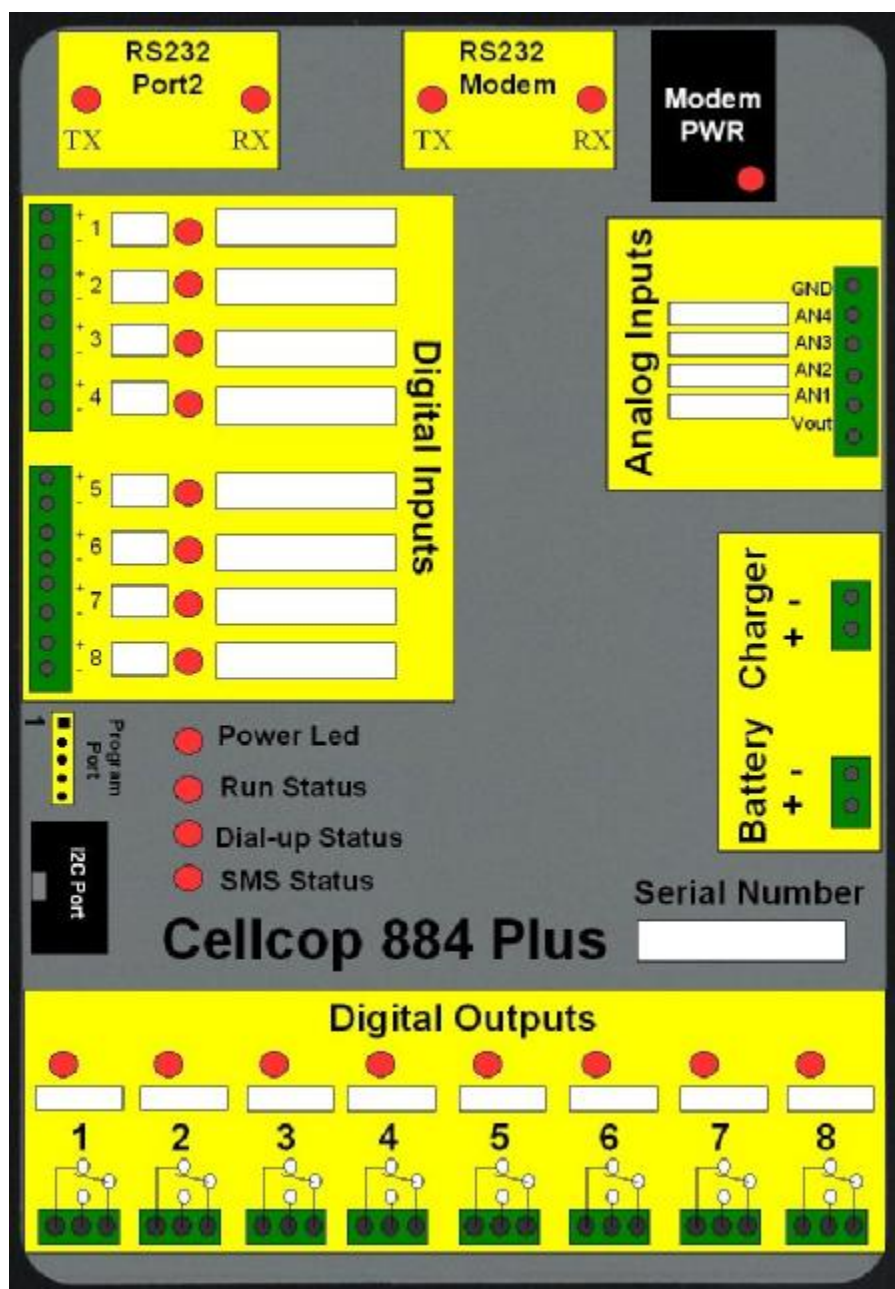


# Cellcop Communicator CP884 Plus Manual

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 Expansion 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.

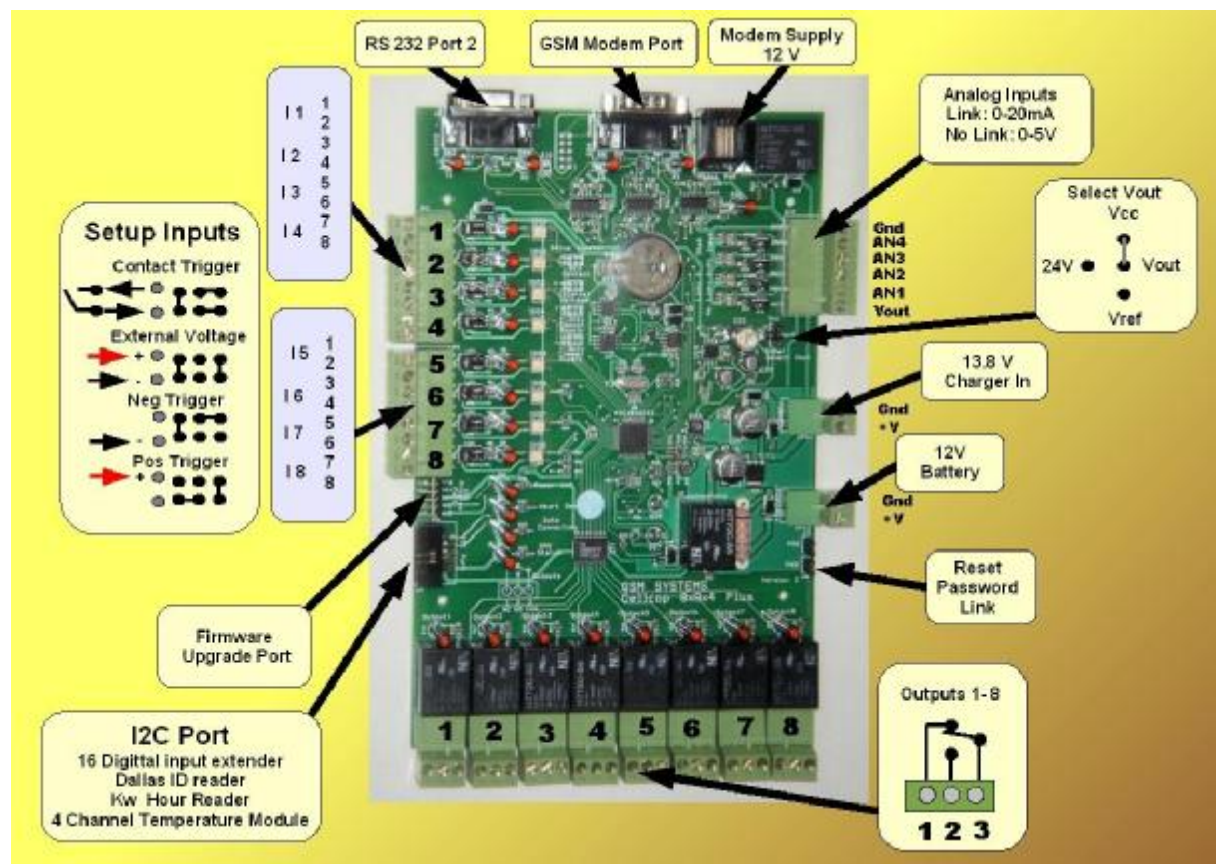
## Monitor modes

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**

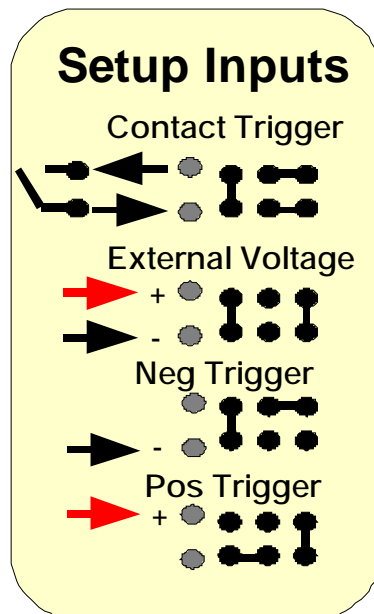
#### **3.1 Setting up the Unit for operation**

The following steps should be followed to use the GSM communicator

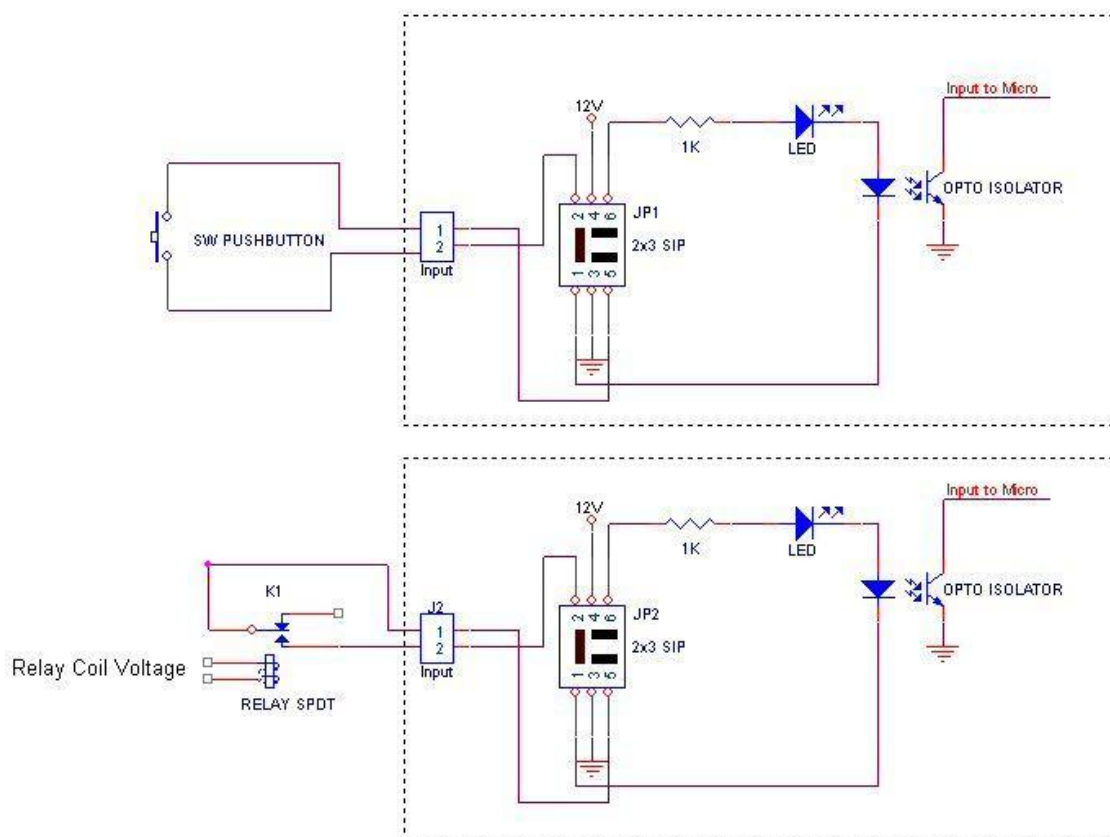
##### **3.1.1 Wire up the inputs to sensors**

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:

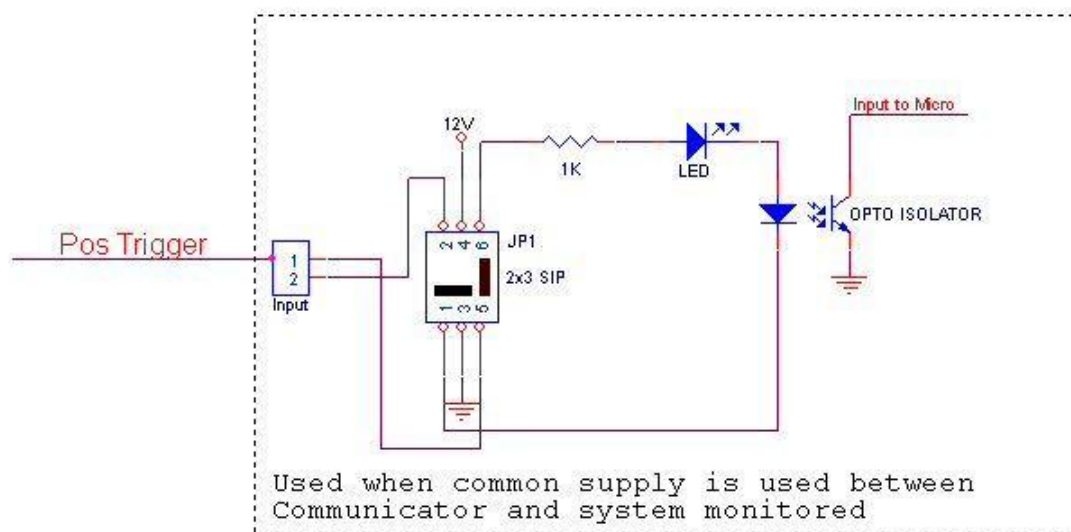


## Configuration 1 (Contact trigger)



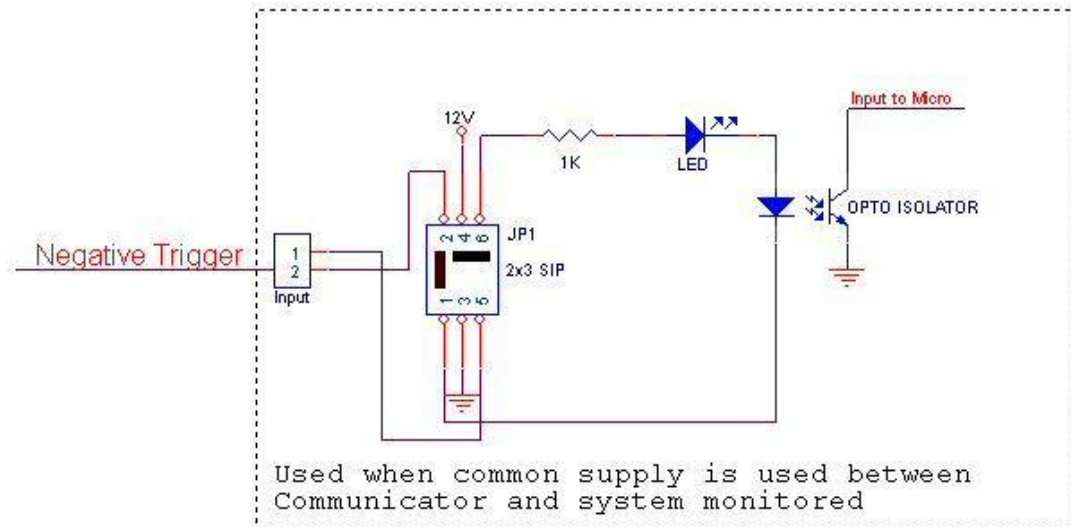
If the switches are closed the corresponding Input will go on and SMS will be send to the configured telephone numbers.

## 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.

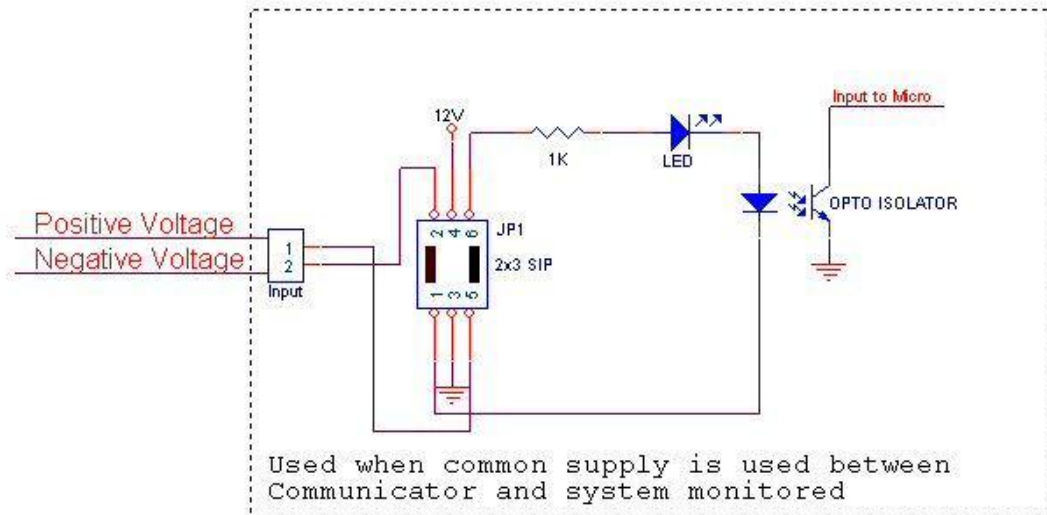
### Configuration 3 (N/C on pin 1 Neg on pin 2)



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



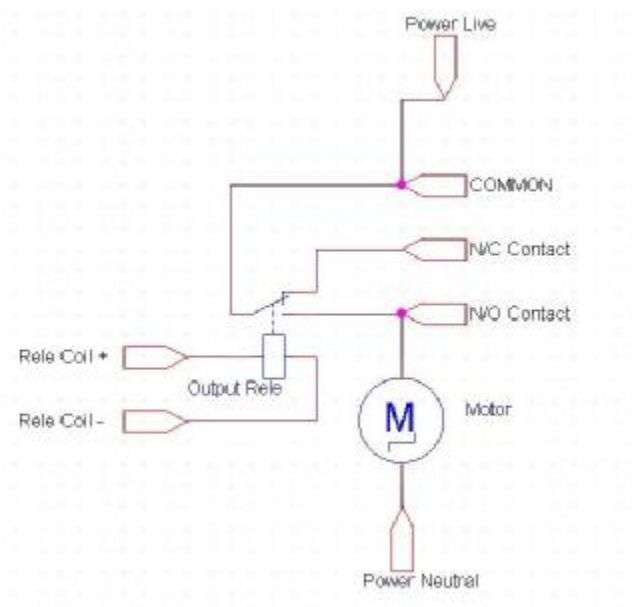
#### Configuration 4 (Pos on pin 1 Neg on pin 2)



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

#### 3.1.2 Wire outputs to devices to be controlled

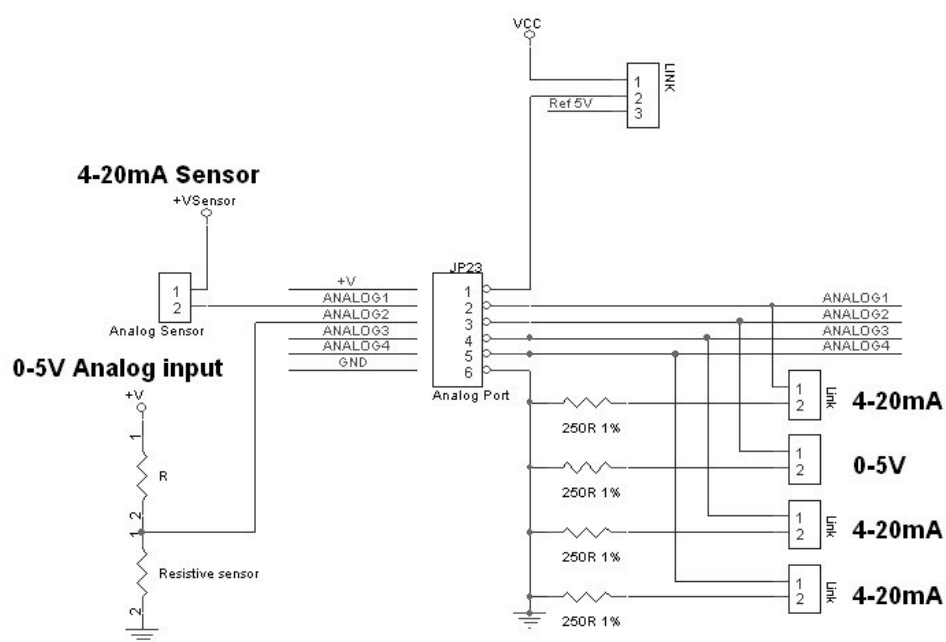
The outputs are isolated rele outputs and are able to switch 240 VAC 10 A. The relay output are available on the terminals.



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

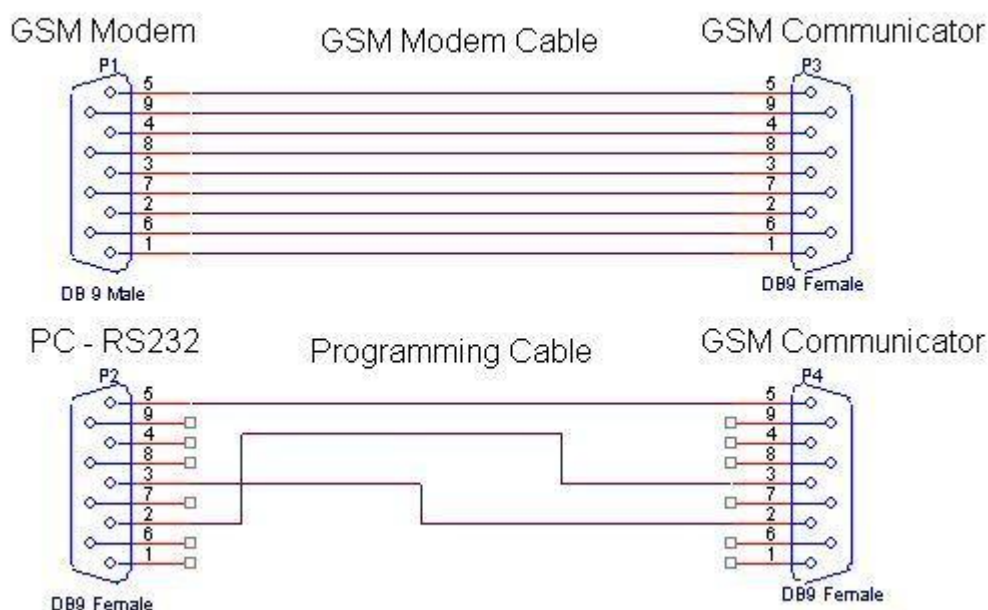


### 3.1.3 Wire Analogs for monitoring



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 :

**Cellphone Numbers :**

1: Name1	9: Name9
2: Name2	10: Name10
3: Name3	11: Name11
4: Name4	12: Name12
5: Name5	13: Name13
6: Name6	14: Name14
7: Name7	15: Name15
8: Name8	16: Name16

Service Center Number : +27831000002

Com Port Setup

Enable Comms

Connected

Run Meter Password : 98765

Send status SMS every 24 Hours running 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"/>

Log running event every 1 Hours running

Read Run Meter

Set Run Meter

When input 1 is off disable monitoring on:

Inputs:								Analog:			
2	3	4	5	6	7	8	1	2	3	4	
<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"/>	
Normal/ Default State								512	512	512	512

Program SMS Communicator

Cellphone Number :

Read SMS Communicator

Disconnect

Connect to remote Unit

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 +27831235555	9: Name9
2: Koos Koekemoer +27821235555	10: Name10
3: Willem +27841235555	11: Name11
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																																
<div><b>Input 1 - Activated</b></div> <div>Text message to send when activated : <input checked="" type="checkbox"/> Enabled</div> <div>Alarm Signal on <input type="text"/> On time to Activate [Half second Units] : <input type="text" value="20"/></div> <div>Send text message to the following Cellphone Numbers :</div> <div><table><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 checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table></div>								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 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"/>
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<div><b>Input 1 - De-Activated</b></div> <div>Text message to send when de-activated : <input checked="" type="checkbox"/> Enabled</div> <div>Alarm Signal off <input type="text"/> On time to Activate [Half second Units] : <input type="text" value="1"/></div> <div>Send text message to the following Cellphone Numbers :</div> <div><table><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><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table></div>								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"/>
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"/>																								

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																																
<div><b>Input 2 - Activated</b></div> <div>Text message to send when activated : <input checked="" type="checkbox"/> Enabled</div> <div>Dam is vol <input type="text"/> On time to Activate [Half second Units] : <input type="text" value="1"/></div> <div>Send text message to the following Cellphone Numbers :</div> <div><table><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 checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table></div>								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"/>
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<div><b>Input 2 - De-Activated</b></div> <div>Text message to send when de-activated : <input checked="" type="checkbox"/> Enabled</div> <div>Dam is leeg <input type="text"/> On time to Activate [Half second Units] : <input type="text" value="1"/></div> <div>Send text message to the following Cellphone Numbers :</div> <div><table><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><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table></div>								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"/>
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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:

Analog 2		Analog 3		Analog 4		Control room messages		Setup Outputs							
Output 1		Output 2		Output 3		Output 4		Output 5		Output 6		Output 7		Output 8	
Default State		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Pulse Timer		250		60		4		4		4		4		4	
Mode Normal		Mode A		Mode B											
Invert Inputs		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Input 1		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input checked="" type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 2		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 3		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input checked="" type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 4		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 5		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 6		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 7		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Input 8		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	
Voice Call Trig:		<input type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Fax Call Trig:		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Numbers Allowed to trigger CID Calls		1		2		3		4		5		6		7	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
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		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
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		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
		<input checked="" type="checkbox"/>													

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	
<b>Enable PIX</b> <input checked="" type="checkbox"/>		Pix Input 1	Rectifier Alarm	<input checked="" type="checkbox"/>	Pix Input1 Off
		Pix Input 2	Pix Input2 On	<input type="checkbox"/>	Pix Input2 Off
		Pix Input 3	Pix Input3 On	<input type="checkbox"/>	Temp High
		Pix Input 4	Pix Input4 On	<input type="checkbox"/>	Pix Input4 Off
		Pix Input 5	Pix Input5 On	<input type="checkbox"/>	Pix Input5 Off
		Pix Input 6	Pix Input6 On	<input type="checkbox"/>	Pix Input6 Off
		Pix Input 7	Pix Input7 On	<input type="checkbox"/>	Pix Input7 Off
		Pix Input 8	Pix Input8 On	<input type="checkbox"/>	Pix Input8 Off
		Pix Input 9	Pix Input9 On	<input type="checkbox"/>	Pix Input9 Off
		Pix Input 10	Pix Input10 On	<input type="checkbox"/>	Pix Input10 Off
		Pix Input 11	Pix Input11 On	<input type="checkbox"/>	Pix Input11 Off
		Pix Input 12	Pix Input12 On	<input type="checkbox"/>	Pix Input12 Off
		Pix Input 13	Pix Input13 On	<input type="checkbox"/>	Pix Input13 Off
		Pix Input 14	Pix Input14 On	<input type="checkbox"/>	Pix Input14 Off
		Pix Input 15	Pix Input15 On	<input type="checkbox"/>	Pix Input15 Off
		Pix Input 16	Pix Input16 On	<input type="checkbox"/>	Pix Input16 Off

When Alarm SMS to:

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

☒

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																																
<b>Charger Power On</b> Text message to send when activated : <input checked="" type="checkbox"/> Enabled <div> Charger Power On On time to Activate [Half second Units] : 120 </div> 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><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input 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"/>	<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"/>
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"/>																			
<b>Charger Power Off</b> Text message to send when de-activated : <input checked="" type="checkbox"/> Enabled <div> Charger Power Off On time to Activate [Half second Units] : 60 </div> 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><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input 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"/>	<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"/>
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:**

Setup Outputs	Other Parameters	Outputs Control Text	Battery Condition
<b>Battery Ok</b> Text message to send when activated : <input checked="" type="checkbox"/> Enabled <div style="display: flex; justify-content: space-between;"> <input type="text" value="Battery Ok"/> <div>             Ok Level (0-255) <input type="text" value="230"/> </div> </div> Send text message to the following Cellphone Numbers : <div style="display: flex; justify-content: space-around;"> <div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div> </div> <div style="display: flex; justify-content: space-around;"> <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"/> </div>			
<b>Battery Faulty</b> Text message to send when de-activated : <input checked="" type="checkbox"/> Enabled <div style="display: flex; justify-content: space-between;"> <input type="text" value="Battery Faulty"/> <div>             Faulty Level: (0-255) <input type="text" value="200"/> </div> </div> Send text message to the following Cellphone Numbers : <div style="display: flex; justify-content: space-around;"> <div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div> </div> <div style="display: flex; justify-content: space-around;"> <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"/> </div>			

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

$$V = (\text{Count} / 255) * 15$$

Examples:

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

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

$$\text{Count} = 13/15 * 255 = 221$$



## 4.8 Other parameters

Setup	Outputs	Other Parameters	Outputs Control Text	Battery Condition																																
<div><b>Current Password :</b> <input type="text" value="12345"/> <b>New Password :</b> <input type="text" value="12345"/></div> <div><b>Password Required for SMS Control</b> <input checked="" type="checkbox"/></div>																																				
<div><b>Enable Send Interval SMS Required</b> <input checked="" type="checkbox"/></div> <div><b>Send to:</b> <input type="text" value="24"/> <b>Hours</b></div> <div><table><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><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table></div>					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"/>
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"/>																					
<div><b>Add Site Name to Messages</b> <input checked="" type="checkbox"/></div> <div><b>Site Name:</b> <input type="text" value="Centurion"/></div>																																				

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											
<b>Above High Limit</b>															
Text message to send when activated :				<input checked="" type="checkbox"/> Enabled											
<input type="text" value="Dam Full"/>				High Limit [0-1023] : <input type="text" value="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"/>
<b>Below Low Limit</b>															
Text message to send when de-activated :				<input checked="" type="checkbox"/> Enabled											
<input type="text" value="Start Pump"/>				Low Limit [0-1023] : <input type="text" value="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																																																					
<b>DD - Date MM - Month YY - Year W - Weekday HH - Hour MM Minute CC - Command</b> <b>Example: AN Switch Output 1 On, DF Switch Output 4 Off, EP Pulse on Output 5,</b> <b>MA Select Monitor A, MN Select Monitor Normal, SM SMS to Interval Numbers</b> <b>Weekday 0-6 : Sunday - Saturday, 77 - Ignore parameter</b>																																																									
<table border="1"><thead><tr><th colspan="2">DDMMYYWHHMMCC</th><th colspan="2">DDMMYYWHHMMCC</th></tr></thead><tbody><tr><td>1</td><td>77777772304AP</td><td>◀</td><td>9</td><td>77777772000AX</td><td>◀</td></tr><tr><td>2</td><td>06100672030BN</td><td>◀</td><td>10</td><td>77777772000AX</td><td>◀</td></tr><tr><td>3</td><td>77777702100CF</td><td>◀</td><td>11</td><td>77777772000AX</td><td>◀</td></tr><tr><td>4</td><td>77777772000AX</td><td>◀</td><td>12</td><td>77777772000AX</td><td>◀</td></tr><tr><td>5</td><td>77777772000AX</td><td>◀</td><td>13</td><td>77777772000AX</td><td>◀</td></tr><tr><td>6</td><td>77777772000AX</td><td>◀</td><td>14</td><td>77777772000AX</td><td>◀</td></tr><tr><td>7</td><td>77777772000AX</td><td>◀</td><td>15</td><td>77777772000AX</td><td>◀</td></tr><tr><td>8</td><td>77777772000AX</td><td>◀</td><td>16</td><td>77777772000AX</td><td>◀</td></tr></tbody></table>						DDMMYYWHHMMCC		DDMMYYWHHMMCC		1	77777772304AP	◀	9	77777772000AX	◀	2	06100672030BN	◀	10	77777772000AX	◀	3	77777702100CF	◀	11	77777772000AX	◀	4	77777772000AX	◀	12	77777772000AX	◀	5	77777772000AX	◀	13	77777772000AX	◀	6	77777772000AX	◀	14	77777772000AX	◀	7	77777772000AX	◀	15	77777772000AX	◀	8	77777772000AX	◀	16	77777772000AX	◀
DDMMYYWHHMMCC		DDMMYYWHHMMCC																																																							
1	77777772304AP	◀	9	77777772000AX	◀																																																				
2	06100672030BN	◀	10	77777772000AX	◀																																																				
3	77777702100CF	◀	11	77777772000AX	◀																																																				
4	77777772000AX	◀	12	77777772000AX	◀																																																				
5	77777772000AX	◀	13	77777772000AX	◀																																																				
6	77777772000AX	◀	14	77777772000AX	◀																																																				
7	77777772000AX	◀	15	77777772000AX	◀																																																				
8	77777772000AX	◀	16	77777772000AX	◀																																																				

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
<b>INPUTS</b>		
Event Log High	<input checked="" type="radio"/>	<input type="radio"/>
Event Log Low	<input checked="" type="radio"/>	<input type="radio"/>
Alarm Log High	<input checked="" type="radio"/>	<input type="radio"/>
Alarm Log Low	<input checked="" type="radio"/>	<input type="radio"/>
<b>OUTPUTS</b>		
Log Output Events	<input type="radio"/>	<input type="radio"/>
<input type="button" value="Get Log #"/>	<input type="button" value="Clear Event Log"/>	<input type="button" value="Download Event Log"/>
<input type="button" value="Get RTC"/>	<input type="button" value="Clear Startup Log"/>	<input type="button" value="Download Startup Log"/>

Charger Status	Logger Setup Page1	Logger Setup Page2
<b>Analog Inputs</b>		
Alarm Log High	<input type="radio"/>	<input checked="" type="radio"/>
Alarm Log Low	<input type="radio"/>	<input checked="" type="radio"/>
Change Log	<input checked="" type="radio"/>	<input type="radio"/>
Change Value	<input type="text" value="15"/>	<input type="text" value="10"/>
<b>Other Log Events</b>		
Charger Input	<input checked="" type="radio"/>	<input type="radio"/>
Battery Input	<input checked="" type="radio"/>	<input type="radio"/>
Monitor Change	<input checked="" type="radio"/>	<input type="radio"/>
<b>SMS Status when Log is 90 % Full To:</b>		
<input checked="" 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

Monitor Selection Setup												Timed Events				Hour Meter / Input1 Monitor Control																															
<b>Normal</b>																																															
▶																																															
												1 2 3 4 5 6 7 8																																			
Input High												<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>											
Input Low												<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>															
1 2 3 4																																															
Analog High												<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				Analog Low				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>			
<b>Monitor A</b>																																															
▶																																															
												1 2 3 4 5 6 7 8																																			
Input High												<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>							
Input Low												<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>							
1 2 3 4																																															
Analog High												<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				Analog Low				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>			
<b>Monitor B</b>																																															
▶																																															
												1 2 3 4 5 6 7 8																																			
Input High												<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 Low												<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>							
1 2 3 4																																															
Analog High												<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				Analog Low				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>				<input type="checkbox"/>			

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

☒ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**Log running event every**  **Hours running**

**Read Run Meter**  **Set Run Meter**

**When input 1 is off disable monitoring on:**

**Inputs:**

2 3 4 5 6 7 8 1 2 3 4

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

Analog 1	Analog 2	Analog 3	Analog 4	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 checked="" type="checkbox"/>	
Input 3	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Input 4	<input type="checkbox"/>		<input type="checkbox"/>	
Input 5	<input type="checkbox"/>		<input type="checkbox"/>	
Input 6	<input type="checkbox"/>		<input type="checkbox"/>	
Input 7	<input type="checkbox"/>		<input type="checkbox"/>	
Input 8	<input type="checkbox"/>		<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 checked="" type="checkbox"/>	
Analog 1	<input type="checkbox"/>		<input type="checkbox"/>	
Analog 2	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Analog 3	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Analog 4	<input 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
<b>Enable I2C Port1 [0xd0] S40</b> <input type="checkbox"/> <b>Message Tag:</b> <input type="text" value="S40"/>		
<b>SMS Alarms and State changes to:</b>		
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"/>		
<b>Enable I2C Port2 [0xd4] 5220</b> <input type="checkbox"/> <b>Message Tag:</b> <input type="text" value="5220"/>		
<b>SMS Alarms on Rectifier to:</b>		
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"/>		
<b>Enable I2C Port3 [0xd8]</b> <input checked="" type="checkbox"/> <b>Message Tag:</b> <input type="text" value="LCVM"/>		
<b>SMS Alarms on Loadcell Module to:</b>		
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"/>		
<b>Enable I2C Port4 [0xdc]</b> <input type="checkbox"/> <b>Message Tag:</b> <input type="text" value="I2C4"/>		
<b>SMS Alarms on Rectifier to:</b>		
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:** ☒ ☐ ☐ ☐

**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

☒ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

**Information to add to the Tag ID SMS:**

Input Status ☒ Output Status ☐ Run Meter 1 Value ☐ Run Meter 2 Value ☒

Analog 1 Value ☐ Analog 2 Value ☐ Analog 3 Value ☐ Analog 4 Value ☐

Pix Inputs Status ☐ Battery Value ☐ 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:** ☒

**Own Cellphone Number:** +2541239876

**APN:** safaricom **Connection Type:**

**APN User Name:**  ☒ TCP

**APN Password:**  ☐ UDP

**GPRS Server IP address:** 41 139 37 35

**GPRS Server Domain Name:** gsmssystem.axessvpn.co.za

**DNS1:** 209 212 96 1 **ConnectionPort:** 50000

**DNS2:** 209 212 97 1

**GPRS Login Password:** WSDR

☒ Server Acknowledge ☐ No Acknowledgement

☒ CLR SMS Alarm if GPRS succesfully 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 sucessfully transmitted the server (Cellphone number 1) you have the option of disarding the remaining SMS messages or to send the messegges to the configured numbers by clearing the "CLR SMS Alarm if GPRS Succesfully transmitted to the server"

#### 4.18 Modem Monitor:

The screenshot shows a web interface with three tabs at the top: "Modem Monitor", "Tag Reader Setup", and "Pix Input Extender". The "Modem Monitor" tab is active. Below the tabs is a large text area for displaying modem output. Below this area are several controls: a "Clear Memo" button, a "Modem Command" input field containing "at", a "Send Command" button, a "Request a Data Call (Config)" button, an "Answer Call" button, and a "Setup Modem" button. At the bottom, there are fields for "Cellphone Number" and "SMS Message", a "Send SMS" button, a "Connect to remote Unit" button, a "Disconnect" button, and a "Connected" status indicator with a green LED icon.

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

Swith Outputs 1-7 On an 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 – Comands

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

XXXXX must be 5 digits

YY must be 2 Digits

## **6. Specification**

1. Modem used	Sony Erricson GM29
2. Power supply	13.8V DC $\pm$ 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.**