MODEL 316-33470

ADVANCED STOP BAR CONTROL SENSOR

SOUTHWEST MICROWAVE

K-BAND MICROWAVE PERFORMANCE FOR DETECTION OF AIRCRAFT OR VEHICLE MOVEMENT BETWEEN TAXIWAY AND ACTIVE RUNWAY

Southwest Microwave's Model 316-33470 Stop Bar Control Sensor can be combined with traditional aircraft stop bar safety systems to enhance reliable, effective detection of aircraft or vehicle movement between taxiway and active runway. Operating at K-band frequency, this all-weather bi-static microwave link is engineered for applications where external radio frequency (RF) radiation is prevalent, offering maximum resistance to RF interference (RFI).

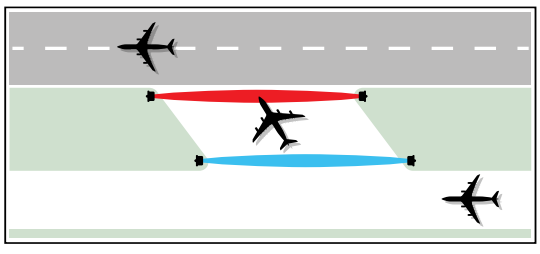
The sensor's unique parabolic dish and antenna design provide superior beam control for unmatched detection performance with low nuisance alarm rates.

Model 316-33470 features enhanced electromagnetic compatibility (EMC) circuitry that minimizes electromagnetic interference (EMI) between the sensor's own energy signal and RF emissions from radar control systems and other RF-based equipment. Additionally, the sensor features board-level EMI/RFI shielding of surface-mounted electronics and a unique EMI/RFI shielded radome to maximize protection against external RF radiation, making it an exceptional on-ground traffic solution.

Advanced receiver design provides unmatched detection performance by alarming on partial or complete beam interruption, increase or decrease in signal level or jamming by other transmitters. Automatic Gain Control (AGC) allows the receiver to compensate for varying site or environmental conditions. Six field-selectable crystal controlled modulation channels with narrow band filtering allow multiple Model 316-33470 sensors to be used in tandem without mutual interference.

KEY FEATURES

- 244 M (800 FT) RANGE
- K-BAND MULTIPATH DETECTION
- ABOVE-GROUND SENSOR SIMPLIFIES INSTALLATION AND MAINTENANCE
- ADJUSTABLE ALARM HOLD TIME
- MONITORING VIA ON-BOARD FORM-C RELAY ALARM OUTPUTS
- ADVANCED EMI / RFI SHIELDING
- ON-BOARD FUSE AND TRANSIENT PROTECTION AGAINST LIGHTNING AND POWER SURGES
- 6 FIELD SELECTABLE MODULATION CHANNELS
- CE CERTIFIED
- FACTORY INSTALLED RADOME LATCH KIT SIMPLIFIES TESTING / SERVICING



The sensor's transmitter and receiver are packaged in compact weatherproof housings, designed to withstand harsh temperature and environmental extremes, and to provide optimal resistance to wind loading. Heavy-duty, position-locking, non-corrosive brackets with stainless-steel swivel mount (sold separately) ensure precise alignment and provide a firm lock against movement.

MODEL 316-33470 SPECIFICATIONS

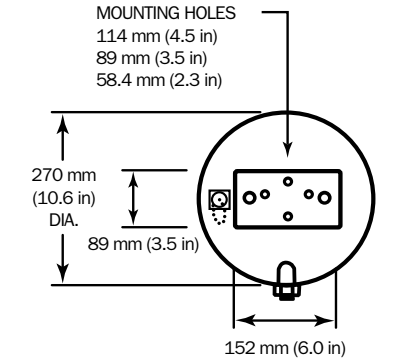
OPERATION

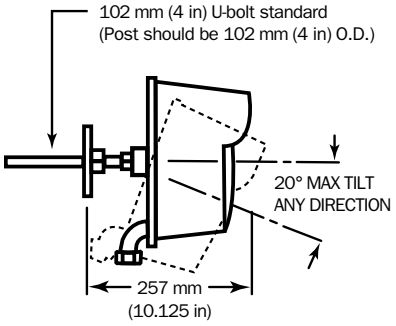
Detection, using a modulated amplitude sensitive system (not Doppler), takes place within the invisible pattern of microwave energy existing between transmitter and receiver. Changes in signal amplitude at the receiver are directly related to the object's size and density, allowing the sensor to discriminate between objects. Model 316-33470 can be set to alarm on humans, vehicles or aircraft entering the pattern. Field adjustments can provide alarm on larger or smaller targets, depending on the specific application.

Sensor electronics and antenna assembly are mounted on a rugged metal base-plate and covered by an RFI/EMI shielded molded ABS radome. Heavy-duty, position-locking, non-corrosive brackets with stainless-steel swivel mount (sold separately) allow for precise alignment and provide firm lock against movement. Factory installed Radome Latch Kits enable simplified tamper testing and sensor configuration / servicing.

For detailed information on application, installation and adjustment, consult Model 316-33470 Technical Manual.

DIMENSIONS





CE

Specifications subject to change without notice.

SPECIFICATIONS

Equipment Supplied: Model 316-33470T Transmitter, Model 316-33470R Receiver, RFI / EMI Shielded Radomes (2), Radome Latch Kits (2). **Required MB65 Heavy Duty Universal Swivel Ball Mounting Brackets (2) sold separately.**

Frequency: Square wave modulated frequency of 24.162 GHz conforms to EN300 440. CE certified.

Output Power: +20 dBm peak EIRP consistent with EN300 440.

Range: 30.5 m to 244 m (100 ft to 800 ft).

Target Velocity: 30 mm/sec to 29 m/sec (0.1 ft/sec to 95 ft/sec).

Probability of Detection: 0.99 minimum.

Automatic Range Adjustment: Link automatically adjusts to slow changes in path loss due to rain, snow, etc. AGC range 60 dB.

Modulation Channels: Six switch selectable.

Operating Environment: -40°C to +70°C (-40°F to +158°F). 0-100% Relative Humidity.

DC Input (Tx / Rx): 10.5 to 60 VDC.
- 12 VDC: 94 mA / 45 mA
- 24 VDC: 50 mA / 26 mA
- 48 VDC: 29 mA / 17 mA
- Minimum startup current: 400mA.

Alarm Output: SPDT- Form C, 2 amps at 28 VDC.

Alarm Hold Time: Adjustable from 0 to 10 seconds

Tamper Switch: SPDT- Form C, 2 amps at 28 VDC.

Self Supervision: Alarm on failure and remote test.

Mounting: Locking ball swivel mount. 20° adjustment in any direction.

Remote Monitor: Alignment and sensitivity monitored with RM83 Performance Test Set at receiver.

LED Indicators: Internally located LED's – Power On, Alarm, Wrong Channel, Channel Error, Jamming.

Weight: 2.04 kg (4.5 lbs) each unit.

Shipping Weight: 8.2 kg (18 lbs) total.

Options:
MB65: Heavy-duty Lockable Mounting Bracket.
RS15: EMI/RFI Shielded Radome with Hydrophobic Coating.
Model RM83: Performance Monitor & Test Set.
4845529-A01: Enhanced Reflector Antenna.

Ordering Info - Model 316-33470:
316-33470-SM00: Includes RS14 EMI/RFI Shielded Radomes, Radome Latch Kits. MB65 Mounting Brackets sold separately and must be ordered as a separate line item.
316-33470-SX00: Includes RS15 EMI/RFI Shielded Radomes with Hydrophobic Coating, Radome Latch Kits. MB65 Mounting Brackets sold separately and must be ordered as a separate line item.

SOUTHWEST MICROWAVE

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