

Application Bulletin



September 2008

SMS Messaging on the XL Series Controllers

SMS Messaging on the XL Series Controller

Objective:

The objective of this application bulletin is to provide the necessary steps on how to implement SMS Messaging on the XL series product line. To achieve this functionality, the XLe will be using the internal cellular modem (HE-GSM04). External GSM modems can also be used to achieve this functionality. Although an XLe is used in this bulletin, any of the XL series OCS could be used.

This application bulletin uses the SMS Configuration feature of the XLe. This allows for Outgoing Messaging and Incoming Messaging feature of the XLe.

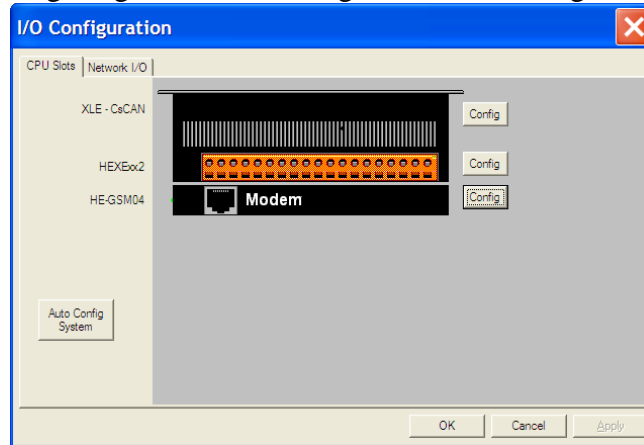
- -Outgoing messaging allows the XLe to broadcast a SMS Message with embedded data to an external device like a cell phone or another SMS compatible device.
- Incoming Messaging allows the XLe to receive messages from other SMS compatible devices. The incoming messages can contain embedded data allowing registers to be updated remotely.

Hardware Installation:

1. Place XLe flat on the front with the power removed.
2. Remove existing back cover.
3. Install SIM card into HE-GSM04 modem
4. Carefully install the HE-GSM04 modem onto the expansion port pins of the XLe
5. Install the new extended back cover and screws.

Configuration:

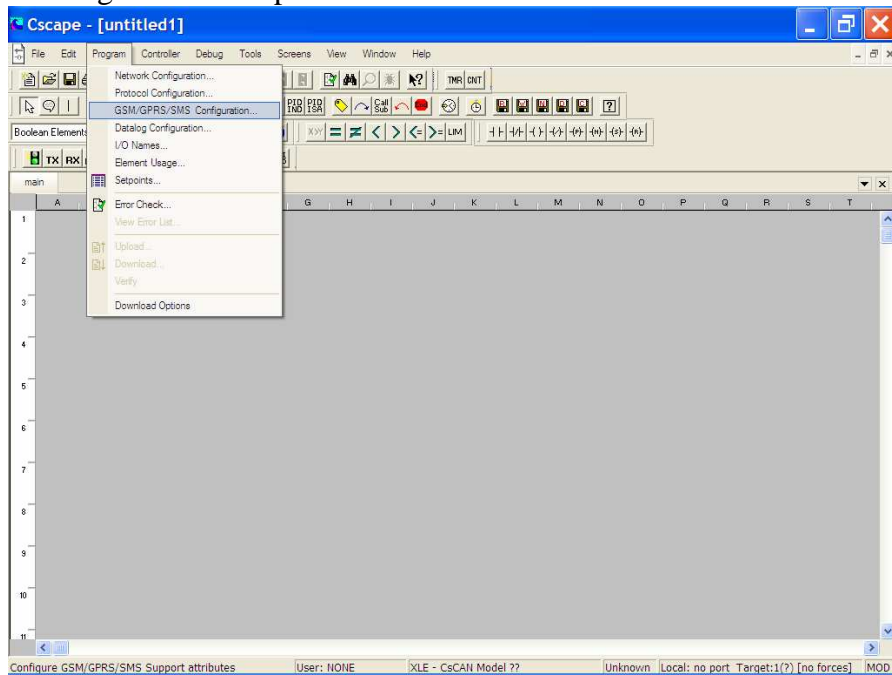
1. Configure the XLe for the HE-GSM04 under the I/O configuration either through manually configuring the I/O or through the Auto Configuration feature.



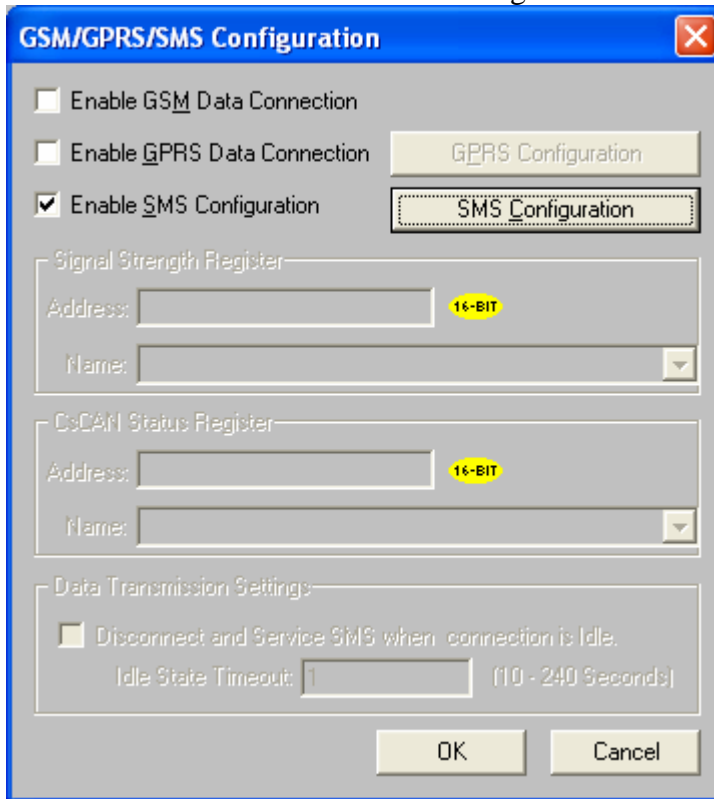
2. Click OK.

SMS Configuration:

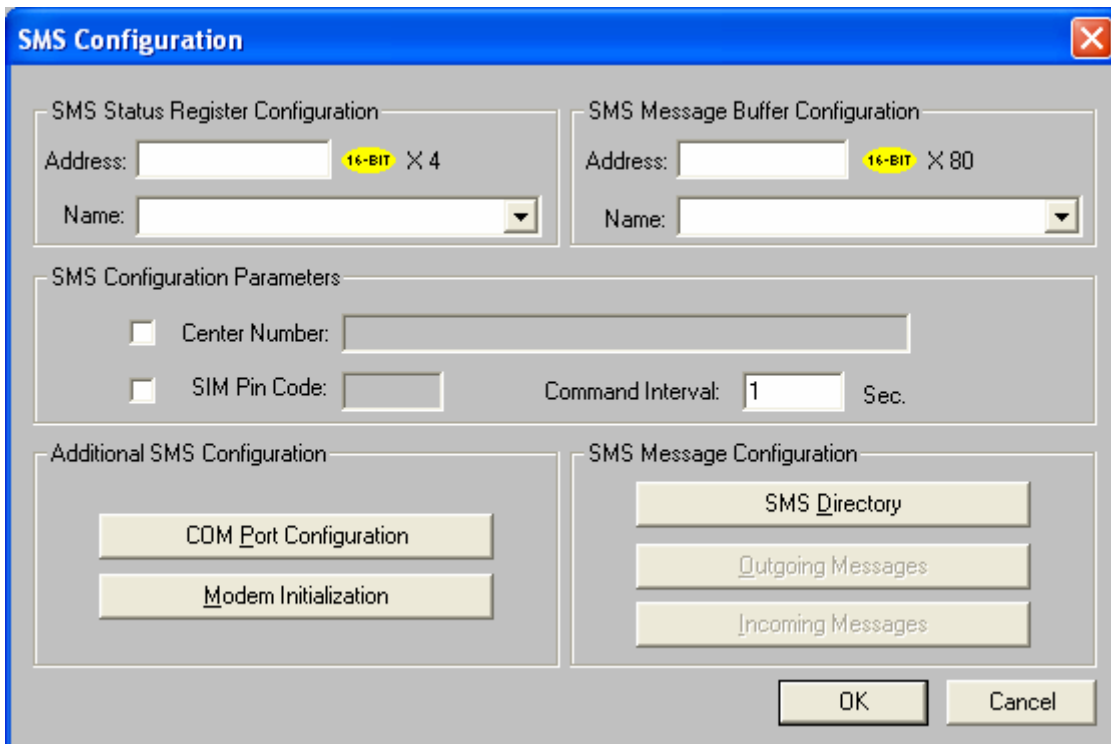
1. Go to Program at the top of CSCAPE. Click on GSM/GPRS/SMS Configuration.



2. Click in the box Enable SMS Configuration.



3. Click on the SMS Configuration Box.



4. Under the SMS Status Register Configuration type in and address in the Address box. (Example: %R0100) You can name it whatever you want.
REMEMBER: The Status register uses 4 consecutive registers.
5. Under the SMS Message Buffer Configuration type in and address in the Address box. (Example: %R0200) You can name it whatever you want.
REMEMBER: The message buffer uses 80 consecutive registers so take this into consideration when selecting registers.

SMS Configuration

SMS Status Register Configuration
Address: %R0100 16-BIT X 4
Name: SMS_STATUS

SMS Message Buffer Configuration
Address: %R0200 16-BIT X 80
Name: SMS_BUFFER

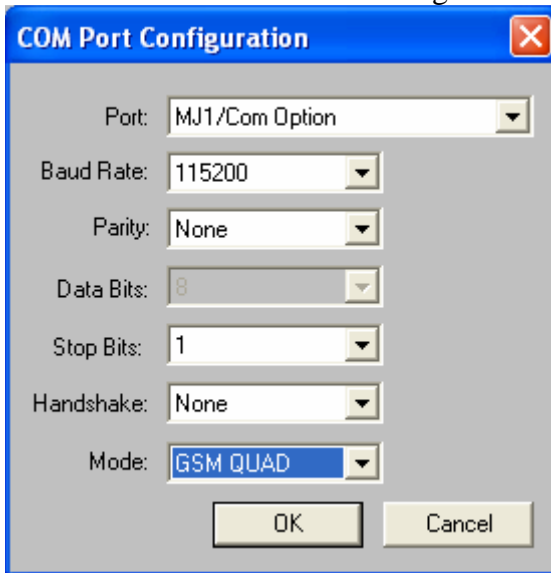
SMS Configuration Parameters
 Center Number:
 SIM Pin Code: Command Interval: 1 Sec.

Additional SMS Configuration
COM Port Configuration
Modem Initialization

SMS Message Configuration
SMS Directory
Outgoing Messages
Incoming Messages

OK Cancel

6. Click on the COM Port Configuration Box. Set it as follows.



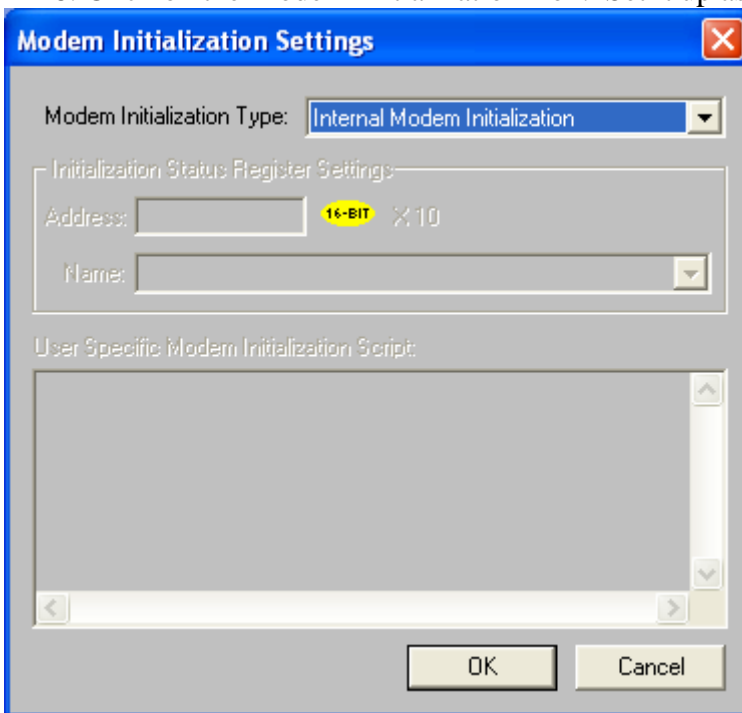
The image shows a dialog box titled "COM Port Configuration" with a blue header and a red close button. It contains several settings:

- Port: MJ1/Com Option
- Baud Rate: 115200
- Parity: None
- Data Bits: 8
- Stop Bits: 1
- Handshake: None
- Mode: GSM QUAD

At the bottom, there are "OK" and "Cancel" buttons.

7. Click OK.

8. Click on the Modem Initialization Box. Set it up as follows.



The image shows a dialog box titled "Modem Initialization Settings" with a blue header and a red close button. It contains the following settings:

- Modem Initialization Type: Internal Modem Initialization
- Initialization Status Register Settings:
 - Address: (empty field) 16-BIT X10
 - Name: (empty dropdown)
- User Specific Modem Initialization Script: (empty text area)

At the bottom, there are "OK" and "Cancel" buttons.

9. Click OK

- b. Click on the Add New Message Box.
- c. Assign a Trigger Variable Setting.
- d. Assign a group to receive the message. This is one of the groups assigned in the SMS Directory.
- e. Configure the SMS Message. To embed data into the message, press the F2 key or click on F2 = Inset Field.
- f. Configure the data field accordingly.
- g. You can add more messages if you would like using the same setup.

SMS Message Configuration

Trigger Variable Settings

Address: 1-BIT

Name:

Message Attributes

Send Groups:

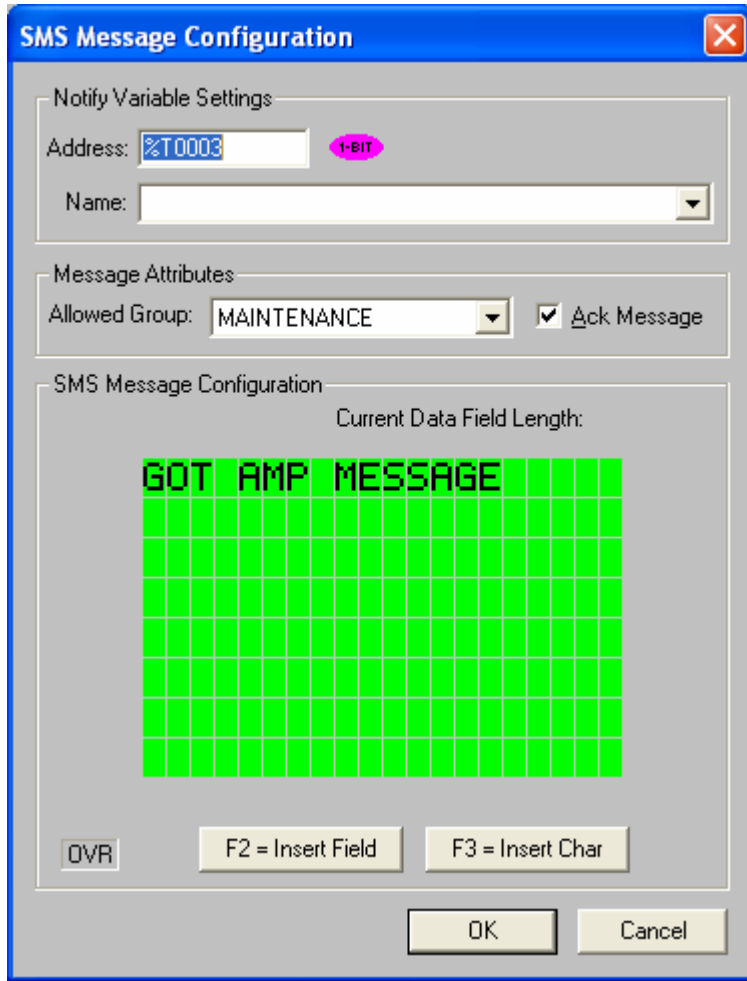
SMS Message Configuration

Current Data Field Length:

TANK LEVEL HIGH

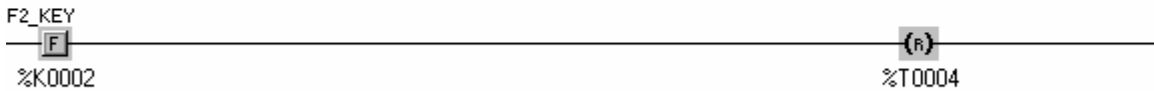
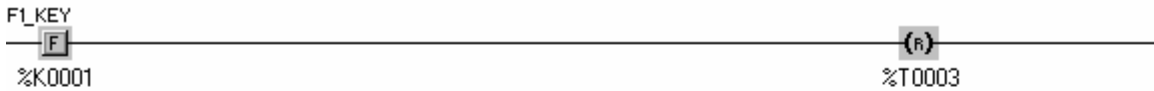
OVR F2 = Inset Field F3 = Inset Char

OK Cancel



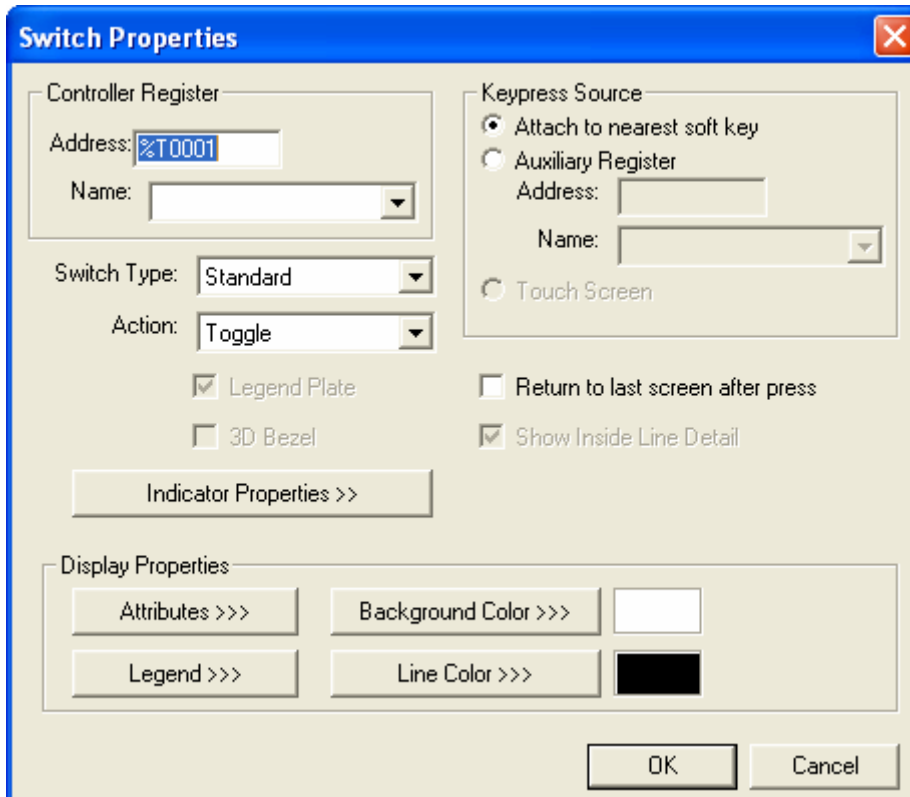
Ladder Program:

1. None really needed.
2. These are simply just for resetting the acknowledges from the messages.
3. The F keys were used in the example. By using a NO contact and a Reset Coil.

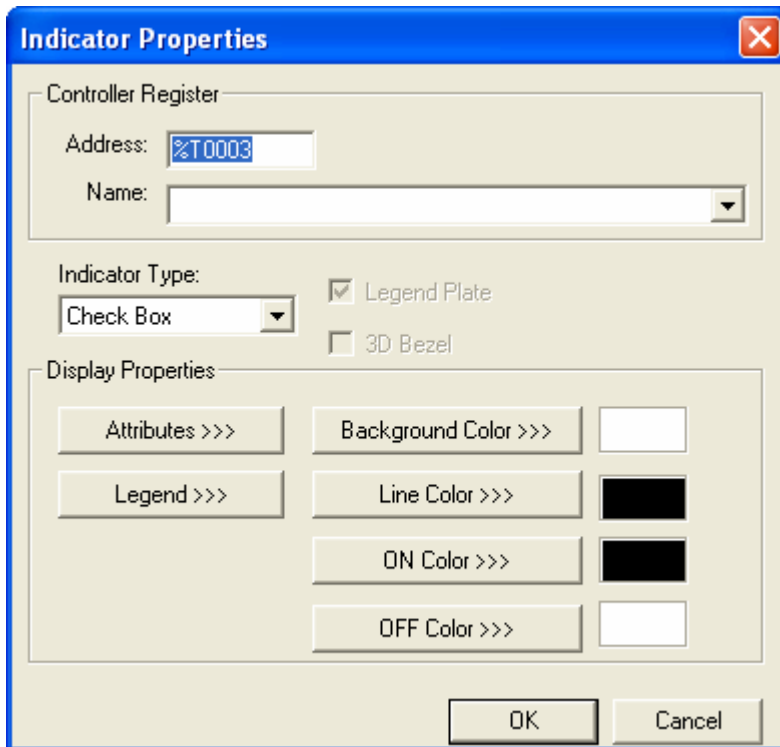


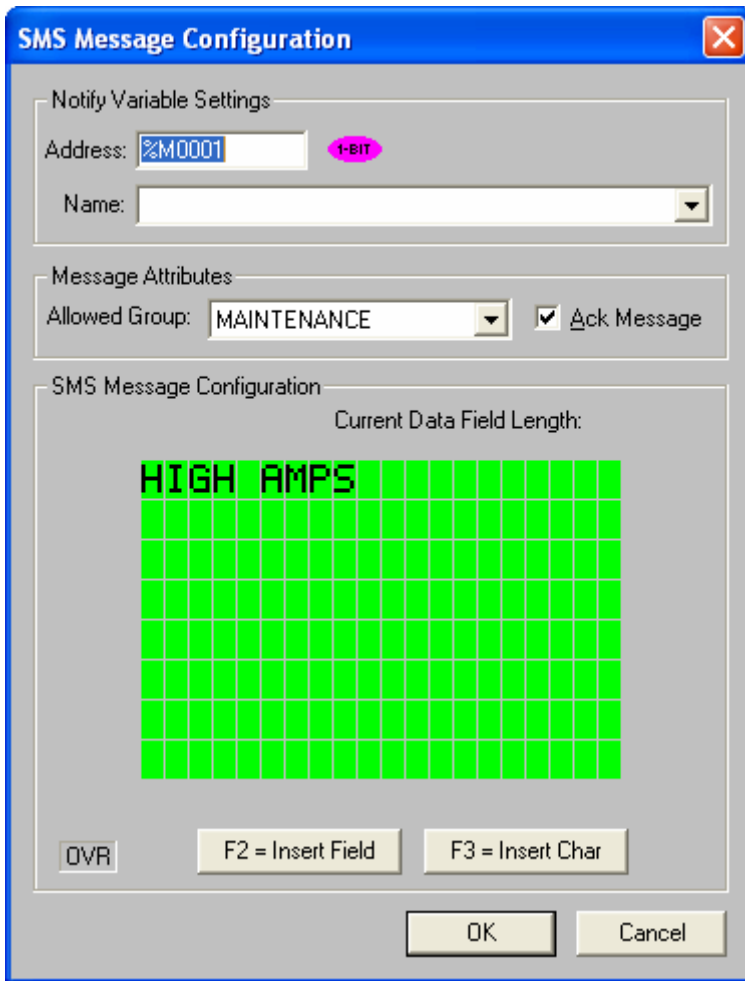
Screen Configuration:

1. The screen can be configured however you would like but this is an example of how it was done for this lab.
2. A few switches were put on the screen. Set them up as follows. They can be called whatever in the Legend.



3. Then a few Indicators were added to the screen. Set them up as follows. They can be called whatever in the Legend.
4. Click OK when exiting the properties menu.
5. Now Download the program into the OCS Controller (XLe). The GSM04 uses the programming port so the controller will either have to be placed into IDLE mode through the system menu or download to the controller via another controller through the CSCAN network.





Summary:

Horner APG wrote this document in September of 2008. Questions or comments can be directed to the Tech Support Department by phone at 317-916-4274 or email techspt@heapg.com.