

Smart IRt/c™

Infrared Temperature Sensor

EXERGEN

C O R P O R A T I O N

51 Water St. Watertown, MA 02472

617.923.9900 (f) 617-.923-9911

www.exergen.com

	0-5V	0-10V	4-20mA	RS232
Sensing Range	Standard Ranges 0-250 °C, 0-100 °C other Ranges Factory Selectable			0-250 °C
Ambient Temperature Range	0 °C to 70 °C (internal case temperature)			
Storage Temperature Range	-10 °C to 70 °C			
Field of View of Sensing Element	3:1 (distance:spot) approx. 17°			
Minimum Spot size	3 mm (0.12")			
Dominant Spectral Response	5.5 to 20 μ			
Impedance	Less than 1 Kohms	50 ohm max	NA	
Emissivity Setting (ε)	0.90 can be factory adjusted			
Measurement Type	Thermopile			
Resolution	10 bit***		4 Digit w/ floating decimal	
Update Time	Less than 250ms after first reading**			
Response Time (95% of step change)	Less than 650 ms**			
Bandwidth	Typically 5Hz			
First Reading in	Less than 2 seconds			
Accuracy (Includes Repeatability and Interchangeability)	Typically: ±1 °C (±1.8 °F) or 1% of reading at ε 0.9			
Recommended Power Supply	12 ± 10% V DC or 24 ± 10% V DC; depending on model			
Power Accepted*	Shuts off when voltage is functionally low*			
Power Consumption	12V power less than 400mW 24V Power less than 800 mW			
Dimensions	Contact Exergen for Drawing			
Housing	Zinc-Aluminum Alloy Z-12 (ISO/DIS 301)			
Sensor Connection	3 foot pigtail		DB9 and loose power wires	
Recommended Air Purge Pressure	3 PSI - Contact Exergen for Pressure\Flow\Error Graphs			
Maximum Air Pressure	20 PSI - may cause reading errors			
Air Cleanliness	Instrument Air is Recommended, ANSI/ISA-7.0.01-1996			
Humidity	Non-Condensing - ISA-71.01-1985 Environment Class C Severity X			
Shock	100G			
Weight	Approximately 200 grams (7oz.)			
LED	Constantly on for normal operation			

* The unit will not give an error message if the input voltage exceeds recommended high limit, but functionality or accuracy is not guaranteed when exceeding the Recommended Power Supply voltage.

** At room temperature

*** Current Output 10bit 0-20mA

Note: Specifications contained herein are preliminary. For additional or updated specifications please contact Exergen Corporation.

PN: 818551r2

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ERROR MESSAGES						
Condition	Priority	LED Display	0-5V	0-10V	4-20mA	RS-232
Low Power	1	OFF	Under 0.1V	Under 0.1V	Under 4mA	Not Implemented
Hardware Internal Errors	2, 13	Uniform Flash	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Vsig-Offset High	3	Uniform Flash	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Vsig-Offset Low	4	Uniform Flash	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
EMI	5	Uniform Flash	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Range Error	6	Uniform Flash	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
High Ambient	7	Long Flash**	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Low Ambient	8	Short Flash*	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Too Much Heat Flow	9	Long Flash**	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Too Little Heat Flow	10	Short Flash*	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
High Target	11	Long Flash**	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented
Low Target	12	Short Flash*	Over 4.9V	Over 9.8V	Over 19.7mA	Not Implemented

*Six counts off one count on

**Six counts on one count off

PIN OUT					
Carol C074 Series/Belden 953 Series/Alpha 630 Series					
Pin	Color	Function	Pin	Color	Function
1	White	Positive Output Signal	6	Brown	TA Pull Down Pin / IO option
2	Green	Reference Output Signal	7	Yellow	RS232 TXD / IO option
3	Red	Positive Power	8	Violet	RS232 RXD / IO option
4	Black	Ground	9	Blue	RS232 RTD (READY TO SEND)
5	Bare	Shield	10	Orange	RS232 CTS (CLEAR TO SEND)

MODEL KEY																		
CODE	FEATURE	150014	150017	150018	150019	150001	150020	150021	150022	150013	150023	150024	150025	150058	150059	150060	150061	150012
P-A	Supplied Power 12V	●	●	●	●					●	●	●	●					●
P-B	Supplied Power 24V					●	●	●	●					●	●	●	●	
OA-AA	0-5V Output	●	●	●	●													
OA-AB	0-10V Output					●	●	●	●									
OA-AC	4--20mA Output									●	●	●	●	●	●	●	●	
OA-AD	RS232 Output																	●
TR-AB	Temperature Range 0-100C			●	●			●	●			●	●			●	●	
IA-AB	TA Pull Down Pin Enabled		●		●		●		●		●		●		●		●	
AA-AA	I/O Options & Alarm Pin	Upon Customer Request																