



SCOM-100

GSM/GPRS alarming & remote control

OPC Server

Version: 2.0 – January 2011

Installation

Click on the SCOM OPC Server 2KT v2.0.exe icon to begin the automatic installation.

In order to install SCOM OPC server manually follow the steps described below:

1. Unzip and install graybox_opc_server_toolkit_3_demo.zip. You can uninstall the toolkit after it's initial installation. This step is essential as it updates Windows registry for OPC Server usage.
2. Create a new folder and copy files SCOM_OPC.exe and gbda3.dll in it. For example, create folder SCOM_OPC under C:\
3. From the Start menu select Run

In order to install opc server as a user application, type:

C:\SCOM_OPC\SCOM_OPC -ra

In order to install opc server as a service, type:

C:\SCOM_OPC\SCOM_OPC -rs

If you have chosen a different folder name or path change the above command as appropriate...

4. When OPC Server is running as a user application a status bar icon is displayed. If you need to change the default socket number (14474), right-clicking on this icon and use the pop-up menu.
5. When OPC Server is running as a service the status bar icon will not be displayed. If you need to change the default socket number (14474), open the "Services" window (Control Panel → Administrative Tools → Services) and locate the SCOM OPC server service (it's name starts with "Infinite SCOM OPC Server" followed by a version number). Double-click it to open it's "Properties" window, select the "Log On" tab and enable the "Allow service to interact with desktop" option. Now, the status bar icon will be displayed and you can use it to change the socket number.

OPC Server Start up & Operation

SCOM-100 OPC server communication is disabled by default. To enable OPC server communication follow the steps described below:

1. (OPC server side) Setup SCOM OPC server to listen at a specific TCP socket (default socket number is 14474) at an internet-connected PC.
2. (SCOM-100 side) Connect the SCOM-100 to a PC serial port and setup a serial connection with the unit using a terminal program (e.g. HyperTerminal). Connection details:

Baud rate: 57600 bps (unless changed by the user)

Data bits: 8

Parity: None

Stop bits: 1

Flow control: Hardware

3. (SCOM-100 side) Specify OPC Server address using command 0805.
E.g:0805,83.235.175.152

4. (SCOM-100 side) In case a different socket number has been used for communication with SCOM OPC Server (other than the default socket number which is 14474) specify the socket number using command 0806.
E.g: 0806,61150
5. (SCOM-100 side) Set the unit communication rates using command 0807. Both rates are in terms of seconds. The first one is the rate for updating I/O values at the server. The second is the rate for retrieving requests from SCOM clients (e.g. a DO state change request). E.g.: 0807,20,30
6. (SCOM-100 side) Set GPRS connection parameters using command 0810 i.e. username, password, APN. For example, to set username and password to empty (most common options) and the APN to internet, give command: 0810,,internet
7. (SCOM-100 side) Enable OPC server communication using command 0800

Steps 2 to 7 can be performed using SMS messages.

Communication Protocol

There are four commands used in the protocol. All commands are originated by the SCOM unit. Multiple commands can be packed together in a command string using the semicolon character (;) as command separator. The unit starts with a "register unit" command and proceeds with "register tag" commands until all its tags are registered. The unit updates tag values and retrieves client update tag requests issued at the server side (by an OPC client) at specified intervals which can be set by the user.

Register Unit

Syntax: 9900 , <UnitName>\r

Response: OK\r

Register Tag

Syntax: 9901 , <TagType> , <Module> , <Index>\r

TagType:

- 0: AI
- 1: DI
- 2: DO
- 3: COUNTER

Module:

- 0: Base Module
- >0: Extension Module

Index: 1..Max Module I/O

Response: OK\r

Update Tag

Syntax: 9902 , <TagType> , <Module> , <Index> , <Value>\r

TagType:

- 0: AI
- 1: DI
- 2: DO
- 3: COUNTER

Module:

- 0: Base Module
- >0: Extension Module

Index: 1..Max Module I/O

Response: OK\r

Get Client Update Tag Requests

Syntax: 9910\r

Responses: BUSY\r

NO\r

<TagType>, <Module>, <Index>, <Value>\r

TagType:

2: DO

3: COUNTER

Module:

0: Base Module

>0: Extension Module

Index: 1..Max Module I/O

Comments: In order to retrieve all update tag requests command should be issued until a "NO" response arrives, indicating that no further update tag requests exist.

In case of a "BUSY" response the command should be re-issued.