



SOLARWATCH® SOLAR SENSOR

Automatic Comfort Setting

PUTTING CLIMATE CONTROL ON CRUISE CONTROL.

Sensata’s SolarWatch Solar Sensors are the perfect way to optimize vehicle climate control systems. SolarWatch senses the sun’s energy, and adjusts the climate control settings accordingly, leaving vehicle occupants to ride in comfort.. Sensata Technologies is the world’s leading supplier of sensors and controls across a broad range of markets and applications.

Sensata’s patented SolarWatch® Solar Sensors are designed to enhance a vehicle’s climate control system. The sensor generates a signal that is proportional to the sun’s energy entering the vehicle. Using this signal, the climate control system can adjust the temperature setting for continued occupant comfort while in sun or clouds. Our patented diffuser technology provides horizon-to-horizon sensor response, which allows the sensor to measure the solar heating independent of the sun’s elevation. The sensor can also compensate for vehicle roofline position and glass.

FEATURES AND BENEFITS

- Patented diffuser technology provides horizon-to-horizon response
- Output current proportional to solar heating
- Surface mount and chip-on-board technology
- Multiple sensing capabilities: single, dual and quad zones
- Functions as a light dependent current sink
- Reacts to changing solar heating conditions independent of the sun’s elevation

Flexible Integration

- Customized configuration to meet specific mounting and cosmetic requirements
- Customizable output
- Custom interconnect
- Capable of adding additional functions such as dual zone solar sensing, tunnel sensing, interior fog sensing and an LED indicator

APPLICATIONS

Comfort

- Automatic climate control system adjustment

TECHNICAL SPECIFICATIONS

CONFIGURATION / PACKAGE

Package material	PBT or PC + ABS
Weight	< 6 g
Connector	2-pin single zone, 3-pin dual zone and quad zone
Output type	Analog currents easily converted to voltage inputs with load resistors or LIN communication for quad zone devices

PERFORMANCE

Non-linearity	< 0.5%
Typical response time	4 ns at $V_R = 10 V$, $R_S = 1K \text{ Ohm}$

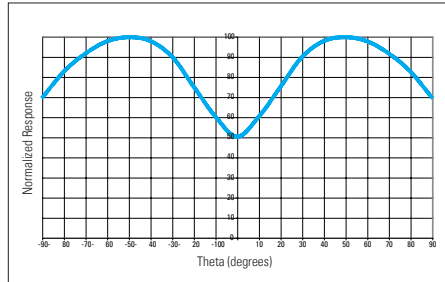
OPERATING ENVIRONMENT

Operating temperature range	-40°C to 115°C
Storage temperature range	-40°C to 125°C

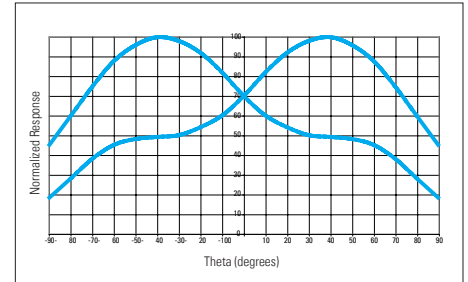
ELECTRICAL CHARACTERISTICS

Supply voltage	$5 \pm 0.5 V$
Maximum reverse voltage	33 V, $I_r = -14 V$

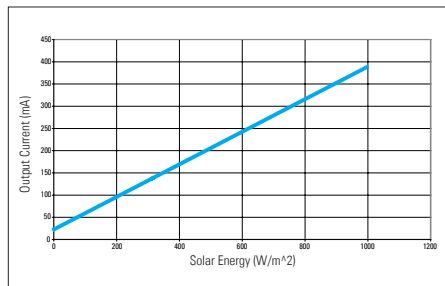
50% OVERHEAD RESPONSE



DUAL-ZONE OVERHEAD RESPONSE



SOLAR LINEAR RESPONSE



QUAD-ZONE RESPONSE @ THETA = 45°

