

*SmartIRt/c*TM

Infrared Temperature Sensor

EXERGEN
C O R P O R A T I O N

Application Examples

- Printing
- Laminating
- Glass
- Web Profile
- Painting
- Packaging
- Coating

Key Features

- Easy To Use
- Application Versatility
- Wide Operating Range
- 3:1 Field Of View
- Linear Output
- Choice of Outputs (0-5V, 0-10V, 4-20 mA and RS232)
- Extremely High Accuracy and Repeatability
- Air Purge and Mounting Included
- Self-Diagnostics and Continuous Auto Calibration
- Case Temperature Output and Alarms/Triggers Available
- Compact, Rugged Construction
- Rapid Update
- LED Indicating Normal Operation and for Diagnostics

**Easiest to Use
Unmatched Accuracy
Expanded Family**



Description

The *SmartIRt/c*TM product line expands Exergen Corporation's broad family into new areas. Created as the "easiest to use" with a wide temperature range in mind, the *SmartIRt/c* presents a simple solution to what is often a complicated problem for both OEM and industrial users. These non-contact temperature sensors represent an attractive solution for applications where small size, excellent performance and low cost are critical parameters. Utilizing the latest technologies to condition the signal and provide a linear output, the *SmartIRt/c* comes with mounting holes and a built-in air purge. The *SmartIRt/c*'s unique signal filter allows for quick response when temperatures are changing rapidly and increases stability on steady-state situations

Its fast response time, reliability and rugged design, coupled with its ease of use, accuracy and linearity allows the *SmartIRt/c* to conquer complicated applications. With a choice of four different output types allowing it to interface with virtually any control system, the

SmartIRt/c Series of temperature sensors provide control at process critical temperature points by expanding upon Exergen's advanced non-contact IR technology.

SmartIRt/c Specifications

Sensing Range*	0 °C to 250 °C (32 °F to 482 °F) 0 °C to 100 °C (32 °F to 212 °F)
Ambient Temperature Range	0 °C to 70 °C (32 °F to 158 °F)
Storage Temperature Range	-10 °C to 70 °C (14 °F to 158 °F)
Field of View	3:1 (distance: spot) approx. 17°
Minimum Spotsize	6 mm (.24")
Dominant Spectral Response	6.5 to 14 μ
Output Types	0-5 V 0-10 V 4-20 mA (50 Ω max.)
Impedance	Less than 1 K Ω
TA Toggle (Option)	Pull down below 0.5V for at least one response time
TA Output (Option)	0 °C – Minimum output
Max. Switch Time for Toggle	One Response Time
Emissivity Setting	$\epsilon = 0.90$ May be adjusted for large quantities
Measurement Type	Non-Contact
Resolution	Approximately 10 bits
Response Time	≤ 250 ms
First Reading	≤ 2 s
Accuracy (Includes Repeatability and Interchangeability)	$\pm 1\%$ or (2 °C (3.6 °F)) WIG at $\epsilon = 0.9$
Repeatability	± 1 bit
Interchangeability	$\pm 0.5\%$ or (1 °C (1.8 °F)) WIG
*Error Codes	Upper and lower 1% of range dedicated to error codes
Power Supply	12 or 24 V DC ($\pm 10\%$) Shuts off when voltage is functionally low
Power Consumption	≤ 800 mW at 24 V DC and 600 mW at 12 V DC
Size	88.9 x 31.8 x 19.1 mm (3.5 x 1.25 x 0.75 in.)
Housing	ZA-12
Sensor Connection	10 pin dual row 2 mm header
Air Purge PSI	0.1 to 20 mb
Air Cleanliness	Instrument Air is Recommended, ANSI/ISA-7.0.01-1996
Humidity	95% Non-Condensing
Weight	Approximately 200 grams (7 oz.)
LED	Indicates normal operation and for diagnostics