zenitel

DATASHEET

1000639

MOTOTRBO R7Ex UHF FKP

R7 Ex UHF radio with full keypad and display



- ATEX and IECEx certified
- Full keypad and display
- AI-trained noise cancellation
- Loud audio up to 108 phons with Volume Boost
- Dedicated emergency button, Lone Worker and Fall Alert
- Built-in GNSS and Bluetooth
- IP66 and IP68 dust and water protection

MED Certification Radio UHF/VHF IP66 Atex HD Voice

Active Noise Cancelling

Description

The MOTOTRBO R7 Ex UHF FKP is an intrinsically safe digital portable two-way radio with a full keypad and display. ATEX and IECEx certification supports communication in potentially explosive environments, while advanced noise cancellation and powerful audio help users hear and be heard in demanding maritime and offshore operations.

MOTOTRBO R7Ex UHF FKP

The MOTOTRBO R7 Ex UHF FKP combines clear voice communication with controls designed for use in challenging working conditions. Its full keypad and display provide access to messaging and radio functions, while large push-to-talk and emergency buttons make operation easier when wearing gloves.

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AI-trained noise cancellation reduces background noise, and a 2.5 W speaker delivers audio up to 108 phons with Volume Boost. Intelligent Audio adjusts the speaker output to surrounding noise levels, while automatic acoustic feedback suppression helps prevent feedback between nearby radios.

A dedicated emergency button, Lone Worker and Fall Alert functions support personnel safety. Built-in GNSS and Bluetooth support location applications to help locate personnel when assistance is needed.

Rated IP66 and IP68 and tested to MIL-STD-810, the R7 Ex is built to withstand dust, water and demanding daily use. Over-the-air programming through DMR or Wi-Fi simplifies radio management, and a range of compatible ATEX-certified accessories allows the radio to be configured for different working environments.

Model note: This is the full-keypad version of the MOTOTRBO R7 Ex, with a display for accessing messages and radio information.

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Specifications

General Specifications

GENERAL SPECIFICATIONS

Frequency Range	400–470 MHz
Display	1.7″ colour display, 132 × 90 px, with 5 lines of text
Channel Spacing	12.5 / 20 / 25 kHz
Channel Capacity	1000
Dimensions (H × W × D)	140 × 57 × 40 mm
Weight	438 g including battery, excluding antenna
Battery	2150 mAh Li-ion, IP68 (PMNN4848)
Digital / Analogue Battery Life	23.5 / 20.5 hours*
Connectivity	Bluetooth 5.2, Wi-Fi 2.4/5 GHz
Location Tracking	GNSS: GPS, GLONASS, BeiDou, Galileo

Transmitter Specifications

TRANSMITTER SPECIFICATIONS

RF Power Output	2 W / 1 W
Digital Protocol	ETSI TS 102 361-1, -2, -3, -4; DMR Tier II and Tier III
Frequency Stability	±0.5 ppm

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Receiver Specifications

RECEIVER SPECIFICATIONS

Analogue Sensitivity (12 dB SINAD)	0.16 µV typical; 0.21 µV maximum
Digital Sensitivity (5% BER)	0.14 µV typical; 0.18 µV maximum
Spurious Rejection (TIA603E)	>70 dB

Audio Specifications

AUDIO SPECIFICATIONS

Audio Output Power (Rated / Maximum)	0.5 W / 2.5 W
Audio Distortion at Rated Audio	≤1.5%
Maximum Speech Loudness by Default	101 phons at 30 cm
Maximum Programmable Speech Loudness	108 phons at 30 cm
Noise Suppression	AI-trained noise suppression and single microphone noise cancellation (SINC+)

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Environmental Specifications

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	–30 °C to +60 °C
Storage Temperature	-40 °C to 85 °C
Thermal Shock	Per MIL-STD-810C/D/E/F/G/H
Humidity	Per MIL-STD-810C/D/E/F/G/H
Electrostatic Discharge	IEC 61000-4-2 Level 4
Dust and Water Intrusion	IP66 and IP68; submersion to 2 m for 2 hours
Salt Fog	5% NaCl for 8 hours at 35 °C, followed by 16 hours standing

Certifications

CERTIFICATIONS

ATEX Gas Rating	II 2G Ex ib IIC T4 Gb
IECEx Gas Rating	Ex ib IIC T4 Gb
ATEX Dust Rating	II 2D Ex ib IIIC T130°C Db
IECEx Dust Rating	Ex ib IIIC T130°C Db
Maritime Certification	EU MED/5.20; UK/5.20

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