

# TDM880i TETRA Data Module

## Powerful Data Communications



The TDM880i is an advanced TETRA data module dedicated to positioning, telemetry, remote control and data transfer applications, especially in embedded solutions. While it can also be used as a stand-alone device, it is designed to be integrated with a master device in applications such as automatic meter reading, intelligent traffic systems and other embedded systems. Its 3 W output power ensures efficient delivery of your vital data.

### Easy integration

The TDM880i is a compact printed circuit board, optimised for easy integration, yet encapsulates the full functionality of a TETRA data radio.

The serial interface for interacting with TDM880i is available in two variants. A low voltage version for direct connection with external CPU is available directly on the interface connector. For external

devices, an accessory set is available providing RS232 interface with flow control capability. Also, signals indicating operational status of the device and power control inputs are available in multiple voltage version variants.

### All in a single package

The TDM880i uses IP data and SDS messages for TETRA communication. Its I/O lines and RS232-serial interface for AT commands enable connectivity to a wide variety of applications. The I/O lines can be configured as inputs or outputs that can be controlled by short data messages, while the inputs can be used to trigger status message or send location information to predefined destinations. The module can use intelligent message transfer options for managing the traffic load, such as control channel associated with an ongoing group call.

## Technical specification

EADS TETRA Terminals fulfill the following specifications for TETRA radio equipment in the temperature range of -20 °C to +55 °C:

EN 300 392 V+D Air Interface

EN 300 394 V+D Conformance testing

### Size

- Weight: 110 g
- Dimensions: 160 x 64 x 22 mm

### Frequency Bands

- 380 – 430 MHz

### Power Class

- Compliant with EN300392-2 power class 3 (3W)
- Receiver class A

### Security

- Authentication
- Mutual authentication
- Air Interface Encryption (AIE) with dynamic and static ciphering keys (DCK/CCK) supporting TETRA encryption algorithms TEA-1, TEA-2, TEA-3
- Temporary disable/enable (stun)
- Permanent disable (kill)

### Wireless Data

- TETRA IP packet data, single slot
- AT-command interface for applications
- Group addressed SDS send and receive
- SDS sending on FACCH in an on-going group call

## Positioning

- Inbuilt GPS receiver
- Cold start accuracy (open sky)\*
  - 5 meters (50% confidence level)
  - 10 meters (95% confidence level)
- Cold start TTFF, time to first fix (open sky)\*
  - 40 seconds (average)
  - 60 seconds (95% confidence level)
- NMEA output can be activated using AT command interface
- Support for ETSI location information protocol for TETRA (LIP)
  - Time & distance based triggers
  - Position sending upon request
  - Saved track retrieval
- GPS Track saving with managed backlog sending

## Advanced I/O Line Functionality

- I/O Line state change by SDS
- I/O Line triggered SDS sending
- Power On indication
- In Service indication
- GPS Fix indication
- Over temperature indication
- Location sending triggered by I/O line state change
- Buffered I/O line triggered alerts

## Interfaces

- CPU ineterface with 2.8 V signal levels
  - Serial interface with AT command and IP data support
  - IGS power on/off control
  - Device status indication signals

- I/O interface
  - 12 user configurable I/O lines
  - Device status indication signals
  - 5 V logic levels
- Power supply with level sensitive IGS signal input
- RS232 with AT command and IP data support available through accessories
- GPS antenna interface with IPX jack connector, includes +5VDC feed for active antenna
- TETRA antenna interface with MMBX connector

## Accessories

- AC/DC power supply (ACR-1)
- Power cable CA-124 with inline fuses
- Data adapter CA-125 enabling use with DLR-3T data cable
- Programming and parametering adapter CA-123 (to be used with DAU-9S)
- RF adapter cables are available for converting PCB RF connectors to TNC (TETRA RF)/SMA (GPS) connectors



\*measured at -130 dBm

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