

TITAN RADIO TR7XN-IS

INTRINSICALLY SAFE DMR PORTABLE RADIO (UL913 CERTIFIED)

DATASHEET: TR-DS-7XN-UHF
FREQUENCY: 350–470 MHz
POWER: 1W / 4W UHF

Product Summary: The Titan Radio TR7XN-IS is an ultra-rugged, intrinsically safe DMR Tier II & Tier III professional two-way radio engineered for high-risk industrial environments such as refineries, chemical processing plants, offshore platforms, and hazardous grain handling. Featuring a discrete top-mounted **One-Line OLED Display**, integrated **GNSS (GPS)**, wireless **Bluetooth 5.0 (BT)**, and an autonomous **Man Down (MD)** tilt sensor, it guarantees reliable mission-critical voice and personnel safety compliance.

FREQUENCY COVERAGE 350–470 MHz (Wide)	RF OUTPUT POWER 1W / 4W Selectable	INTRINSICALLY SAFE UL913 / TIA-4950
ENVIRONMENTAL RATING IP68 (2m / 4h Submersion)	DISPLAY & INTERFACE 0.91" OLED Top Screen	WORKER PROTECTION Man Down & Lone Worker

⚠ **HAZARDOUS LOCATION CLASSIFICATIONS (UL 913 5th Ed. / ANSI/TIA-4950)**
Certified Intrinsically Safe for use in: **Class I, II, III, Division 1, Groups C, D, E, F, G, T4 (-30°C to +60°C)** and **Class I, Division 2, Groups A, B, C, D, T4**. Certified with approved Titan Intrinsically Safe Li-ion power packs only.

GENERAL & TECHNICAL SPECIFICATIONS

ETSI TS 102 361-1, -2, -3 Compliant

Standard Antenna Band	400–470 MHz helical whip (tuned 50 Ω female connector)
Channel Capacity & Zones	1,024 Channels / 64 Zones (up to 16 channels per zone group)
Channel Spacing	12.5 kHz / 20 kHz / 25 kHz analog; 12.5 kHz 2-slot TDMA DMR
Battery Duty Cycle (5-5-90)	Digital: 24–28 hours (GPS on) / Analog: 18 hours (2400 mAh IS pack)
Operating Voltage	7.4 V DC nominal (IS-rated regulation circuitry)
Dimensions (H × W × D)	132 mm × 55 mm × 36.5 mm (5.2" × 2.16" × 1.43") excl. antenna
Weight	369 g (13.0 oz) with standard battery and antenna attached
Digital Vocoder Type	AMBE+2™ with enhanced digital acoustic noise suppressor (30 dB)
Audio Output Power	1.5W internal speaker / 2.0W maximum peak audio drive
Location Tracking (GPS)	Integrated GNSS (GPS + GLONASS), TTFF <35s (Cold), <1s (Hot)

Transmitter (TX) Specifications		Receiver (RX) Specifications	
RF Power	Low: 1W / High: 4W	Analog Sensitivity	0.22 μV (12 dB SINAD)
Frequency Stability	±0.5 ppm (-30°C to +60°C)	Digital Sensitivity	0.20 μV / BER 5%
FM Modulation	11K0F3E @ 12.5kHz / 16K0F3E @ 25kHz	Intermodulation	TIA603: 70 dB / ETSI: 65 dB
4FSK Digital Mod.	7K60FXD (Data) / 7K60FXE (Voice)	Adjacent Ch. Sel.	60 dB @ 12.5 kHz / 70 dB @ 25 kHz
Conducted Spurious	-36 dBm < 1 GHz; -30 dBm > 1 GHz	Spurious Rejection	70 dB (TIA603 & ETSI)
Adjacent Channel	60 dB @ 12.5 kHz / 70 dB @ 25 kHz	Blocking & Hum	84 dB Blocking; -40 dB Hum (12.5kHz)
Audio Distortion	≤ 3% (typical nominal)	Audio Distortion	≤ 3% @ rated audio output

WORKER SAFETY & MISSION-CRITICAL FEATURES

Man Down & Lone Worker Protection - Integrated 3-axis accelerometer automatically triggers emergency beacon upon horizontal tilt or loss of motion. - Lone Worker check-in timer with audible pre-warning alert tone. - Dedicated raised high-visibility emergency panic top button.	Top Status Display & Wireless Link - Top-facing 0.91" OLED line: Instant view of channel name, zone, RSSI, and battery without detaching from chest harness. - Integrated Bluetooth 5.0 (BLE & Audio) for certified IS wireless headsets, covert earpieces, and wireless PTT rings. - ARC4 40-bit standard encryption (AES-128 / AES-256 optional).
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ORDERING INFORMATION & COMPATIBLE IS ACCESSORIES

Part Number	Description	Certifications & Key Specs
TR7XN-IS-UHF	Titan Radio Portable, Non-Disp, MD, GPS, BT	UL913, IP68, 350–470 MHz, 1-4W, Top OLED
TB-7X-IS-LI	2400 mAh Li-ion Rechargeable Battery Pack	Intrinsically Safe (UL913 Cl I, II, III Div 1)
ANT-U-400470	Standard Helical Whip Antenna (400–470 MHz)	High-flex impact rubber jacket, 50 Ω
RSM-7X-IS	IP68 Noise-Cancelling Remote Speaker Mic	UL913 certified, emergency orange button
TC-7X-SGL	Single-Bay Rapid Desktop Intelligent Charger	100–240V AC Auto-Sensing wall adapter