

# MATUDI™

## Mini Radio Alarm Transmitter with an integrated dialer interface

### Installation Manual



WIRELESS DATA SOLUTIONS

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### MATUDI™ General Description

The MATUDI™ is a compact alarm transmitter with an integrated dialer interface

#### Main Features:

- Can work with or without a phone line
- Supports the latest LARSII protocol
- UHF frequencies
- Automatic phone line detection
- When the MATUDI detects an alarm condition at one, or more of its inputs; an encoded digital alarm message is prepared. It is then transmitted to the CMS using LARSII protocol

#### Main connectors

Figure 1 describes the main connectors on the MATUDI™

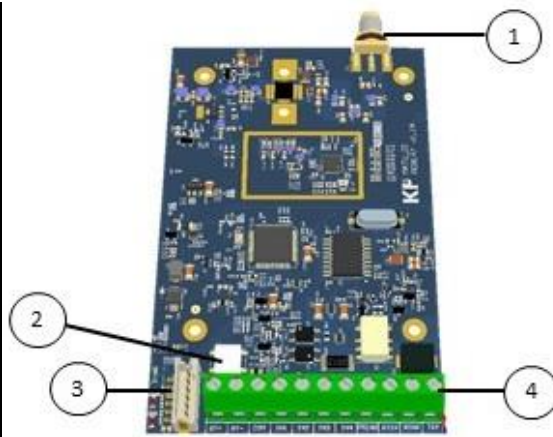


Figure 1: MATUDI™ External View

Table 1: MATUDI description

#	Description
1	SMA antenna connector
2	Test button
3	GUP5000 connector
4	<ul style="list-style-type: none"> <li>• 12V battery (1,2)</li> <li>• Common ground (3)</li> <li>• 4 inputs(4-7)</li> <li>• Panel TIP&amp;RING connectors (8-9)</li> <li>• External phone line input (10-11)</li> </ul>

#### LED description:

- PTT LED (PTT)
- SELF-TEST LED (STAT)
- DIALER LED (DI)

Communication parameters are easily programmed using Gup5000™ utility-programming software (See MATUDI Programming Guide (book 148)).

#### Preparing for Operation

Before installation on site, perform the following preparations:

- Program communication parameters
- Connect antenna, sensors and battery
- Transmit a TEST event

#### Setting Communication Parameters

(See MATUDI programming guide (book 148).)

#### Connecting Antenna, Sensors and Battery

1. Connect the antenna to the SMA connector.
2. Connect sensors to J1 (contacts 4–7).
3. Connect the battery: red wire (+) to VB+, black wire (-) to VB-

#### SELF TEST

Press and release the TEST button while observing the STAT LED. Refer to Table 2 for possible results.

Table 2: SELF-TEST Results

LED 2 Response	Status
Flashes once	System OK.
Flashes 3 times	Dead battery. Voltage is less than 8.5 VDC. The MAT is in sleep mode. Current consumption is less than 5 mA.
Flashes 4 times	Frequency lock problem
Flashes 6 times	Low battery. Voltage has dropped under 10.5 VDC.

#### Onboard DIALER Card

The DI LED will flash on every DTMF signal received from the panel.

The onboard dialer is a communication interface that connects between the alarm panel and the telephone line. It also includes a built-in Telephone Line Monitor (TLM). The dialer interface has low impedance, so it neither influences the telephone line nor the communications between the dialer and the Central Monitoring Station (CMS), via the telephone line.

The dialer interface sniffs the line until it receives its dialing number “11”. When detected, the dialer interface disconnects the telephone line and hooks itself to the alarm panel, simulating a CMS. It handshakes with the panel, obtaining the event details and then performs the kiss-off to disconnect from the alarm panel.

#### Connecting the MATUDI to an alarm panel

The MATUDI will automatically detect if a phone line is connected, and will switch to the relevant working mode (with or without a phone line) on startup

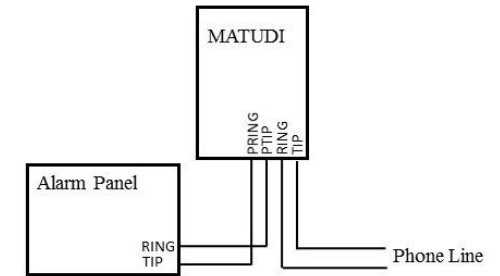


Figure 2: MATUDI Connection with a Phone Line

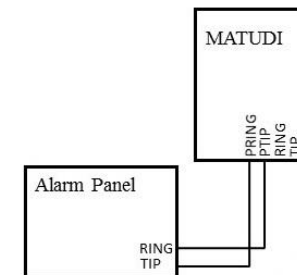


Figure 3: MATUDI Connection without a Phone Line

## Setting Dialer Parameters

To establish communication between the alarm panel and the dialer interface, program the alarm panel with the following parameters, and according to the panel's instruction manual.

Set the communication parameters to the following:

- **Data format:** C-ID
- **Dialing method:** DTMF only
- **Telephone #1:** 11
- **Telephone #2:** CMS
- **Account Number:** For example 1234
- **Panel Phone Line:** Enable telephone line on panel (if necessary)

## Telephone Line Cut

There is no need to connect the dialer interface and program the PGM on the alarm panel

In case of line trouble, the internal TLM of the dialer interface performs two operations:

- Transmits a "Line fault" event to the CMS
- Changes the operation mode to "no phone line". In this mode all events are transmitted via radio. The dialer interface changes to normal mode if the line is restored.

## Alarm Codes

If one of the inputs is activated an alarm code is transmitted to the CMS.

The alarm codes are programmable, and therefore, those shown here are suggestions.

Additional codes are described in the alarm panel user manual, according to the C-ID format reporting codes.

**Table 3: C-ID (LARS II) Alarm Codes**

Alarm Type	Alarm Code
Medical	100
Fire Alarm	110
Panic Alarm	120
Duress	121
Burglary	130
Box Tamper	137
General Alarm	140
Sensor Tamper	144
24 Hr. Non-burglary	150
Special Code (KP)	170
AC Loss	301
Battery Test Failure	309
Battery Missing/Dead	311
RF Receiver Jam Detected	344
Tel. Line Fault	351
RF Loss of Supervision	381
RF Low Battery	384
Open/Close	400
Open/Close by Key	409
2-way Communication	703

Note: Each sensor input can be programmed with one alarm code.

**Table 4: Input Zones (LARSII)**

Input #	Alarm Zone	Reset Zone
Input 1	191	191
Input 2	192	192
Input 3	193	193
Input 4	194	194
Input 5	195	195
Input 6	196	196
Input 7	197	197
Input 8	198	198
Low battery	199	199
Warning: Program Change	199	199
Program changed	199	199
Test	199	199
Communication	199	199
Fail		

**Table 5: Technical Specifications:**

Operating Voltage	10–15 VDC
Standby Current	15mA max.
Tx Current	1A max.
Power Output	3 W(VHF)/3W(UHF)
Spurious	-60 dB
Freq. Stability	±5ppm at operating temp. range
Modulation	FM FSK with PWM
Operating Temp.	-23°F–141°F (-30°C–60°C)
Storage Temp.	-40°F–158°F (-20°C–70°C)
Weight	190 gr
FCC	Approved

## Frequency Range

UHF-Medium	430-470.9875 Mhz
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## WARNING STATEMENT SAMPLES

15.19 – This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21 Please Note: The grantee is not responsible for any changes or modifications not expressly approved by the part responsible for compliance. Such modifications could void the user's authority to operate the equipment.

### RF EXPOSURE:

The antenna gain used with this transmitter should be 0 dBi or less and all persons should maintain a minimum safety separation distance of 27.59 cm