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Connecting. Converting. Leading !

Document Name: USER MANUAL for Smart Alert. Models SA40 / SA42 / SA40 V /SA42 V

INTRODUCTION

SMART ALERT (SA) is used for obtaining quick SMS alerts from field inputs. Smart alert allows up to 4 Potential free inputs to be sensed. For every input, unique separate SMS is sent to multiple reporting numbers. Maximum up to 10 different persons could be notified with the alert. Model SA40 /SA40 V supports only inputs whereas model SA42 /SA42 V allows 2 potential free outputs to be controlled remotely via SMS. SA40V and SA42 V also support voice msg reporting to 10 different persons.

FEATURES

- 12 V DC power supply.
- 4 number digital potential free alarm inputs with common ground pin
- 2 number of NO/NC outputs (Available in SA42 /SA42 V).
- Built in GSM modem.
- Storage of total 10 reporting telephone numbers. (Each with 14 digits max)
- 2 Authentication numbers can be stored and only authentication numbers can configure / modify configuration parameters if entered.
- Buzzer for audible status of device functionality.
- Configuration via preformatted SMS.
- Dimensions: 103 x 70 x 30 mm (Excluding connectors and antenna).

INSTALLING THE UNIT

Inserting/ Removing the SIM Card

To insert or remove the SIM Card, it is necessary to press the yellow SIM holder ejector button with sharp edged object like a pen or a needle. When this is done the SIM holder comes out a little, then pull it out and insert or remove the SIM Card. It is very important that the SIM is placed in the right direction for proper working.

Connecting External Antenna

Connect the external SMA antenna to the male antenna connector of the unit. The right Antenna should be used with the specified frequency otherwise it can affect the communication.

Power Supply – Screw type connector with +12V DC, 2A supply.

Digital Inputs –

SA40 / SA40 V / SA42 / SA42 V

For these models, connect the potential free contact wires to DI1 ~ DI4 terminals of unit. The other end of contact can be connected to common GND terminal provided.

Digital Outputs-

SA42 /SA42 V

This model supports two potential free NO-C-NC contacts for each output. The contact rating is 230V / 5A. So, appropriate capacity load can be switched using these outputs. Whenever unit is powered off, DO status falls back to NC status and is restored to last condition upon resumption of power.

OPERATION

At power on, unit beeps twice and power LED glows steady. The unit checks for range and range LED 1 blinks while the unit gets the range. When the range is found, LEDs become steady. In good range, all 3 LEDs glow. In medium range, only two LEDs will glow and in low range, only 1 LED will glow.

Unit then starts scanning inputs and report alarm as and when it detects change of input state. When SMS to activate output is received, it changes the output state.

SA40 series models has 4 inputs DI1 ~ DI4 and a common GND terminal. The four potential free contacts must be connected to these inputs. The inputs are configurable as NO (Normally Open) or NC (Normally Closed) in normal condition. When any input changes its state, SMS for that input is sent to the configured reporting numbers. All numbers are reported one after another. Digital input can be reported to selected reporting number out of 10 reporting numbers. The unit can send different SMS message for each input and the English text is also configurable.SMS text can be maximum of 120 characters. After sending the SMS unit will send voice messages to the voice reporting numbers.

If restoral messages are enabled, then unit sends SMS when digital input alarm goes into normal state. The text of these messages is also configurable. User can set text up to 120 characters. If restoral feature is not available for SA40 V/SA42 V models.

For SA40 V and SA42 V, if SMS reporting numbers are not configured and voice reporting numbers are configured then unit will send only voice call for Input channels.
For SA40 V and SA42 V, if no voice reporting numbers are configured and only SMS reporting numbers are configured then Unit will send only SMSs.

For SA42 and SA42 V models, the SMS text to report digital output status is also configurable and is of maximum 25 characters.

For SA40 V/SA42 V model bistate/restoral feature is disabled.

The status of each input channel is sent periodically to the reporting numbers. In this status message, user gets information of whether channel is in alarm or normal state. The period of reporting is also configurable from 01 ~ 24 hours. If this value is set to zero, periodic status Reporting is disabled. The instantaneous status can also be obtained on demand by user, by sending a SMS to the unit.

Periodic status reporting feature is disabled in SA40 V/SA42 V models

Any configuration of unit can be done through two authenticated numbers only, if configured. Otherwise, configuration can be done through any mobile no. These numbers can be changed at site. At factory shipping time, Authentication numbers are kept blank

Authentication numbers are not mandatory

When unit receives pre-formatted SMS messages, it acts per the message command. The configuration can be changed only through authenticated numbers; whereas general status read can be done through any number.

SMS FORMATS FOR MODEL CONFIGURATION

- **To set SMS reporting numbers**

  #1231#XX#XX#XX#XX#XX#XX#XX#XX#XX#XX*

  Where, XX is dialing number. Maximum length can be 14 digits for each number.
  Unit will send acknowledgement SMS as following: (Assuming 2 numbers are configured)

  Command: ***#1231#+910123456789#+919876543210****
  Acknowledgement: ***SMS Nos:***
  +910123456789
  +919876543210

- **To set Voice reporting numbers**

  #123V1#XX#XX#XX#XX#XX#XX#XX#XX#XX#XX*

  Where, XX is dialing number. Maximum length can be 14 digits for each number.

  Unit will send acknowledgement SMS as following: (Assuming 2 numbers are configured)

  Command: ***#123V1#+910123456789#+919876543210****
  Acknowledgement: ***Voice Nos:***

+910123456789
+919876543210

- **To set SMS text for each DI channel to report alert**

  #123MX#Text*

  Where Text is the text message for each of 1 ~ 4 inputs respectively and X is channel number. Please note characters '#' and '*' should not be part of SMS alert text. Maximum text length can be 120 characters. Default text is 'Alarm on Channel X' for input X.

  Unit will send acknowledgement SMS for respective commands as follows.

  Set channel 1 Alarm text message:
  Command: ***#123M1#Alarm on channel 1****
  Acknowledgement: ***Reporting text1 for channel 1: Alarm on channel 1***

  Set channel 2 Alarm text message:
  Command: ***#123M2# Alarm on channel 2****
  Acknowledgement: ***Reporting text1 for channel 2: Alarm on channel 2***

  Set channel 3 Alarm text message:
  Command: ***#123M3# Alarm on channel 3****
  Acknowledgement: ***Reporting text1 for channel 3: Alarm on channel 3***

  Set channel 4 Alarm text message:
  Command: ***#123M4# Alarm on channel 4****
  Acknowledgement: ***Reporting text1 for channel 4: Alarm on channel 4***

- **To set SMS text for each DI channel for restoral message reporting**

  #123BX#Text*

  Where Text is the text message for each of 1 ~ 4 inputs respectively and X is channel number. Please note characters '#' and '*' should not be part of SMS alert text. Maximum text length can be 120 characters. Default text is 'State change For Channel X' for input X.

  Unit will send acknowledgement SMS for respective commands as follows.

  Set channel 1 Alarm text message:
  Command: ***#123B1#* State change For Channel 1***
  Acknowledgement: ***Reporting text2 for channel 1:***

State change For Channel 1

Set channel 2 Alarm text message:
Command: ***#123B2#* State change For Channel 2***
Acknowledgement: ***Reporting text2 for channel 2:***
State change For Channel 2

Set channel 3 Alarm text message:
Command: ***#123B3#* State change For Channel 3***
Acknowledgement: ***Reporting text2 for channel 3:***
State change For Channel 3

Set channel 4 Alarm text message:
Command: ***#123B4#* State change For Channel 4***
Acknowledgement: ***Reporting text2 for channel 4:***
State change For Channel 4

- **To set configurable text to be added with periodic reporting SMS(SA40/SA42 models only)**

#123M9#Text*

Where Text is the text message which will be the part of periodic reporting SMS and will specify device information such as serial number, location etc configured by user. Please note that '#' and '*' should not be part of the text. Maximum text length can be of 50 characters. Default text for reporting text would be "Device Id: 0123456"
Unit will send acknowledgement SMS as following:

Command: ***#123M9#Device ID: 0123456****
Acknowledgement: ***Reporting text for Device:***
Device ID: 0123456

- **To set NO / NC status of inputs**

#1234#XXXX#AA#BB#CC#DD*

Where X = 0 means NO, 1 means NC and AA, BB, CC, DD are delays in seconds which can be set for input channels 1~4 respectively. These can take value from 00 to 99 seconds.
If unit is configured as NO, there will be alarm SMS if change of state is detected for specified delay period for particular channel.
For NO configuration, SMS format is:

Command: ***#1234#0000#90#90#90#90****
Acknowledgement: ***Configuration of input channels is:***
0000
Delays set to
90
90
90
90

In below message format input 1 & 2 is set to NC and input 3 & 4 is set to NO. If this message format is set, each input channel will report alarm state if corresponding channel has retained it's changed state for 90 seconds.

Command: ***#1234#1100#90#90#90#90****
Acknowledgement: ***Configuration of input channels is:***
1100
Delays set to
90
90
90
90

- **To enable/disable restoral messages for inputs (Not used for SA40 V/SA42 V)**

  #1233#XXXX*

  Where

  X = 0 means only alarm messages are sent for input channels.
  (Configured through #123MX#Text* commands).

  X=1 means restoral messages and alarm messages both are sent for input channels.
  (Configured through #123MX#Text* and #123BX#Text* commands).

Command: ***#1233#1111****
Acknowledgement: **Inputs are**
B
B
B
B

- **To select reporting numbers for Digital inputs reporting**

  #1232#XXXXXXXXXX#XXXXXXXXXX#XXXXXXXXXX#XXXXXXXXXX*

Where X is the Reporting number's index which we set (using #1231#.... * command), and it takes values from 0 to 9 and A (A means 10th reporting number.)
By default, all numbers are reported for every input channel. If user wants to select the reporting numbers to which input alarm reporting to be done then this command is used.

E.g-#1232#145#36789#A#169A* will send DI1 alarm messages to first, Forth and Fifth reporting number.DI2 alarm messages get reported to Third,sixth,seventh,eighth,ninth reporting numbers,DI3 get reported to only tenth reporting number and DI4 get reported to first,sixth and Ninth and tenth reporting numbers.

Unit will send acknowledgement SMS as described below:

Command: ***#1232#145#*****36789#A#169A***
Acknowledgement: ***Nos. Selected:***
DI1: 145
DI2: 36789
DI3: A
DI4: 169A

- **To select voice reporting numbers for Digital and analog inputs reporting**

#123V2#XXXXXXXXXX#XXXXXXXXXX#XXXXXXXXXX#XXXXXXXXXX#XXXXXXXXXX*

Where X is the Reporting number's index (which we set using #123V1#.... * command), and it takes values from 0 to 9 and A (A means 10th reporting number.)
By default, all numbers are reported for every input channel. If user wants to select the reporting numbers to which input alarm voice reporting to be done then this command is used.

E.g-#123V2#145#36789#A#169A* will send DI1 alarm messages to first, fourth and fifth reporting number, DI2 alarm messages get reported to Third,sixth,seventh,eighth,ninth reporting numbers,DI3 get reported to only tenth reporting number and DI4 get reported to first, sixth and Ninth and tenth reporting numbers.

Unit will send acknowledgement SMS as described below:

Command: ***#123V2#145#*****36789#A#169A***
Acknowledgement: ***Nos. Selected :***
D1:145
D2:36789
D3:A
D4:169A

- **To set periodic status reporting time(SA40/SA42 models only)**

#123HXX*

XX in the above format represents hours which can take values from 01 to 24.

The status of input channels is sent periodically to reporting numbers .

e.g. #123H01* will set periodic reporting time to 1 hour. So, when this time is set through SMS, unit will send status message after every one hour.

Unit will send acknowledgement SMS as described below:

Command:	***#123H01****
Acknowledgement:	***Periodic Reporting hours are set to: 01***

Note: #123H00* will disable the periodic status reporting.

- **To Record Voice for voice reporting(SA40 V/SA42 V models only)**

#123RECX*

Where X is the Digital input Number and takes values from 1 to 4.

When user sends above command unit will dial the mobile number from which above SMS is received

After receiving the call, the user can record the voice for that input channel after Input LED for that channel starts blinking. Recording will continue for 16 seconds. After that call get disconnected automatically and a long beep is heard.

Note: If user wants to disconnects recording in between recording period of 16 seconds then he can cut the call, but user should wait for a long beep from unit, that is heard after recording period completes.
If user wants new voice to be recorded then again send the same SMS and record new voice for that channel. Old voice gets deleted and new one get saved in the unit.

- **To Playback recorded Voice for voice reporting(SA40 V/SA42 V models only)**

#123PLAYX*

Where X is the Digital input Number and takes values from 1 to 4.

When user sends above command unit will dial the mobile number from which above SMS is received

After receiving the call, the recorded voice for that channel is heard for 16 seconds. After that call get disconnected automatically.

Note: If user wants to disconnects Playback in between recording period of 16 seconds then he can cut the call, but user should wait for a long beep from unit, that is heard after Playback period completes.

- **To set authentication numbers**

#123A#XX#XX*

Where, XX is authentication number. Maximum length can be 14 digits for each number.

E.g. #123A#+910123456789#+919876543210* will configure +919871045611 as first authentication number and +919871045501 as second authentication number.

Unit will send acknowledgement SMS as following:

Command:	***#123A#+910123456789#+919876543210****
Acknowledgement:	***Authentication numbers are:***
	+910123456789
	+919876543210

NOTE: Authentication numbers must be stored along with country code.
Maximum of 2 authentication numbers can be stored.

SMS FORMATS TO READ SA MODEL CONFIGURATION

For reading the configuration, SMS can be sent from any number. i.e. it is not necessary that it should be authentication number only. The SMS formats are mentioned below.

- **To read authentication numbers**

When unit receives this SMS, it will reply with an SMS as follows:

Command:	***#123RA****
Acknowledgement:	***Authentication numbers are:***
	+910123456789
	+919876543210

- **To read the currently configured SMS reporting numbers**

When unit receives this SMS, it will reply with an SMS as follows: (Assuming only 02 reporting numbers are configured.)

Command: ***#123R1****
Acknowledgement: ***SMS Nos:***
+910123456789
+919876543210

- **To read the currently configured Voice reporting numbers**
  When unit receives this SMS, it will reply with an SMS as follows: (Assuming only 02 voice reporting numbers are configured.)

Command: ***#123RV1****
Acknowledgement: ***Voice Nos:***
+910123456789
+919876543210

- **To read configured SMS text to report DI alerts**

Read channel 1 Alarm text message:
Command: ***#123RM1****
Acknowledgement: ***Reporting text1 for channel 1:***
Alarm on channel 1

Read channel 2 Alarm text message:
Command: ***#123RM2****
Acknowledgement: ***Reporting text1 for channel 2:***
Alarm on channel 2

Read channel 3 Alarm text message:
Command: ***#123RM3****
Acknowledgement: ***Reporting text1 for channel 3:***
Alarm on channel 3

Read channel 4 Alarm text message:
Command: ***#123RM4****
Acknowledgement: ***Reporting text1 for channel 4:***
Alarm on channel 4

- **To read configured SMS text for restoral message reporting**

Read channel 1 Alarm text message:
Command: ***#123RB1****
Acknowledgement: ***Reporting text2 for channel 1:***
State change For Channel 1

Read channel 2 Alarm text message:
Command: ***#123RB2****
Acknowledgement: ***Reporting text2 for channel 2:***

State change For Channel 2

Read channel 3 Alarm text message:

Command: ***#123RB3****

Acknowledgement: ***Reporting text2 for channel 3:***
State change For Channel 3

Read channel 4 Alarm text message:

Command: ***#123RB4****

Acknowledgement: ***Reporting text2 for channel 4:***
State change For Channel 4

- **To read device ID text**

:

Command: ***#123RM9****

Acknowledgement: ***Reporting text for Device:***
Device ID: 0123456

- **To read current NO / NC status of inputs**

Command: ***#123R4****

Acknowledgement: ***Configuration of input channels is:***
0000
Delays set to
00
00
00
00

- **To read Bistate status of inputs**

Command: ***#123R3****

Acknowledgement: ***Inputs are BISTATE***

- **To read SMS Reporting numbers selected for Digital Inputs reporting**

Command: ***#123R2****

Acknowledgement: ***Nos Selected:***
DI1: 145
DI2: 36789
DI3: A
DI4: 169A

- **To read Voice Reporting numbers selected for Digital Inputs reporting**

Command: ***#123RV2****

Acknowledgement: ***Nos. Selected:***

DI1: 145
DI2: 36789
DI3: A
DI4: 169A

- **To read periodic status reporting hours**

Command: ***#123RH****
Acknowledgement: ***Periodic Reporting hours are set to: 01***

- **To read current status of inputs**

Command: ***#123RS****
Acknowledgement: ***C1 NO (ALT)***
C2 NO (NRM)
C3 NO (NRM)
C4 NO (NRM)
Device ID: 0123456

This message tells all input channls are configured as NO. Channel 2, 3 & 4 inputs are in their normal state and Digital input 1 and is in alarm state. Also the message configured by user using M9 command will be added towards the end of periodic reporting to indicate device ID / location / Serial Number.

ADDITIONAL SMS FORMATS FOR SA42/SA42 V MODEL DO CONFIGURATION

- **To set output status**

#1235#XY*

Where X means output number and X means NO/NC status. (Used only for SA42 model)
X = 1 means output 1 and X = 2 means output 2
Y = 0 means NO and Y = 1 means NC.

When common (C) terminal is connected to NO, LED corresponding to that output is ON, otherwise OFF. E.g. If COM1 connected to NO1 then O1 LED will be ON.

Unit will send acknowledgement SMS as following:

Command*:* ***#1235#10****
Acknowledgement: ***Output 1 connected to NO1***

Command*:* ***#1235#21****
Acknowledgement: ***Output 2 connected to NC2***

- **To link Output with inputs**

In SA42,outputs can be used by 2 methods. One using directly SMS specified in above #1235# format and second one is based on input channels alarm condition. If output is linked to the input channels, then that particular output is connected to NO when any one the input goes into alarm state. This output will restore to NC after set time (format explained in pulsed configuration below).

Command to link outputs to inputs.

#1238#XX* , where X = 1 or 0

e.g. #1238#10* will link outputs 1 to the inputs and outputs 2 to be operated as independent output on SMS. Whenever any one of the 4 digital inputs goes into alarm, output 1 will be connected to NO and will restore automatically to NC, depending on next (Latch / Pulsed) configurations.

Unit will send acknowledgement SMS as following:

Command:	***#1238#10****
Acknowledgement:	***Output linked to inputs:***
	OP1 = Y
	OP2 = N

- **To set time for auto-restoral of format**

Each output can be restored to NC after setting time period through following SMS format.

#1237#XAA#XAA*

Where, X = S (seconds) / M (Minutes) / H (hours).
A = Any digit between 0 – 9.

e.g. #1237#S60#M30* will configure output 1 to be connected to NO1 for 60 Seconds, output 2 to be connected to NO2 for 30 Minutes.

If output is linked with input, output timing must be a non zero value. If configured zero, it will set to 5 seconds automatically.

If output is not linked with input, and timing is configured to 00, then it will not restore the output to NC.

Each reporting number will receive SMS after output is restored automatically.

Note: Output 2 is configured to be ON for 30 minutes. But user can restore the output to NC by sending SMS as #1235#X1* before 30 minutes are over. SMS override is allowed. Where X = 1,2 i.e. output number.

Unit will send acknowledgement SMS as following:

Command:	***#1237#S60#M30****
Acknowledgement:	***OP1 ON for 60 Sec***
	OP2 ON for 30 Min

- **To set SMS text for each DO channel for NO contact**

#123OX#Text*

Where Text is the text message for each of 1 ~ 2 Digital outputs respectively and X is channel number. Please note characters '#' and '*' should not be part of SMS alert text. Maximum text length can be 25 characters. Default text is 'Output 1 connected to NO1' for input X.

Unit will send acknowledgement SMS for respective commands as follows.

Set DO1 text for NO contact:

Command:	***#123O1#TAMPER1 is OPEN****
Acknowledgement:	***Reporting text for NO O/P 1:***
	TAMPER1 is OPEN

Set DO2 text for NO contact:

Command:	***#123O2# TAMPER2 is OPEN **
Acknowledgement:	***Reporting text for NO O/P 2:***
	TAMPER2 is OPEN

- **To set SMS text for each DO channel for NC contact**

#123CX#Text*

Where Text is the text message for each of 1 ~ 2 Digital outputs respectively and X is channel number. Please note characters '#' and '*' should not be part of SMS alert text. Maximum text length can be 25 characters. Default text is 'Output 1 connected to NC1' for input X.

Unit will send acknowledgement SMS for respective commands as follows.

Set DO1 text for NC contact:

Command:	***#123C1#TAMPER1 is CLOSE****
Acknowledgement:	***Reporting text for NC O/P 1:***
	TAMPER1 is CLOSE

Set DO2 text for NC contact:

Command: ***#123C2# TAMPER2 is CLOSE ****
Acknowledgement: ***Reporting text for NC O/P 2:***
TAMPER2 is CLOSE

ADDITIONAL SMS FORMATS TO READ SA42/SA42 V MODEL CONFIGURATION

- **To read current status of outputs**

Command: **#123R5***
Acknowledgement: ***TAMPER1 is OPEN***
TAMPER2 is CLOSE

- **To read auto-restoral output timeout**

Command: **#123R7***
Acknowledgement: ***OP1 ON for 60 Sec***
OP2 ON for 30 Min

- **To read output linked with input or not**

Command: **#123R8***
Acknowledgement: ***Output linked to inputs:***
OP1 = Y
OP2 = N

- **To read SMS text for DO connect to NO contact**

Command: **#123RO1***
Acknowledgement: ***TAMPER1 is OPEN***

Command: **#123RO2***
Acknowledgement: ***TAMPER2 is OPEN***

- **To read SMS text for DO connect to NC contact**

Command: **#123RC1***
Acknowledgement: ***TAMPER1 is CLOSE***

Command: **#123RC2***
Acknowledgement: ***TAMPER2 is CLOSE***

ADDITIONAL SMS FORMATS FOR SA40/SA42 BACK to BACK APPLICATION

2 SA40 or SA42 models can be used in back-to-back application as transmitter and receiver. 1 unit becomes transmitter and the other one becomes receiver.

When any DI on transmitter unit generates alert, transmitter sends SMS to receiver no configured in Transmitter in predefined format. When receiver unit receives SMS from transmitter respective DO of receiver gets activated.

Similarly, when any DI alert on transmitter unit comes to normal state, transmitter sends SMS to receiver no configured in that unit in predefined format. When receiver unit receives SMS from transmitter respective DO of receiver gets de-activated.

Note: Maximum 5 receiver nos can be configured in SA40/SA42 Transmitter. So single transmitter can control DOs of 5 receivers.
Transmitter must work in bistate mode for this application and all Receivers must disable DO acknowledgement messages

- **To set Receiver number**

  #123Y#XX*

  Where, XX is receiver number. Maximum length can be 14 digits.

  E.g. #123A#+910123456789* will configure +910123456789 as receiver number.

  Unit will send acknowledgement SMS as following:

Command:	***#123Y#+910123456789****
Acknowledgement:	***Receiver No. is*** **+91012356789**

  When receiver number is configured in the unit then , when DI of this unit activates it will send DO activation SMSs to receiver number and corresponding DO in receiver unit gets activated.
  when DI of this unit becomes normal it will send DO deactivation SMSs to the receiver and corresponding DO of receiver gets deactivated.

- **To disable DO acknowledgement messages if the unit is receiver(For receiver unit only)**

  #123LDD#X*

  Where X is 1/0 .

Command: **#123LDD#1***
Acknowledgement: **Unit is receiver**

E.g.#123LDD#1* command will enable this setting and DO acknowledgement messages in receiver will not be sent back to transmitter.

LED INDICATIONS

LED NAME	Meaning
Power	ON - Unit is powered on.
DI1	ON - Input 1 is in alarm state. OFF - Input 1 is in normal state.
DI2	ON - Input 2 is in alarm state. OFF - Input 2 is in normal state.
DI3	ON - Input 3 is in alarm state. OFF - Input 3 is in normal state.
DI4	ON - Input 4 is in alarm state. OFF - Input 4 is in normal state.
O1	ON - C1 is connected to NO1. OFF- C1 is connected to NC1.
O2	ON - C2 is connected to NO2. OFF - C2 is conncted to NC2.
RANGE	Indicates unit range.
	1 LED ON - Low rage.
	2 LEDs ON - Medium range.
	3 LEDs ON - Good range.

CONNECTOR DETAILS

CONNECTOR NAME	DETAILS
GND	Common GND terminal
DI1	Input channel 1
DI2	Input channel 2
DI3	Input channel 3
DI4	Input channel 4
NO1	

NC1	OUTPUT1
COM1	
NO2	OUTPUT2
NC2	
COM2	

TROUBLESHOOTING

- Unit doesn't power ON.

  1) Verify input voltage connections with their polarity.
  2) Check the supply for 12 VDC with the help of Digital Multi Meter.

- Not receiving SMS from unit.

  1) Ensure device has range. Range LEDs are constant. If range LEDs are blinking, then device has poor range. Check antenna connections or check if SIM card is present and if present then, make sure it is inserted properly.
  2) If device range LEDs are constant then make sure the SIM card has enough balance to send an SMS and/or is SMS service enabled. Before inserting new SIM card in the device, it is advised to check the new SIM card on a mobile device for SMS functionality and balance check.
  3) If Range LEDs are constant, and device SIM is inserted properly and has sufficient balance then send any configuration read command such as #123R1* or #123RH* and check if device makes a long beep. This indicates device has received SMS. Now closely follow the device, device will again give 2 short beeps, this indicates device has acknowledged the received SMS command. *(NOTE: Kindly be patient, sometimes due to network congestion or peak network traffic, it takes more than 1 minute for SMS reception)*
  4) If you still do not receive the SMS, then kindly return the device.

- I keep receiving "INVALID COMMAND!" SMS from unit.

  1) Kindly send SMS #123RA*
  2) Read the authentication numbers set.
  3) Ensure you are sending SMS from one of the two authentication numbers set.
  4) If authentication number is being used to send SMS, then kindly ensure the command being sent is syntactically correct.