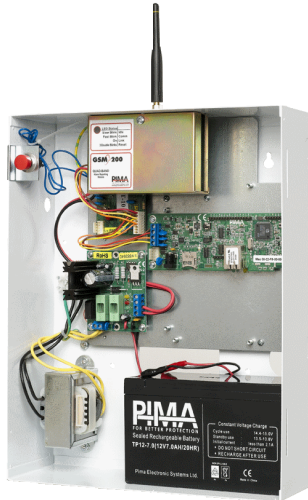


SAT-N

Universal PSTN to Ethernet & GSM/GPRS
Communicator



Installation Guide

PIMA
FOR BETTER PROTECTION
PIMA Electronic Systems Ltd.

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Read this guide in its entirety before attempting to program or operate your system. Should you misunderstand any part of this guide, please contact the supplier or installer of this system.

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Introduction

This guide will help you through the installation and configuration of SAT-N, a universal PSTN to GSM/GPRS & Ethernet communicator.

SAT-N is designed to allow any alarm system to relay transmissions to PIMA's Monitoring Station receiver (PimaGuard), via two communication paths:

- GSM/GPRS, using the GSM-200 cellular module
- Network, using the net4pro module

SAT-N can be used as a backup to the phone line, or it can be used where there is no phone connection. The communicator can be triggered by a PGM output, or by a phone dialer.

The SAT-N is programmed by the COMAX software and it supports PIMA and ContactID® protocols only.

Features

- Easy installation and field programming
- PSTN backup over GPRS/Ethernet
- Supervision reports
- Continuous phone line checks (voltage)
- Anti-substitution/Reply counter (optional)
- Optional enclosure tamper switch
- Lightning and ESD protection

Package contents of the product

SAT-N (P/N 8392001):

- SAT-N mounted in a metal box + PS-2 power supply + transformer. Optional: tamper switch
- Split cable

Module only (P/N 8392002):

- SAT-NB card + PS-2 power supply, mounted on a bracket

Technical specifications

Temperature: -10 to +50°C

Humidity: 75%, non-condensed

Voltage: 9-14 VDC (12 VDC nominal)

Telephone output: 12V

Quick Reference Guide

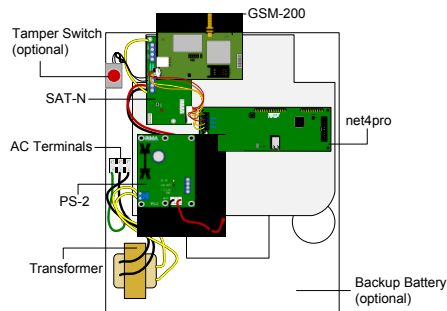
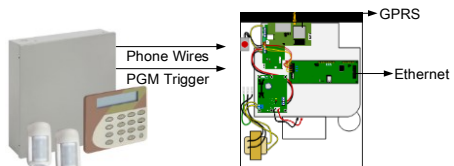


Figure 1. The SAT-N

Modes of Operation

The SAT-N can relay transmissions in the following paths:

- 1) GSM-GPRS only.
- 2) TCP/IP-Ethernet only.
- 3) GPRS & Ethernet, one is defined as primary path.
- 4) GPRS & Ethernet, for backup or double/split report.



Phone line backup

Use SAT-N to communicate via GPRS or Ethernet when the line is at fault, or when there is no phone line in the premises¹. The control panel is connected to the SAT-N via its telephone connection terminals, and triggers the SAT-N by dialing a 4-digit number, set as a CMS phone number² (and programmed by COMAX as *SAT-N phone number*).

In this way, the SAT-N can be used for split reporting, where reports to one CMS will be via the phone, and reports to the second CMS will be via GPRS or Ethernet.

PGM, one-time transmission

When SAT-N is connected to a phone line, it can be used to transmit only certain events or zones via GPRS or Ethernet, by triggering its PGM input. The control panel's PGM output should be connected to the SAT-N's PGM input. When the SAT-N is triggered this way, it will relay the next transmission (only) via the Primary path, GPRS or Ethernet. Therefore, this mode is used when the SAT-N is connected to phone line.

The SAT-N can also be triggered directly by the control panel's PGM output.

Note, that you should join the grounds of the control panel and the SAT-N!

¹ SAT-N will generate a phone line tone.

² Only one number can be set per control panel.

Report codes

SAT-N uses the following events to report the CMS over GPRS and Ethernet

Event	Function	Description
790	Module supervision	An event for sending supervision reports. Different interval times can be set for the GSM-200 and the net4pro.
791	Registration and syncing	Transmitting this event to the CMS (by pressing the TEST button) is used for synchronizing the anti-substitution/reply counter on the PimaGuard (must be coordinated with the CMS).
792	Counters mismatch	This event is generated when the anti-substitution/reply counters in the SAT-N and the PimaGuard do not match. This may indicate on burglary setup!

PS-2 Power supply

- *AC Status* and *Battery Status* outputs. The outputs are switched to ground normally, and disconnected (-) during AC/DC fault
- Output voltage: 13.8VDC
- Current: 1.2Ah
- Outputs: 1.1A
- Battery capacity range: 4.5 - 7.2AH

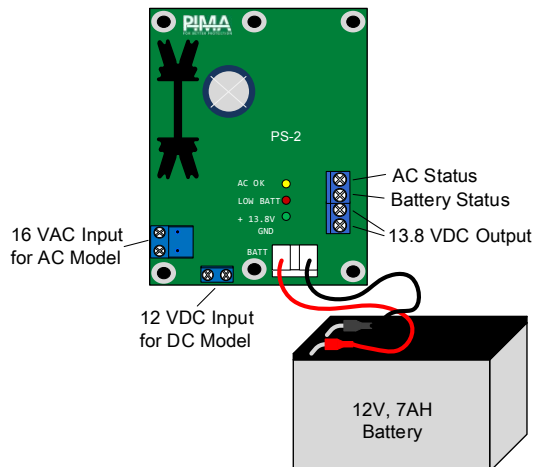


Figure 2. PS-2

Installation

Connect the SAT-N according to your desired setup. Follow the next diagram and table.



Do not connect the SAT-N to power before installation is complete.

How to connect the SAT-N

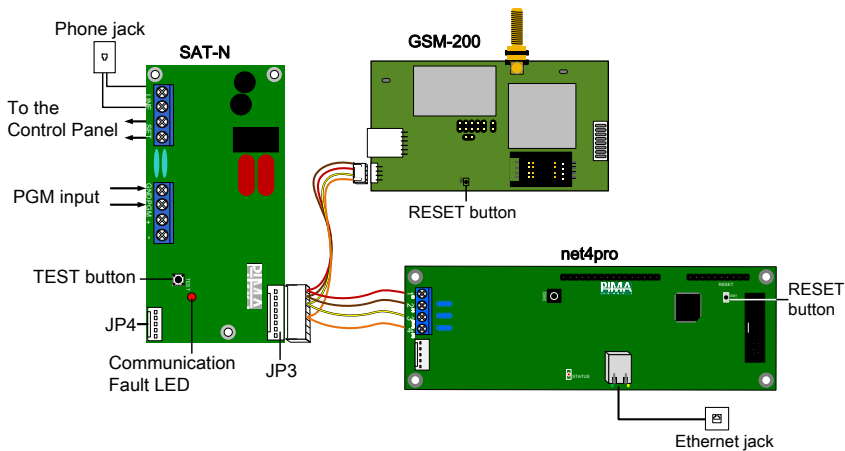


Figure 3. Connection diagram

SAT-N Connect to...	
LINE	Phone line
SET	Control panel's phone line input
PGM	PGM output + enclosure's tamper switch
-/+	12V input from the PS-2 power supply
TEST	1. Press to generate a Test event. 2. Press to synchronize the SAT-N with the CMS ¹ . 3. Press for 3 seconds to reset SAT-N.
JP4	PC hosting the COMAX software
JP3	GSM-200 and net4pro

Connect the four wires to the net4pro, as follows:

net4pro	Wire
1	Red
2	Brown
3	Yellow
4	Orange

¹ You must coordinate synchronization with the CMS.

How to program the SAT-N



Make sure the SAT-N is NOT connect to power when programming it.

The SAT-N is programmed by the COMAX upload/download application. To program the SAT-N you will need the following:

1. Laptop/PC with COMAX¹ installed in it and an available USB port
2. DPU-N converter (P/N 8420006 ver. C) and cable set

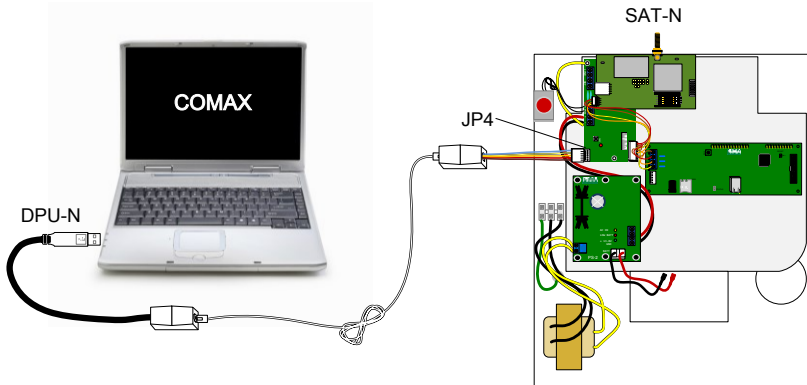


Figure 4. COMAX connection diagram

Connect the SAT-N according to the above image and the following instructions.

1. Connect the DPU's USB plug to the Laptop/PC
2. Connect the phone cable between the two connection boxes
3. Connect the serial connector to a connection box on one side, and to the SAT-N on the other

SAT-N configuration in COMAX

In COMAX (upload/Download manager), open a new SAT-N account. The screen includes the parameters of the SAT-N, the GSM-200 and the net4pro.

The following table describes the parameters of the SAT-N in COMAX.

Parameter	Description
Account ID	Optional, if a dedicated SAT-N account no. is required.
GSM-200 account ID prefix	Optional: set 2 digits that will be added as a prefix to every account no. that is reported by the GSM-200, thus creating new distinguished account ID's.
net4pro account ID prefix	Optional: see above regarding the net4pro.

¹ Version 3.07 and up. To obtain the application, contact your local vendor

Parameter	Description
Handshake frequency	Click and select the open ACK between the options <i>Inactive</i> , <i>LoHi</i> , <i>1400</i> or <i>2300</i> .
PSTN line check	Check to enable continuous phone line voltage test.
PGM/Tamper	<ul style="list-style-type: none">• <u>Checked</u>: the PGM input will be triggered by the control panel.• <u>Unchecked</u>: the PGM input will be triggered by case's tamper switch.
Polarity	The PGM input polarity. Click and select between Normally Close and Normally Open
Tamper report code	Alarm code for case's tamper switch. Default code: 137
SAT-N phone number	4-digit number for triggering the SAT-N by a dial from alarm system

The GSM-200 parameters

The following table describes the parameters of the GSM-200.

Parameter	Description
GSM-200 is installed	Enable/Disable the GSM communicator
Set as the primary channel	When selected the SAT-N will transmit via the GSM-200 before the net4pro (where relevant)
Network APN, Username and Password	Obtain this information from the mobile operator
Central Monitoring Station's IP/URL and Port	Obtain this information from the CMS

The net4pro parameters

The following table describes the parameters of the net4pro.

Parameter	Description
net4pro is installed	Enable/Disable the network card
Set as the primary channel	When selected the SAT-N will transmit via the net4pro before the GSM-200 (where relevant)
net4pro: supervision interval (sec)	The interval time for transmitting a test event (790)
CMS's URL/IP and Port	Obtain this information from the CMS

Notes

1. GSM-200 (version 3.14 and higher):
 - a. The SIM card should not have a PIN code.
 - b. Use GPRS SIM card (recommended).
2. When too many zones report at once, a communication error can occur.
3. We recommend not sharing the PSTN line with any other appliance.

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