



Intrinsically-Safe Two-Way-Radio Ex-PMR 500

Communication in Ex - areas

The Ex-PMR 500 radio transceiver was developed as a low-cost alternative for communication in Ex-hazardous areas. This device is used for servicing, maintenance and repairs in chemical plants, refineries, tank farms and other such Ex-hazardous areas.

Communication in Ex-hazardous areas is an important safety aspect. Stringent requirements have to be satisfied by all radio transceivers that are used there, to ensure that a bidirectional flow of information is possible in the field at any time, even over long distances. The Ecom Ex-PMR 500 handportable radio transceiver was developed specifically for this purpose. This device operates in the licence and charge-free PMR 446 radio range. Featuring ATEX certification for the II 2 G EEx ia IICT4 type of protection, the transceiver complies with the very latest standards and can be used unrestrictedly in Categories 2 and 3 (Zones 1 and 2). The frequency band from 446.000 MHz to 446.100 MHz was authorized by the regulatory body for posts and telecommunications (RegTP) with the publication of its administrative order 142/1999 dated November 3rd, 1999. All devices which operate in this frequency range and conform to the ETS 300296 licensing standard are allowed to be used charge-free. The band was also authorised for other European countries. Equipment operated in Germany must be identified by a German licence mark. A CE mark alone is not sufficient. The Ex-PMR 500 now enables the frequency band to be utilised for industrial purposes as well and specifically in potentially explosive atmospheres. Since Cenelec is also in force in most of the countries for which the authorization was issued, this is a logical step.

The PMR 446 radio service represents an alternative to FreeNet and LPD radio, the commercial radiotelephony systems. Although the frequencies do not have primary service status, the level of frequency utilisation in the 446 MHz range is still very low, so that disturbances are extremely uncommon. The 446.00625 MHz to 446.09375 MHz band.



There is room for eight frequency modulation channels for voice transmission in the 446.00625 MHz to 446.09375 MHz band. Their technical specification is described in the ETS 300296 standard. Only handportable devices are approved. The aerial must be an integral element, in other words not removable. The maximum transmission power is limited to 500 mW ERP, so that radio connection distances of up to 5 km are possible. The CTCSS and DCS pilot tone systems are configured for selective analogue and digital coding. A variety of tones (call numbers) are thus possible in CTCSS Mode 47 and DCS Mode 83.

The Ex-PMR 500 is a Two-Way-Radio for wireless communication in Ex-hazardous areas which needs no licence* or fee payment (* in many European countries)

- 8 channels
- DCS selective call for transmission and reception
- up to 5km range
- clone -facility
- built-in VOX-function
- scan function
- emergency call / alarm button
- out-of-range detection
- backlit multifunction display

Ex-data:

Ex designation:

Ⓔ II 2 G EEx ia IICT4

EC-Certificate of conformity:

TÜV 001 ATEX 1713 X

Standard delivery:

Ex-PMR 500 with leather case incl.

Ex-Battery pack AM 500

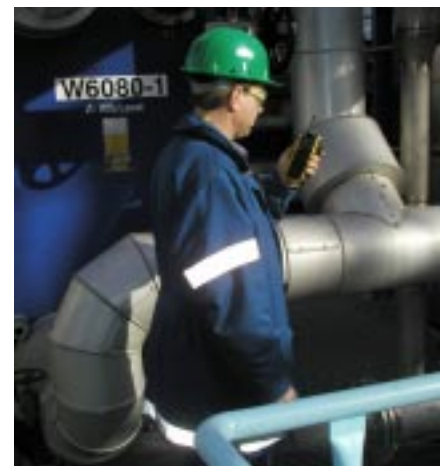
Accessories:

Charger LT 500 for Ex-PMR 500

Earplug with integrated microphone

CMP 123-Ex

Speaker-/ microphone-combination ML 03



Technical data:

Frequency range: 446,00625 – 446,09375 MHz

Receiver: double superhet with 1.ZF 21,4 MHz and 2.ZF 455 KHz

Sensitivity: approx. 0,2 µV by 12 dB S/N ratio

Channel spacing: 12,5 KHz

Transmitter power: 500 mW EIRP

Spurious and / harmonic waves: better than -60 dB

Audio output power: 0,5 mW max at 16 Ω

Power supply: rechargeable Ni-MH battery

Operating time: approx. 7 - 12 hours (90% standby, 5% TX, 5% RX)

Weight: approx. 410 g