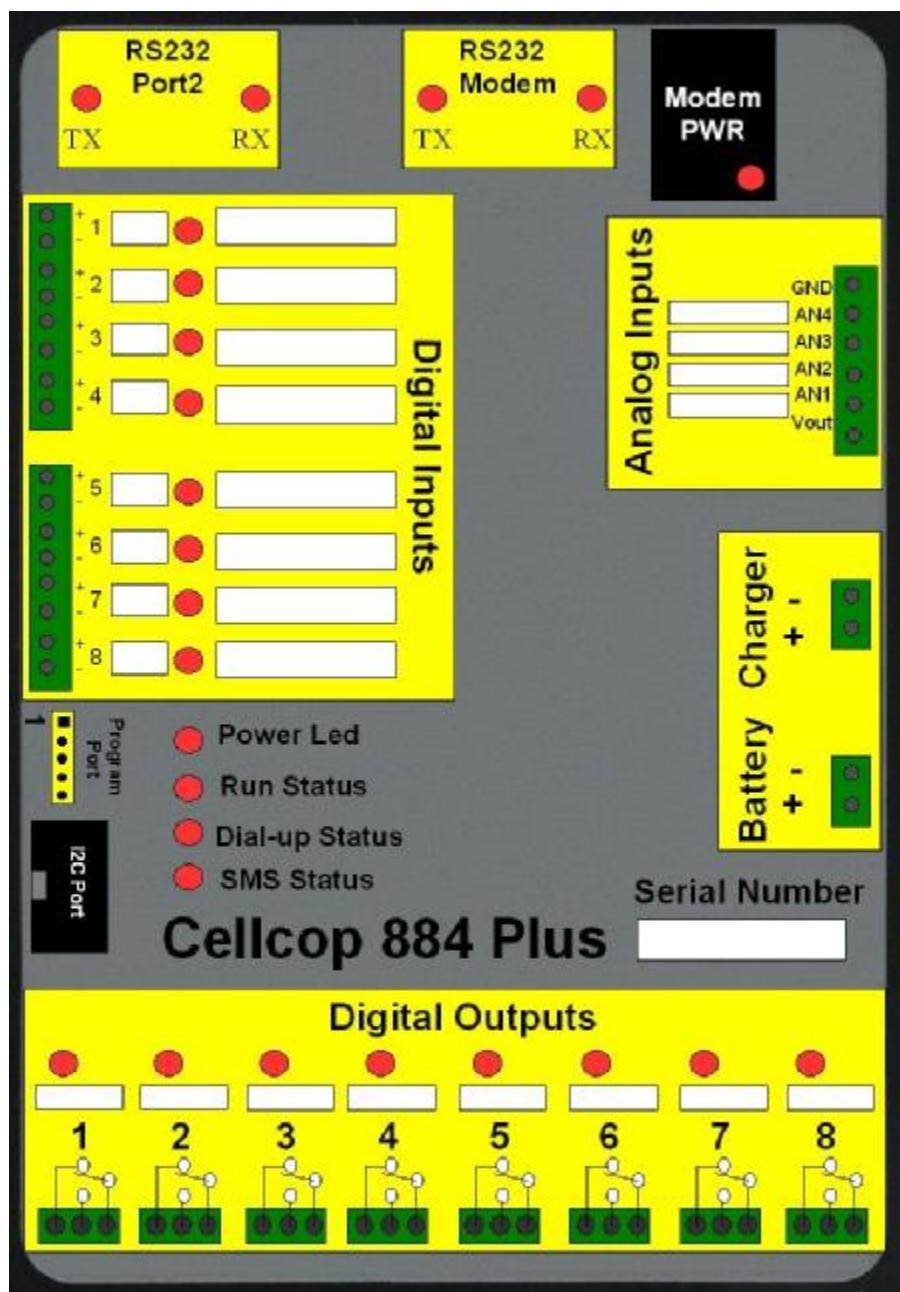


Cellcop Communicator CP884 Plus

Manual

August 2007



ABOUT THE GSM COMMUNICATOR SYSTEM

The GSM communicator system is based on GSM SMS technology. It uses a GSM Modem for communication and is designed to provide you with flexibility and convenience. Read this manual carefully and have your installer instruct you on the system's operation and on which features have been implemented in your system. All users of this system should be instructed on its functions.

Table of Contents

1. Features.....	3
2. Cellcop 884 Plus board layout	4
3. Operation of the GSM communicator	5
3.1 Setting up the Unit for operation.....	5
3.1.1 Wire up the inputs to sensors	5
3.1.2 Wire outputs to devices to be controlled	8
3.1.3 Wire Analogs for monitoring	9
3.1.4 Connecting the modem / PC.....	9
3.1.5 Connecting the power supply	10
3.1.6 Programming the GSM Communicator.....	10
4. Programming Parameters.....	11
4.1 Service Center Number :.....	11
4.2 Cellphone Numbers and names:.....	11
4.3 Input parameters:	12
4.4 Output Parameters:.....	13
4.5 Pix Parameters:.....	14
4.6 AC Power monitor parameters battery charger:	14
4.7 Status of the battery:	15
4.8 Other parameters	16
4.9 Setup Analogs	17
4.10 Setup timed events.....	18
4.11 Setup Logger.....	19
4.13 Setup Run Meter and Input 1 monitor control.....	21
4.14 Setup Control room messages.....	22
4.15 I2C Expantion Ports:	22
4.16 Tag reader interface Parameters:.....	23
4.17 GPRS Parameters:.....	23
4.18 Modem Monitor:	23
5 Controlling the GSM Communicator using a Cellphone (SMS commands)	25
5.1 Output Commands	25
5.2 Request Status Command	25
5.3 Select Monitor Mode	25
5.4 Set the Real Time Clock using SMS	25
5.5 Program Timed Events using SMS	27
5.6 Program Cellphone Number using SMS	27
5.7 Program Monitor Modes using SMS.....	28
5.8 Set RUN METER to a Value	28
6. Specification	29
IMPORTANT NOTICE.....	1

1. Features

Digital Inputs to communicate alarm conditions

- Each input can be triggered to send an SMS to up to 16 Cellphone numbers
- The time delay before the SMS is send can be set for each input
- Separate messages can be configured for On and Off states of the input signal
- Messages to be send can be programmed by the user
- On or Off states can both be reported to predefined cellphone numbers.
- Reporting can be disabled for an input
- The states of the inputs can be requested from the unit by SMS

Outputs to control any electrical device

- Outputs can be controlled by cellphone using SMS (Switching the output on, off or pulse)
- The duration of the pulse can be programmed for each output
- Outputs can be set to follow the state of an input
- Status of an output can be requested from the unit by SMS
- Outputs can be controlled by scheduled events

Analog inputs to monitor volume, temperature, etc. (Only on Cellcop884M)

- Each analog can be triggered to send an SMS to up to 16 cellphone numbers
- The analog value where the SMS is send can be configured.
- Separate messages can be configured for High and Low level alarms.
- Messages to be send can be programmed by the user
- High or Low alarm messages can both be reported to predefined cellphone numbers.
- Reporting can be disabled for an analog
- The value of an analog can be requested from the unit by SMS

Monitor AC power using the charger input

- AC power can be monitored by using the charger input.
- SMS can be send to up to 16 numbers when a power failure occur and when the power returns

Monitor the battery status

- The battery status can be monitored by the system.
- SMS can be send to up to 16 numbers when the battery is faulty.
- The battery is monitored by disconnecting it from the main supply and to measure the battery voltage while connected to a load.

Timed events

Timed events can be configured to control outputs, Switch Monitor modes, etc.

Event logger

The system can be setup to log events on the board.

Run Meter 1 on Input 1

Input 1 can be configured as run meter 1.

Run Meter 2 on Input 2

Input 2 can be configured as run meter 2.

Monitor control using Input 1

Input 1 can be used to control if an input or analog should be monitored.

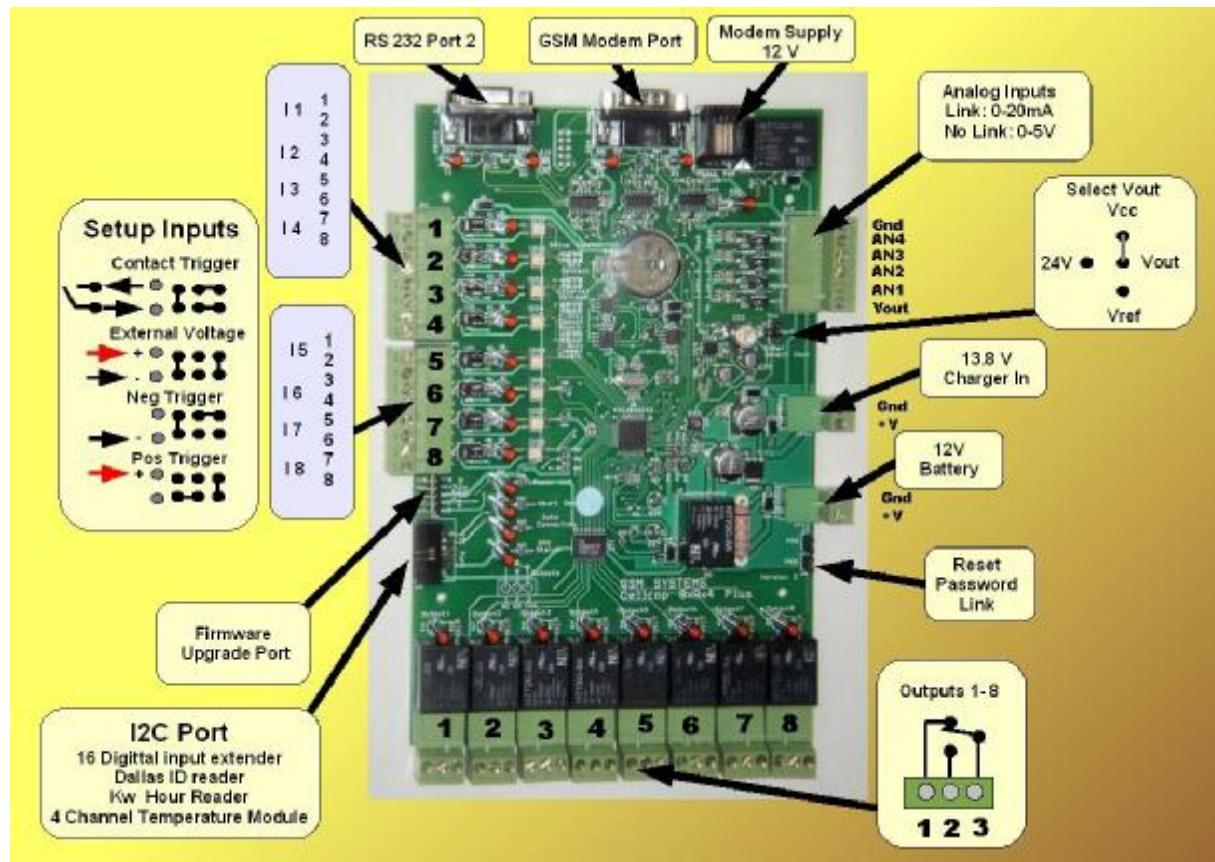
Monitor modes

Different monitor modes are implemented to enable different monitor setup.

Local and remote configuration of the unit

- The units parameters can be configured with the supplied configuration software
- Configuration can be done locally using a program cable or remotely using a modem

2. Cellcop 884 Plus board layout



3. Operation of the GSM communicator

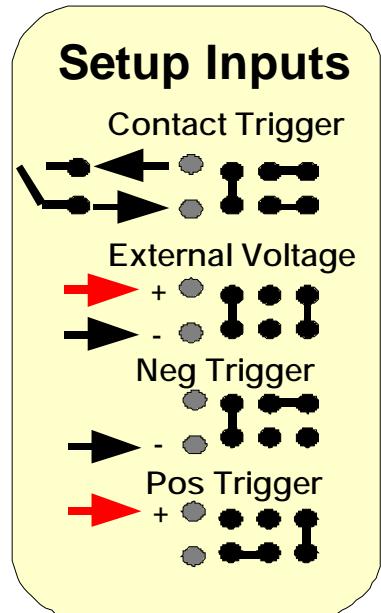
3.1 Setting up the Unit for operation

The following steps should be followed to use the GSM communicator

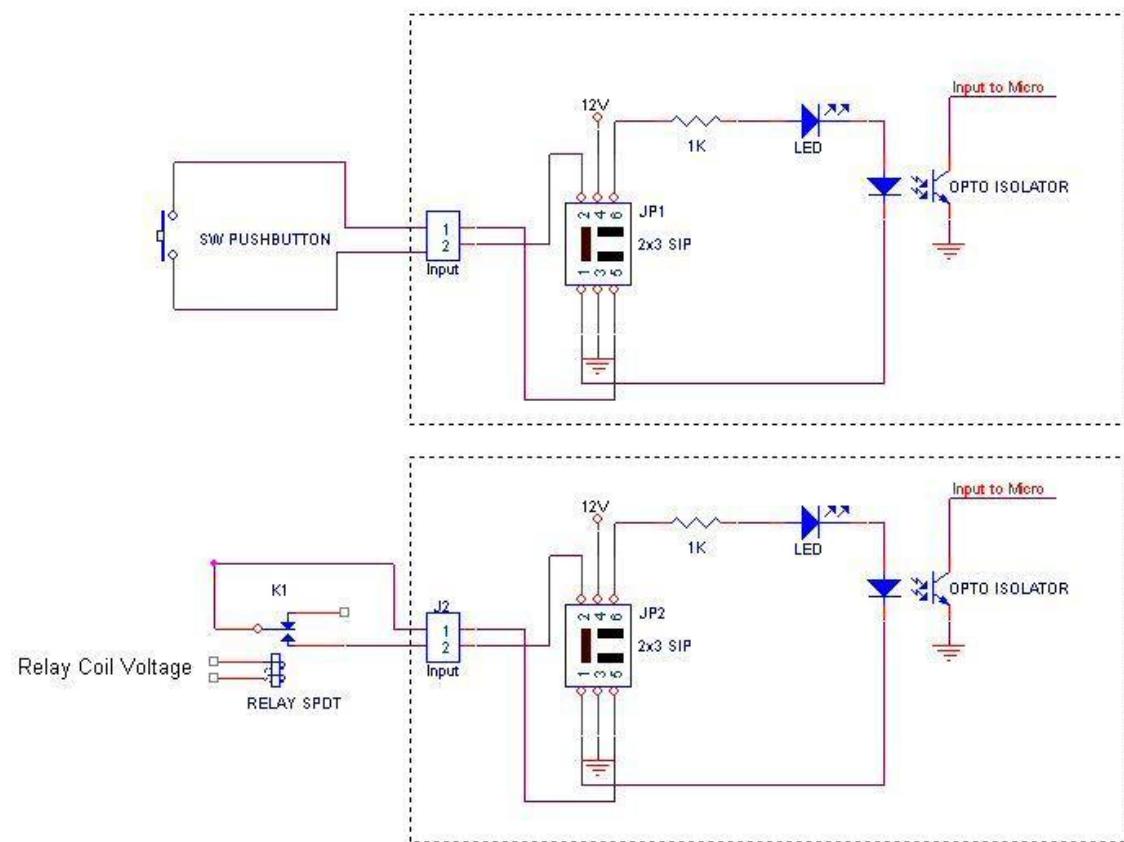
3.1.1 Wire up the inputs to sensors

The inputs can be wired up in various configurations. The inputs can be setup to be used in various configurations by setting up the links.

Link configuration:

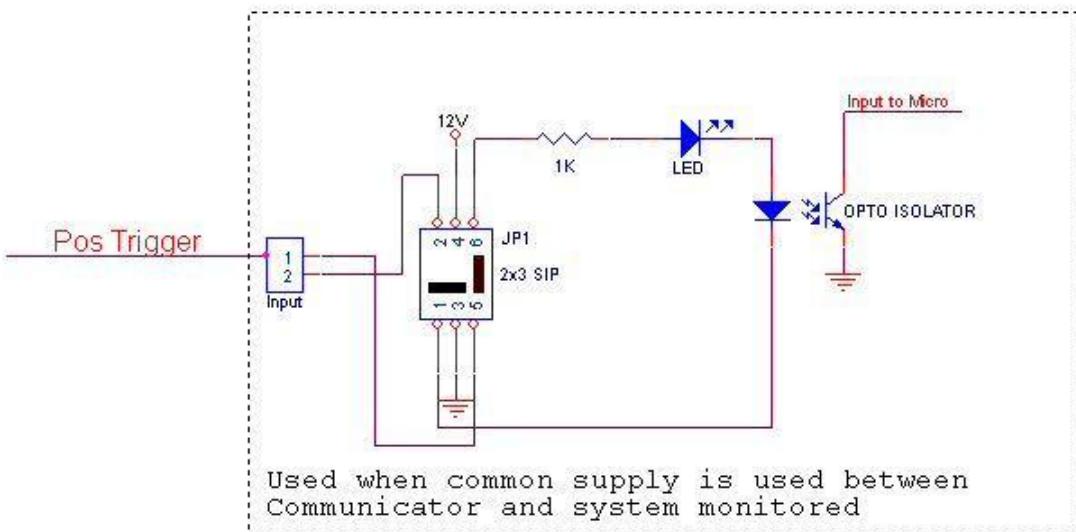


Configuration 1 (Contact trigger)



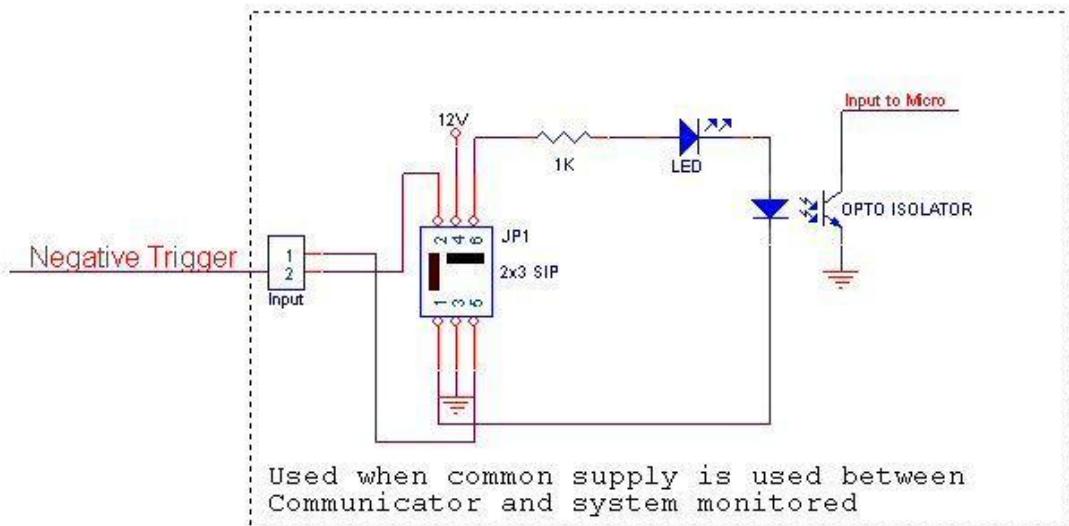
If the switches are closed the corresponding Input will go on and SMS will be send to the configured telephone numbers.

Configuration 2 (Pos on pin 1 N/C on pin 2)



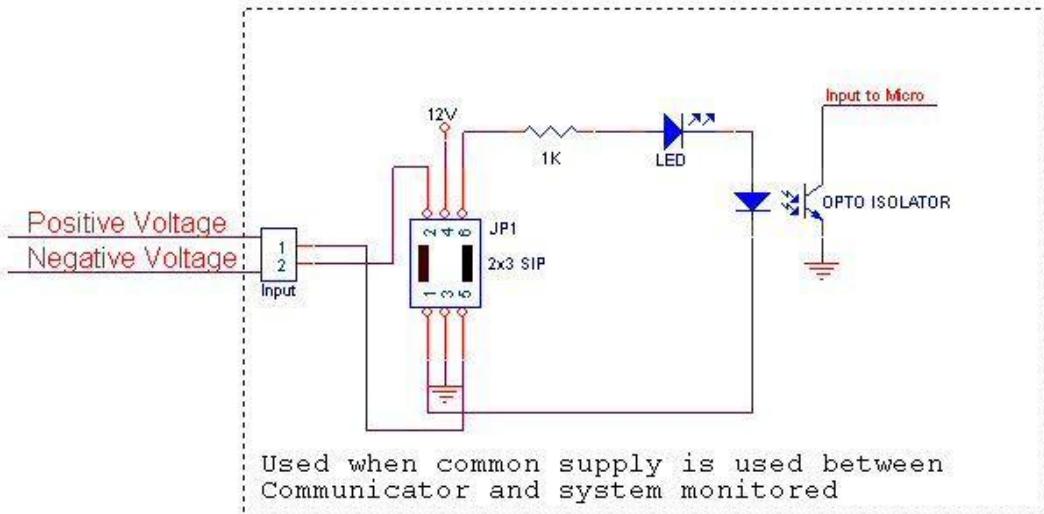
If a common supply is used then a positive from the alarm circuit can be used to trigger the unit.

Configuration 3 (N/C on pin 1 Neg on pin 2)



If a common supply is used then a negative from the alarm circuit can be used to trigger the unit.

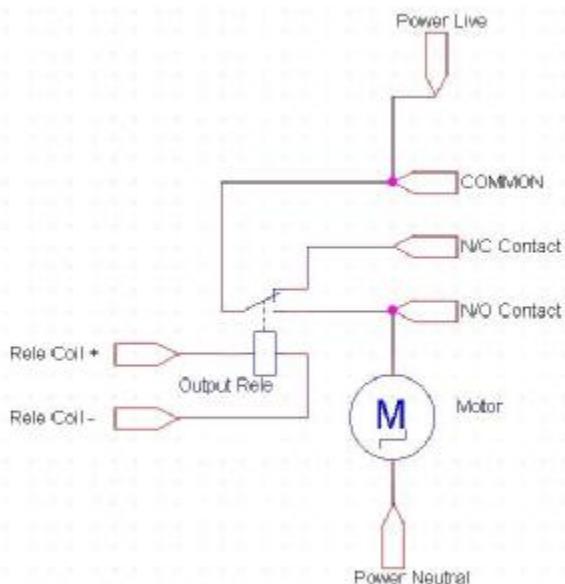
Configuration 4 (Pos on pin 1 Neg on pin 2)



No common supply. Positive and negative is supplied from external alarm circuitry.

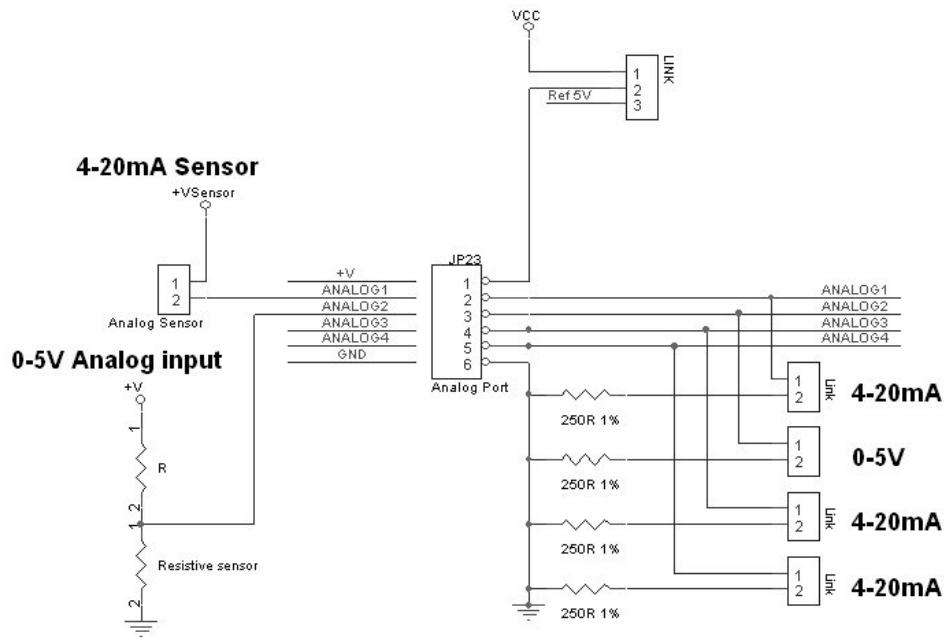
3.1.2 Wire outputs to devices to be controlled

The outputs are isolated relay outputs and are able to switch 240 VAC 10 A. The relay output are available on the terminals.



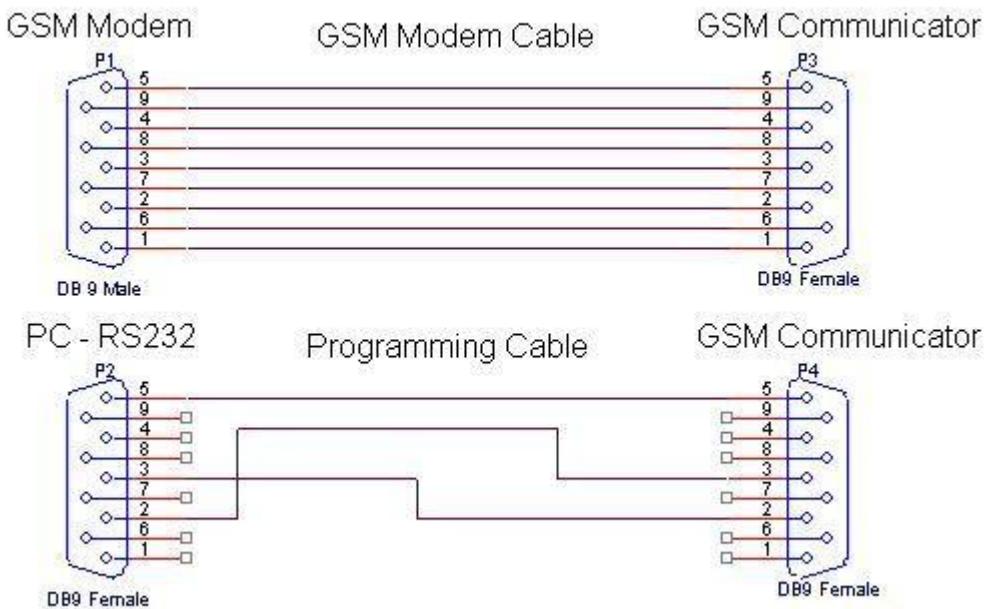
Output used to switch on a motor using less than 240VAC and 10A current

3.1.3 Wire Analogs for monitoring



The analog input can be either 0-20mA or 0-5V. If the link is connected the 0-20mA option is selected. The 250 ohm resistor will convert the 0-20mA to a voltage of 0-5V. The communicator use a 10 bit A/D converter and the value of 0-5V will correspond to a value of 0-1023 in the communicator.

3.1.4 Connecting the modem / PC



3.1.5 Connecting the power supply

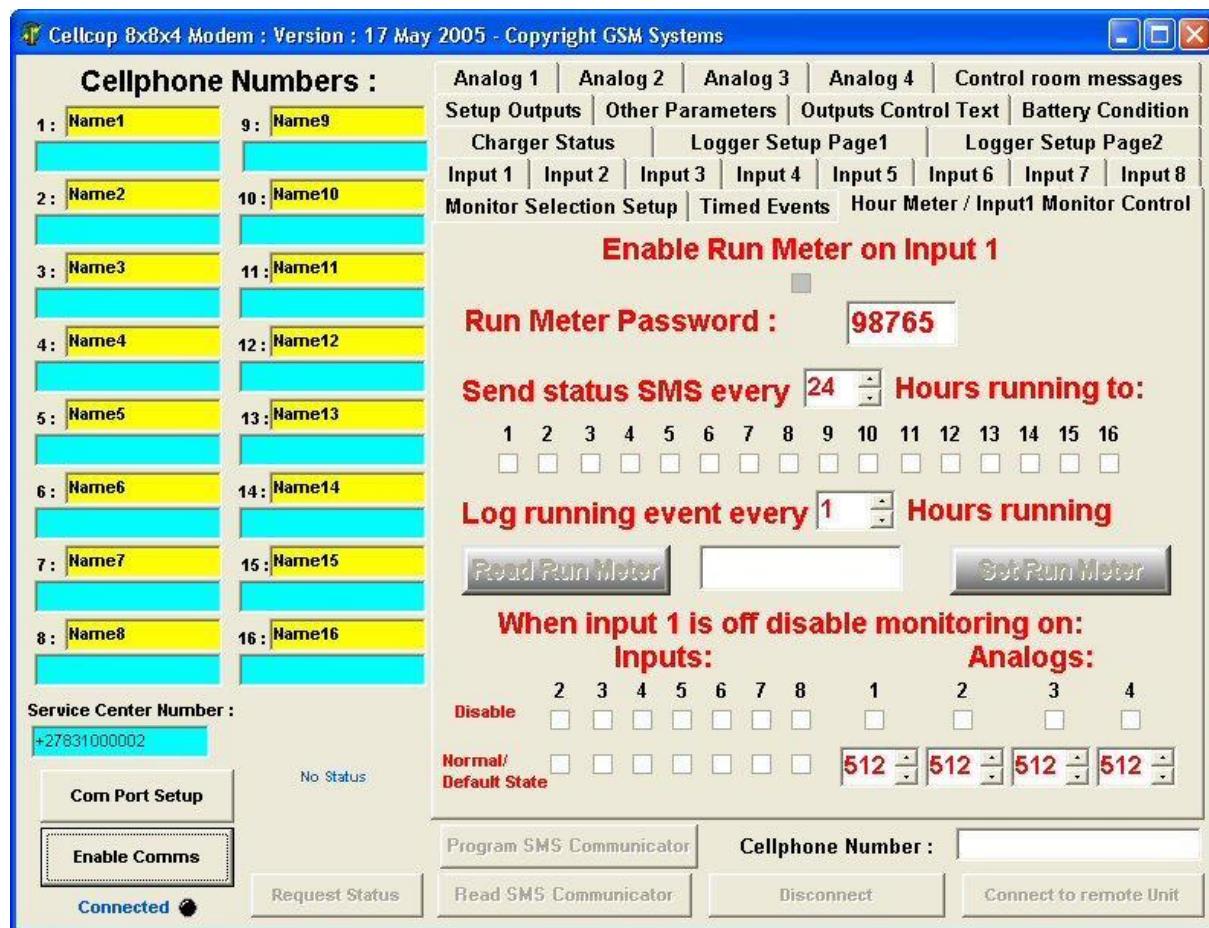
A 13.8 V 1A power supply should be connected to the Charger input while a 12V lead acid battery should be connected to the battery input.

3.1.6 Programming the GSM Communicator

Cable programming:

1. Connect the Cellcop unit to the PC using the RS232 cable
2. Power-up the Cellcop 8x8x4M using a 12 V DC supply.
3. Run the supplied programming software

The following window will appear :



Select the serial port that the Cellcop8x4N is connected to using the Com Port Setup
Click on the Enable Comms button to enable the communications

Click the read SMS communicator button to read the information from the GSM
communicator

Change the information and parameters to fit your setup

- Service Center Number
- Cellphone Numbers and names
- Input Parameters
- Output Parameters
- Analog Parameters
- Logger Parameters
- AC Power monitor parameters
- Etc.

4. Click “Program SMS Communicator button” to program your setup into the unit
5. Switch of the power
6. The unit is now ready for installation

Remote Programming:

1. Connect a Cell Modem to the PC using a serial cable.
2. Start the programming software
3. Select the correct serial port where the Cell Modem is connected.
4. Enable communications
5. Enter the number for the unit that must be programmed
6. Press the “Connect to remote site” button
7. When connect LED is green program same as cable programming.

Note: The password that is programmed on the board must be used or it will not accept programming messages. The password can be changed using cable programming. If the Reset password link is closed before the board is powered then the password will be reset to 12345.

4. Programming Parameters

4.1 Service Center Number :

Service Center Number :

+27831000002

MTN : +27831000002 **Pay as you go :** +27831000113

Vodacom : +27829119 or +27829129

4.2 Cellphone Numbers and names:

Cellphone Numbers :	
1 : Piet Pompies	9 : Name9
+27831235555	
2 : Koos Koekemoer	10 : Name10
+27821235555	
3 : Willem	11 : Name11
+27841235555	
4 : Name4	12 : Name12
5 : Name5	13 : Name13
6 : Name6	14 : Name14
7 : Name7	15 : Name15
8 : Name8	16 : Name16

4.3 Input parameters:

Example 1 :

Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8
---------	---------	---------	---------	---------	---------	---------	---------

Input 1 - Activated

Text message to send when activated : Enabled

Alarm Signal on On time to Activate [Half second Units] :

Send text message to the following Cellphone Numbers :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>												

Input 1 - De-Activated

Text message to send when de-activated : Enabled

Alarm Signal off On time to Activate [Half second Units] :

Send text message to the following Cellphone Numbers :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input type="checkbox"/>														

Input 1 is setup to send a SMS containing text "Alarm Signal on" to Cell phone number 1,2 and 3 only if the input 1 was on for 10 seconds. A SMS containing text "Alarm Signal off" will be send when Input 1 go Off to Cellphone number 1.

Example 2 :

Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8
---------	---------	---------	---------	---------	---------	---------	---------

Input 2 - Activated

Text message to send when activated : Enabled

Dam is vol On time to Activate [Half second Units] :

Send text message to the following Cellphone Numbers :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													

Input 2 - De-Activated

Text message to send when de-activated : Enabled

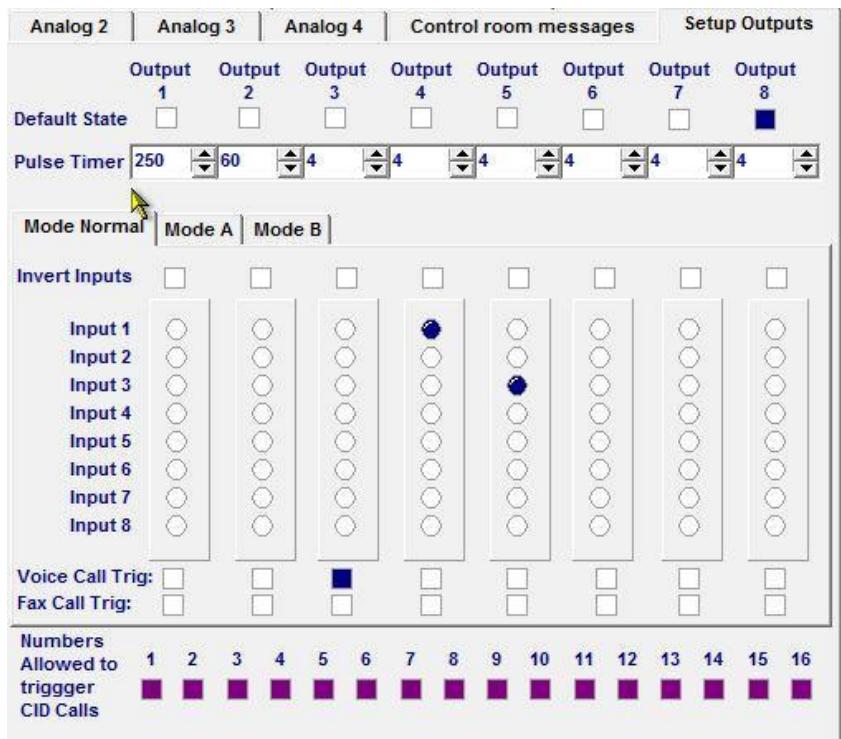
Dam is leeg On time to Activate [Half second Units] :

Send text message to the following Cellphone Numbers :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>												

Input 2 will send an SMS to Cell numbers 1 and 2 when Input 2 go on containing the text "Dam is vol" and it will send an SMS to Cell numbers 1 and 3 when Input2 go off containing the text "Dam is leeg"

4.4 Output Parameters:



Output 1,2,3,4,5,6 and 7 will be off and output 8 will be on when the unit is powered up because of the default state setting. A Pulse command to Output 1 will be on for 125 seconds, while it will be on for 60 seconds on output 2. The pulse commands units are measured in half seconds. Output 4 will follow Input 1 status. Output 5 will follow Input 3. A voice call from numbers 1 to 16 will trigger output 3 pulse command.

4.5 Pix Parameters:

Modem Monitor		Tag Reader Setup		Pix Input Extender																																									
		Input On	Alarm	Input Off	Alarm																																								
Enable PIX <input checked="" type="checkbox"/> When Alarm SMS to: <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr> <tr><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td colspan="4">Replace Date/Time in Status with the Pix Status</td></tr> <tr><td colspan="4"><input checked="" type="checkbox"/></td></tr> </table>	1	2	3	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	6	7	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9	10	11	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13	14	15	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace Date/Time in Status with the Pix Status				<input checked="" type="checkbox"/>				Pix Input 1	Rectifier Alarm	<input checked="" type="checkbox"/>	Pix Input1 Off	<input type="checkbox"/>
	1	2	3	4																																									
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																									
	5	6	7	8																																									
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																									
	9	10	11	12																																									
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																									
	13	14	15	16																																									
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																									
	Replace Date/Time in Status with the Pix Status																																												
	<input checked="" type="checkbox"/>																																												
		Pix Input 2	Pix Input2 On	<input type="checkbox"/>	Pix Input2 Off	<input type="checkbox"/>																																							
		Pix Input 3	Pix Input3 On	<input type="checkbox"/>	Temp High	<input checked="" type="checkbox"/>																																							
		Pix Input 4	Pix Input4 On	<input type="checkbox"/>	Pix Input4 Off	<input type="checkbox"/>																																							
		Pix Input 5	Pix Input5 On	<input type="checkbox"/>	Pix Input5 Off	<input type="checkbox"/>																																							
		Pix Input 6	Pix Input6 On	<input type="checkbox"/>	Pix Input6 Off	<input type="checkbox"/>																																							
	Pix Input 7	Pix Input7 On	<input type="checkbox"/>	Pix Input7 Off	<input type="checkbox"/>																																								
	Pix Input 8	Pix Input8 On	<input type="checkbox"/>	Pix Input8 Off	<input type="checkbox"/>																																								
	Pix Input 9	Pix Input9 On	<input type="checkbox"/>	Pix Input9 Off	<input type="checkbox"/>																																								
	Pix Input 10	Pix Input10 On	<input type="checkbox"/>	Pix Input10 Off	<input type="checkbox"/>																																								
	Pix Input 11	Pix Input11 On	<input type="checkbox"/>	Pix Input11 Off	<input type="checkbox"/>																																								
	Pix Input 12	Pix Input12 On	<input type="checkbox"/>	Pix Input12 Off	<input type="checkbox"/>																																								
	Pix Input 13	Pix Input13 On	<input type="checkbox"/>	Pix Input13 Off	<input type="checkbox"/>																																								
	Pix Input 14	Pix Input14 On	<input type="checkbox"/>	Pix Input14 Off	<input type="checkbox"/>																																								
	Pix Input 15	Pix Input15 On	<input type="checkbox"/>	Pix Input15 Off	<input type="checkbox"/>																																								
	Pix Input 16	Pix Input16 On	<input type="checkbox"/>	Pix Input16 Off	<input type="checkbox"/>																																								

The PIX Unit add an additional 16 Digital inputs via the I2C interface. The displayed configuration page will enable the Pix unit and will send alarms to numbers 1 and 8 when Pix input 1 high or Pix Input 3 Low is triggered. The Date time in the status message will be replaces with the PIX status.

4.6 AC Power monitor parameters battery charger:

Charger Status	Logger Setup Page1	Logger Setup Page2																																
Charger Power On Text message to send when activated : <input checked="" type="checkbox"/> Enabled <input type="text"/> Charger Power On On time to Activate <input type="text"/> [Half second Units] : 120 Send text message to the following Cellphone Numbers : <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table>			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																			
Charger Power Off Text message to send when de-activated : <input checked="" type="checkbox"/> Enabled <input type="text"/> Charger Power Off On time to Activate <input type="text"/> [Half second Units] : 60 Send text message to the following Cellphone Numbers : <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table>			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																			

The communicator will send an SMS to cellphone number 1 containing “Charger Power On” when the charger is go on after 60 seconds and it will send an SMS to cellphone number 1 “Charger Power Off” when the charger is switched off for 30 seconds.

4.7 Status of the battery:

The battery status will be tested once every 24 hours when the power is on and continuously when the power is off. If the battery voltage is above the predefined voltage it will send a message “Battery Ok” to the predefined cellphone numbers. If the battery voltage is below the predefined voltage it will send “Battery Faulty” to the predefined cellphone numbers. The current status of the battery is determined at start-up and only changes in state will be reported. This mean that you will not get an SMS every 24 hours telling you the state of the battery but only when the state changes. To calculate the Count to be programmed use the following equation.

Program Count = $(V/15) * 255$ where V is the voltage where you want the alarm.

To calculate V from the count use

$$V = (Count / 255) * 15$$

Examples:

$$V = (200/255)*15 = 11.7V$$

$$V = (230/255)*15 = 13.5V$$

$$Count = 13/15 * 255 = 221$$

4.8 Other parameters

Setup Outputs	Other Parameters	Outputs Control Text	Battery Condition
Current Password : <input type="text" value="12345"/> New Password : <input type="text" value="12345"/>			
Password Required for SMS Control <input checked="" type="checkbox"/>			
Enable Send Interval SMS Required <input checked="" type="checkbox"/>			
Send to:	<input type="text" value="24"/> Hours	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16	
Add Site Name to Messages			
Site Name:	<input checked="" type="checkbox"/> <input type="text" value="Centurion"/>		

The password that is necessary to send commands to the board. To change the password put the current password in on current password field and the new password in the New Password field. If you don't have the right password you can't program the unit remotely or send SMS command to the unit when password required tick box is on.

The interval SMS send an SMS to the selected cellphone number on the interval specified to the numbers specified. The interval SMS is the status message containing all status information.

Add the site name to the SMS messages send. If the box is ticked then the site name specified here will be added to all messages.

4.9 Setup Analogs

Analog 1	Analog 2	Analog 3	Analog 4	Control room messages											
Above High Limit															
Text message to send when activated :				<input checked="" type="checkbox"/> Enabled											
Dam Full			High Limit [0-1023] :	700											
Send text message to the following Cellphone Numbers :															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Below Low Limit															
Text message to send when de-activated :				<input checked="" type="checkbox"/> Enabled											
Start Pump			Low Limit [0-1023] :	300											
Send text message to the following Cellphone Numbers :															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The communicator will send an SMS “Dam Full” to the configured number when the analog value is above 700. It will also send an SMS “Start Pump” to the configured numbers when Analog 1 is below 300. The unit uses a 10 bit Analog to digital converter and 0 – 5V or 0 – 25mA correspond to a value of 0 – 1023.

To calculate the limit value use the following equation:

$$\text{Limit value} = V/5 * 1023$$

Example for a limit of 3 V:

$$\text{Limit value} = 3/5 * 1023 = 613$$

The analog alarm will reset and be ready to send another SMS when the Limit goes 5 units below or above the set value.

4.10 Setup timed events

Monitor Selection		Setup	Timed Events	Hour Meter / Input1	Monitor Control
DD - Date MM - Month YY - Year W - Weekday HH - Hour MM Minute CC - Command Example: AN Switch Output 1 On, DF Switch Output 4 Off, EP Pulse on Output 5, MA Select Monitor A, MN Select Monitor Normal, SM SMS to Interval Numbers Weekday 0-6 : Sunday - Saturday, 77 - Ignore parameter					
DDMMYYWHHMMCC	DDMMYYWHHMMCC				
1 7777772304AP	◀ 9 7777772000AX	◀	◀	◀	◀
2 06100672030BN	◀ 10 7777772000AX	◀	◀	◀	◀
3 77777702100CF	◀ 11 7777772000AX	◀	◀	◀	◀
4 7777772000AX	◀ 12 7777772000AX	◀	◀	◀	◀
5 7777772000AX	◀ 13 7777772000AX	◀	◀	◀	◀
6 7777772000AX	◀ 14 7777772000AX	◀	◀	◀	◀
7 7777772000AX	◀ 15 7777772000AX	◀	◀	◀	◀
8 7777772000AX	◀ 16 7777772000AX	◀	◀	◀	◀

The tick is used to enable the timed event. In this example Events 1-3 are enabled. Event 1 is programmed to send a pulse command to output 1 every day 23:04. Event 2 is programmed to Switch output 2 on, on the 6 October 2006 at 20:30. Event 3 is programmed to switch output 3 of every Sunday at 21:00.

Commands available are:

Outputs

AN Switch Output 1 On
DF Switch Output 4 Off
EP Pulse on Output 5

Monitor mode

MA - Select Monitor A
MN - Select Monitor Normal

Send SMS to interval numbers

SM - SMS to Interval Numbers

Copy cellphone number position x to y

ab- Copy Cell Number 1 to Cell Number 2,
pa- Copy Cell Number 16 to Cell Number 1

4.11 Setup Logger

Charger Status	Logger Setup Page1	Logger Setup Page2						
INPUTS								
Event Log High	1	2	3	4	5	6	7	8
	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Event Log Low	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alarm Log High	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>					
Alarm Log Low	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>					
OUTPUTS								
Log Output Events	1	2	3	4	5	6	7	8
	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>					
Get Log #								
Get RTC	Clear Event Log	Download Event Log						
Set RTC	Clear Startup Log	Download Startup Log						

Charger Status	Logger Setup Page1	Logger Setup Page2													
Analog Inputs															
Alarm Log High	1	2	3	4											
	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>											
Alarm Log Low	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>											
Change Log	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>											
Change Value	15	10	10	2											
Other Log Events															
Charger Input	<input checked="" type="radio"/>														
Battery Input	<input checked="" type="radio"/>														
Monitor Change	<input checked="" type="radio"/>														
SMS Status when Log is 90 % Full To:															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use these 2 pages to setup the logger parameters. Logging on the different events can be enabled or disabled separately. The system can alert you when the log is 90 % full. The Real time clock (RTC) can be set by clicking on the "Set RTC" button. The system Date and time will be programmed into the unit. The logs can be cleared by clicking on the Clear log buttons. The logs can be downloaded by clicking on the download event log buttons. The system will store the downloaded log into the comma delimited file specified.

Log the following events for the example screens

Input 1 High, Low, High alarm and Low alarm events.

Input 2 High alarm and Low alarm event

Output 2 events

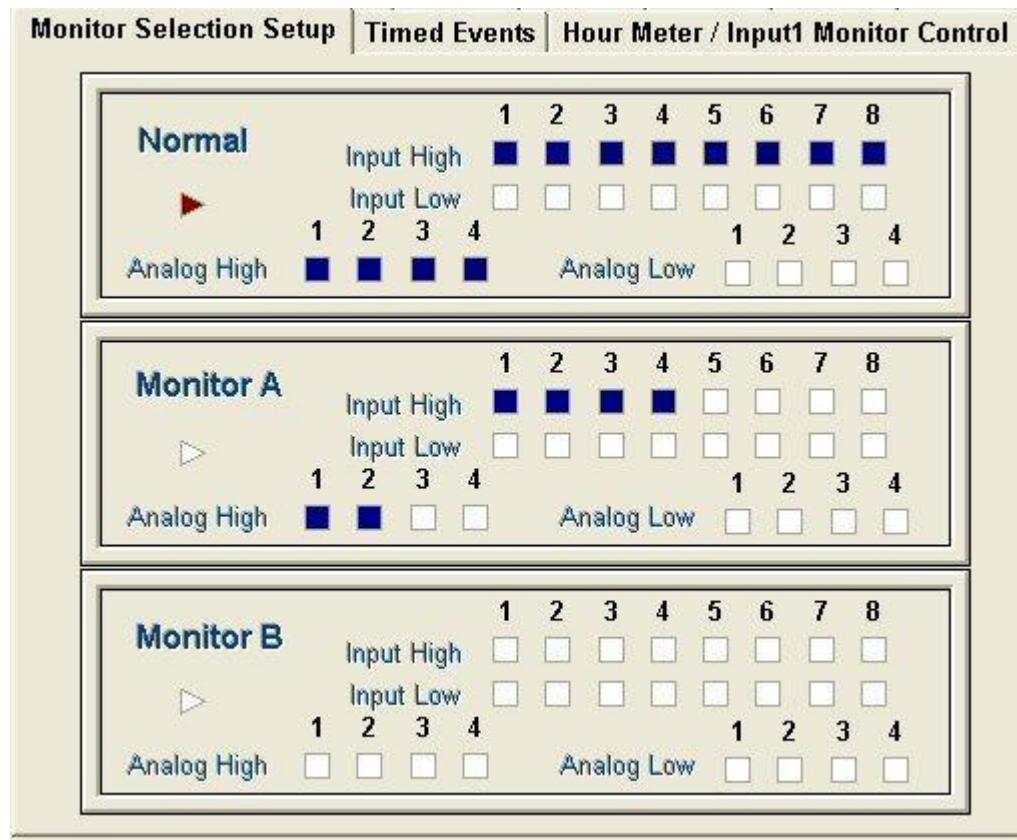
Analog 1 change event when the analog value changes 15 units.

Analog 2 High Alarm events

All analog 4 events

Charger, battery and monitor change events

4.12 Setup Monitor Selection



Setup the inputs and analogs to be monitored in the different modes. The example screens show the following configurations:

Normal configuration is selected

Normal

Monitor all Inputs High events

Monitor A

Monitor Inputs 1-4 High events and Analog 1 and 2 High limits.

Monitor B

Disable monitoring on all inputs and analogs.

See SMS command to change the monitor mode using SMS.

4.13 Setup Run Meter and Input 1 monitor control

Monitor Selection Setup | Timed Events | Hour Meter / Input1 Monitor Control

Enable Run Meter on Input 1

Run Meter Password :

Send status SMS every **Hours running to:**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													

Log running event every **Hours running**

Read Run Meter **Set Run Meter**

When input 1 is off disable monitoring on:

Inputs:	Analogs:
2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>	512 <input type="text"/> 712 <input type="text"/> 512 <input type="text"/> 512 <input type="text"/>

Disable **Normal/Default State**

Tick enable run meter to enable the run meter on Input1. Set the run meter password to enable the setting of the run meter using SMS. Send an SMS every x hours running to the configured cellphone numbers. Log running event every y hours running. Set or read the run meter values. Use Input 1 to disable monitoring when input 1 is off ticking the corresponding event to disable. Normal/default state is the state or value to use as default when input 1 is switched on.

Example screen:

Enable the run meter

Run meter password is 98765

Send status message every 24 hours running to cell numbers 1 and 2

Log running event every hour running

The current hour meter value is 5H25

Disable inputs 3 and 4 as well as analog 2 when input 1 is off. The default state for input 3 and 4 is off and the default value for analog 2 is 712 when input 1 is enabled.

4.14 Setup Control room messages

Analogs	Analogs	Analogs	Analogs	Control room messages
Send status message to Cellphone number 1 on the selected events :				
Activated (On) Event		De-Activated (Off) Event		
Input 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Input 2	<input type="checkbox"/>
Input 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Input 4	<input type="checkbox"/>
Input 5	<input type="checkbox"/>	<input type="checkbox"/>	Input 6	<input type="checkbox"/>
Input 7	<input type="checkbox"/>	<input type="checkbox"/>	Input 8	<input type="checkbox"/>
Charger Input	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Above Hi- Limit Event		Below Low Limit Event		
Battery Status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Analog 1	<input type="checkbox"/>
Analog 2	<input type="checkbox"/>	<input type="checkbox"/>	Analog 3	<input checked="" type="checkbox"/>
Analog 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Send status messages to cellphone 1 when the configured events are triggered.

4.15 I2C Expansion Ports:

GPRS Setup Page	I2C Setup Page	Hour Meter 2													
Enable I2C Port1 [0xd0] <input checked="" type="checkbox"/> Message Tag: <input type="text" value="S40"/>															
SMS Alarms and State changes to:															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable I2C Port2 [0xd4] <input checked="" type="checkbox"/> Message Tag: <input type="text" value="5220"/>															
SMS Alarms on Rectifier to:															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable I2C Port3 [0xd8] <input checked="" type="checkbox"/> Message Tag: <input type="text" value="LCVM"/>															
SMS Alarms on Loadcell Module to:															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable I2C Port4 [0xdc] <input checked="" type="checkbox"/> Message Tag: <input type="text" value="I2C4"/>															
SMS Alarms on Rectifier to:															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The I2C page is used to configure the I2C modules added to the communicator. On this configuration a Loadcell fuel measurement unit is configured on I2C Port 3. It will send the messages to cellphone number 1 which is also the default GPRS channel.

4.16 Tag reader interface Parameters:

Modem Monitor		Tag Reader Setup		Pix Input Extender											
		Reader1	Reader 2	Reader 3	Reader 4										
Enable Tag ID Reader: <input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
SMS Tag ID and additional when presented to the reader to:															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information to add to the Tag ID SMS:															
<input checked="" type="checkbox"/> Input Status		<input type="checkbox"/> Output Status	<input type="checkbox"/> Run Meter 1 Value	<input type="checkbox"/> Run Meter 2 Value											
<input type="checkbox"/> Analog 1 Value		<input type="checkbox"/> Analog 2 Value	<input type="checkbox"/> Analog 3 Value	<input type="checkbox"/> Analog 4 Value											
<input type="checkbox"/> Pix Inputs Status		<input type="checkbox"/> Battery Value	<input type="checkbox"/> Charger Status												
Match on Locally added Tags Trigger Outputs															
Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Output 7	Output 8								
Reader 1 - TagIn <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 1 - TagOut <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 2 - TagIn <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 2 - TagOut <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 3 - TagIn <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 3 - TagOut <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 4 - TagIn <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Reader 4 - TagOut <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								

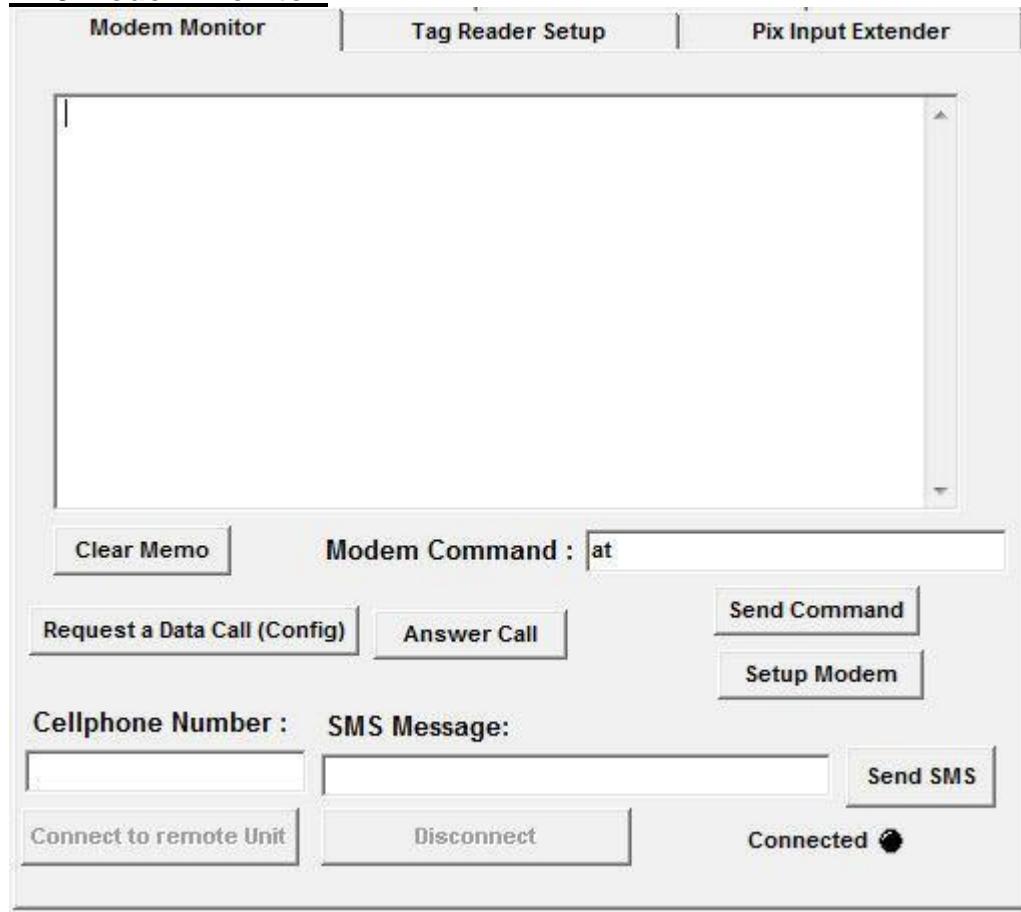
This page is used to configure the Tag reader interface connected to the I2C port. For this configuration Tag information will be send to numbers 1 and 3. The Input status and runmeter 2 data will be attached to the information. If a Tag configured with rights is presented to the TagIn port it will trigger Output 1 and if a Tag is presented to The TagOut port it will trigger output 2.

4.17 GPRS Parameters:

GPRS Setup Page		I2C Setup Page		Hour Meter 2			
Enable GPRS Functionality: <input checked="" type="checkbox"/>							
Own Cellphone Number: <input type="text" value="+2541239876"/>							
APN: <input type="text" value="safaricom"/>	Connection Type:						
APN User Name: <input type="text"/>	<input checked="" type="checkbox"/> TCP						
APN Password: <input type="text"/>	<input type="checkbox"/> UDP						
► GPRS Server IP address: <input type="text" value="41.139.37.35"/>							
► GPRS Server Domain Name: <input type="text" value="gsmystems.axxessvpn.co.za"/>							
DNS1: <input type="text" value="209.212.96.1"/>	ConnectionPort: <input type="text" value="50000"/>						
DNS2: <input type="text" value="209.212.97.1"/>							
GPRS Login Password: <input type="text" value="WSDR"/>							
<input type="checkbox"/> Server Acknowledge				<input type="checkbox"/> No Acknowledgement			
<input checked="" type="checkbox"/> CLR SMS Alarm if GPRS successfully transmitted to the server							

This page is used to enable GPRS communications on the communicator. When the GPRS is enabled cellphone number 1 will be the GPRS channel. If data is successfully transmitted the server (Cellphone number 1) you have the option of disregarding the remaining SMS messages or to send the messages to the configured numbers by clearing the “CLR SMS Alarm if GPRS Successfully transmitted to the server”

4.18 Modem Monitor:



The modem monitor page is used to remotely configure the systems using data calls. Remote configuration can be by direct call or could be requested by SMS. When the call is connected the Connected LED will be green.

5 Controlling the GSM Communicator using a Cellphone (SMS commands)

5.1 Output Commands

Control a single output

<Passwd5><Space>ANS

Character 1: A-H : Output1 – Output 8

Character 2: N - On

F - Off

P – Pulse

Character 3: S – Send Status SMS back

Any other character don't send SMS back

Control all outputs

<Passwd5><Space>OUTABCDefghS

Characters 1 – 8 : if Capital switch output on and if non-capital switch output off

Character 9: S – Send Status SMS back

Any other character don't send SMS back

Example:

12345 OUTABCDEFghS

Switch Outputs 1-7 On and 8 Off and send Status SMS back.

5.2 Request Status Command

<Passwd5><Space>STA

5.3 Select Monitor Mode

<Passwd5><Space>MAS

Character 2: N – Select Normal Mode

A – Select A Mode

B – Select B Mode

Character 3: S – Send Status SMS back

Any other character don't send SMS back

5.4 Set the Real Time Clock using SMS

<Passwd5><Space>RTCDDMMYYWHHMMSSS

DD – Day

MM – Month

YY – Year

W – Weekday (0-6 : Sunday – Saturday)

HH – Hour

MM – Minutes

SS - Seconds

Character 17: S – Send Status SMS back

Any other character don't send SMS back

Example:

12345 0610683131200S – 6 Oktober 2068 Wednesday 13:12:00 and send Status SMS back

5.5 Program Timed Events using SMS

<Passwd5><Space>PECDDMMYYWHHMMCCS

Character 3 – Select Time event number : A-P : Event Number 1 - 16

DD – Day

MM – Month

YY – Year

W – Weekday (0-6 : Sunday – Saturday)

HH – Hour

MM – Minutes

CC – Commands

Character 17: S – Send Status SMS back

Any other character don't send SMS back

77 - Ignore Date Time parameter

Commands available:

AN Switch Output 1 On, DF Switch Output 4 Off, EP Pulse on Output 5,

MA Select Monitor A, MN Select Monitor Normal,

SM SMS to Interval Numbers

ab- Copy Cell Number 1 to Cell Number 2, pa- Copy Cell Number 16 to Cell Number 1

Example:

PEC77777772012BNS – Ignore Date parameters every day 20:12 switch output B on and send status SMS back

PEC10100472012paS – Ignore Week day and on 10 October 2004 20:12 copy Cell 16 to 1 and send status SMS back

5.6 Program Cellphone Number using SMS

<Passwd5><Space>TNAS<Cellphone Number>

Character 3 : A-P : Cellphone Number 1 – 16

Character 4 : S – Send Status SMS back

Any other character don't send SMS back

<Cellphone Number> - Cellphone number to program

Example:

12345 TNCS+278312345678 – Program Cell number +278312345678 into position 3 and send Status SMS back

5.7 Program Monitor Modes using SMS

<Passwd5><Space>SMNABCDEFGHABCDEFGHABCDEFGHS

Character 3 : N – Select Normal Mode
 A – Select A Mode
 B – Select B Mode

Character 4-11 : if Capital enable inputs High and Non Capital Disable inputs High
Character 12-19 : if Capital enable inputs Low and Non Capital Disable inputs Low
Character 20-23 : if Capital enable inputs Analog High and Non Capital Disable
Analog High
Character 24-27 : if Capital enable Analog Low and Non Capital Disable Analog Low
Character 28 : S – Send Status SMS back
 Any other character don't send SMS back

Example:

12345 SMBabcdEFGHABCDefghABCdabCDS – for Mode B set the following Monitor
Inputs 4-8 High and Inputs 1-4 Low and Analog 1-2 High and Analog 3-4 Low and
send Status SMS Back

5.8 Set RUN METER to a Value

<Passwd5> <Space> RUNM <RUNMPasswd5> **XXXXXHYYMS**

Example:

12345 RUNM9876533333H59MS

Program password: 12345, Run meter password: 98765, Set Hours to 33333 and
minutes to 59, if last character S - Send SMS to confirm programming

XXXX must be 5 digits

YY must be 2 Digits

6. Specification

1. Modem used	Sony Ericsson GM29
2. Power supply	13.8V DC ± 5%
3. Max. voltage for outputs	240 V AC
4. Max. current for Outputs	10 A

IMPORTANT NOTICE

The Cellcop communicator system cannot prevent emergencies. It is only intended to alert you and - if programmed - your neighbors and monitoring station of an emergency situation. GSM communicators are generally very reliable but they may not work under all conditions and they are not a substitute for prudent security practices or life and property insurance. Your communicator system should be installed and serviced by qualified security professionals who should instruct you on the level of protection that has been provided and on system operations.