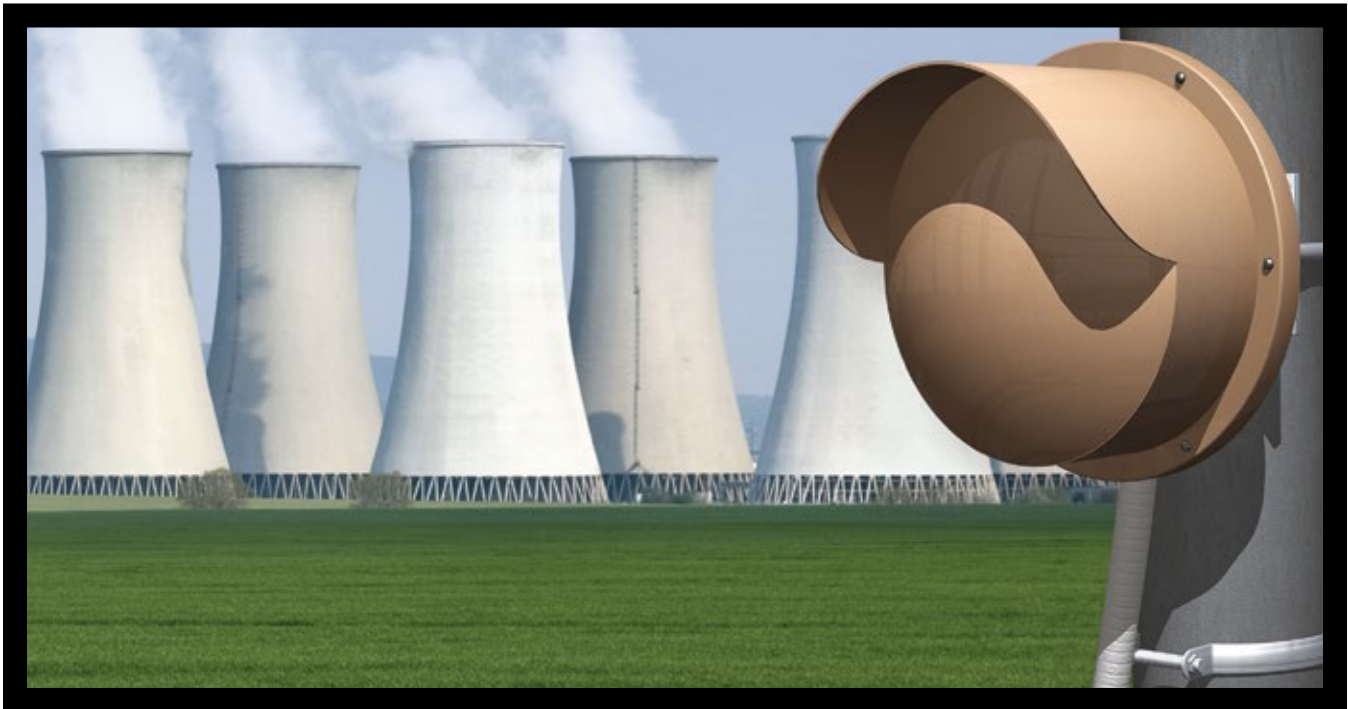


INTREPID™ Model 334-33465

HIGH-RELIABILITY DIGITAL MICROWAVE LINK



INTREPID™ Model 334-33465 is a high-security standalone volumetric perimeter sensor for maximum-security sites such as nuclear power plants, government laboratories and military installations. Combining Southwest Microwave's field proven detection performance with advanced embedded Digital Signal Processing (DSP) to successfully discriminate between intrusion attempts and environmental disturbances, this Hi-Reliability sensor mitigates risk of site compromise and prevents nuisance alarms.

Designed for maximum protection against physical tampering and harsh environmental conditions, Model 334-33465 features heavy-duty components and packaging, integrated radome tamper switches and optional steel enclosures for external wiring and connections. Advanced dual EMI/RFI shielding at radome and circuit board protect sensor electronics against external electromagnetic or radio frequency interference. Standalone configuration and on-board relay alarm outputs for monitoring deter the risk of hacking or other digital compromise faced by networked devices.

Model 334-33465 features 6 crystal-controlled, field-selectable modulation channels with narrow-band filtering to prevent interference between sensors. Units can be dual, triple or quad-stacked with Model 336-33464 K-Band Digital Microwave Links to fortify ultra-high security applications with risk of prone crawling or bridging attack.

Antenna beam width is approximately 11 degrees in the horizontal and vertical planes. A true parabolic antenna assures long range operation, superior beam control and predictable Fresnel zones. Advanced receiver design increases detection probability by alarming on partial or complete beam interruption, increase / decrease in signal level or jamming by other transmitters.

An extended burn-in cycle of 5 days at 125° F (52° C) and full temperature testing from -40° to +150° F (-40° to +66° C) maximize reliability. Testing documentation is recorded and retained on file at Southwest Microwave company headquarters.

KEY FEATURES

- RANGE: 183 M (600 FT)
- EMBEDDED DIGITAL SIGNAL PROCESSING FOR HIGH PD / LOW NAR
- SOFTWARE-CONTROLLED SETUP
- LOW POWER CONSUMPTION
- FRESNEL SUPPRESSION ALGORITHMS SUPPRESS OUTER FIELD DISTURBANCES
- SUPERIOR EMI / RFI SHIELDING AND SURGE PROTECTION
- EXTENDED BURN-IN AND TEMPERATURE TESTING
- RUGGEDIZED AGAINST MECHANICAL ABUSE AND CLIMATIC EXTREMES



INSTALLATION SERVICE TOOL (IST)

The INTREPID™ Model 334-33465 Installation Service Tool (IST) software graphically controls and monitors sensor status, control parameters and signal strength with laptop convenience at each module via optically-isolated, surge-protected USB-B connection. Unique configuration security provides notification upon changes to device settings, ensuring that only approved changes are implemented. Remote adjustment via RS422 or TCP/IP* connection is available.



Alignment Screen - Alignment Complete



Target Screen - Target Detection - Alarm

*Requires third-party serial device server (Ethernet converter).

PERFORMANCE FEATURES AND BENEFITS

- **DIGITAL SIGNAL PROCESSING (DSP)**
Proprietary embedded DSP algorithms recognize the unique profiles of intruders walking, running, jumping or crawling through the detection field.
- **FRESNEL SUPPRESSION ALGORITHMS**
Unique field-selectable algorithms limit outer field (Fresnel zones) disturbance detection, enhancing operation in challenging applications and reducing nuisance alarms.
- **RF PATH ALARM**
Provides an alert when the RF pattern is altered by foreign objects moved into the detection field.
- **RF SHIELDING AND SURGE PROTECTION**
EMI/RFI shielded radomes and sensor circuit boards protect against extreme sources of EMI and RFI and lightning-induced surges.
- **PARABOLIC DISH AND ANTENNA DESIGN**
Assures long range operation, superior beam control and predictable Fresnel zones for high probability of detection (Pd) and low nuisance alarm rates (NAR).
- **RUGGED CONSTRUCTION**
Heavy-duty industrial components, including metal base-plate / conduit fitting and molded ABS radome are highly resistant to mechanical abuse. 1 mm conformal-coated circuit board enables reliable operation in high humidity, corrosive atmospheres or harsh climactic extremes. A position-locking, corrosion-resistant mounting bracket reinforces against movement.
- **HI-REL PERFORMANCE**
Sensors undergo an extended burn-in cycle at 52° C (125° F) and are temperature tested from -40° to +66° C (-40° to +150° F). Testing documentation is recorded and retained on file at Southwest Microwave headquarters.

INTREPID™ Model 334-33465 SPECIFICATIONS

Equipment Supplied: Model 334-33465 Transmitter, Model 334-33465 Receiver, RFI / EMI Shielded Radomes (2), MB65 Heavy-Duty Universal Swivel Ball Mounting Brackets (2), Installation Service Tool (IST).

Range: 3 to 183 m (10 to 600 ft).

Target Size: 35 kg (77 lbs) human walking, running, hands and knees crawling or jumping. Prone crawling or rolling 35 kg (77 lbs) human, or simulated with a 30.5 cm diameter metal sphere, detected at maximum range of 122 m (400 ft) with flat terrain.

Target Velocity: 30 mm/sec to 15 m/sec (0.1 ft/sec to 50 ft/sec).

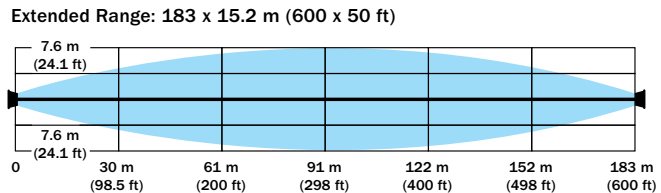
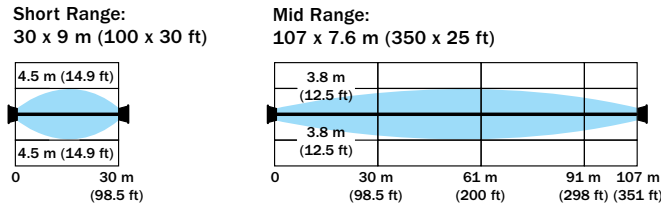
Probability of Detection: 0.99 minimum.

Automatic Range Adjustment: Link automatically adjusts to slow changes in path loss due to rain, snow, etc. AGC range -54 dB.

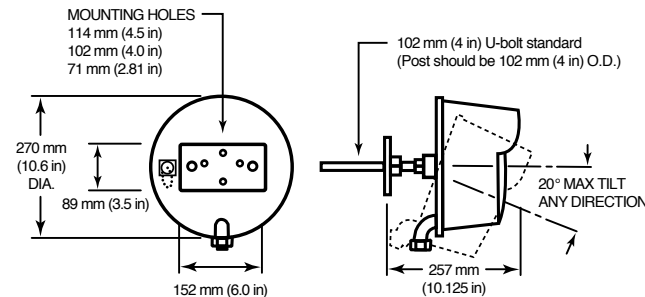
Pattern:

Model 334-33465 provides three detection patterns and ranges to 183 m (600 ft). The pattern width may be varied in the field by simply installing the proper antenna pattern element and adjusting receiver sensitivity. Protection pattern width may be varied from 0.3 m (1 ft) to 15.2 m (50 ft) wide. Pattern height varies in conjunction with pattern width.

Typical Horizontal Pattern (width):



Dimensions:



Frequency: X Band. 10.525 GHz (USA) conforms to F.C.C. Part 15.

Output Power: 10 mW peak, 5 mW average, square wave modulated.

Modulation Channels: 6, field selectable.

Polarization: Vertical (E) or Horizontal (H).

Path Alarm: Generated if RF power at Receiver is changed.

False Alarm Rate: 1/unit/year based on signal to noise ratio.

Operating Environment: -40° C to +66° C (-40° F to +150° F) 0-100% Relative Humidity.

Lightning Protection: Transorb discharge devices on all inputs and outputs, including power. ESD Rating of Class 3 (> 16 kV) per Human Body Model (HBM), Peak Power - 600 W @ 1.0 ms.

DC Input (Tx/Rx): 10.5-60 VDC

12 VDC: 21 mA / 80 mA

24 VDC: 13 mA / 43 mA

48 VDC: 11 mA / 29 mA

Communications Ports (for IST Configuration Only):

1 x Optically-isolated USB-B, 1 x RS422.

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

Path 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: Heavy-duty position-locking non-corrosive 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 LEDs – Power On and Switch Error at Transmitter. Power On, Channel Fault, Alarm, Jamming Signal, Switch Error and Comm Status at Receiver.

Weight / Shipping Weight: 2.04 kg (4.5 lb) per unit / 8.2 kg (18 lb) total.

Options:

02A15483-A01: Radome Latch Kit (replaces screws).

BX20 / BX35: NEMA 4X (SS) / NEMA 4 Weatherproof Enclosures. Consult factory for specific configuration details.

Ordering Info:

Model 334-33465

FC INTREPID™ is a trademark of Southwest Microwave, Inc. Specifications subject to change without notice.

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