



THR9 Ex TETRA radio

Ex-tremely safe



The robust, modern THR9 Ex TETRA hand portable radio offers high performance and secure mission-critical voice and data communications in situations where intrinsically safe products are needed.

With ATEX and IEC-Ex certification for both gas and dust, the THR9 Ex offers the best protection against physical and environmental exposure in explosion-prone areas.

Always On and Connected

With rugged design and unique flexible accessory handling in explosion risk areas, the THR9 Ex brings extra safety and efficiency to everyday work. It saves valuable time by allowing users to change a battery or attach Ex certified audio accessories while remaining inside the explosive area.

Maximum User Safety

Comprehensive personal safety features such as the Lifeguard safety solution 'Man down', 'Where are you' and 'Work alone' ensure rapid reaction from the control room when time is of the essence. Complemented with night vision and voice feedback, the THR9Ex is a radio that ATEX users can count on in a wide range of environments and conditions.

Industry Leading Navigation

For demanding industrial applications, the THR9 Ex is equipped with a Global Navigation Satellite System (GNSS) positioning chip. With 72 channel receivers, it allows accurate positioning of staff to within 2m, even in areas with very restricted visibility. It can also send their exact locations instantly in an emergency.

Clear Audio and Sharp Display

The new THR9 Ex audio design with background noise cancellation offers clear sound and excellent audibility, even in an extremely noisy environment. The large and bright colour display of the THR9 Ex ensures all critical information is clearly visible in all light conditions.

Personalised Experience

The THR9 Ex radio can be programmed and tailored to fit the user's needs exactly. With a configurable menu and keys, custom Java™ application support and Bluetooth® wireless technology, every worker can build a personalised solution, helping them work safer, faster and smarter.

THR9 Ex – Robust and powerful

Explosion-proof certification

ATEX and IEC-Ex approval with

- II 2G Ex ib IIC T4 Gb for gas
- II 2D Ex ib IIIC T135°C Db for dust

Frequency bands

- 380 – 430 MHz
- 445 – 470 MHz

Power class

- EN300392-2 compliant, power class 4
- Receiver class A
- RF power control, 4 steps of 5 dB

Size

- Weight: 333 g
- Dimensions: 133 x 58 x 42 mm

Durability

- Water, dust, according to IP65 class
- Free fall IEC-60068-2-32 (2m) and IEC-60079-0 (1m)
- Vibration resistant IEC-60068-2-6 Fc, IEC-60068-2-64 Fh broad-band
- Temperature changes IEC-60068-2-14 Na
- Solar radiation resistant IEC-60068-2-5

Display

- Transflective full-color QVGA display
- Up to 262,144 colors, 240 x 320 pixels
- Display backlight off by single key press
- Display reverse (180 degrees)
- Display texts in more than 25 languages

Keypad / controls

- Alphanumeric keypad
- 4 navigation keys, 3 selection keys
- HI/LO key for loudspeaker control
- Power-on key, volume keys, red function key, duty key, fast menu key, group selector, back key

GNSS receiver

- GPS, Galileo, Glonass/ BeiDou positioning and position information sending to infrastructure and other users
- 72 channels receiver
- Sensitivity -167 dBm
- Accuracy 2,0 m meters CEP
- Cold start TTFF, 26 seconds
- A-GPS with internal memory
- SBAS augmentation systems (WAAS, EGNOS, MSAS, GAGAN)

GNSS features

- Automatic position saving
- Position information sending on request or on triggers (time, distance, status)
- Support for ETSI location information protocol for TETRA (LIP)
- Waypoints, waypoint guidance

Call types

- Phone calls in TETRA & public networks
- Express and group calls in TETRA network
- TETRA emergency calls
- Public emergency calls (e.g. to 112)

Network features

- Multiple network support
- ISI support
- Clock synchronisation with network and/or GNSS time
- Transmission barring (Tx inhibit)
- Load Directed Roaming (LDR)
- Alert for out of network coverage

Direct mode features

- Up to 1500 DMO groups
- 500 DMO channels
- DMO repeater type 1A and 1B communications support, and acting itself as type 1A repeater (option)
- TMO-DMO via Gateway communications support, but not as a Gateway itself
- Scanning
- DMO individual call
- Red key call to DMO group
- Red key call to TMO within TETRA network coverage
- Public emergency call within TETRA network coverage
- DMO SCK encryption, encryption classes 2A, 2B and 2C
- DMO status messages
- DMO SDS messages
- Network monitoring while in DMO

Group communication

- Up to 3 000 talk groups
- Up to 200 talk group folders
- Up to 200 talk group sub folders with 3 layers
- Up to 400 groups per folder
- Dynamic Group Number Assignment (DGNA), up to 200 DGNA groups
- Up to 10 background groups
- Priority scanning
- Scanning list up to 59 groups
- Voice override in group calls (pre-emption)
- Late entry

Messaging

- Status messages
- Text messages with concatenation
- Situation indicators to a predefined address
- Flash messages
- Call-out
- Predictive text input T9 for most languages
- Unit alert (Selective alert)
- SDS3 polling

Personal Safety

- Flexible ATEX accessory change in explosive zone
- Lifeguard – an advanced man down alarm
- Where are you? – Showing caller's distance and direction during a call
- Work Alone
- Position sending during red key calls and public emergency calls
- Configurable emergency button
- Night vision mode

Security

- Authentication and Mutual authentication
- Air Interface Encryption (AIE) security classes:
 - Class 1: Clear
 - Class 2: SCK
 - Class 3: DCK/CCK
 - Class 3G: (requires TETRA SIM card)
- Phone and Security code
- Temporary disable/enable (Stun)
- Permanent disable (Kill)
- Support for smart card based end-to-end encryption (option)

TETRA SIM support (option)

- TSIM card with subscriber identification information (TSI and authentication key K)
- Easy to move subscriber information with TSIM card from one radio to another

Wireless data

- IP packet data
- WAP 2.0 over TETRA IP Packet Data
- XHTML color browser
- AT-command interface for applications
- Java™ MIDP 2.0 platform
- Bluetooth® v2.1 EDR (option)

Interfaces

- Side connector for audio accessories and data
- Bottom connector for charging, carkit, programming and data
- Internal smart card slot
- Connector for external antenna (for carkit)
- USB flashing

Usability

- 500 phone book entries with 2 500 unique numbers
- 8 user profiles: General, Silent, Meeting, Outdoor, Pager, Active holder, Headset and Monophone
- Aliasing – call routing service
- Voice feedback
- Configurable main menu and fast menu
- Configurable function keys
- Speed dialing (one-touch dialing)
- DTMF tone dialing
- Energy economy
- Any key answer
- Duplex call barring
- Secondary Control Channel (SCCH)
- Vibration alert
- Remote control through SDS or status

Battery

- Li-Ion BLN Ex-2U, 1960 mAh
- Estimated values for BLN Ex-2U battery:
 - Up to 15 h (5/5/90)
 - Up to 14 h (10/30/60)
 - Up to 17,5 h (standby)

Note: GNSS/Bluetooth/Lifeguard usage affect the above mentioned times. Variation in operation times will occur depending on network settings and usage.