



## PD6 Series

DMR handheld radios

The PD6 series from Hytera brings a breath of fresh air into your radio communication. With its lightweight metal cases and the support of digital and analog mobile radio, the handheld radios of the PD6 series are the ideal companion for migrating to digital mobile radio.



# Radios

## PD6 Series

PD605 / PD605G

PD665 / PD665G

PD685 / PD685G

DMR handheld radios



### Highlights

#### Small, lightweight and narrow

The radios of the PD6 series are only 27 mm deep, making them particularly compact. The chassis are encased in a high-quality aluminum metal frame and with a weight of only 290 g (PD605) or 310 g (PD655/PD685) comfortable and easy to carry for long operations.

#### Long battery service life

With the lithium-ion battery with 1500 mAh included in the delivery, the handheld radios of the PD6 series achieve an operating time in digital operation of at least 16 hours. With the optionally available 2000-mAh battery, it will even be 20 hours.

#### Improved utilization of the frequency spectrum

The PD6 series can be operated in TDMA Direct Mode and Pseudo Trunk. This assignment of the available bandwidth with double the number of channels leads to a significant easing of the increasing shortage of frequencies in the operation of DMR mobile radio systems compared to analog mobile radio systems.

#### Expanded frequency range

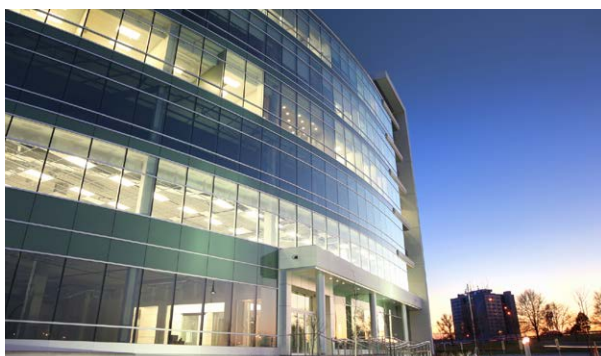
The frequency range in UHF stretches from 400 MHz to 527 MHz.

#### Support of analog and digital mobile radio

The PD6 series was developed in compliance with the ETSI mobile radio standard Digital Mobile Radio (DMR). The handheld radios support the conventional DMR operation and can also be operated in analog mode. That makes the terminals of the PD6 series the ideal companion for the move to digital mobile radio.

#### Additional Functions (selection)

- Every radio of the PD6 series is also available with GPS. Variants with GPS support GIS applications, such as AVL and telemetry.
- Encryption with the encryption algorithm ARC4 (40 bit) in accordance with DMRA or with optional algorithms AES128 and AES256 (128 and 256 bit)
- Expansion interface for applications
- Man-down function (optional)
- Leasing function
- Versatile voice calls: Individual call, group call, broadcast call, emergency call



Small and lightweight, robust chassis with metal frame

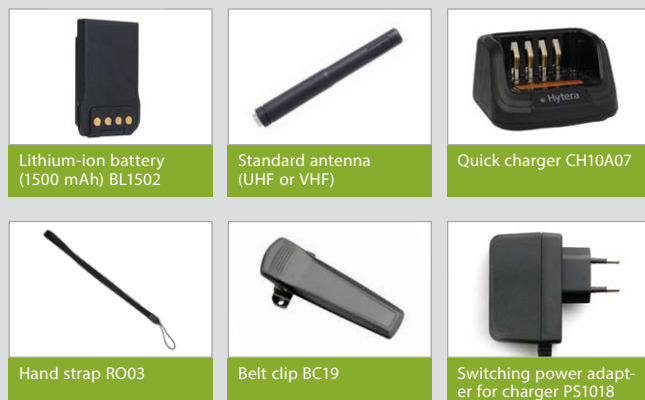
Multifaceted accessories available for every operation



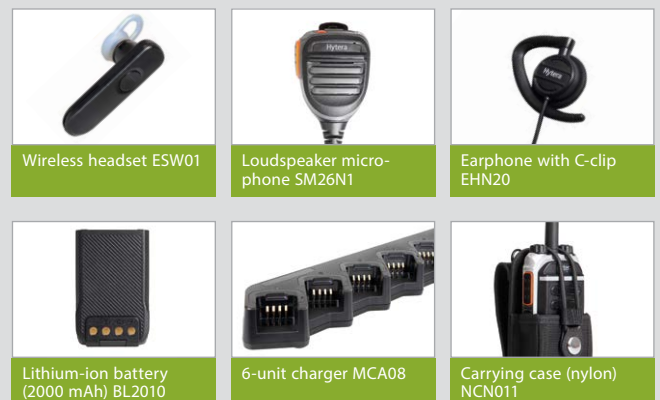
Dust and water-proof radios in accordance with IP67

Correspond to US Military Standard MIL-STD-810 C/D/E/F/G

### Standard scope of delivery



### Additional accessories (selection)



## Technical Data

| General data                                                                        |                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency range                                                                     | VHF: 136 – 174 MHz<br>UHF: 400 – 527 MHz                                                                                                                          |
| Supported operating modes                                                           | <ul style="list-style-type: none"> <li>DMR Tier II in acc. with ETSI TS 102 361-1/2/3</li> <li>Simulcast</li> <li>XPT Digital Trunking</li> <li>Analog</li> </ul> |
| Channel capacity                                                                    | 1024                                                                                                                                                              |
| Zone capacity                                                                       | 3 (PD605), 64 (PD665 / PD685)                                                                                                                                     |
| Channel spacing                                                                     | 12.5 / 20 / 25 kHz (analog)<br>12.5 kHz (digital)                                                                                                                 |
| Operating voltage                                                                   | 7.4 V (nominal)                                                                                                                                                   |
| Standard battery                                                                    | 1500 mAh (lithium-ion battery)                                                                                                                                    |
| Battery service life (5-5-90 duty cycle, high transmitting power, standard battery) | approx. 11 hours (analog)<br>approx. 16 hours (digital) with 1500 mAh<br>approx. 20 hours (digital) with 2000 mAh                                                 |
| Frequency stability                                                                 | ± 0.5 ppm                                                                                                                                                         |
| Antenna impedance                                                                   | 50 Ω                                                                                                                                                              |
| Dimensions (H × B × T) (without antenna)                                            | 119 × 54 × 27 mm (PD605)<br>122 × 54 × 27 mm (PD665 / PD685)                                                                                                      |
| Weight (with antenna and standard battery)                                          | approx. 290 g (PD605)<br>approx. 310 g (PD665 / PD685)                                                                                                            |
| Programmable keys                                                                   | 1 (PD605)<br>6 (PD665)<br>3 (PD685)                                                                                                                               |
| LCD display (PD665 / PD685)                                                         | 160 × 128 pixels, 65,536 colors,<br>1.8 inch, 4 lines                                                                                                             |

| Ambient data                   |                                                             |
|--------------------------------|-------------------------------------------------------------|
| 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) |
| Dust and water protection      | IP67                                                        |
| Shock and vibration resistance | MIL-STD-810 C/D/E/F/G                                       |
| Relative humidity              | MIL-STD-810 C/D/E/F/G                                       |

| GPS                                                  |              |
|------------------------------------------------------|--------------|
| Time to first position recognition (TTFF) cold start | < 1 minute   |
| Time to first position recognition (TTFF) warm start | < 10 seconds |
| Horizontal accuracy                                  | < 10 meter   |

| Transmitter                       |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| Transmitting power                | VHF: 1 / 5 W<br>UHF: 1 / 4 W                                        |
| Modulation                        | 11 K0F3E at 12.5 kHz<br>14 K0F3E at 20 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>± 4.0 kHz at 20 kHz<br>± 5.0 kHz at 25 kHz |
| Hum and noise                     | 40 dB at 12.5 kHz<br>43 dB at 20 kHz<br>45 dB at 25 kHz             |
| Adjacent channel selectivity      | 60 dB at 12.5 kHz<br>70 dB at 20/25 kHz                             |
| Audio sensitivity                 | + 1 dB at - 3 dB                                                    |
| Nominal audio distortion          | ≤ 3%                                                                |
| Digital vocoder type              | AMBE +2™                                                            |

| Receiver                                               |                                                                                      |
|--------------------------------------------------------|--------------------------------------------------------------------------------------|
| Sensitivity (analog)                                   | 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 %                                                                    |
| <b>Adjacent channel selectivity</b><br>TIA-603<br>ETSI | 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz<br>60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz |
| <b>Intermodulation</b><br>TIA-603<br>ETSI              | 70 dB at 12.5 / 20 / 25 kHz<br>65 dB at 12.5 / 20 / 25 kHz                           |
| <b>Spurious response rejection</b><br>TIA-603<br>ETSI  | 70 dB at 12.5 / 20 / 25 kHz<br>70 dB at 12.5 / 20 / 25 kHz                           |
| Hum and noise                                          | 40 dB at 12.5 kHz<br>43 dB at 20 kHz<br>45 dB at 25 kHz                              |
| Audio power output                                     | 0.5 W                                                                                |
| Nominal 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.