



**EXCERA**

Innovate to Succeed

# EP8100 Ex

UL913 UL Certified Intrinsically Safe  
Digital Portable Radio





## EP8100 Ex UL913

The EP8100 Ex UL913 is specially designed for those who work in environments with explosive gas and combustible dusts, where using regular radios could be unsafe. A portable Intrinsically safe DMR radio EP8100 Ex UL913 carries with ergonomic and rugged design, easy to use, long battery life and UL913-rated for safety. The EP8100 Ex UL913 enable your workers to communicate safely and efficiently even in hazardous environments.

## Applications

Petrochemical industry, firefighting, flour milling warehousing, oil tanker warehouse, machining, mining.



# Product Introduction

## Gas and Dust Explosion-Proof

EP8100 Ex Series UL913 intrinsically safe digital portable radio is designed based on UL913 5<sup>th</sup> edition. It works safely in environments which contain explosive gas and combustible dust, and can tolerate harshest environment with reliable and outstanding performance.

## Rugged & Reliable

Complies with MIL-STD-810 C/D/E/F/G standards. The Ingress Protection reaches IP68.

## DMR Tier II and DMR Tier III Support

It supports to be upgraded to DMR Tier III by software license.

## Large Size HD Transflective TFT LCD Display

Be the first to adopt 2.0 inch HD transflective TFT LCD display, clearly visible even under strong sunshine.

## 3400mAh Large Capacity Explosive-Proof Battery

Equipped with 3400mAh large capacity explosive-proof lithium battery to ensure longer continuous communication and decrease times of charging and changing battery.

## Clear and Loud Speaking Voice

The radio is featured with advanced noise reduction chip which ensures clear and loud voice even in noisy environment.

## Built-in Bluetooth and GPS

Equipped with Bluetooth and GPS inside radio, ensuring the expanding applications such as BT accessories, BT wireless programming and other applications, and supporting to track position information and GPS data.

## Full-duplex Calling (Licensed)

Full duplex calling allows for natural and intuitive communications without to push-to-talk.

## Single Frequency Repeater (Licensed)

Based on interference cancellation technique, EP8100Ex 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.

# Accessories

## Included

- Li-Ion Battery (IS rated)
- MCU Rapid-rate Charger
- Power Adapter
- Antenna
- Belt Clip

See website for full list

## Optional



Intrinsically Safe Noise Reduction  
Remote Speaker Microphone  
EMRN09FEX



Programming Cable  
EPC01



Leather Case  
ELBY01



Multi-unit Charger  
EMC702L

# Specifications

## General

Frequency Bands	VHF: 136-174MHz UHF1: 400-470MHz UHF2: 450-520MHz UHF3: 350-400MHz UHF4: 300-360MHz UHF5: 806-825MHz 851-870MHz 896-902MHz 935-941MHz
Channel Capacity	1024
Channel Space	12.5/20/25KHz
Dimensions(H*W*D)	125*54*39mm
Weight	343g (With standard battery and antenna)
LCD	2.0 inch transfective TFT LCD 240x320 pixels, 262K colors
Operating Voltage	DC 7.2V
Battery	3400mAh(Li-ion, Panasonic cell)
Battery Life (5-5-90 Duty Cycle, High TX Power) (Range of hrs depends on Frequency and GPS)	Analog: Approx. 13 - 15hrs Digital: Approx. 15 - 17hrs

## UL913

Atmosphere	Class I II III	Class I - Gas, vapors ; Class II - Dust ; Class III-Fibers, Flyings
Area Classification (Flammable material present time)	DIV 1	Division 1: Gas/Dust normally present in explosive amounts
Gas Types by Group:	Group C	C- Ethylene and related products
Dust Types by Group:	Group G	G - Grain and non-metallic dust
Operating Temperature	-30 to 55	-22 to 131 C
Temperature Class (Maximum device surface temperature)	T4	T4-275 C

## Reliability

Operating Temperature	-30 ~ +60 C
Storage Temperature	-40 ~ +85 C
Dust & Water Intrusion	IP68 (IEC60529)
Humidity	MIL-STD-810 C/D/E/F/G Standard
Shock&Vibration	MIL-STD-810 C/D/E/F/G Standard
ESD	IEC 61000-4-2(level 4) ±8KV(Contact) , ±15KV(Air)

## GPS&GLONASS

TIFF Cold Start	60s
TIFF Hot Start	10s
Horizontal Positioning Accuracy	10m

## Transmitter

Frequency Stability	0.5ppm
RF Power Output	VHF: 5W/1W UHF1/UHF2/UHF3/UHF4: 4W/1W UHF5: 2.5W/1W
Digital Modulation	7K60FXD (Data Only) 7K60FXW (Data and Voice)
Analog Modulation	16K ∅ F3E @ 25KHz /14K ∅ F3E @ 20KHz /11K ∅ F3E @ 12.5KHz
4FSK Modulation Accuracy	5%
4FSK TX BER	0%
4FSK and Magnitude Error	5% / 1%
Adjacent Channel Power	70dB @ 25/20 KHz / 60dB @ 12.5 KHz
Conducted and Radiated Emission	-36dBm <1GHz / -30dBm >1GHz
Transmission Deviation limits	5KHz@25KHz / 4KHz@20KHz /2.5KHz@12.5KHz
Audio Distortion	3%
Hum and Noise	48dB @ 25KHz / 46dB@20KHz / 43dB @ 12.5KHz
Audio Response	+1 ~ -3dB

## Receiver

Digital Sensitivity	-120dBm / BER 5% -116dBm / BER 1%
Digital Dynamic Faded Sensitivity (100KM/H& 8KM/H Rayleigh Fading)	-104dBm
Analog Sensitivity	-120dBm / 12dB SINAD
Intermodulation	70dB (TIA603) 65dB (ETSI)
Blocking	90dB (TIA603 & ETSI)
Spurious Response Rejection	75dB (TIA603 & ETSI)
Adjacent Channel Selectivity	75dB@25 KHz (TIA603) 70dB@25 KHz (ETSI) 70dB@20KHz (TIA603 & ETSI) 65dB@12.5KHz (TIA603) 60dB@12.5 KHz (ETSI)
Conducted Spurious Emission	-57dBm
Rated Audio Power Output	1W
Rated Audio Distortion	3%
Hum and Noise	48dB @25KHz / 46dB@20KHz / 43dB@12.5KHz
Audio Response	+1 ~ -3dB
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361 -1, -2,-3,-4



SHENZHEN EXCERA TECHNOLOGY CO.,LTD.

www.excera.com.cn