

# DIWICON-M DW 418 MXV

## **PERSONAL SECURITY AND COMMUNICATION DEVICE**

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Intelligent and compact personal security and communication device with GPRS communication

### **CHARACTERISTICS**

- Short TTFF (time to first fix) GPS receiver
- Pocket-sized design
- Aided GPS satellite localization
- GSM/GPRS based communication
- Emergency panic button
- Voice function
- Multi-function button
- LED indicators to signal functional modes

### **SPECIAL CHARACTERISTICS**

- NMEA connection for navigation systems
- Integrated motion sensor
- Integrated non-volatile memory
- High sensitivity GPS receiver
- Integrated high capacity battery
- Remote software update
- Special magnetic base (optional)
- Low power consumption
- Integrated intelligent battery charger

### **INDUSTRIAL DESIGN**

- Industrial-strength casing
- Operational temperature range -20°C to 60°C
- Casing meets the specifications of the IP 54 protection standard

### **PORTS**

- Mini USB port
- Battery charging
- NMEA port
- Local configuration
- Engineering port

### **FUNCTIONS**

- High sensitivity GPS localization (even indoors)
- Motion sensor to help reduce power consumption
- GPRS based TCP/IP communication with the central database
- Engineering port
- Configuration via web based interface
- Long operation time (12 to 72 hours)

### **GPS RECEIVER CHARACTERISTICS**

- $\mu$ -blox LEA-4S Supersense ANTARIS 4 chipset
- Channels: 16
- Receiver sensitivity: -158 dBm
- Position refresh rate: 4 Hz
- Aided GPS



## TECHNICAL DATA

Power:	Built in rechargeable 3.7 V DC Li-Ion battery
Input power for charging battery:	5 V DC mini USB
Operating temperature range:	-20°C to +60°C
Storage temperature range:	-40°C to +120°C
Relative humidity:	5% to 95%
Vibration:	<15 Hz, deviation $\pm 2.5$ mm/15 Hz - 150 Hz, 2.1 g
Dimensions (L×W×H):	109×65×30 mm
Weight:	110 g

## OPERATIONAL DESCRIPTION

### Applications

- Personal tracking
- Security applications (emergency signal, localization)
- Vehicle tracking
- Freight delivery tracking

### Basic Functions

The device's basic functions are the automatic communication of alarm signals, position data, speed data, condition data, and other data to a central database and application server.

Using the built in microphone and speaker, and the DW 418 MXV supports voice communication for specialized security applications.

### Operation

When charged and switched on, the unit will wake up the GPS receiver which will determine its position if it receives an adequate number of GPS satellite signals. At the same time, the device establishes a GPRS connection, registers with the central database, and receives localization aiding data. The detailed information collected is then sent to the central database.

In order to optimize tracking and power consumption, a built-in motion sensor detects when the unit is not in motion and automatically switches to standby mode after a specified period of time.

The sensitivity of the motion sensor can also be adjusted. Power consumption in standby mode is extremely low, thus eliminating the need to switch the device off when not in use. When the device begins to move again, object tracking automatically begins.

When used for security applications the multifunction button is used to send status information to the center. The Multi-function button gives simple access to several functions.

### Settings

The operational parameter settings are easily adjusted via the web interface of the central server. These pages allow for adjustment of the network settings, the tracking sensitivity, the motion sensor sensitivity, stand-by mode timing, and signal button functions.

### Multi-function button

Hold button down for 3 seconds	Send an alarm
Push button 2 times within 2 seconds	Request call-back
Push button 3 times within 2 seconds	Call pre-configured phone number 1
Push button 4 times within 2 seconds	Call pre-configured phone number 2

### On/Off Button

Press 1 time	Turn on
Hold down for 3 seconds	Shut off

### Red LED:

Signals the current status of the device.

	GPRS Online	GPRS Offline
Normal	Blinks 2 times every 3 seconds	Blinks 1 time every 3 seconds
Standby	Blinks 2 times every 30 seconds	Blinks 1 time every 30 seconds
Off	LED off	

When charging the blinking pattern of the red LED is inverted.

### Blue LED:

Signals the current status of GPS reception:

GPS reception ok:	Blinks once per second
No GPS reception:	LED off

### Software Update

To ensure easy upgradeability, the program memory of the microcontroller flash can be remotely accessed by system engineers.

### USB Port

The USB port can be used for various engineering functions. For example, it can be used to monitor the status of the device and for occasional trouble-shooting. The USB port can also be used for monitoring the status of the GPS signals and for connection with navigational devices. GPS signals are provided in an NMEA format.

