

MODEL 316-33457

VOLUMETRIC STOP BAR CONTROL SENSOR



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

Southwest Microwave's Model 316-33457 Stop Bar Control Sensor can be combined with traditional aircraft stop bar safety systems to ensure the reliable, effective detection of aircraft or vehicle movement between taxiway and active runway. Operating in K-band frequency, this bi-static microwave link is engineered for applications where external radio frequency (RF) radiation is prevalent, offering enhanced RF interference (RFI) resistance not possible with X-band microwave links.

With antenna beam width of approximately 3.5° in the horizontal and vertical planes, the Model 316-33457 will operate at long ranges and within very narrow corridors to provide unmatched detection performance.

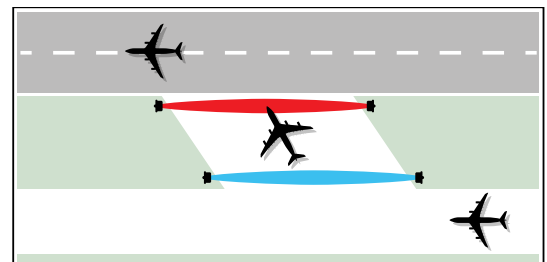
The Model 316-33457 features enhanced electromagnetic compatibility (EMC) circuitry that prevents electromagnetic interference (EMI) between the sensor's own energy signal and RF emissions from aircraft and airport radar control systems, microwave intrusion detection systems and other RF-based equipment. Additionally, Model 316-33457 features a unique RFI/EMI shielded radome for added protection against external RF radiation, making it an exceptional on-ground traffic solution.

Narrow band 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 316-33457 sensors to be used in tandem without mutual interference.

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.

KEY FEATURES

- 244 M (800 FT) RANGE
- K-BAND MULTIPATH DETECTION
- NARROW BEAM, LOW SIDELobe ANTENNAS
- CRYSTAL CONTROLLED TX/RX FOR NARROW BAND DETECTION
- SELF-CONTAINED ALIGNMENT CIRCUITS AND LED TROUBLESHOOTING INDICATORS
- 6-SWITCH SELECTABLE DETECTION CHANNELS
- ENHANCED REFLECTOR ANTENNA OPTION
- CE CERTIFIED



MODEL 316-33457 SPECIFICATIONS

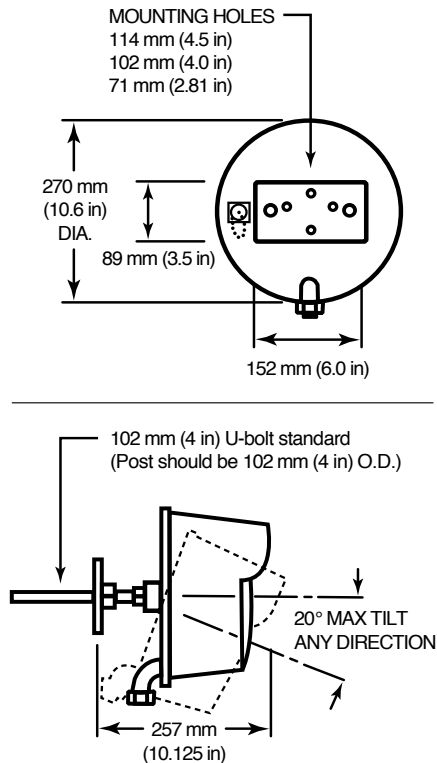
OPERATION

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 316-33457 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.

The surface mounted electronics and antenna of Model 316-33457 are mounted on a rugged metal base-plate and covered by a molded ABS radome. Swivel mount permits precise setup and provides firm lock against movement.

For detailed information on application, installation and adjustment, consult Model 316-33457 Technical Manual.

DIMENSIONS



Specifications subject to change without notice.

SPECIFICATIONS

Equipment Supplied: Model 316-33457T Transmitter, Model 316-33457R Receiver, universal swivel ball mounting brackets.

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 15 m/sec (0.1 ft/sec to 50 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 +66°C (-40°F to +150°F). 0-100% Relative Humidity.

DC Input: 11.0 VDC to 15 VDC at 130 mA (Tx), 58 mA (Rx).

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

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, sensitivity and power supply voltage monitored with RM83 Performance Test Set at receiver.

LED Indicators: Internally located LED's – Power On, Alarm.

Weight: 2.04 kg (4.5 lbs) each unit.

Shipping Weight: 8.2 kg (18 lbs) total.

Options:

MB65 Heavy Duty Mounting Bracket

RS15 Shielded Radome with Hydrophobic Coating

02A15483 - A01 Radome Latch Kit (Replaces screws).

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