

# MOTOTRBO™ DP4000 Ex SERIES ATEX PORTABLE RADIOS

**KEEPING YOU SAFER IN THE  
TOUGHEST ENVIRONMENTS**



# MOTOTRBO ATEX SOLUTIONS: THE PROFESSIONAL CHOICE FOR HAZARDOUS AREAS

Threats from explosive gas, combustible dust or chemical vapours, from an oil rig to an underground mine, your workers confront them daily. Safe, reliable communication is absolutely critical in such dangerous environments. That's where the power and performance of MOTOTRBO digital radios stand out.

The MOTOTRBO DP4000 Ex Series combines the best of two-way radio functionality with the latest digital technology. It integrates voice and data seamlessly, offers enhanced features that are easy to use, and delivers increased capacity to efficiently connect all your crews. With exceptional voice quality, long battery life and ATEX-rated for safety, the radios keep your workers connected safely and productively, wherever the job takes them.



DP4401 Ex  
(Non-Display)

DP4801 Ex  
(Display)

DP4401 Ex Ma  
(Non-Display)

DP4801 Ex Ma  
(Display)

## COMMUNICATE CLEARLY IN DIFFICULT CONDITIONS

### DP4000 Ex SERIES

These high-performing portables have the highest ATEX gas explosion group rating. Ideal for hazardous work with loud noise, long shifts, rough weather and dangerous conditions including combustible dust, explosive chemicals, gas leaks, flammable hydrocarbons and more.

**DP4401 Ex** - Rugged, easy to use, non-display model for hazardous open environments

**DP4801 Ex** - Adds a full keypad and large colour display for access to advanced features like texting and caller ID

**DP4401 Ex Ma** - Rugged, easy to use, non-display model for underground mining environments.

**DP4801 Ex Ma** - Full keypad, colour screen model, for underground mining environments.

### ATEX DUST PROTECTION:

- II** Group II, other environments, (chemical industries, refineries, etc.)
- 2D** High protection, Category 2 equipment for Zone 21 and 22. D = Dust
- Ex** Explosion-proof equipment, certified to European ATEX Directive and IECEx
- IIIC** Enclosure certified for dust Zone 21 by IP rating
- T130°C** Maximum enclosure surface temperature

### ATEX GAS PROTECTION:

- II** Group II 'other' environments
- 2** High Protection, Category 2 for Zone 1 and 2
- G** Gas
- Ex** Explosion-proof equipment, certified to European ATEX Directive and IECEx
- ib** Type of ignition protection (Zones 1 and 2)
- IIC** Protection in the most explosive gas environment (hydrogen)
- T4** Device surface temperature will not exceed 135°C

### ATEX MINING PROTECTION, DP4000 Ex SERIES:

- I** Group I
- M2** Equipment is suitable for use in surface mines and installations likely to be endangered by firedamp and/or combustible dust
- Ex** Explosion-proof equipment
- ib** Type of ignition protection (Zones 1 and 2)
- I** Explosion Group, I = Methane

### ATEX MINING PROTECTION, DP4000 Ex Ma SERIES

- I** Group I
- M1** Equipment is intended for use in underground mines as well as surface installation of such mines endangered by firedamp and/or combustible dust including coal dust
- Ex** Explosion-proof equipment
- ia** Types of ignition protection (Zones 0, 1 and 2)
- I** Explosion Group, I = Methane





## SO RUGGED, IT WITHSTANDS THE WORST

The DP4000 Ex Series is so rugged and durable, it meets the most stringent standards and has the highest ATEX rating. Whether working in an oil refinery, chemicals factory or mine, dust and water can damage radios, but the DP4000 Ex Series is designed to withstand the worst. It meets or exceeds MIL-STD-810 for exceptional durability and is IP67 rated\* to keep out damaging water and dust. The design has also been subjected to Motorola's unique Accelerated Life Test to simulate five years of hard use.

## EASY TO OPERATE

The DP4000 Ex Series features large PTT, volume, channel knobs and programmable buttons that are easy to use, even when wearing gloves. The large, colour display (DP4801 Ex and DP4801 Ex Ma only) and bright LED show radio status information at a glance. Plus the prominent orange emergency button enables workers to quickly call for assistance when needed.



## KEEP CREWS COMMUNICATING, EVERYWHERE

MOTOTRBO's IP Site Connect uses the Internet to extend coverage to workers anywhere in the world and scalable, single-site Capacity Plus expands capacity to over 1,000 users. Linked Capacity Plus combines the high user-density call management of Capacity Plus with the wide area coverage of IP Site Connect to connect crews at various locations affordably.

Use Motorola's Application Developer Program to adapt the DP4000 Ex Series to your unique needs in the future – from location tracking using the built-in GPS receiver to text messaging or call logging and recording.\*\*

## WORK SAFELY, FROM PIPELINE TO POWER PLANT

Everything about the DP4000 Ex Series is designed for worker safety. Loud, clear performance and innovative features like Intelligent Audio and Transmit Interrupt help ensure messages get through in the noisiest environments. And like the radio, Motorola's audio and energy accessories meet the most stringent ATEX standards.

An integrated man-down and lone worker feature sends an instant alert if a mishap occurs. And the bright blue colour helps ensure workers can easily identify and carry only ATEX-approved radios into hazardous environments.

## PUT YOUR RADIOS TO WORK

### DIGITAL PERFORMANCE

The DP4000 Ex Series meets the ETSI DMR Standard to deliver integrated voice and data, clearer voice communications, and up to 40% longer battery life than analogue.

### EXCEPTIONAL AUDIO

Hear and speak clearly in loud environments, negate background noise from heavy equipment, engines and trucks.

### EASY TO USE

Ergonomically designed for ease of use, with customisable buttons and an intuitive user interface.

### COMPLETE ATEX-CERTIFIED SOLUTION

IMPRES™ smart audio and energy accessories meet the same tough specs, for a complete system you can rely on.



PMLN6089



PMLN6090



PMMN4094



PMMN4067  
(not certified for Ex Ma radios)



PMLN6368

## EXTEND SAFETY TO LONG SHIFTS AND NOISY AREAS WITH ATEX-CERTIFIED ACCESSORIES

**From the drilling platform to the oil refinery, you deal with extremes - that's why it is critical to use the only ATEX accessories designed to withstand the perils and work with these MOTOTRBO ATEX portables.**

### BE IN THE CLEAR WITH AN IMPRES RSM

The IMPRES Remote Speaker Microphone (RSM) ensures hassle free communication. Along with IMPRES audio, this microphone features Windporting which makes it easy to use in all weather conditions.

### PELTOR™ HEADSETS HANDLE TOUGH SHIFTS, HEAD ON

These heavy duty headsets are ATEX-certified for extreme conditions and comfortable for long shifts. Choose from the standard headset to the Tactical XP headset that allows you to control the volume to accommodate the level of ambient noise you must be alert to. These headsets are available as over-the-head or attach-to-hardhat models.

### IMPRES™ BATTERIES AND CHARGERS

Our high-capacity IMPRES battery maximizes talk time and optimizes battery cycle life – automatically.

Only IMPRES batteries can be charged 150 additional times as compared to a standard battery – a 43% increase in charge cycles. This means if you charge your radios two to three times a week, you'll get more than an extra year out of every IMPRES battery.

### DURABLE CARRY CASES

High quality leather carry cases are designed to withstand harsh conditions in hazardous environments. Swivel belt loop cases keep the case secure while allowing the radio to swing freely as you move.

## DP4000 Ex SERIES MOTOTRBO™ ATEX DIGITAL PORTABLE RADIOS

### GENERAL SPECIFICATIONS

|                                                    | DP4801 Ex DISPLAY                                                      | DP4401 Ex NON-DISPLAY | DP4801 Ex Ma DISPLAY                       | DP4401 Ex Ma NON-DISPLAY |
|----------------------------------------------------|------------------------------------------------------------------------|-----------------------|--------------------------------------------|--------------------------|
| Frequency Band                                     | UHF B1 (403-470MHz) and VHF (136-174MHz)                               |                       |                                            |                          |
| Zone Capacity                                      | 250                                                                    | 2                     | 250                                        | 2                        |
| Max. No. of Conv. Channels or Personality Capacity | 1000                                                                   | 32                    | 1000                                       | 32                       |
| Dimensions (H x W x L) with Li-Ion battery         | 138.5 x 56.7 x 39.8mm                                                  | 138.5 x 56.7 x 37.8mm | 138.5 x 56.7 x 39.8mm                      | 138.5 x 56.7 x 37.8mm    |
| Weight with Li-Ion battery                         | 482.5g                                                                 | 455.5g                | 482.5g                                     | 455.5g                   |
| Power Supply                                       | 7.4 V Nominal                                                          |                       |                                            |                          |
| FCC Description                                    | UHF B1: ABZ99FT4091<br>VHF: ABZ99FT3089                                |                       | —                                          |                          |
| Programmable Buttons                               | 5                                                                      | 3                     | 5                                          | 3                        |
| Integrated GPS Receiver                            | Yes                                                                    |                       | No                                         |                          |
| IC Description                                     | UHF: 109AB-99FT4091<br>VHF: 109AB-99FT3089                             |                       | —                                          |                          |
| Gas Rating                                         | ATEX: Class II 2G Ex ib IIC T4 Gb<br>IECEX: Ex ib IIC T4 Gb            |                       |                                            |                          |
| Dust Rating                                        | ATEX: Class II 2D Ex ib IIIC T130 °C Db<br>IECEX: Ex ib IIIC T130°C Db |                       |                                            |                          |
| Mining Rating                                      | ATEX: I M2 Ex ib I Mb<br>IECEX: Ex ib I Mb                             |                       | ATEX: I M1 Ex ia I Ma<br>IECEX: Ex ia I Ma |                          |
| Battery Part Number                                | NNTN8359                                                               |                       | NNTN8840                                   |                          |
| Typical** battery life Analogue                    | 16 hrs                                                                 |                       |                                            |                          |
| Typical** battery life Digital                     | 19 hrs                                                                 |                       |                                            |                          |

### RECEIVER

|                                                 | ALL MODELS                          |
|-------------------------------------------------|-------------------------------------|
| Channel Spacing                                 | 12.5/20/25KHz                       |
| Frequency Stability<br>(-30° C, +60° C, +25° C) | ±0.5ppm                             |
| Analogue Sensitivity (12 dB SINAD)<br>Typical   | 0.25uV                              |
| Intermodulation (TIA603C)                       | 70dB                                |
| Adjacent Channel Selectivity<br>(TIA603) - 1T   | 60dB @ 12.5kHz / 70dB @ 20/25kHz    |
| Adjacent Channel Selectivity<br>(TIA603C) - 2T  | 45dB @ 12.5kHz / 70dB @ 20/25kHz    |
| Spurious Rejection (TIA603C)                    | 70dB                                |
| Rated Audio                                     | 0.5W                                |
| Audio Distortion @ Rated Audio                  | 5%, 3% (typical)                    |
| Hum and Noise                                   | -40dB @ 12.5kHz<br>-45dB @ 20/25kHz |
| Audio Response                                  | TIA603C                             |
| Conducted Spurious Emission (ETSI)              | -57dBm                              |

### TRANSMITTER

|                                         | ALL MODELS                                              |
|-----------------------------------------|---------------------------------------------------------|
| Channel Spacing                         | 12.5/20/25KHz                                           |
| Frequency Stability<br>(-30° C, +60° C) | ±0.5ppm                                                 |
| Power Output                            | 1W                                                      |
| Modulation Limiting                     | ±2.5kHz @ 12.5kHz<br>±4.0kHz @ 20kHz<br>±5.0kHz @ 25kHz |
| FM Hum and Noise                        | -40dB @ 12.5kHz /<br>-45dB @ 20/25kHz                   |
| Conducted / Rated Emission (ETSI)       | 36 dBm < 1GHz, -30 dBm > 1GHz                           |
| Adjacent Channel Power                  | 60dB @ 12.5kHz, 70dB @ 20/25kHz                         |
| Audio Response                          | TIA603C                                                 |
| Audio Distortion (per EIA)              | 3%                                                      |
| FM Modulation                           | 12.5 kHz: 11K0F3E<br>25 kHz: 16K0F3E                    |

### ENVIRONMENTAL SPECIFICATIONS

|                                | ALL MODELS            |
|--------------------------------|-----------------------|
| Operating Temperature          | -20°C to +55°C        |
| Storage Temperature            | -40°C to +85°C        |
| Thermal Shock                  | MIL STD 810D, E, F, G |
| Humidity                       | MIL STD 810D, E, F, G |
| ESD                            | IEC-801-2KV           |
| Water Intrusion                | IEC-60529 IP67        |
| Packaging Test                 | MIL STD 810D, E, F, G |
| Ingress Protection (IP) Rating | IP67*                 |

\*DP4000 Ex Series radios are rated IP67 and are also certified to the highest ingress protection available under ATEX/IECEx test conditions - IP64

\*\*Ma radios do not have GPS.

\*\*\*Assuming 5/5/90 duty cycle, no option board, no GPS, conventional operation.

For more information on how to communicate safely in hazardous locations, visit [motorolasolutions.com/mototrbo](http://motorolasolutions.com/mototrbo) or find your closest Motorola representative or authorised Partner at [motorolasolutions.com/contactus](http://motorolasolutions.com/contactus).

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Availability is subject to individual country law and regulations. All specifications shown are typical unless otherwise stated and are subject to change without notice.

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