

## PES-RTS100 Temperature Sensor for SCADA Applications

### Wide Range Precision Solid-State Temperature Sensor

#### Benefits

- ❖ Measure site and equipment temperatures accurately.
  - Electronic Equipment
  - Remote Telco Cabinets
  - Produce Cold Storage
  - Fuels
- ❖ Warn of equipment damaging temperatures.
- ❖ Warn of extreme storage battery temperatures than can cause power outage or fatigue failure.
- ❖ Remote sensing through SCADA networks.
- ❖ No calibration required.

#### Features

- ❖ Rugged package
  - Weatherized
  - Use in Hazardous Locations
  - Easy to mount
  - Quick Connect contacts
- ❖ Precision
  - Linear 10.0 mV/°C scale factor
  - Calibrated directly in degrees Celsius
  - $\pm 1.0$  °C accuracy @ +25 °C
- ❖ Wide Range Capability
  - -55 °C ~ +150 °C
- ❖ Simple power supply
  - +4 ~ +30 VDC
  - Draws less than 60  $\mu$ A
- ❖ One-year warranty
- ❖ Easy installation – less than 10 minutes



*PES-RTS100 Temperature Sensor*

#### Description

The PES-RTS100 is an integrated circuit based temperature sensor. The sensor uses the proven LM35 precision Celsius sensor chip to convert temperature to linear voltage. The sensor is packaged into an easy to use, rugged unit suitable for monitoring electronics, power system batteries or food storage. The sensor's output can be relayed by voltage sensing SCADA networks.

#### PESi Support

Peninsula Engineering Solutions is ready to support your project needs including design of repeater applications and alternative power systems; furnish remote site power equipment, antenna systems and more.

## PES-RTS100 Temperature Sensor for SCADA Applications

### Technical Summary

ABSOLUTE MAXIMUM RATINGS	
Supply Voltage, $V_S$	+35V to -0.2V
Output Voltage, $V_{OUT}$	+6V to -1.0V
Output Current, $I_L$	10 mA

ENVIRONMENTAL RATINGS	
Storage Temperature	-60 °C to +180 °C
Operating Temperature	-40 °C to +110 °C
ESD Susceptibility	2500V

ELECTRICAL CHARACTERISTICS				
PARAMETER	CONDITIONS	TYPICAL	GUARANTEED	UNITS
Accuracy	$T_A = 25\text{ °C}$	$\pm 0.4$	$\pm 1.0$	°C
	$T_A = 10\text{ °C}$	$\pm 0.5$	$\pm 1.5$	
	$T_A = T_{MAX}$	$\pm 0.8$	$\pm 1.5$	
	$T_A = T_{MIN}$	$\pm 0.8$	$\pm 2.0$	
Nonlinearity	$T_{MIN} \leq T_A \leq T_{MAX}$	$\pm 0.2$	$\pm 0.5$	°C
Average Slope	$T_{MIN} \leq T_A \leq T_{MAX}$	+10.0	+9.8, +10.2	mV/°C
Load Regulation $0 \leq I_L \leq 1\text{mA}$	$T_A = +25\text{ °C}$	$\pm 0.4$	-	mV/mA
	$T_{MIN} \leq T_A \leq T_{MAX}$	$\pm 0.5$	$\pm 0.5$	
Line Regulation	$T_A = +25\text{ °C}$	$\pm 0.01$	-	mV/V
	$4\text{V} \leq V_S \leq 30\text{V}$	$\pm 0.02$	$\pm 0.2$	
Quiescent Current	$V_S = +5\text{V}, +25\text{ °C}$	56	-	$\mu\text{A}$
	$V_S = +5\text{V}$	<b>91</b>	<b>138</b>	
	$V_S = +30\text{V}, +25\text{ °C}$	56.2	-	
	$V_S = +30\text{V}$	<b>91.5</b>	<b>141</b>	

ELECTRICAL CONNECTIONS		
ITEM	VALUE / DESIGNATION	USE
Terminal Type	4.8 mm / 0.187 inch tab - Quick Connect Male	Fits 0.187 ~ 0.250 inch Female Disconnect
Terminal A	Ground Reference	Common Ground
Terminal B	$V_{OUT}$	Sensor Output
Terminal C	$V_S$	Power Supply

PHYSICAL CHARACTERISTICS	
Weight	55g / 2 oz
Body Dimensions	95L x 38W x 12H mm
	3.75L x 1.50W x 0.45H inches
Max Envelope	95L x 38W x 18H mm
	3.75L x 1.50W x 0.70H inches

**PART NUMBER: 087-0444-01**

PES-RTS100 Data Sheet

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