



Intrinsically Safe Digital Portable Radio

PD792i-Ex

- ATEX / IECEx / FM / CSA / CQST IIC Certificated
- Designed for Hazardous Working Environments



PD792i-Ex

Two-way radios have been a productivity tool for many professionals. For those who work in environments with explosive gas and combustible dusts using standard radios could be unsafe.

We understand what the challenges are for professionals working in hazardous environments. Dedicated to the designing and delivering of innovative intrinsically safe communications solutions, We launched PD792i-Ex, a portable DMR radio that complies with the world's strictest safety standards.

Applications

Oil & Gas

Utilities

Mining

Manufacturing

Firefighters

Refineries

Pharmaceutical



Product Features

- **Environmentally Safe and High Reliability**

The PD792i-Ex is designed upon the strict requirements of European ATEX and North American FM standards. With certifications for ATEX, IECEx, the latest FM and CSA specifications, the radio works safely in most hazardous environments, even with the presence of hydrogen and dust particles. The overall design complies with the latest American Military Standard-MIL-STD-810G, which means it can bear the harshest environments like High/Low Temperature, High Humidity, Vibration, and Shock.

- **Enhanced Safety**

The PD792i-Ex provides a dedicated emergency button. In case of any accident, a press on the button will trigger an alarm and initiate a pre-programmed voice call. Built-in Man-down, GPS and Lone Worker functions are also available with the digital portable.

- **High-capacity and Safe Li-Ion Battery**

The PD792i-Ex has a high-capacity Li-Ion battery of 1800mAh with long shelf life of 17 hours under 5-5-90 duty cycle. The battery charging and discharging circuits are stringently designed to prevent overcharging or discharging causing high heat, which leads to unstable battery environments. In addition the battery cells are also encapsulated to redistribute single point heat buildup and also prevent air discharge.

- **High Audio Quality and Assured Communication Based on DMR Technology**

Benefited from the advantages of DMR digital technology, PD792i-Ex provides higher audio quality and stable communication performance with 40% less battery consumption than analog radios. It provides better communication quality and enhanced privacy, and moreover reduces overall equipment costs.

- **Easy to Use**

The PD792i-Ex is very easy to use. It has a tough and highly readable LCD screen and an intuitive user interface. The large PPT button and channel knobs are useful for users wearing gloves. The ergonomic design and channel annunciation enhance the user experience.

- **GPS Positioning**

The built-in GPS module in the PD792i-Ex supports GIS applications.

- **Improved PCB Circuit Layout & EMC Shielding**

To achieve such a high safety standard, Hytera PD792i-Ex adopts optimized distributed line design on PCB, minimizing the odds of circuit fault. All the key components on the PCB are covered with shield, and the space between lines, between components, between component and shield are properly separated which translates to better EMC performance and less internal interference.



- **Innovative Silicone Encapsulating**

Silicone encapsulant technology prevents the internal circuits from interface with air and liquid which effectively stops the intrusion of liquid, dust and harmful gas. The silicone encapsulating process is delicate and complicated. As a result, every single PD792i-Ex radio spends eight hours in the manufacture line.

- **Innovative Electrostatic Free Design**

Hytera applies patent on electrostatic free design and dual-material molding technology in this intrinsically safe portable. The static dispersive material (blue) minimizes static accumulation on the surface, thus reducing the probability of static discharge on the radio. Meanwhile the robust material (black) maximizes the ruggedness of the enclosure.

- **IP67 Protection**

The Ingress Protection reaches IP67 (6: Totally protected against dust; 7: Protected against the effects of immersion up to 1m for 30 minutes). It's the highest IP level for land-based wireless radio application.



- **Patent Battery Latch**

To disengage the battery from Hytera digital portables, the lock and bolt of the latch need to be moved along two different axes. Such a patented design ensures no disengagement of the battery pack from the main radio in case of dropping that might cause spark.



Accessories

Included

- Li-Ion Battery
- MCU Rapid-rate Charger
- Power Adapter
- Antenna
- Belt Clip
- Leather Strap

See website for full list

Optional



Intrinsically Safe Remote
Speaker Microphone (IP67)
SM18N4-Ex



Carrying Case with
(Leather)(Swivel)
LCY005



Programming Cable
(USB Port) PC38



Ex earset with
On-Mic PTT
EHN12-Ex

Specifications

General	Frequency Range		VHF: 136 - 174MHz UHF1: 400 - 470MHz
	Channel Capacity		1024
	Zone Capacity		64 (each with maximum of 16 channels)
	Channel Spacing		12.5 / 20 / 25KHz
	Operating Voltage		7.4V (rated)
	Battery		1800mAh (Li-Ion)
	Battery Life (5-5-90 Duty Cycle, High TX Power) High-capacity 1800mAh Li-Ion Battery	Analog	Approx. 14.5hrs
		Digital	Approx. 17hrs
	Frequency Stability		±1.5ppm
	Antenna Impedance		50 Ω
	Dimensions (with standard battery w/o antenna) (HxWxD)		5.55 x 2.16 x 1.53 inches
	Weight (with standard battery and antenna)		1.1 lbs
	LCD Display		160 x 128 Pixels, 65,536 Color, 1.8 inches, 4 rows
	Anti-explosion levels	ATEX	II 2G Ex ib IIC T4 ; II 2D Ex ib IIIC T248°F IP5X ; I M2 Ex ib

Environmental Specifications	Operating Temperature		-4°F ~ +122°F
	Storage Temperature		-40°F ~ +185°F
	ESD		IEC 61000 - 4 - 2 (level 4) ±8kV(contact) ±15kV (air)
	American Military Standard		MIL-STD-810 C/D/E/F/G
	Dust & Water Intrusion		IP67 Standard (non-explosive-proof)
	Humidity		Per MIL-STD-810 C/D/E/F/G Standard
	Shock & Vibration		Per MIL-STD-810 C/D/E/F/G Standard

GPS	TTFF (Time To First Fix) Cold Start		<1 minute
	TTFF (Time To First Fix) Hot Start		<10 seconds
	Horizontal Accuracy		<10 meters



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Transmitter	RF Power Output		1W (adjustable)
	FM Modulation		11K φF3E @ 12.5KHz; 14KφF3E @ 20KHz; 16KφF3E @ 25KHz
	4FSK Digital Modulation		12.5KHz Data Only: 7K6φFXD 12.5KHz Data & Voice: 7K6φFXW
	Conducted/Radiated Emission		-36dBm<1GHz -30dBm>1GHz
	Modulation Limiting		±2.5KHz @ 12.5KHz; ±4.0KHz @ 20KHz; ±5.0KHz @ 25KHz
	FM Hum & Noise		40dB @ 12.5KHz; 43dB @ 20KHz; 45dB @ 25KHz
	Adjacent Channel Power		60dB @ 12.5KHz 70dB @ 20/25KHz
	Audio Response		+1 ~ -3dB
	Audio Distortion		≤ 3%
	Digital Vocoder Type		AMBE+2™

Receiver	Sensitivity	Analog	0.3 μ V (12dB SINAD) ; 0.22 μ V (typical) (12dB SINAD); 0.4 μ V (20dB SINAD)
		Digital	0.3 μ V/BER5%
	Selectivity TIA-603 ETSI		60dB @ 12.5KHz / 70dB @ 20/25KHz 60dB @ 12.5KHz / 70dB @ 20/25KHz
	Intermodulation TIA-603 ETSI		70dB @ 12.5/20/25KHz 65dB @ 12.5/20/25KHz
	Spurious Response Rejection TIA-603 ETSI		80dB @ 12.5/20/25KHz 84dB @ 12.5/20/25KHz
	Hum & Noise		40dB @ 12.5KHz; 43dB @ 20KHz; 45dB @ 25KHz
	Rated Audio Power Output		0.5W

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