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SonaSwitch® 1650-A

The SonaSwitch® 1650-A electrostatic ultrasonic transducer system, with laser aiming, provides a complete sensor solution to simplify your product design and packaging.

Specifications

Features

50 KHz Electrostatic Transducer with Integrated SMT Electronic Circuitry
Analog Voltage Output from 0 to 5 VDC
Independent Push-Button Settable Zero and Span Adjustment of Analog Output
Positive (0 to +5V) or Negative (+5 to 0) Slope Analog Output
Output Range Window and Power LED Indicators
Ranges from 6" to 20'
Temperature Compensated Analog Output

Part No.

FGI–1650002 SonaSwitch 1650-A Sensor with 6' cable

Description

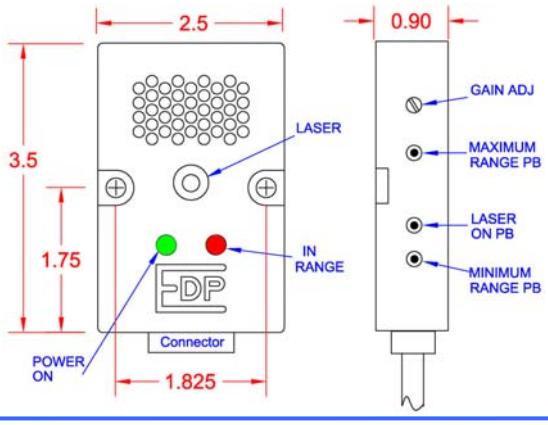
The SonaSwitch® 1650-A Laser ultrasonic sensor provides a total system in a compact package, containing an ultra sensitive electrostatic transducer and supporting circuitry to provide a 0 to 5 VDC analog output with fully independent zero and span adjustments over the entire operating range, the voltage output proportional to the distance between the sensor and a detected object between 6 inches and 20 feet away. The 1650-A can be externally triggered, or continually sense at a 10 Hz rate. The 1650-A is insensitive to temperature, humidity, and pressure changes. The Sensor can also withstand high audio and EMI/RFI levels.

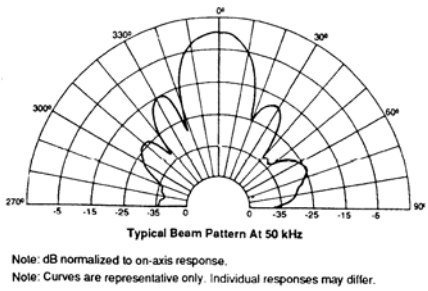
Benefits

Self Contained Compact Design
Can be Triggered Internally or Externally
Able to Range from 6" to 20'
Excellent Receive Sensitivity
Push-Button Range Settings for Quick and Easy Set-up

Applications

Level Measurement, Proximity Detection, Presence Detection, Robotics, Educational Products





Beam Pattern

For more information, visit our website: www.edpcompany.com

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SonaSwitch® 1650-A Specifications

Distance Ranges: .....0.15 – 6.1 M ..... (0.5 -10 feet)
Accuracy (over entire range) .....± 0.1%
Beam Pattern..... See Graph
Typically 15° nominal.
Repetition Rate (astable)..... 10 Hz
May be externally triggered up to a 50 Hz rate
Output Voltage (Analog).....0 to +5 VDC
Output Current (maximum).....5 ma
Output Response Time:
Analog output is filtered to the approximate formula:
$V_{OUT} = 0.9\ (V_{new\ value}) + 0.1(V_{past\ avg.\ value})$
Power Requirements .....12 to 30 VDC; 8-24 VAC
(Maximum Current = 0.15 A; 0.08 A average)

Specifications subject to change without notice

Operating Temperature .....-40 to +85° C
(-40 to 185° F)
Weight (approximately) .....198 grams (7.0 oz)
Dimensions:
Height .....8.89cm ....(3.50 inch)
Width.....5.72 cm ...(2.25 inch)
Depth .....2.29 cm ...(0.90 inch)
Mounting: ..... Two (2) No.10 (5/32") machine screws mounted flat on 1.85" centers.
Cable:..... Supplied with a 6 foot cable
Case Material .....High Temperature electroplated ABS Plastic
Case Color:..... Medium Blue

General Installation Procedures

1. Always Mount the SonaSwitch® 1650-A in a suitable dry location. The SonaSwitch® 1650-A is designed for use in indoor or protected environments only. Excessive moisture in the circuit board and transducer will result in damage and improper operation, and will void all warranties.
2. Mount the SonaSwitch® 1650-A as far off the ground as practical (A minimum of 24 inches).
3. Adjust the gain to the Minimum setting necessary to insure reliable target detection (excessive gain can result in false detections).
4. Mount the SonaSwitch® 1650-A in a location where environmental interference sources are minimized (examples are EMI sources, air nozzles, excessive air turbulence, etc.)

Calibration

Calibrating the SonaSwitch® 1650-A is as simple as placing a target in front of the sensor and setting the range by depressing the appropriate push button. The 1650-A also incorporates a laser which allows precise positioning of the sensor with relationship to the target.

For detailed installation and calibration procedures, refer to the Installation instructions included with your SonaSwitch® 1650-A.

WARNING
NEVER LOOK DIRECTLY INTO THE LASER LIGHT WHEN ACTIVATED.
DOING SO MAY CAUSE PERMANENT DAMAGE TO YOUR EYES AND/OR VISION.

Cable Wiring Information

Conn. Pin #	Wire Color	Function	Description
1	RED	POWER INPUT	12-24 VAC/20-30VDC Power Input
2	BLACK	POWER INPUT	12-24 VAC/20-30VDC Power Input
3	WHITE		
4	YELLOW		
5	ORANGE	0-5 VDC OUT	Analog Output Voltage – 0 to +5 VDC
6	BLUE	EXT. TRIG.	External Trigger Input
7	BROWN	ECHO OUT	TTL Level PWM Clock Output
8	GREEN	GND	Ground Return (Common)
9	VIOLET		
10	GRAY		
11	PINK		
12	BROWN/WHITE		
13	BLACK/WHITE	EXTERNAL TRIGGER ENABLE	Enable External Trigger Input (Pin #6)
14	RED/WHITE	RECEIVE OUT	Internal Receiver Test Output
15	LIGHT GREEN	LASER EN.	Enable Laser Pointer
SHELL	DRAIN		

