



# MTP850Ex

## ATEX TETRA Terminal

High performing communication and user safety



**Part of Motorola's market leading range of ATEX TETRA terminals, the MTP850 Ex provides high quality communication with comprehensive user safety and class leading ATEX specifications allowing use when in environments containing potentially explosive gas and dust.**

Motorola is a world leader in the development and deployment of TETRA communication solutions, and the MTP850Ex ATEX TETRA radios deliver safe and reliable communications for users with a powerful set of features to harness the capability of TETRA.

### High Performance Communication

The MTP850Ex delivers best in class audio performance in the typical noisy environments where specialist users from industry or public safety operate.

### Comprehensive User Safety

The MTP850Ex can be used in explosive gas and dust environments due to its high level of protection. Operational safety is further enhanced with a range of features including:

- State of the art integrated GPS receiver providing the ability to locate personnel through the radio, improving user safety and resource management.
- Internal "Man Down" alert - this fully integrated solution triggers an emergency procedure when the carrier of the radio remains motionless for a set period or falls down.

### Key Features

#### High Performing Communication

- Strong rugged design for optimum reliability in harsh conditions
- Powerful, high quality audio for the most demanding environments
- Full range of supporting ATEX certified accessories for a customized solution

#### Comprehensive User Safety

- ATEX & IEC-Ex gas and dust approvals
- Integrated GPS for user location
- Internal "Man Down" alarm

#### Simple but Powerful User Interface

The simplified keypad with large button surface makes the MTP850Ex easy to use with gloves. Combined with the large scalable display fonts and icons, the MTP850Ex facilitates operation in difficult environments with limited visibility.

#### Data Applications Capability

The integrated WAP browser and Multi-Slot packet data enables rapid access to critical information in the field. Applications are further enhanced with the ability to have simultaneous Short Data Service (SDS) and Multi-Slot packet data services via the TNP1 protocol.

## Atex Specifications

	ATEX Rating		IEC Ex Rating	
	Gas	Dust	Gas	Dust
MTP850Ex-2D	II 2G Ex ib IIC T4	II 2D Ex ibD 21 IP6x T90°C	Ex ib IIC T4	Ex ibD 21 IP6x T90°C
			(Approved for Zone 1 & 2, Equipment Group II, Gas Group C, Temperature Class T4, -20°C to +50°C)	(Approved for Zone 21 & 22, Equipment Group II)

## Specifications

### PHYSICAL

Dimensions (mm)	135 x 55 x 38
Weight (typ) g	400
Battery	725 mAh, 7,2V
	12 hrs, typ, 5/5/90 duty cycle

### RF Specifications

Frequency Bands (MHz)	380 – 430 806 – 870
Switching Bandwidth TMO (MHz)	50 (380-430) 19 (TX: 806-825, RX:851-870)
Switching Bandwidth DMO (MHz)	50 (380-430) 19 (851-870)
RF Channel Bandwidth (kHz)	25
Transmitter RF Power	1W
RF Power Control	3 Steps of 5 dB
RF Power Level Accuracy	+/- 2 dB
Receiver Class	A & B
Receiver Static Sensitivity (dBm)	-112 minimum, -115 typical
Receiver Dynamic Sensitivity (dBm)	-103 minimum, -107 typical

### VOICE SERVICES

Talkgroups	2048 (TMO) & 1024 (DMO)	
Phone Book	1000 persons	
Scan Lists	40 lists, 20 talkgroups / list	
TMO Services	Group Call	Late entry
	Private Call	Half / Full Duplex
	Telephony	Full Duplex
	DGNA	up to 2047 groups
DMO Services	Group Call	Late entry
	Private Call	
	Compatibility	Gateway & Repeater
Emergency	Smart Emergency	DMO /TMO / DMO to TMO
	Hot Mic	Configurable timers
	Location	Send on emergency
	Target Address	Individual or Group
	Alarm	Emergency Status
Other Services	Ambience Listening	Transmit Inhibit

### PERIPHERALS AND ACCESSORIES

Audio	A wide range of audio accessories is available including ATEX certified speaker mics and headsets.
Power & Charging	Solutions for desk top charging and multi-way chargers
Carrying	A range of carrying solutions is available including carry cases, carry strap and belt clips
Programming	Comprehensive solutions available for radio configuration and encryption key loading via Motorola KVL



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### INTERFACES

RS232 PEI	For connection of data devices
Rugged Accessory	For programming and audio accessory connectivity

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature (°C)	-20°C to +50°C (Hazardous Environments) -20°C to +60°C (Non-Hazardous Environments)
Storage Temperature (°C)	-40°C to +85°C (MIL STD 810 C, D)
Humidity	ETS 300 019-1-7 Class 7.3E
Dust and Water	IP65 per IEC 60529
Shock, drop and vibration	ETS 300 019-1-7 Class 5M3

### GPS SPECIFICATIONS

Simultaneous Satellites	12
Mode of Operation	Autonomous or assisted (A-GPS)
GPS Antenna	Integrated in TETRA antenna
Sensitivity	-152 dBm / -182 dBW
Accuracy	5 meter (50% probable)
Location Protocols	ETSI LIP Motorola LRRP

### DATA SERVICES

Status Messaging	Alias Messages	100
Short Data Service (SDS)	Inbox	20 messages
	Target Address	Individual or Group Address
	Voice Interaction	Send / receive during calls
Packet Data	Single or Multi Slot	7.2kbps - 28.8 kbps gross
WAP	Integrated Openwave browser	
	WAP 1.2.x and WAP 2.0 compatibility for UDP/IP Stack	
PEI	AT Commands	
	TNP1; enables simultaneous SDS & PD	

### SECURITY FEATURES

Air Interface Encryption	Algorithms	TEA1, TEA2, TEA3
	Security Classes	Class1 (clear), Class2 (SCK), Class3 (DCK, CCK & GCK*)
Key Provisioning	Secure provisioning tool (key variable loader KVL)	
	Over the Air Re-keying (OTAR) for SCK and Class 3 (CCK & GCK*)	
Network Access	Temporary Enable / Disable (Stun)	
	Permanent Enable / Disable (Kill)	
Authentication	Infrastructure initiated and made mutual by terminal	