Hytera
Respond & Achieve



# PD4 Series

## DMR handheld radios




With longer battery life, lightweight with a long battery life and a integrated RFID reader (PD415), the PD4 series from Hytera are your optimal companion for everyday work. The PD4 series supports both analogue and digital operation, ensuring a smooth migration to digital radio for any user.

DMR
DIGITAL MOBILE RADIO ASSOCIATION

www.hytera.co.uk

# Radios

# PD4 Series

**PD405**
**PD415**
**DMR handheld radios**










## Highlights

**Integrated RFID reader (PD415)**
the optional Hytera RFID tags and checkpoints, transmitting this information back to the Hytera Patrol software by radio signal. The ideal solution for security and patrol requirements.

**Patrol System with the PD415**
The Hytera Partol system is an application that uses the data captured via RFID (PD415 only). Upload your site map and plot your chckpoints, then once your staff have been assigned a radio tag the patrol system will monitor and log their journey in real-time when they tag any asset checkpoint.

**Impressive voice quality**
With embedded digital technology, the PD4 series produces outstanding voice quality, even in noisy environments, and at the outer perimeters of radio coverage.

**Improved utilisation of the frequency spectrum**
Thanks to the TDMA method, DMR radios make it possible to configure the available bandwidth with double the channel capacity of conventional analogue radio. This has a clear mitigating effect on increasing spectrum scarcity.

**Mixed analogue and digital channel**
This function ensures that the PD4 radios can detect both analogue and digital signals and change automatically to the relevant operating mode.

**Robust**
Both radios are dust and water-resistant according to IP55 (PD405) or IP54 (PD415) and meet the US military standard MIL-STD-810 C/D/E/F/G.

**Additional Functions**

- Different operating modes: analogue, DMR Tier II or mixed
- Digital or analogue channel search
- Supports pre-programmed text message transmission
- TDMA direct mode allows up to two simultaneous calls, even without repeater
- VOX (voice-controlled send keying)
- Emergency alarm
- Individual call, group call and all call
- Priority Interrupt, remote monitor, radio enable and disable (all via chargeable licence)
- Hytera Pseudo Trunking and Basic Encryption (via chargeable licence)
- Radio Registration Service (RRS), Radio Check, Alert Call

Programmable keys

Different operating modes:
analogue, DMR Tier II or mixed




Integrated RFID reader for Patrol System (PD415)

Small, slim and light, only 270 g

## In the box



Lithium-ion battery (1500 mAh) BL1504



Hand strap RO03



Belt clip BC08



Switching power adapter for charger PS1044



MCU Rapid-Rate Charger CH10A07



Antenna (UHF or VHF)

## Optional accessories



Remote speaker microphone SM26M1



External microphone & speaker SM131M



Dual charger PS2005



Six-Unit Charger Including Power Adapter MCA08



Lithium-ion battery (2000 mAh) BL2010



RFID Patrol Checkpoint (PD415 only) & RFID Patrol ID Card (PD415 only)

The illustrations above are for reference purposes only. The products might differ from these illustrations.

## Technical Data

| General data | |
|---|---|
| Frequency range | VHF: 136 - 174 MHz<br>UHF: 400 – 470 MHz |
| Supported operating modes | • DMR Tier II<br>in acc. with ETSI TS 102 361-1/2/3<br>• Analogue |
| Channel capacity | 256 (128 analogue + 128 digital) |
| Number of zones | 3 |
| Channel spacing | 12.5 / 25 kHz |
| Operating voltage | 7.4 V (nominal) |
| Standard battery | 1500 mAh (lithium-ion battery) |
| Battery life<br>(5-5-90 duty cycle) | analogue / digital:<br>approx. 12 / 16 hours (with 1500 mAh)<br>approx. 16 / 22 hours (with 2000 mAh) |
| Frequency stability | ± 0.5 ppm |
| Antenna impedance | 50 Ω |
| Dimensions (H × B × T)<br>(without antenna) | 112 x 54 x 28 mm (PD405)<br>112 x 54 x 31 mm (PD415) |
| Weight<br>(with antenna and standard battery) | approx. 270 g |
| Programmable keys | 2 |
| Range of the RFID reader | up to 4 cm |

| Environmental conditions | |
|---|---|
| Operating temperature range | - 30 °C to + 60 °C |
| Storage temperature range | - 40 °C to + 85 °C |
| ESD | IEC 61000-4-2 (Level 4),<br>± 8 kV (contact), ± 15 kV (air) |
| Protection against dust and moisture | IP55 (PD405)<br>IP54 (PD415) |
| Shock and vibration resistance | MIL-STD-810 C/D/E/F/G |
| Relative humidity | MIL-STD-810 C/D/E/F/G |

| Transmitter | |
|---|---|
| Transmitting power | VHF: 1 / 5 W UHF: 1 / 4 W |
| Modulation | 11 K0F3E at 12.5 kHz<br>16 K0F3E at 25 kHz |
| 4FSK digital modulation | 12.5 kHz (data only): 7K60FXD<br>12.5 kHz (data and voice): 7K60FXW |
| Interfering signals and harmonics | - 36 dBm (< 1 GHz)<br>- 30 dBm (> 1 GHz) |
| Modulation limiting | ± 2.5 kHz at 12.5 kHz<br>± 5.0 kHz at 25 kHz |
| Hum and noise | 40 dB at 12.5 kHz<br>45 dB at 25 kHz |
| Adjacent channel selectivity | 60 dB at 12.5 kHz<br>70 dB at 25 kHz |
| Audio sensitivity | + 1 dB at - 3 dB |
| Audio distortion | ≤ 3 % |
| Digital vocoder type | AMBE+2™ |

| Receiver | |
|---|---|
| Sensitivity (analogue) | 0.22 µV (12 dB SINAD)<br>0.22 µV (typical) (12 dB SINAD)<br>0.4 µV (20 dB SINAD) |
| Sensitivity (digital) | 0.22 µV / BER 5 % |
| **Adjacent channel selectivity**<br>TIA-603<br>ETSI | <br>60 dB at 12.5 kHz / 70 dB at 25 kHz<br>60 dB at 12.5 kHz / 70 dB at 25 kHz |
| **Intermodulation**<br>TIA-603<br>ETSI | <br>70 dB at 12.5 / 25 kHz<br>65 dB at 12.5 / 25 kHz |
| **Spurious response rejection**<br>TIA-603<br>ETSI | <br>70 dB at 12.5 / 25 kHz<br>70 dB at 12.5 / 25 kHz |
| Signal-noise ratio (S/N) | 40 dB at 12.5 kHz<br>45 dB at 25 kHz |
| Audio power output | 0.5 W |
| Audio distortion | ≤ 3 % |
| Audio sensitivity | + 1 dB at - 3 dB |
| Conducted spurious emission | < - 57 dBm |

All technical information was determined at the factory and in accordance with the corresponding standards. Subject to change on the basis of continuous development.

Your Hytera partner:

Further information can be found at:
www.hytera.co.uk

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Hytera reserves the right to modify the product design and the specifications.
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All specifications are subject to change without notice.

Encryption features are optional and have to be configured separately. They are also subject to European export regulations.

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