



RADIO ENCRYPTOR Omnisec 205



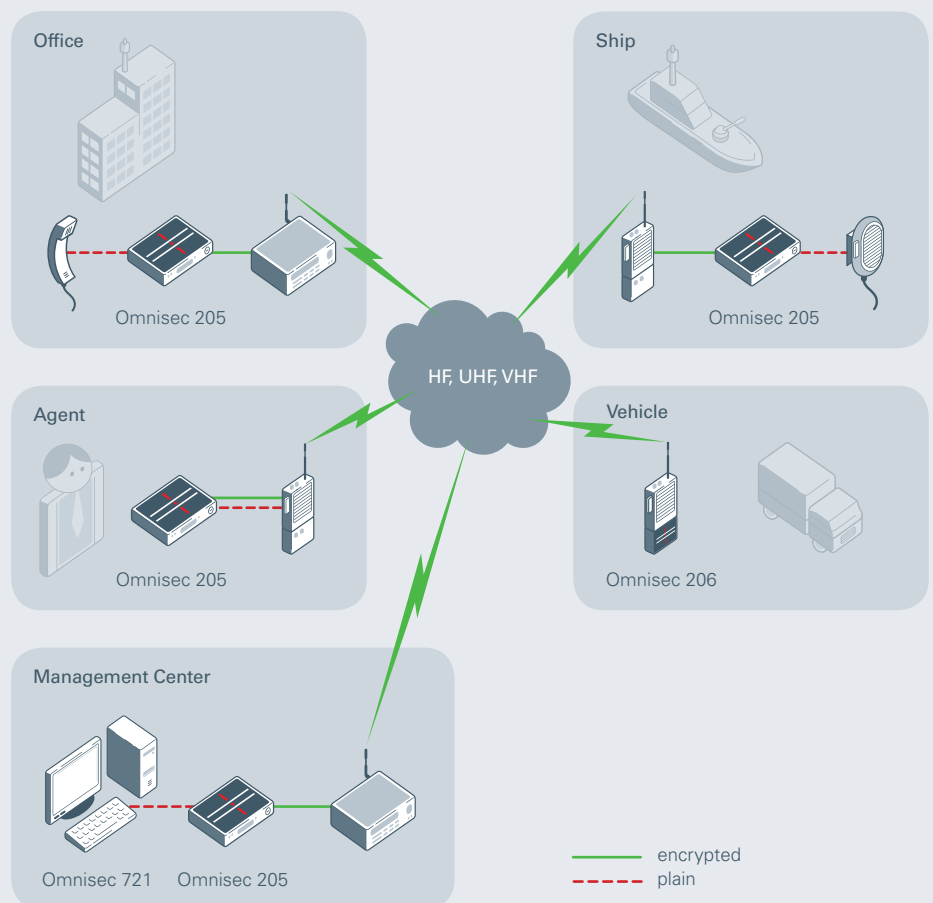
The Radio Encryptor Omnisec 205 exemplifies Omnisec as the world's leading supplier of maximum-security, high-quality (ISO 9001 approved) communication solutions.

Radio communication security is based on the security architecture **OmniCrypt™**, in which unique, short-lived Session Keys are generated from secret, long-lived Master Keys stored in the built-in **Security Module**. The Management Center facilitates the definition of user groups and allows over-the-air rekeying.

Customers are invited to assess and verify for themselves the implemented encryption procedures and algorithms.

The **Radio Encryptor Omnisec 205** provides highest-level security for radio communications by authenticating and encrypting voice and data transmissions. The Omnisec 205 can be connected between the handset and transceiver of almost any SSB-HF, AM-VHF, or FM-VHF/UHF radio. Its small size makes it the ideal encryption device for both personal handheld radio equipment and built-in mobile solutions, such as in vehicles or on ships.

The **Omnisec 205** is designed for mobility and flexibility, while at the same time enhancing an existing analog radio infrastructure with modern digital radio technology, offering superlative voice quality, extended range, unsurpassed confidentiality and ease of installation. A variety of user-friendly extras include a tool for reliable transmission of messages and files with the same unbreakable level of security as for voice communication.





Radio Encryptor Omnisec 205

Features of Release 2.4

Complies with security architecture OmniCrypt™

Encryption

- Proprietary highly-secure stream cipher
- Implementation of parameters for customer-specific encryption algorithms
- Very fast and robust synchronization with late-entry capability
- No error propagation
- Key length: 256 bits
- Key diversity: 10^{77}

Key Management

- Flexible definition of up to 16 user groups
- Remote over-the-air re-keying (OTAR)
- Remote key erasure function

Operational Features

- Adaptable to most popular analog radios, with no or only minor modifications
- Operation of the radio unchanged
- Highly-secure digital voice and text transmission over conventional analog radios
- Allows immediate use; no pause required at the beginning of a message
- Excellent voice quality even in the presence of strong interference
- Coverage area as large or under certain conditions even larger than without encryption
- Firmware updatable

Radio Requirements

The Omnisec 205 can be deployed with almost any analog radio. Only a few points need to be observed:

- Radio channel bandwidth min. 2250 Hz
- Adequate signal-to-noise ratio
- Transmission channel should be linear in amplitude and frequency
- Connector for microphone with push-to-talk (PTT) key of either polarity
- Radio should provide 4...16 VDC for the Omnisec 205

Management Tools

- Management Center Omnisec 721
- Omnisec 205 Configuration Tool
- Omnisec 205 Remote Operation Tool
- Designed to run on Windows 7, Vista, XP

Technical Data

Supported Radios

- HF/SSB radios
- VHF/UHF radios
- FM/PM radios with channel spacing of 12.5 kHz, 20 kHz, 25 kHz, 50 kHz

Type of Modulation

- C-OFDM (coded OFDM)

Coding and Decoding

- Coding: proprietary signal code construction
- Decoding: maximum-likelihood
- Forward error correction: outer coding with Reed-Solomon and interleaving
- Error detection: CRC algorithm

Voice Compression

- AMBE (Advanced Multi-Band Excitation)
- Vocoder rate: 2 kbit/s

Power

- Directly from radio equipment (4...16 VDC)

Electromagnetic Compatibility (EMC)

- Radiation: EN 55022 class B
- Immunity: EN 55024
- Various: EN 61000 class B

Environmental Test Specifications

- Temperature range (MIL-STD-202F, 1986): storage $-25 \dots +70 \text{ }^\circ\text{C}$, operation $0 \dots 55 \text{ }^\circ\text{C}$
- Humidity (method 103B, A): $40 \text{ }^\circ\text{C}$, 93% RH, non-condensing, 10 days; 8 days in operation
- Sinusoidal vibration (method 204D, B): $10 \dots 2000 \text{ Hz}$, 2 g

- Shock (MIL-STD-202F, method 213B, A): 50 g, 11 ms
- Fall (method 516.4 proc. IV; F, method 516.5, proc IV): 0.8 m on concrete
- RoHS compliant

Reliability

- MTBF (MIL-STD-217F, Notice 2, at $t_{amb} = 20 \text{ }^\circ\text{C}$): $>50 \text{ 000 h}$

Dimensions

- w x h x d: 85 x 35 x 130 mm
- Weight: 0.235 kg

We strive to continuously improve our offerings and therefore reserve the right to change specifications without notice.