (-18°C) to 1600°F (870°C)
Accuracy	±1% of Reading, ±1 Digit	±1% of Reading, ±1 Digit
Repeatability	±0.5% of Reading, ±1 Digit	±0.5% of Reading, ±1 Digit
Response Time (95% Response)	350 msec.	350 msec.
Spectral Response	8 – 14 microns	8 – 14 microns
Field of View D:S	50:1	50:1
Emissivity	Pre-set 0.95	Pre-set 0.95
Temperature Display	°F or °C, switch selectable	°F or °C, switch selectable
Locking Trigger	No	No
Temperature Measurement Parameters		
Current and Maximum temperature	Yes	Yes
Minimum Temperature Differential and Average temperature	No	No
Alarms		
Adjustable High Level and Low Level Alarms	No	No
Data Storage		
Current max/min, diff. and avg. temperatures stored in memory for recall at a later time	No	No
Data Output		
RS-232C or 1mv/°F or °C	No	No
Laser Sighting		
Laser Type: Gallium Arsenide Class: FDA IIIa Power: <5 milliwatts Wavelength: 0.670 microns Range: Up to 100 feet, (depends on ambient light)	No	Yes
Operating Temperature	32°F (0°C) to 122°F (50°C)	32°F (0°C) to 122°F (50°C)
Storage Temperature	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery
Operating Humidity	95% rh maximum	95% rh maximum
Size (L x W x H)	5.5 in x 1.75 in x 7.0 in (15 cm x 4.5 cm x 18 cm)	5.5 in x 1.75 in x 7.0 in (15 cm x 4.5 cm x 18 cm)
Weight	1 lb. 4 oz. (0.6 kg)	1 lb. 4 oz. (0.6 kg)
Power Source		
Battery	9 volt alkaline, NEDA No. 1604A	9 volt alkaline, NEDA No. 1604A
External 9 VDC at 100ma: Input Jack	No	No
Approximate Battery Life	25 hours maximum (all options off) 10 hours maximum (with laser on)	25 hours maximum (all options off) 10 hours maximum (with laser on)
Tripod Mount	1/4 – 20 UNC	1/4 – 20 UNC
LCD Backlight	Yes	Yes

Note: Heat tracers with the IS and ISNI option are not available with the backlit LCD display.

Specification Information for Scotchtrak™ Infrared Heat Tracers

Product No.	Model IR-16EX	Model IR-16EXL3	Model IR-16EXCFO
			
Features			
Measurement Range	0°F(-18°C) to 1600°F(870°C)	0°F(-18°C) to 1600°F(870°C)	0°F(-18°C) to 1600°F(870°C)
Accuracy	±1% of Reading, ±1 Digit	±1% of Reading, ±1 Digit	±1% of Reading, ±1 Digit
Repeatability	±0.5% of Reading, ±1 Digit	±0.5% of Reading, ±1 Digit	±0.5% of Reading, ±1 Digit
Response Time (95% Response)	350 msec.	350 msec.	350 msec.
Spectral Response	8 – 14 microns	8 – 14 microns	8 – 14 microns
Field of View D:S	50:1	50:1	3:1
Emissivity	Adjustable 0.1 to 1.0	Adjustable 0.1 to 1.0	Adjustable 0.1 to 1.0
Temperature Display	°F or °C, switch selectable	°F or °C, switch selectable	°F or °C, switch selectable
Locking Trigger	Yes	Yes	Yes
Temperature Measurement Parameters			
Current and Maximum temperature	Yes	Yes	Yes
Minimum Temperature Differential and Average temperature	Yes	Yes	Yes
Alarms			
Adjustable High Level and Low Level Alarms	Yes	Yes	Yes
Data Storage			
Current max./min., diff. and avg. temperatures stored in memory for recall at a later time	Yes	Yes	Yes
Data Output			
RS-232C or 1mv/°F or °C	Yes	Yes	Yes
Laser Sighting			
Laser Type: Gallium Arsenide			
Class: FDA IIIa			
Power: <5 milliwatts			
Wavelength: 0.670 microns			
Range: Up to 100 feet (depends on ambient light)	No	Yes	No
Operating Temperature	32°F (0°C) to 122°F (50°C)	32°F (0°C) to 122°F (50°C)	32°F (0°C) to 122°F (50°C)
Storage Temperature	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery	-40°F (-40°C) to 122°F (50°C) with battery -40°F (-40°C) to 140°F (60°C) without battery
Operating Humidity	95% rh maximum	95% rh maximum	95% rh maximum
Size (L x W x H)	5.5 in x 1.75 in x 7.0 in (15 cm x 4.5 cm x 18 cm)	5.5 in x 1.75 in x 7.0 in (15 cm x 4.5 cm x 18 cm)	5.5 in x 1.75 in x 7.0 in (15 cm x 4.5 cm x 18 cm)
Weight	1 lb. 4 oz. (0.6 kg)	1 lb. 4 oz. (0.6 kg)	1 lb. 4 oz. (0.6 kg)
Power Source			
Battery	9 volt alkaline, NEDA No. 1604A	9 volt alkaline, NEDA No. 1604A	9 volt alkaline, NEDA No. 1604A
External 9 VDC at 100ma, input jack	Yes	Yes	Yes
Approximate Battery Life	25 hours maximum (all options off) 10 hours maximum (with laser on)	25 hours maximum (all options off) 10 hours maximum (with laser on)	25 hours maximum (all options off) 10 hours maximum (with laser on)
Tripod Mount	1/4 – 20 UNC	1/4 – 20 UNC	1/4 – 20 UNC
LCD Backlight	Yes	Yes	Yes

Note: Heat tracers with the IS and ISNI option are not available with the backlit LCD display.

Ordering Information for Scotchtrak™ 750 Series Heat Tracers

Product Number	Description	UPC (054007-)	Billing Unit	Inner Unit Pack	Case Qty.
IR-750B	Infrared Heat Tracer Basic Unit*	49676	each	—	1
IR-750B/750EXB	Carrying Case	50229	each	—	1
IR-750EXB	Infrared Heat Tracer Extended Performance Unit*	49677	each	—	1
IR-750EXBL2	Infrared Heat Tracer Extended Performance Unit w/Laser*	41782	each	—	1
IR-750HC	IR-750 Series Hard Case	41815	each	—	1

* Contains unit and instruction manual

Ordering Information for Scotchtrak IR-16 Series Heat Tracers

Product Number	Description*	UPC (054007-)	Billing Unit	Inner Unit Pack	Case Qty.
IR-16	Infrared Heat Tracer Basic Unit	69800	each	—	1
IR-16EX	Infrared Heat Tracer Extended Performance Unit	69801	each	—	1
IR-16EXCFO	Infrared Heat Tracer Extended Performance Unit (w/Close Focus)	50119	each	—	1
IR-16EXIS	Infrared Heat Tracer Extended Performance Unit (w/Intrin. Safe Rating)	50115	each	—	1
IR-16EXISNI	Infrared Heat Tracer Extended Performance Unit (w/Intrin. Safe Rating & NIST Certification)	50116	each	—	1
IR-16EXL2IS	Infrared Heat Tracer Extended Performance Unit w/Class 2 Laser (w/Intrin. Safe Rating)	03716	each	—	1
IR-16EXL2ISNI	Infrared Heat Tracer Extended Performance Unit w/Class 2 Laser (w/Intrin. Safe Rating & NIST Certification)	03717	each	—	1
IR-16EXL3	Infrared Heat Tracer Extended Performance Unit (w/Laser)	49888	each	—	1
IR-16EXL3IS	Infrared Heat Tracer Extended Performance Unit w/Laser (w/Intrin. Safe Rating)	03718	each	—	1
IR-16EXL3ISNI	Infrared Heat Tracer Extended Performance Unit w/Laser (w/Intrin. Safe Rating & NIST Certification)	03719	each	—	1
IR-16EXL3NI	Infrared Heat Tracer Extended Performance Unit (w/Laser & NIST Certification)	50118	each	—	1
IR-16EXNI	Infrared Heat Tracer Extended Performance Unit (w/NIST Certification)	50117	each	—	1
IR-16IS	Infrared Heat Tracer Basic Unit (w/Intrin. Safe Rating)	50112	each	—	1
IR-16ISNI	Infrared Heat Tracer Basic Unit (w/NIST Certification & Intrin. Safe Rating)	50113	each	—	1
IR-16L2IS	Infrared Heat Tracer Basic Unit w/Class 2 Laser (w/Intrin. Safe Rating)	03712	each	—	1
IR-16L2ISNI	Infrared Heat Tracer Basic Unit w/Class 2 Laser (w/Intrin. Safe Rating & NIST Certification)	03713	each	—	1
IR-16L3	Infrared Heat Tracer Basic Unit (w/Laser)	50111	each	—	1
IR-16L3IS	Infrared Heat Tracer Basic Unit w/Laser (w/Intrin. Safe Rating)	03714	each	—	1
IR-16L3ISNI	Infrared Heat Tracer Basic Unit w/Laser (w/Intrin. Safe Rating & NIST Certification)	03715	each	—	1
IR-16L3NI	Infrared Heat Tracer Basic Unit (w/Laser & NIST Certification)	50180	each	—	1
IR-16NI	Infrared Heat Tracer Basic Unit (w/NIST Certification)	50114	each	—	1

* All IR-16 Heat Tracers come with instruction manual and carrying case