

# PD98X UL913

Intrinsically Safe Powerful Digital Radio  
UL/TIA4950 Certified explosion-proof DMR Portable  
Tow-way Radio





## PD98X UL913

As the most compacted explosion-proof digital two-way radio Today, safety is the most important thing we are asking for in every aspect of life and work. Hytera understands the challenges in hazardous environments and is dedicated to designing and developing safer radios for more and more customers. Hytera believes it is rather urgent to provide an intrinsic safety radio to commercial market. Build a radio with the classic housing to provide a small and light product. Design a radio to pass UL913 certification for most dangerous areas with explosive gas and combustible dusts. Introduce a cost-effective radio with much more features for enterprises and commercial users.

## Target market

Oil & Gas, Refinery, Chemical Industry, Fire Fighting



PD98X UL913 in this document are intrinsically safe, they are different from the conventional types.

# UL913/TIA4950 Certificate



**Atmosphere**  
 Class I: Gas, vapors;  
 Class II: Dust;  
 Class III: Fibers, flyings

**Gas types by group:**  
 A: Acetylene B: Hydrogen  
 C: Ethylene and related products  
 D: Propane and alcohol products

**Dust types by group**  
 E: Metal dust  
 F: Coal dust  
 G: Grain and non-metallic dust

**Class III DIV 1 Group C-G T4**

**Area classification: (flammable material present time)**  
 NEC 500  
 Division 1: gas / dust normally present in explosive amounts  
 Division 2: gas / dust not normally present in explosive amounts

**Temperature class (maximum device surface temperature):**

T1: 450°C	T3A: 180°C	T4: 135°C
T2: 300°C	T3B: 165°C	T5: 100°C
T3: 200°C	T3C: 160°C	T6: 85°C



Bluetooth 4.0



Micro SD Card



Single Frequency Repeater Mode



Full Duplex Call



RTC Clock



Smart Battery

## PD98X UL913 Highlight

# Brand New Features

## 01

### Micro SD Card

Based on micro SD storage technology, PD98X UL913 helps customer to record and store critical voice call or data.

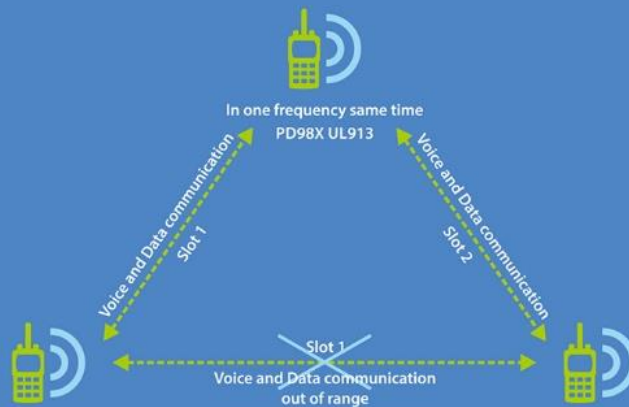
PD98X UL913 supports maximum 32G micro SD card, to record up to 576 hours digital/ analog voice.



## 02

### Single Frequency Repeater Mode

Based on Interference cancellation technique, PD98X UL913 can use one slot to receive signal and another slot to transmit it in the same frequency at the same time in DMO mode to extend communication distance.



## 03

### Bluetooth 4.0

PD98X UL913 has built in Bluetooth 4.0, which not only supports audio transmission, but also allows data transmission, such as programming via Bluetooth etc.

## 04

### Full Duplex Call

PD98X UL913 can make full duplex call with PD98X UL913, telephone or cell phone.

## 05

### RTC Clock

RTC clock feature allows customers to check the accurate time of received message and call.

## 06

### Smart Battery

PD98X UL913 support smart battery, which makes it easier to monitor the battery status, such as battery life time and remaining charge time by smart battery charge. This also reduces the charging time dramatically.

# Specifications

General	Frequency Range	UHF:350-527MHz VHF:136-174MHz		
	Channel Capacity	1024		
	Zone Capacity	64 (maximum of 256 channels per zone)		
	Channel Spacing	12.5kHz / 20kHz / 25kHz		
	Operating Voltage	7.4V (rated)		
	Battery	2400mAh (Li-ion Anti-fake or Smart Battery)		
	Battery Life (5-5-90 Duty Cycle, High TX Power)	Digital: 21 Hours @2400mAh	Analog: 16.5 Hours @2400mAh	
	Frequency Stability	±0.5ppm		
	Antenna Impedance	50Ω		
	Dimensions (H × W × D) (with standard battery, without antenna)	131 × 54.5 × 42 mm (2400mAh)		
	Weight (with antenna & standard battery)	350g (2000mAh), 361g (2500mAh), 366g (3000mAh)		
	LCD Display	160 × 128 pixels, 65536 colors 1.8 inch, 6rows		
	Receiver	Sensitivity	Analog	0.22μV (12dB SIN AD), 0.22μV (Typical) (12dB SIN AD) 0.4μV (20dB SIN AD)
Digital			0.22μV /BER5%	
Selectivity TIA-603 ETSI		60dB @ 12.5kHz / 70dB @ 20/25kHz (TIA-603) 60dB @ 12.5kHz / 70dB @ 20/25kHz (ETSI)		
Spurious Response Rejection TIA-603 ETSI		70dB @ 12.5/20/25kHz (TIA-603) 70dB @ 12.5/20/25kHz (ETSI)		
Hum and Noise		40dB @ 12.5kHz; 43dB @ 20kHz; 45dB @ 25kHz		
Rated Audio Power Output		0.5W		
Rated Audio Distortion		≤3%		
Audio Response		+1 ~ -3dB		
Conducted Spurious Emission		<-57dBm		
Transmitter		RF Power Output	UHF High Power: 4W; UHF Low Power: 1W VHF High Power: 5W; VHF Low Power: 1W	
	FM Modulation	11K0F3E @ 12.5kHz 14K0F3E @ 20kHz 16K0F3E @ 25kHz		
	4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD 12.5kHz Data & Voice: 7K60FXW		
	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++ or SELPor NVOOC		
	Digital Protocol	ETSI-TS102 361-1,-2,-3		
Environmental Specifications	Operating Temperature	-30°C ~ +55°C		
	Storage Temperature	-40°C ~ +85°C		
	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	IP68 Standard		
	Humidity	Per MIL-STD-810 C/D/E/F/G Standard		
	Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard		
	GPS	Accuracy specs are for long-term tracking(95th percentile values)>5 satellites visible at a nominal -130dBm signal strength)		
		TTFF (Time To First Fix) Cold Start	<1 minute	
		TTFF (Time To First Fix) Hot Start	<10 seconds	
Horizontal Accuracy		<5 meters		

# Optional Accessories



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