



## THR9 Ex TETRA radio

### Ex-tremely safe

The robust and modern THR9 Ex TETRA handportable radio combines high performance and security in mission-critical voice and data communication 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. It can be used wherever flammable substances are produced, processed, transported or stored.

Examples include oil and gas, petrochemicals and steel industries as well as rigs, airports and harbours. The THR9 Ex also meets the needs of fire brigades for Ex-equipment when working in hazardous circumstances.

The new audio design of THR9 Ex offers clear sound and excellent audibility even in noisy environment. The THR9 Ex has a large and bright colour display to show critical information at a glance. It also enables use of applications such as positioning, images, reporting and searching for information in databases.

Bluetooth® wireless technology integrated in THR9 Ex combined with Ex-certified accessories frees users from using wires.

To keep the radio always powered and user in full action the battery and accessories of THR9 Ex can be changed inside the ATEX area. This unique capability is a big advantage for the users and it is available in THR9 Ex only.

Global Navigation Satellite System (GNSS) positioning chip inside THR9 Ex brings extra benefits for the users. These include faster time-to-fix, more accurate and more reliable location information. This is achieved by increased sensitivity and simultaneous usage of two satellite systems (GPS, Glonass, BeiDou or Galileo).

The THR9 Ex radio is fully customisable to suit the needs and preferences of each user.

The Lifeguard solution, (man down alarm), 'Where are you' Work alone and Night vision bring extra safety to users.

# 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 IIC T96° C Db IP6X for dust

## Frequency bands

- 330 – 360 MHz
- 380 – 430 MHz
- 450 – 470 MHz

## Power class

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

## Size

- Weight: 331 g
- Dimensions: 133 x 58 x 39 mm

## Durability

- Water, dust, according to IP65 class
- Shock resistant: 8 Joules (housing),\* 4 Joules (display)

## Display

- Full-color QVGA display
- Up to 262144 colors, 240 x 320 pixels
- Display backlight off by single key press
- Display reverse (180 degrees)
- Display texts in more than 25 languages
- Night vision mode

## 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, BeiDou, Glonass and Galileo (SW update) positioning and position information sending to infrastructure and other users
- 1-2 satellite systems simultaneously
- A-GPS with internal memory
- Power save mode
- GNSS activity indicator
- Sensitivity -167 dBm
- Cold start accuracy 2,0 m meters CEP
- Cold start TTFF, 26 seconds
- Automatic position saving
- Position information sending on request or on triggers (time, distance, status)
- Position sending during red key calls and public emergency calls
- Waypoints, waypoint guidance
- Showing caller's distance and direction during a call (Where are you?)
- Saving own or caller's waypoint with one key press for Waypoint guidance
- Network-based terminal assisted positioning
- Support for ETSI location information protocol for TETRA (LIP)

## 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)

## Group communication

- Up to 3 000 talk groups
- Up to 200 talk group folders
- 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

## Direct mode features

- Up to 1500 DMO groups
- 500 DMO channels
- DMO gateway support
- Support for DMO repeater type 1A & 1B
- 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
- ETSI TETRA type 1A DMO repeater operation (option)

## Messaging

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

## Security

- Lifeguard – an advanced man down alarm
- 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)
- Transmission barring (Tx inhibit)
- Alert for out of network coverage
- 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

## Interfaces

- Side connector for audio accessories and data
- Bottom connector for charging, carkit, programming
- Internal smart card slot
- Connector for external antenna (for carkit)
- Bluetooth® v2.1 EDR

## Other features

- 500 phone book entries
- 8 profiles: General, Silent, Meeting, Outdoor, Pager, Active holder, Headset and Monophone
- Voice feedback
- Configurable main menu and fast menu
- Configurable function keys
- Speed dialing (one-touch dialing)
- DTMF tone dialing
- Load Directed Roaming (LDR)
- Energy economy
- Any key answer
- Duplex call barring
- Multiple network support
- Aliasing
- Clock synchronisation with network and/or GPS time
- Vibration alert
- Remote control through SDS or status
- Secondary Control Channel (SCCH)

## Battery

- Li-Ion BLN Ex-2, 2000 mAh

- Estimated values for 2000 mAh battery:

- Up to 15 h (5/5/90)
- Up to 14 h (10/30/60)
- Up to 17,5 h (standby)

## Note:

GPS and Bluetooth usage affect the above mentioned times.

For more information please contact

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