



SCOM100

Remote control and alarming

SCOM100: Troubleshooting

Vers. 1.0-1.1.5 – October 2012

1. Introduction

SCOM-100 is a controller unit for alarm annunciation and remote control using SMS. The main unit incorporates a Quad Band (850/900/1800/1900MHz) GSM modem, 2 analog inputs, 4 digital inputs, 4 power relay outputs (250V/10A) and a serial RS-232 port. Front panel LED indicators monitor control and digital I/O states.

This step by step troubleshooting guide intends to provide a general idea of SCOM's SMS handling and troubleshooting, based on a verification method, quickly and easily.

What you need:

- An SCOM100.
- An appropriate power supply to power the unit. Minimum 12VDC, 0.8A
- A GSM antenna attached to the SCOM100 device.
- A SIM card capable of sending and receiving SMS messages

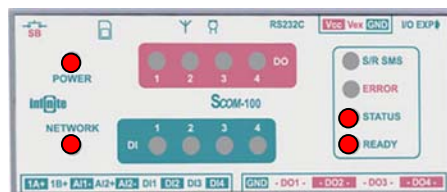
Since SCOM100 relies on external factors to provide a functional environment such as the SIM card, the GSM network coverage and quality, this document will try to illustrate using simple flowcharts all the possible causes.

2. Power issues

Please follow the SCOM100 device manual to wire an appropriate power supply to power the unit.

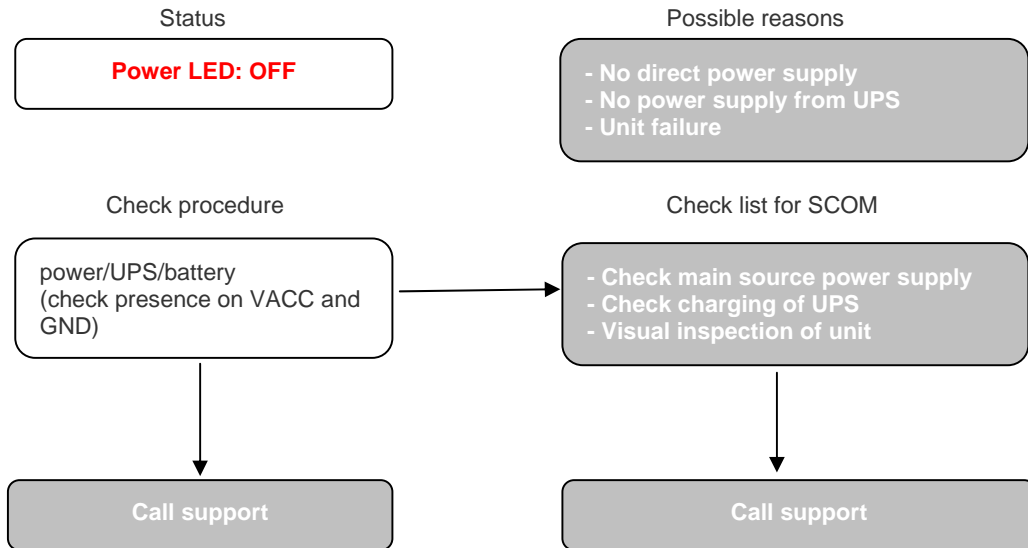
For an SCOM100-12 a 12VDC/0.8A is needed,
for an SCOM100-24 a 24VDC/1A is needed,

After power up the SCOM100 unit will perform a test procedure. Front panel LEDs conditions indicating a normal operation should be as follows.



Power LED: ON
Network LED:blinking
Status LED: ON
Ready LED: ON

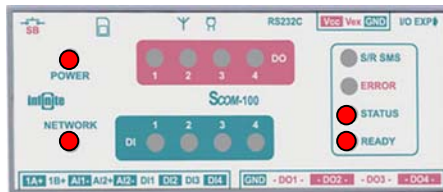
Possible malfunctions and possible solutions,



If the device is powered by a battery it might be depleted or disconnected. If the device is powered by a UPS the AC mains might not be connected or there might be blown fuse. If the device is powered by a power supply connected to the AC mains there might be a blown fuse or a mains failure.

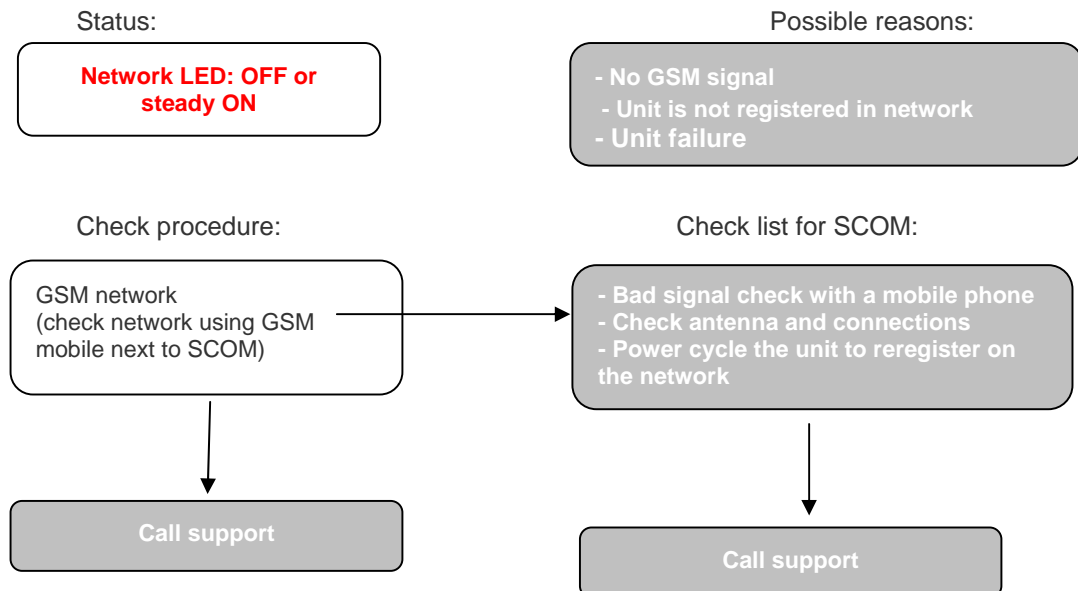
2.2 GSM Network operation verification

After power up the SCOM100 unit will perform a test procedure. Front panel LEDs conditions indicating a normal operation should be as follows.



- Power LED: ON
- Network LED:blinking
- Status LED: ON
- Ready LED: ON

Possible malfunctions and possible solutions,



2.3 Easy startup sending/receiving SMS messages

2.3.1 Preparing a SIM card

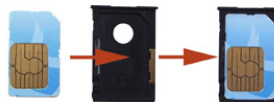
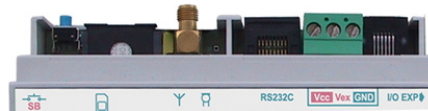
Before installing the SIM card, use your phone to:

1. Clear the PIN code (no PIN needed).
2. Enter your name and phone number in the first place of the phonebook directory of the SIM card.

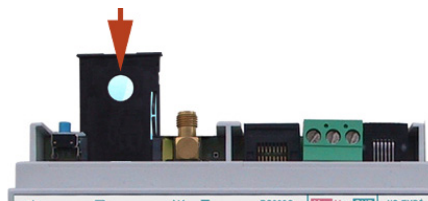
Note: You can alternatively power up the unit without a SIM card and set the PIN number using a terminal program on a PC, or you can set a PIN in later configuration stages.

2.3.2 Installing the SIM card

Note: Always remove or install the SIM card, having the unit powered down!
Slide the card tray out by pressing the cardholder's button with a spiky object such as a pencil or screwdriver.



Insert the card into the tray and slide the tray with the card faced down into the cardholder.



3.3 First power up & factory settings

Power up the unit and hold the startup button pressed until the ready LED starts blinking rapidly.



The unit executes the startup procedure setting all parameters to the factory defaults, reads the SIM card's phonebook entry, enters the RUN (Control) mode and sends a HELLO SMS message to the mobile phone number that was found in the SIM phonebook entry.

LED indication states are:

1. READY LED will switch on indicating the successful reading of the SIM card's phonebook entry.
2. STATUS LED will switch on indicating the RUN (Control) mode.
3. NETWORK LED will be blinking to state successful connection to the GSM provider's network.

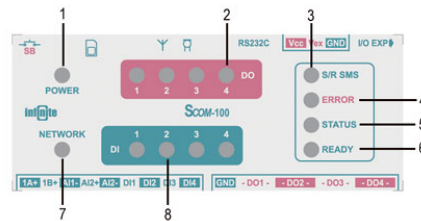
The device is now ready to send alarms and information via SMS and also receive SMS commands.

For example, if you sent an SMS with the command 1001,0,1 this will result to change DO1 from 0 to 1.

In order to visually test the receipt of SMS commands from the devices, when sending an SMS to an SCOM if the operator has a close look at the device, he will notice that S/R LED will blink for 2 seconds when the SMS is received.

Similarly when the device sends an SMS the S/R LED will also blink for 2 seconds.

3. Status LED indications



- 1: Power indicator: Turns on after power up.
- 2: Four LEDs indicating the digital output states.
- 3: Turns on while sending or receiving an SMS.
- 4: Turns on if an error occurs during operation. See sections 9.4 and 9.5 for details.
- 5: Monitors the device status (RUN/ MONITOR/ STOP). See sections 6.1 and 9.5 for details.
- 6: Flashes during device start up. Remains on if the device is ready for operation. Turns off if one or more operating conditions fail. See section 9.5 for details.
- 7: Flashes if a connection to the GSM provider is established.
- 8: Four LEDs indicating the digital input states.

LED	Indication
POWER	Presence of power supply voltage
NETWORK	Blinking upon successful registration the GSM provider's network
S/R SMS	Turns on during SMS receive or transmit
ERROR	<ul style="list-style-type: none"> • Turns on after start up: <ul style="list-style-type: none"> SIM card error Modem error Missing I/O expansion module Excessive EM noise or hardware error • Turns on during operation <ul style="list-style-type: none"> Modem error Excessive EM noise or hardware error
STATUS	ON: RUN (Control) state Blink: MONITOR state OFF: STOP state

LED	Indication
READY	<p>Blinking slowly: The unit starts up after power up (approx. 1 minute)</p> <p>Blinking fast: The unit starts after holding the start up button pressed during power up: Initialization process (approx. 1 minute)</p> <p>On: Unit start up completed OK</p> <p>Off with ERROR LED off: No user administrator found in SIM</p> <p>Off with ERROR LED on: See ERROR LED</p>

3.1 Quick Troubleshooting

The ready LED goes off after the start up sequence.	<p>Case 1: Error LED is off You started the unit for the first time and the SIM card does not contain a user name and phone number in the phone book directory. See chapter 3.1.</p> <p>Case 2: Error LED is on An error occurred during start up. See manual chapter 9.4 & 9.5.</p>
The unit does not respond to SMS at all.	The unit does not register to the GSM provider network. Check if the 'NETWORK' LED is blinking. Connect a proper GSM antenna to the unit (See Manual chapter 2.6)
The unit does not respond to configuration SMS commands.	The 'Response SMS' parameter is probably off. Set the parameter to on state. Read Manual chapter 6.2.1
The unit does not execute my digital output control commands.	<p>Check the status LED.</p> <p>The unit is probably in STOP or MONITOR status. Set the unit status to RUN. See Manual chapter 6.1.</p> <p>Read the SMS response to your command.</p>
The unit does not send an alarm SMS after a digital input state changes.	<p>The device is in STOP mode.</p> <p>The respective input is not activated for alarming. Activate the input by sending the proper configuration command (See Manual chapter 4.3).</p>

The analog value readings through the monitoring command seem not to be correct.	Check sensor cabling for the corresponding channel (see chapter 2.4) Set the correct analog channel measurement parameters (see Manual 4.5.1).
Alarm SMS of an analog input come too frequently.	Set a higher alarm delay or a deadband value for the analog inputs (see Manual 4.5.4)