



PD795 Ex

DMR handheld radio

The PD795 Ex handheld radio from Hytera meets the open ETSI DMR standard. Compliance with European ATEX directives, FM standards, IEC standards, and its outstanding robustness ensure reliable communication in dangerous environments, such as those containing explosive gases and combustible dust.



Radio

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Highlights

Durability

The PD795 Ex handheld radio complies with all the requirements of the European ATEX directives, IEC guidelines and the North American FM standard. Furthermore, the terminal meets the MIL-STD-810C/D/E/F/G standard and is dust-proof and water-proof in accordance with degree of protection IP67. The PD795 Ex is therefore ideal for secure and reliable use even in potentially dangerous conditions.

Fail-safe design

The use of batteries or accessory components with a lower level of protection automatically triggers an alarm so that errors of this type cannot occur.

Plastic encapsulation

Both the radio and the battery are encased in a plastic housing to ensure that all internal connections are protected and sealed off from dangerous explosive gases and dust particles.

High-strength LCD protective cover

The high-strength LCD protective cover is extremely scratch-resistant and would even withstand being struck by a 1-kg hammer.

Innovative battery latch

The patented lock of the battery ensures that the battery cannot fall out if the radio transceiver should be dropped onto a hard surface.

Integrated GPS as standard

Using the integrated GPS module, the PD795 Ex can send location information to dispatcher systems. Dispatchers can evaluate this information and use functions such as geofencing, radio localization and GPS tracking.

Upgradeable software

The upgradeable software makes the use of new features possible. By altering the firmware-software, other digital and analog operating modes can be enabled, without the need for purchasing a new radio device.



Functions (excerpt)

- Supports different operating modes; optional analog or digital operation
- Versatile voice calls: Individual call, group call, broadcast call, emergency call
- GPS functions (retrieving and sending location data)
- Data services (text messages, group text messages, control of the radio via API)
- Various analog dialing methods (HDC1200, DTMF, 2-tone and 5-tone dialing, squelch procedure/tone call CTCSS/CDCSS)
- Supplementary services, radio check, remote monitor, call alert, radio disable/enable
- Different menu languages available
- One-touch functions (incl. text messages, voice calls and supplementary services)
- Scanning
- Automatic cell re-selection (roaming) in IP multi-site systems
- Secure encryption with encryption algorithm ARC4 (40 bit) in accordance with DMRA or with optional algorithms AES128 and AES256 (128 and 256 bit)

ATEX certification

All radios used in potentially explosive environments must comply with the European Union's ATEX directives. The PD795 Ex meets the following ATEX directives:

ATEX Gas Protection: II 2 G Ex ib IIC T4

II	Device group (gases, vapors, mist and dust)
2	Device category, protection level: very high
G	for explosible atmospheres (gas, vapor, mist)
Ex	explosion-protected, ATEX and IECEx-certified
ib	Intrinsic safety protection, transmitting power and surface temperature are restricted
IIC	Explosion group (Acetylene, Hydrogen)
T4	Temperature class, max. permitted surface temperature 135 °C

ATEX Dust Protection: II 2 D Ex ib IIIC T120°C

II	Device group (gases, vapors, mist and dust)
2	Device category, protection level: very high
D	for explosible atmospheres (dust)
Ex	explosion-protected, ATEX and IECEx-certified
ib	Intrinsic safety protection, transmitting power and surface temperature are restricted
IIIC	Explosion group IIIC (coal dust, metal dust)
T120	Temperature class, max. permitted surface temperature 120 °C

ATEX Protection for Mining Application: I M2 Ex ib I

I	Device group (mining)
M2	Device category: methane and dust, protection level: very high
Ex	explosion-protected, ATEX and IECEx-certified
ib	Intrinsic safety protection, transmitting power and surface temperature are restricted
I	Explosion group I (methane)

Ergonomic product design

The high-resolution, transreflective LCD color display offers good readability, even under difficult light conditions. Large pushbuttons ensure the handheld radio is convenient and safe to use, even when wearing gloves.

Anti-static case

The robust and tough case discharges static electricity, thereby preventing static discharges.

Non-slip surface design

Thanks to its non-slip surface design, the radio transceiver fits well in your hand and can be operated safely.








Different digital and analog operating modes

In addition to conventional DMR radio (DMR Tier II) and analog radio, the PD795 Ex supports operation in DMR trunked radio (DMR Tier III), Simulcast and MPT 1327

Dustproof and waterproof

The PD795 Ex is waterproof and dustproof in accordance with an IP67 degree of protection, which means it is capable of withstanding a water depth of one meter for at least half an hour.

Standard accessories

					
Lithium-ion battery 1800mAh BL1807Ex	Charger C10A04	Power adapter for charger PS1018	Standard antenna (UHF or VHF)	Leather strap RO04	Belt clip BC19

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

Technical Data

General data	
Frequency range	VHF 136 – 174 MHz / UHF 400 – 470 MHz
Supported operating modes	<ul style="list-style-type: none"> DMR Tier II in acc. with ETSI TS 102 361-1/2/3 Simulcast DMR Tier III in acc. with ETSI TS 102 361-1/2/3/4 Analog, MPT 1327
Channel capacity	1024
Zone capacity	64 (with up to 16 channels each)
Channel spacing	12.5 / 20 / 25 kHz (analog) 12.5 kHz (digital)
Operating voltage	7.4V (nominal)
Standard battery	1800 mAh (lithium-ion battery)
Battery service life (analog) (5-5-90 operating cycle, high transmitting power, standard battery)	ca. 13 hours (analog) ca. 15 hours (digital)
Frequency stability	± 1.5 ppm
Antenna impedance	50 Ω
Dimensions (H × W × D)	141 × 55 × 39 mm (without antenna)
Weight (with antenna and standard battery)	495 g
LCD display	1.8", 160 × 128 Pixel, 65,536 colors

Ambient data	
Operating temperature range	- 20 °C at + 50 °C
Storage temperature range	- 40 °C to + 85 °C
ESD	IEC 61000-4-2 (Level 4), ± 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
Explosion protection	Gas: II 2G Ex ib IIC T4 Dust: II 2D Ex ib IIIC T120°C IP6x Mine: I M2 Ex ib I

GPS	GPS
Time to first fix (TTFF) cold start	< 1 minute
Time to first fix (TTFF) warm start	< 10 seconds
Horizontal accuracy	< 10 meters

Your Hytera partner:



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Transmitter	
Transmitting power	1 W
Modulation	11 K0F3E at 12.5 kHz 14 K0F3E at 20 kHz 16 K0F3E at 25 kHz
4FSK digital modulation	12.5 kHz (data only): 7K60FXD 12.5 kHz (data and voice): 7K60FXW
Interfering signals and harmonics	- 36 dBm (< 1 GHz) - 30 dBm (> 1 GHz)
Modulation limiting	± 2.5 kHz at 12.5 kHz ± 4.0 kHz at 20 kHz ± 5.0 kHz at 25 kHz
Noise suppression	40 dB at 12.5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Adjacent channel selectivity	60 dB at 12.5 kHz 70 dB at 20 / 25 KHz
Audio sensitivity	+ 1 dB at - 3 dB
Nominal audio distortion	≤ 3%
Digital vocoder type	AMBE++

Receiver	
Sensitivity (analog)	0.3 µV (12 dB SINAD) 0.22 µV (typical) (12 dB SINAD) 0.4 µV (20 dB SINAD)
Sensitivity (digital)	0.3 µV / BER 5%
Adjacent channel selectivity TIA-603 ETSI	60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz 60 dB at 12.5 kHz / 70 dB at 20 / 25 kHz
Intermodulation TIA-603 ETSI	70 dB at 12.5 / 20 / 25 kHz 65 dB at 12.5 / 20 / 25 kHz
Spurious response rejection TIA-603 ETSI	80 dB at 12.5 / 20 / 25 kHz 84 dB at 12.5 / 20 / 25 kHz
Hum and noise	40 dB at 12.5 kHz 43 dB at 20 kHz 45 dB at 25 kHz
Nominal audio power output	0.5 W
Nominal audio distortion	≤ 3%
Audio sensitivity	+ 1 dB to - 3 dB
Conducted spurious emission	< - 57 dBm

All technical specifications were tested according to the relevant standards. Subject to change on the basis of continuous development.

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

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