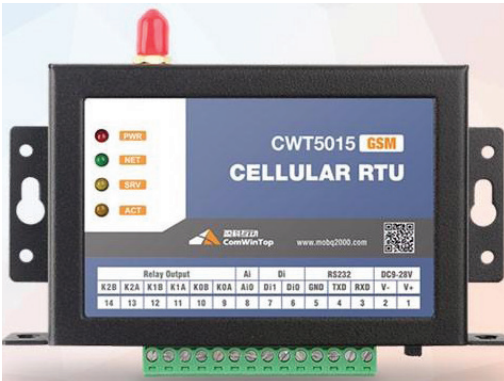


Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se



CWT5015 4G
 2 st Digitala ingångar
 3 st Reläutgångar
 1 st Analog ingång 4-20mA



CWT5111 4G
 8 st Digitala ingångar
 8 st Reläutgångar
 4 st Analog ingångar 4-20mA



CWT5002-3 4G
 8 st Digitala ingångar
 8 st Reläutgångar
 4 st Analog ingångar 4-20mA
 Modbus RS485 Master/slav
 OLED dsplay



CWT5018 4G
 4 st Digitala ingångar
 2 st Reläutgångar
 8 st Analog ingångar 4-20mA
 Modbus RS485 Master/slav
 Ethernet RJ45 Modbus TCP/IP

Number	Version	Updated time
	V2.0	2018-1
	V2.1	2018-3



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

CONTENTS


1	Access Setup Mode	3
2	BASIC PARAMETERS	5
2.1	CS Phone Number	5
2.2	USB/RS-232	5
2.3	RS-485	6
2.4	Modem	6
2.5	System Parameters	7
2.6	Basic Parameters	8
2.7	Alarm Parameters	9
2.8	All SMS	10
2.9	System Prio	11
3	INPUT AND OUTPUT	12
3.1	Setup input and output type	12
3.2	Input Alarm SMS	15
3.3	Input Parameters	15
3.4	Wired input prio	17
4	AIN sensor	18
4.1	AIN parameters	18
4.2	AIN SMS	22
4.3	AIN Name	23
4.4	AIN prio	23
5	MODBUS	24
5.1	Modbus poll	24
6	Data transmission	29
6.1	GPRS Setup	29
6.2	Protocols	32
6.3	HTTP Post	33
6.4	WI-FI	33
6.5	4G Wi-Fi AP	34
6.6	Email MMS	35
6.7	Ethernet	36
7	sensors	39
7.1	GPS	39
7.2	Sensor's name	39
7.3	Sound Alarm	40
7.4	Set Exterior temperature Humidity input	40
7.5	Battery	45
8	OTHERS	46
8.1	Interlock	46
8.2	Timers	47
8.3	Programmable interlock	48
8.4	User Commands	49

Manual Larmsändare/ RTU CWT5xxx

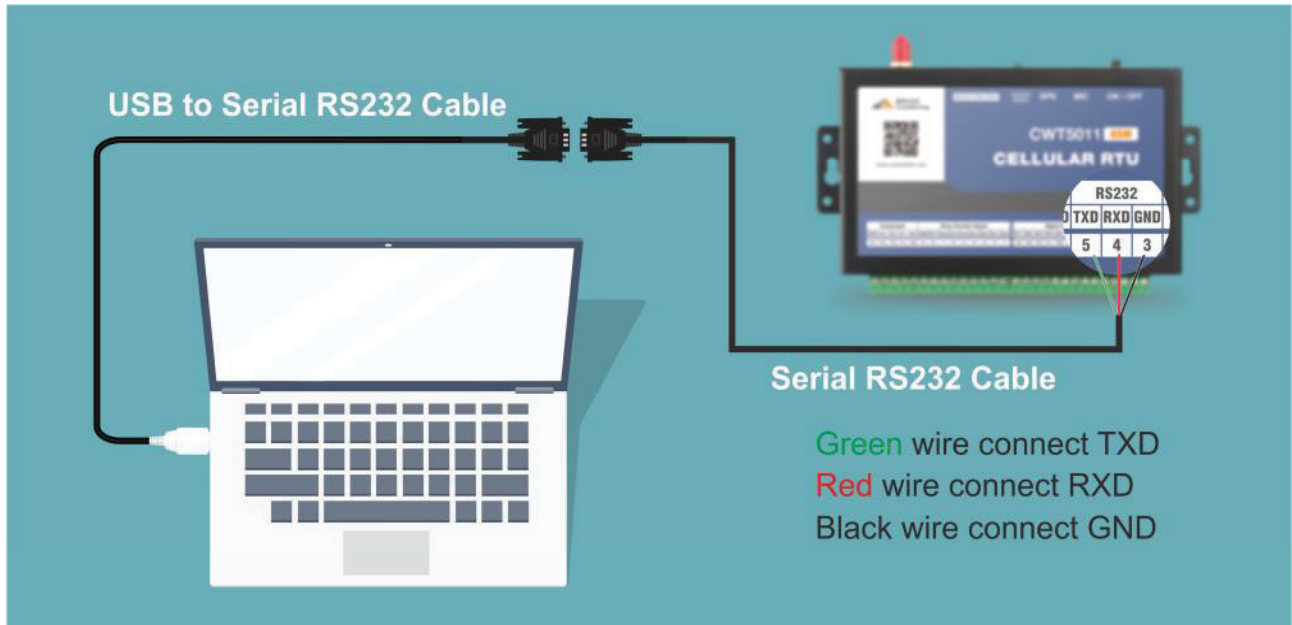
www.processcenter.se

1 Access Setup Mode

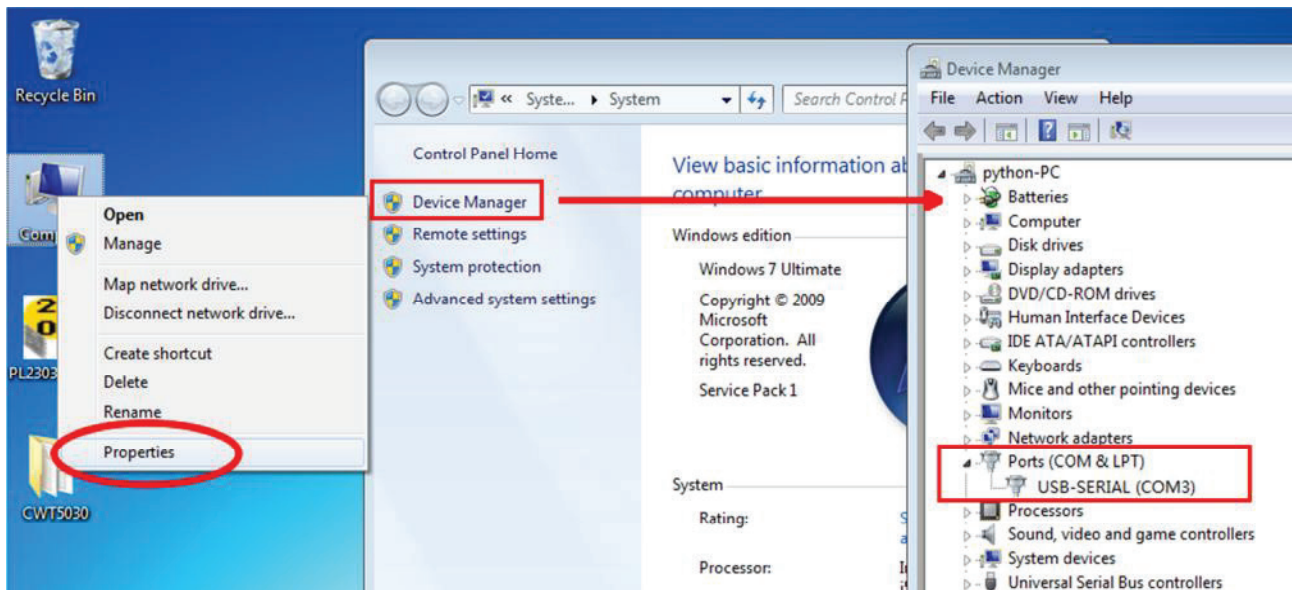
Step1: Install USB to serial RS232 cable's driver on PC (only windows)

 SETUP.EXE

Step2: Connect DEVICE to PC



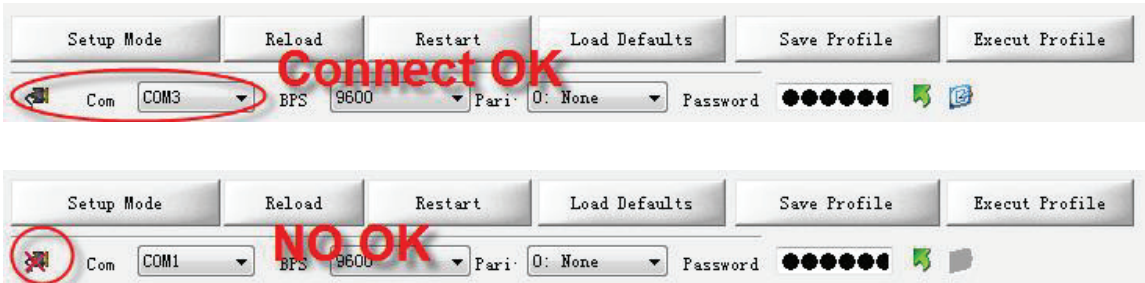
Step3: check com port in PC Device Manager



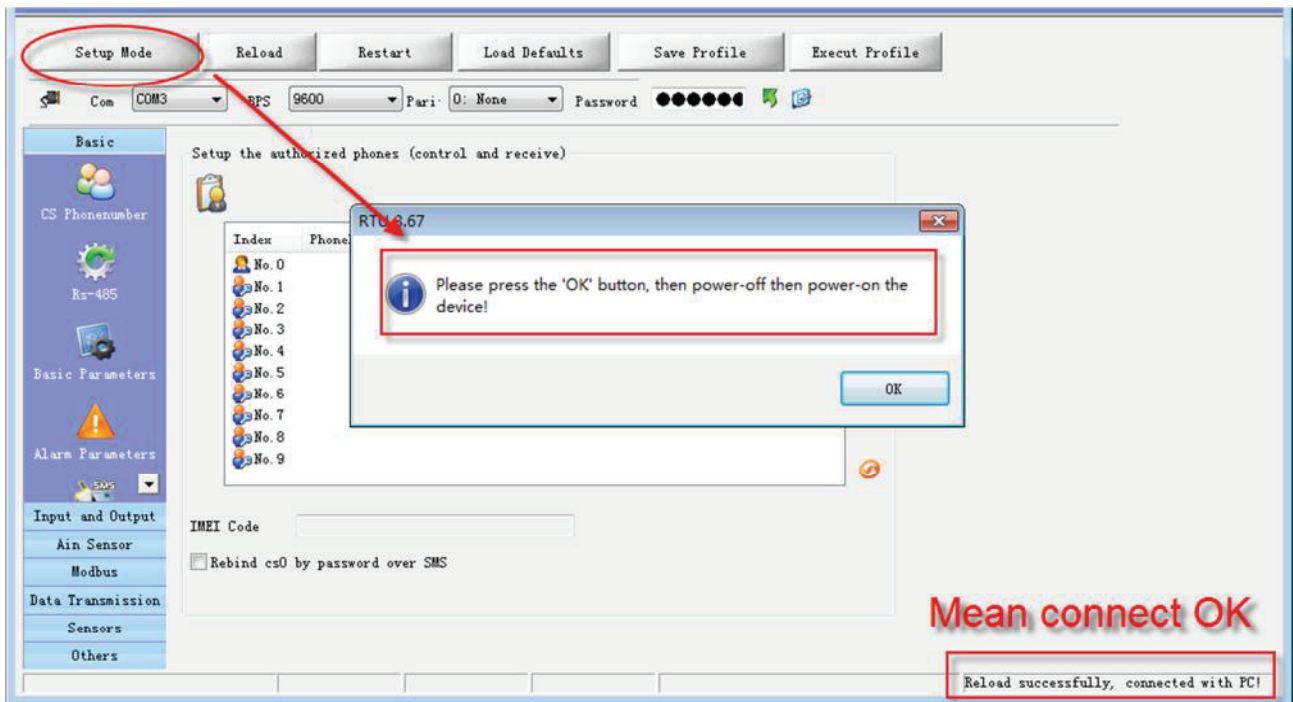
Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Step4: run the config tool and select the right com port



Step5: access setup mode

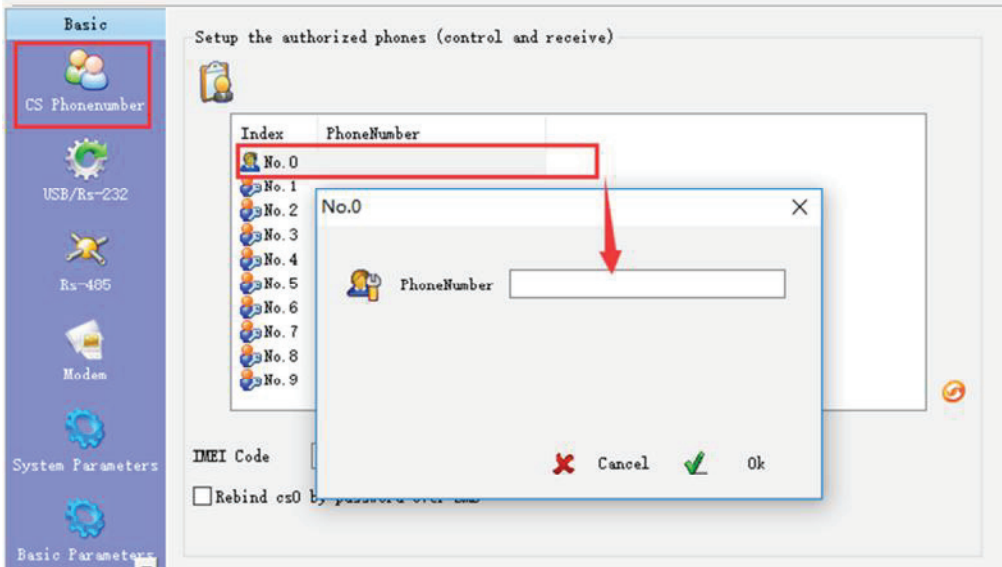


⚠ NOTE

Access setup mode, the sim card and antenna are unnecessary
 In setup mode, all functions are disabled, only to setup parameters.
 After set, please restart DEVICE to access working mode to use

2 BASIC PARAMETERS

2.1 CS Phone Number



Only "CS Phone numbers" can send SMS commands to control DEVICE and receive DEVICE's SMS (alarm SMS, report SMS etc.). Support preset 10 CS phone numbers, CS0-CS9

Rebind cs0 by password over SMS

If Checked, any cell phone can be rebind as CS0 by sending password "000000 000000" to the device (to cover existing CS0 number)

2.2 USB/RS-232

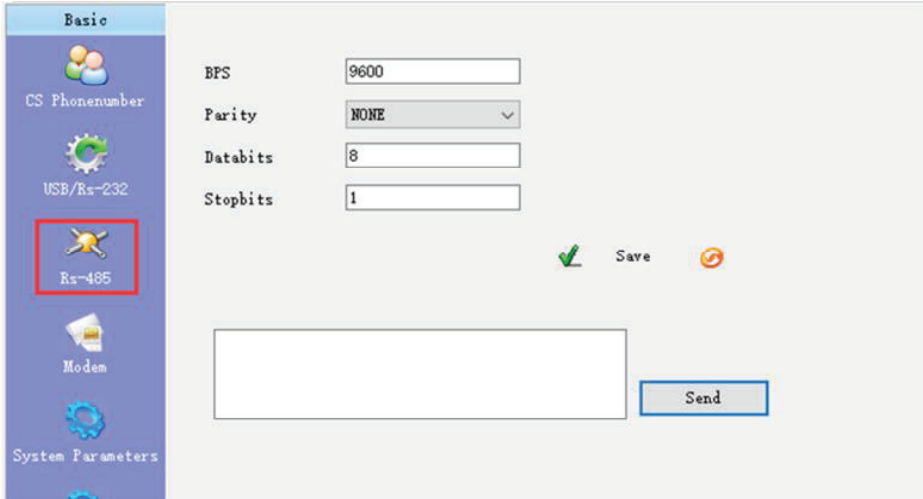


Set RS232 communication parameters

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

2.3 RS-485



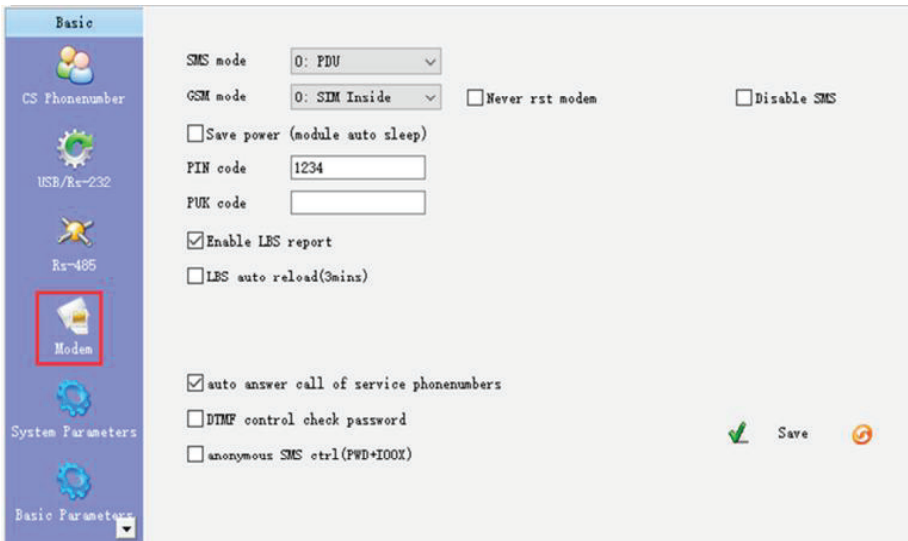
The screenshot shows the 'Basic' configuration page for RS-485. The left sidebar contains icons for 'CS Phonenumber', 'USB/Rs-232', 'Rs-485' (highlighted with a red box), 'Modem', and 'System Parameters'. The main area contains the following fields:

- BPS: 9600
- Parity: NONE
- Databits: 8
- Stopbits: 1

Below these fields are a green checkmark icon, a 'Save' button, and a refresh icon. At the bottom, there is a large empty text box and a 'Send' button.

Set RS485 communication parameters

2.4 Modem



The screenshot shows the 'Basic' configuration page for Modem. The left sidebar contains icons for 'CS Phonenumber', 'USB/Rs-232', 'Rs-485', 'Modem' (highlighted with a red box), 'System Parameters', and 'Basic Parameters'. The main area contains the following fields and options:

- SMS mode: 0: PDU
- GSM mode: 0: SIM Inside
- Never rst modem
- Disable SMS
- Save power (module auto sleep)
- PIN code: 1234
- PUK code: [empty]
- Enable LBS report
- LBS auto reload(3mins)
- auto answer call of service phonenumber
- DTMF control check password
- anonymous SMS ctrl(PWD=100X)

At the bottom right, there is a green checkmark icon, a 'Save' button, and a refresh icon.

SMS mode 0: PDU

Generally, select the default parameter PDU mode.

GSM mode 0: SIM Inside

Select SIM Inside or no SIM Start

Never rst modem

Must check it if select no SIM Start mode.

Disable SMS

Check it will disable SMS communications

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Save power (module auto sleep)

Reduce power consumption when device is powered by inside battery

PIN code

FUK code

After the device is started, follow the default parameters.

Enable LBS report

LBS: Location Based Service

LBS auto reload(3mins)

Update LBS every 3 minutes.

auto answer call of service phonenumbers

Device auto answer when any CS number call in, but there is no voice If MIC and speaker aren't connected

DTMF control check password

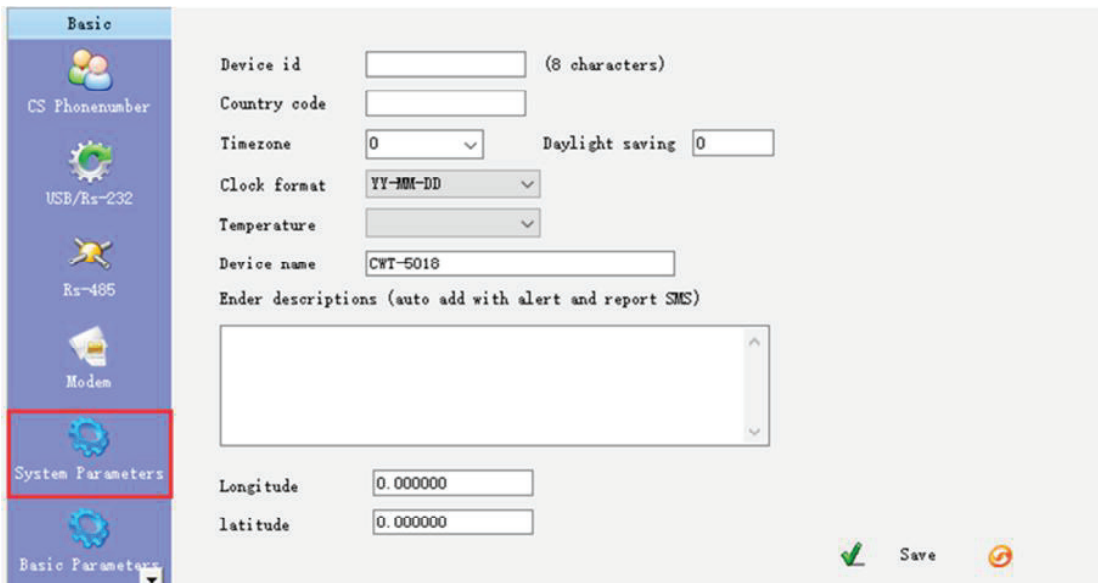
This option is valid for the device with DTMF.

anonymous SMS ctrl(PWD+IOOX)

Normally, only CS phone numbers can activate output by sending SMS command IOOx (such as IOOH, IOOL, IOOP)

If check it, any other cell phone can send output command, but must add password before the command, e.g. send **000000 IOOH0** to on output0

2.5 System Parameters



The screenshot shows the 'System Parameters' configuration page. On the left is a sidebar with icons for 'Basic', 'CS Phonenumber', 'USB/Rs-232', 'Rs-485', 'Modem', 'System Parameters' (highlighted with a red box), and 'Basic Parameters'. The main area contains the following fields:

- Device id: (8 characters)
- Country code:
- Timezone: Daylight saving:
- Clock format:
- Temperature:
- Device name:
- Enter descriptions (auto add with alert and report SMS):
- Longitude:
- latitude:

At the bottom right, there is a green checkmark icon, the text 'Save', and a circular refresh icon.

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Device id (8 characters)

The device ID is necessary for data transmission.

Enter descriptions (auto add with alert and report SMS)

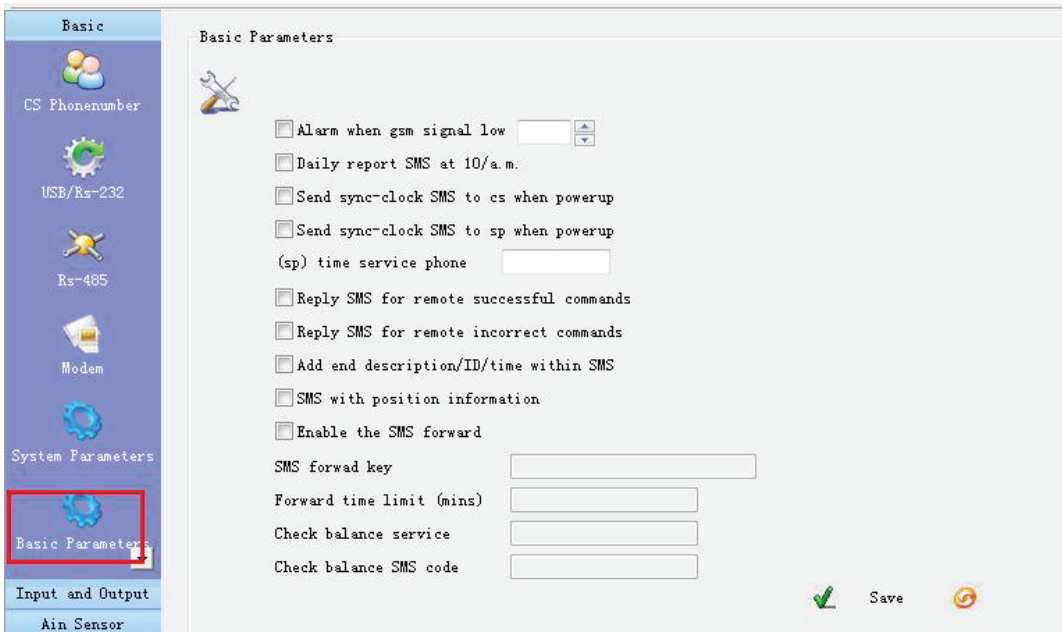
The device description information (such as install position, user information) will be automatically carried in alarm SMS, power up SMS, daily report SMS, etc.

Longitude

Latitude

Display latitude and longitude

2.6 Basic Parameters



Alarm when gsm signal low

GSM signal normal range is 1-32 , device sends alarm SMS to CS number when GSM signal below the preset, the default is 11.

Daily report SMS at 10/a.m.

Device sends a report SMS to CS number at 10:00am for reporting current states

Send sync-clock SMS to cs when powerup

Normally, only CS0 receives the request sync clock sms, reply SMS "999" to update time

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Send sync-clock SMS to sp when powerup
 (sp) time service phone

The "(SP) time service phone" can automatically reply to any incoming SMS, such as cellular operator's service phone, the SMS reply content is not important. Device receive it to sync clock

Reply SMS for remote successful commands

if SMS command is accepting successfully, device reply SMS "Operation succeeded"

Reply SMS for remote incorrect commands

if SMS command is incorrect, device reply SMS " Command operation failed "

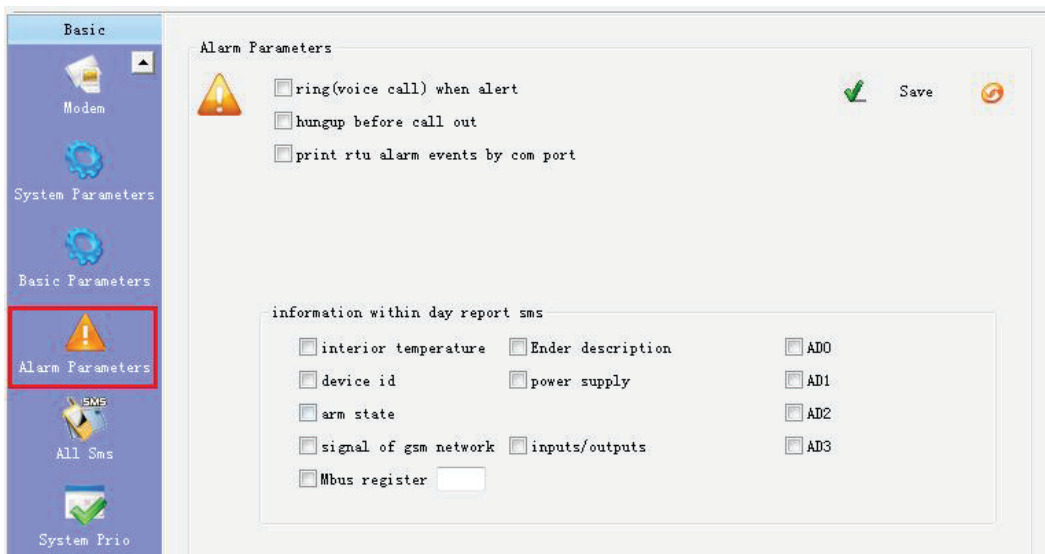
Add end description/ID/time within SMS

Check it to have description/ID/Time information show in alarm sms, report sms

SMS with position information

Check it have position information shows in Start sms, alarm sms, report sms

2.7 Alarm Parameters



ring(voice call) when alert

Device call CS number first then send SMS when alarm

hungup before call out

When device are making alarm ring call, it hangs up before CS number answer

print rtu alarm events by com port

Output alarm message with CWT protocol on RS232

Manual Larmsändare/ RTU CWT5xxx

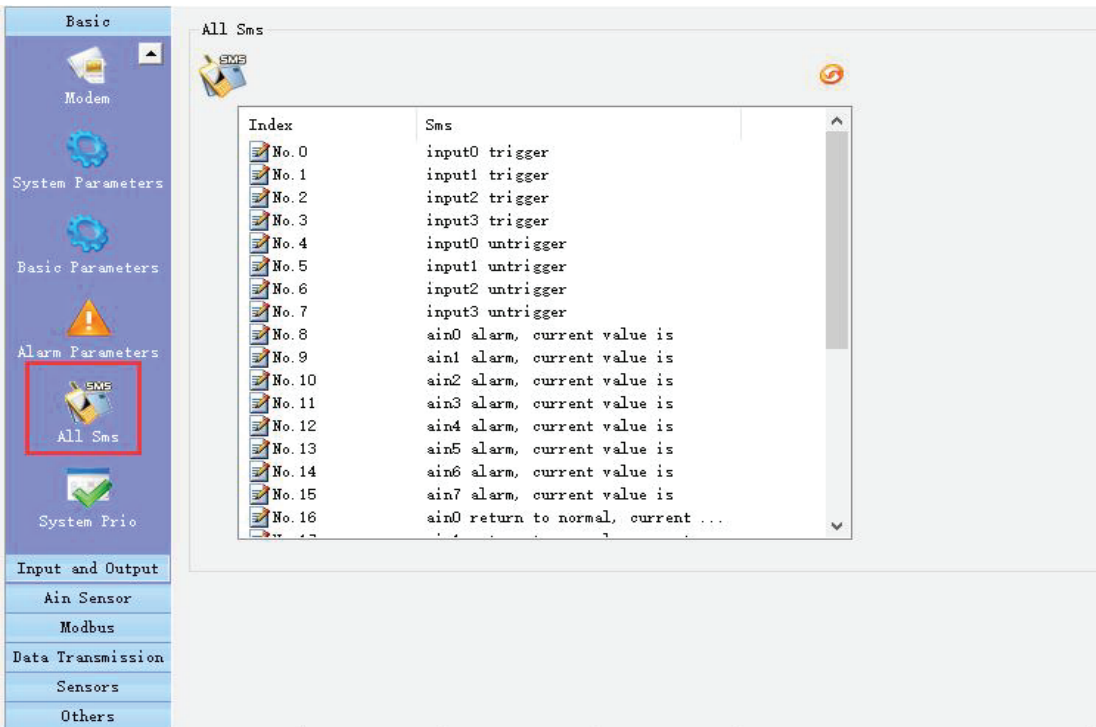
www.processcenter.se

information within day report sms

<input checked="" type="checkbox"/> interior temperature	<input checked="" type="checkbox"/> Ender description	<input type="checkbox"/> AD0	<input type="checkbox"/> AD4
<input checked="" type="checkbox"/> device id	<input checked="" type="checkbox"/> power supply	<input type="checkbox"/> AD1	<input type="checkbox"/> AD5
<input checked="" type="checkbox"/> arm state		<input type="checkbox"/> AD2	<input type="checkbox"/> AD6
<input checked="" type="checkbox"/> signal of gsm network	<input checked="" type="checkbox"/> inputs/outputs	<input type="checkbox"/> AD3	<input type="checkbox"/> AD7
<input checked="" type="checkbox"/> Mbus register <input type="text" value="10"/>	<input type="checkbox"/> counters	<input type="checkbox"/> GPS	

- ✧ **Interior temperature:** It is available for the device with interior temperature sensor
- ✧ **Device Id:** show ID
- ✧ **Arm status:** show arm or disarm
- ✧ **Signal of GSM network:** show GSM signal value 1-31
- ✧ **Mbus register:** show Modbus registers value (on RS485), support set the number of register.
- ✧ **Ender description:** Device description information
- ✧ **Power supply:** show power supply status (by exterior power supply or inside battery)
- ✧ **Inputs/outputs:** show state of all input/output
- ✧ **Counters:** The number of pulse
- ✧ **AD0~AD7:** show value of every AIN channel.
- ✧ **GPS:** longitude and latitude information

2.8 All SMS



The screenshot shows the 'All SMS' configuration window. The left sidebar has a red box around the 'All SMS' icon. The main window displays a table of SMS messages:

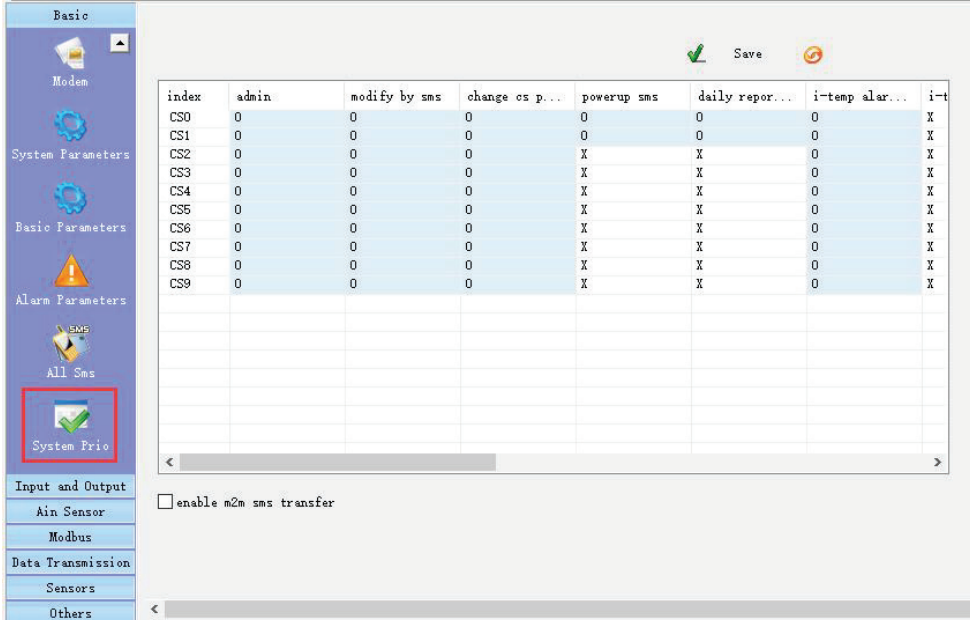
Index	Sms
No. 0	input0 trigger
No. 1	input1 trigger
No. 2	input2 trigger
No. 3	input3 trigger
No. 4	input0 untrigger
No. 5	input1 untrigger
No. 6	input2 untrigger
No. 7	input3 untrigger
No. 8	ain0 alarm, current value is
No. 9	ain1 alarm, current value is
No. 10	ain2 alarm, current value is
No. 11	ain3 alarm, current value is
No. 12	ain4 alarm, current value is
No. 13	ain5 alarm, current value is
No. 14	ain6 alarm, current value is
No. 15	ain7 alarm, current value is
No. 16	ain0 return to normal, current ...

All of editable sms list, double-click to edit.

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

2.9 System Prio



index	admin	modify by sms	change os p...	powerup sms	daily repor...	i-temp alar...	i-t
CS0	0	0	0	0	0	0	X
CS1	0	0	0	0	0	0	X
CS2	0	0	0	X	X	0	X
CS3	0	0	0	X	X	0	X
CS4	0	0	0	X	X	0	X
CS5	0	0	0	X	X	0	X
CS6	0	0	0	X	X	0	X
CS7	0	0	0	X	X	0	X
CS8	0	0	0	X	X	0	X
CS9	0	0	0	X	X	0	X

enable m2m sms transfer

In this page, to set system authorizations (in columns) for CS numbers (in rows)
 “O” represent enable; “X” represent disable.

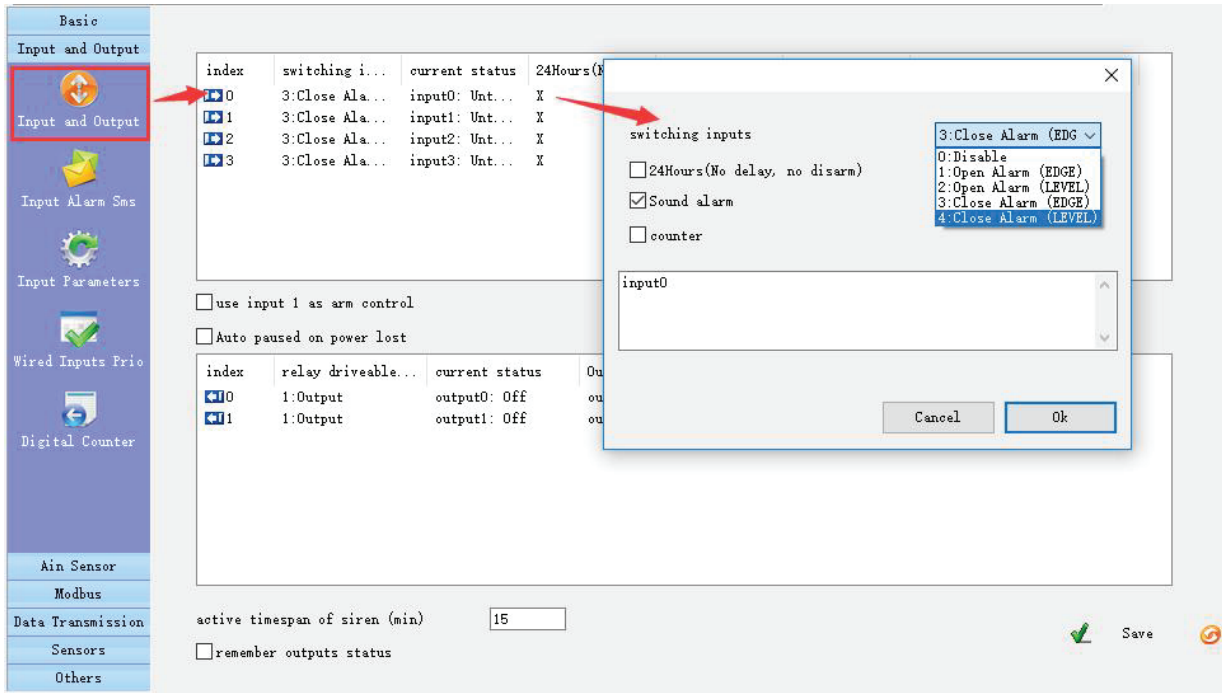
Authorizations	Description	default number
admin	Can Arm/disarm	CS0-CS9
Modify by SMS	can be modifying by SMS command	CS0-CS9
Change CS phones	can modify other CS number by SMS command	CS0-CS9
Powerup SMS	Can receive the status SMS when device is restarted	CS0-CS1
Daily report SMS	Can receive the daily report	CS0-CS1
I-tmp alarm SMS	Can receive interior temperature sensor alarm sms	CS0-CS9
I-tmp alarm ring	Can receive interior temperature sensor alarm phone call	none
Power fail SMS	Can receive power failure alarm sms	CS0-CS9
Power fail ring	Can receive power failure alarm phone call	none
Signal low alarm	Can receive GSM signal low alarm sms	CS0-CS9
Sample SMS	A kind of report sms that execute by timer	CS0-CS9
M2M svr	Receive sms with CWT_IO protocol	none
Arm notify	Can receive sms notify when device arm or disarm	CS0
Monitor authorized user's sms	Device send sms to this CS number to inform that which CS number just sent what commands	none
Monitor unknown user SMS ring	Device forward all unknown number's sms to this CS number	none

enable m2m sms transfer

DEVICE send SMS to the CS number with CWT_IO protocol.

3 INPUT AND OUTPUT

3.1 Setup input and output type

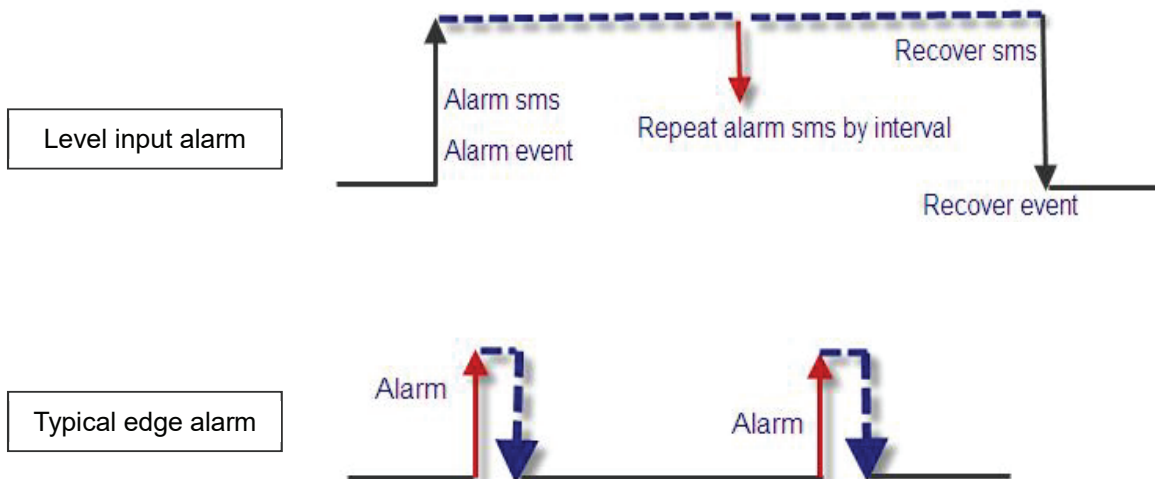


Digital input type

Input signals have two types, EDGE_IN (edge triggering) and LEVEL_IN (state triggering).

Note: The difference of Level and Edge:

1. level input has untrigger sms
2. level input can repeat alarm sms by an interval when it is in alarm state.



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

24Hours(No delay, no disarm)

This channel input' alarm is available, even it is in disarm status.

Sound alarm

This channel input alarm will activate internal buzzer and exterior siren on.

counter

Enable or disable this channel input as counter input which catch greater than 100ms pulse.

use input 1 as arm control

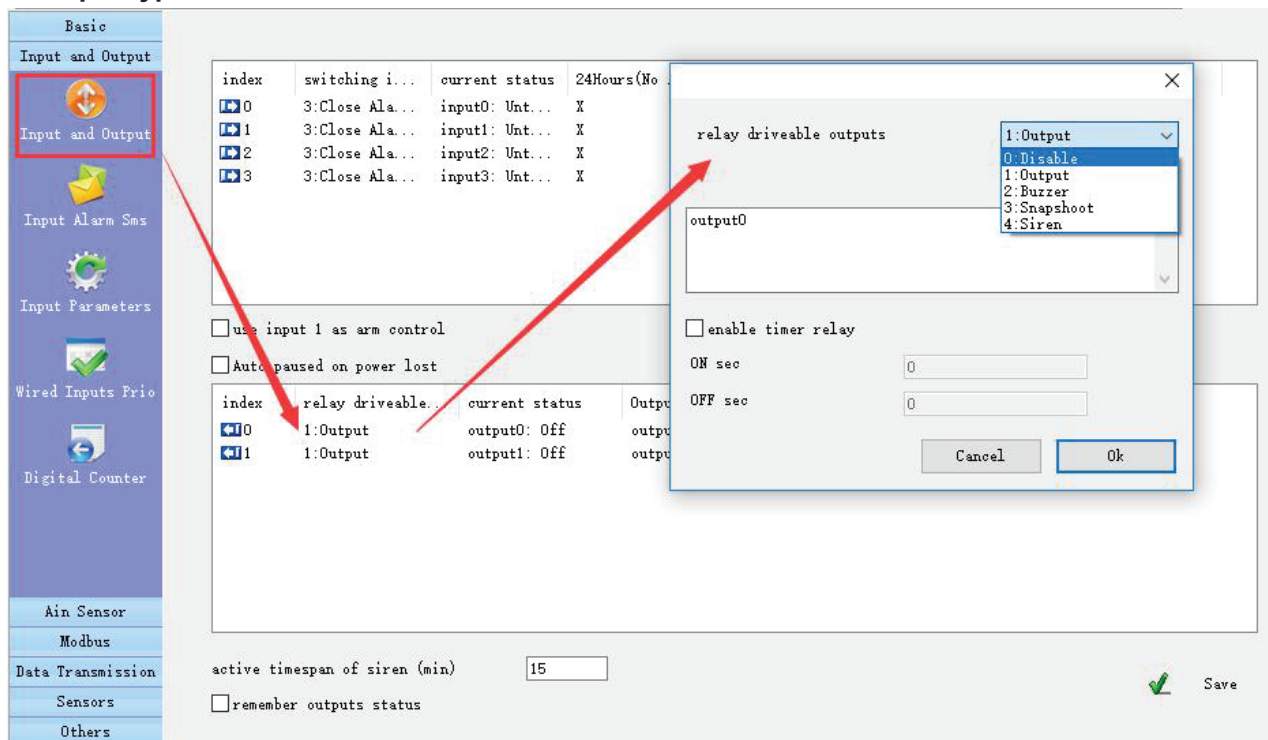
Input1 on, device get in arm mode, input1 off, device get in disarm mode so user can connect a button to switch mode for arm or disarm.

note: must select input1 type to "4: close alarm (LEVEL)" and delete input1's trigger/untrigger sms

Auto paused on power lost

when device exterior power lost and powered by interior battery, all input alarm will be paused until exterior power recover

【output types】



index	switching i...	current status	24Hours(No ...
0	3:Close Ala...	input0: Unt...	X
1	3:Close Ala...	input1: Unt...	X
2	3:Close Ala...	input2: Unt...	X
3	3:Close Ala...	input3: Unt...	X

index	relay driveable...	current status	Output
0	1:Output	output0: Off	output...
1	1:Output	output1: Off	output...

active timespan of siren (min)



remember outputs status

Save

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

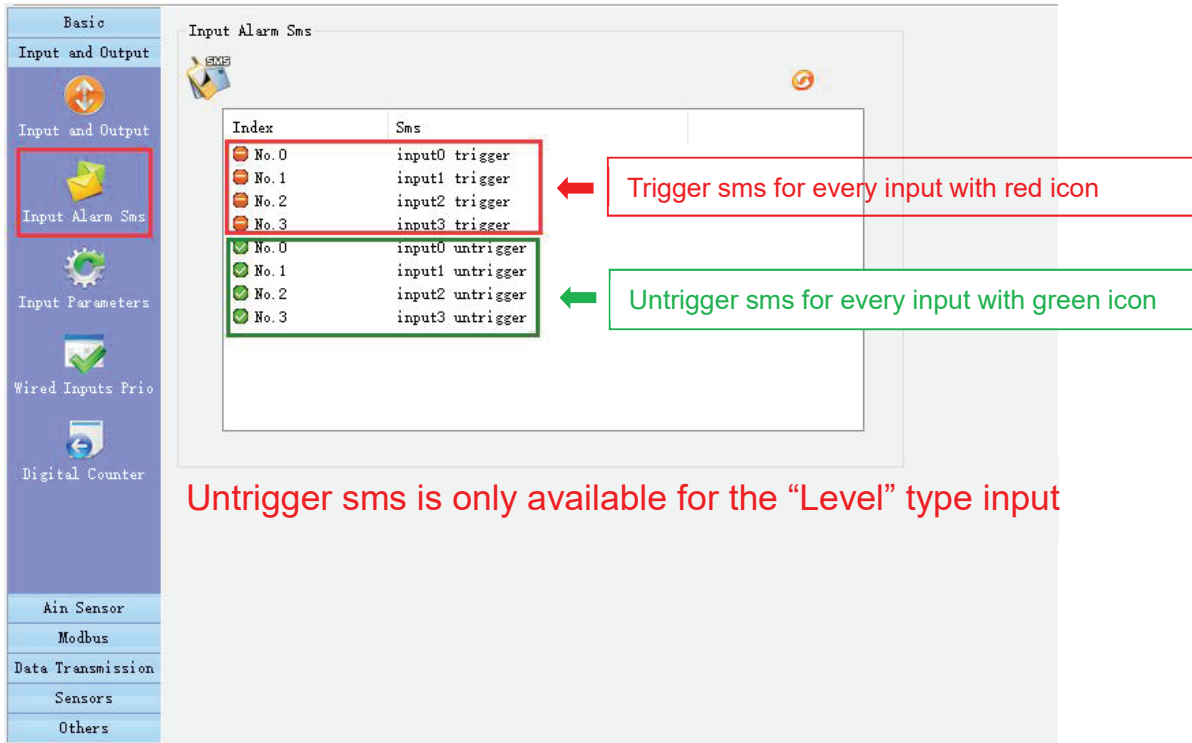
Output type description

index	types	description
0	disable	
1	output	[Default type] output can be activated by command, interlock, timer etc.
2	Buzzer	Automatically output signal synchronize with internal buzzer when alarm Output signal like: 
3	Snapshot	Shortly action when any alarm happens.
4	Siren	This channel continuous drives (for 1 minute by default) When alarm, the interval can be set. <input type="text" value="active timespan of siren (min)"/> <input type="text" value="15"/> Output signal like: 

remember outputs status

Output recover the status that before restart or power off

3.2 Input Alarm SMS



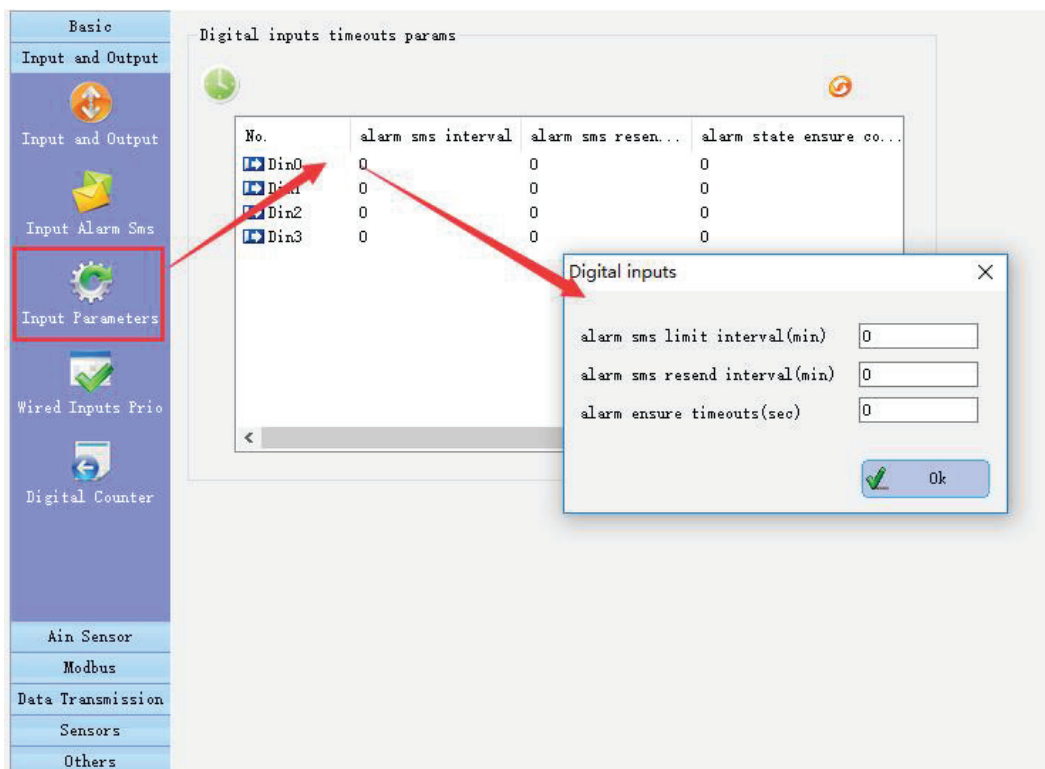
Index	Sms
No. 0	input0 trigger
No. 1	input1 trigger
No. 2	input2 trigger
No. 3	input3 trigger
No. 0	input0 untrigger
No. 1	input1 untrigger
No. 2	input2 untrigger
No. 3	input3 untrigger

Trigger sms for every input with red icon

Untrigger sms for every input with green icon

Untrigger sms is only available for the "Level" type input

3.3 Input Parameters



No.	alarm sms interval	alarm sms resen...	alarm state ensure co...
Din0	0	0	0
Din1	0	0	0
Din2	0	0	0
Din3	0	0	0

Digital inputs

alarm sms limit interval(min) 0

alarm sms resend interval(min) 0

alarm ensure timeouts(sec) 0

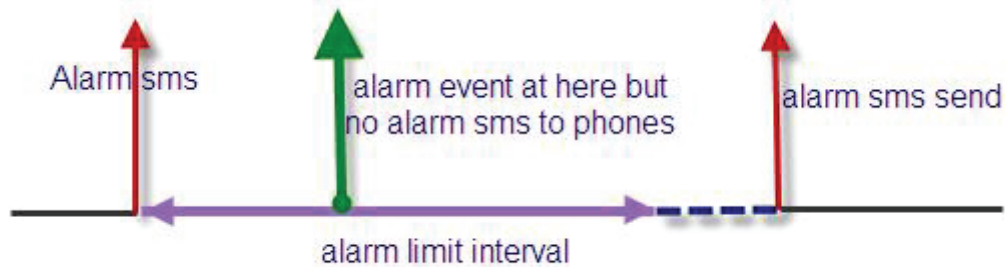
Ok

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

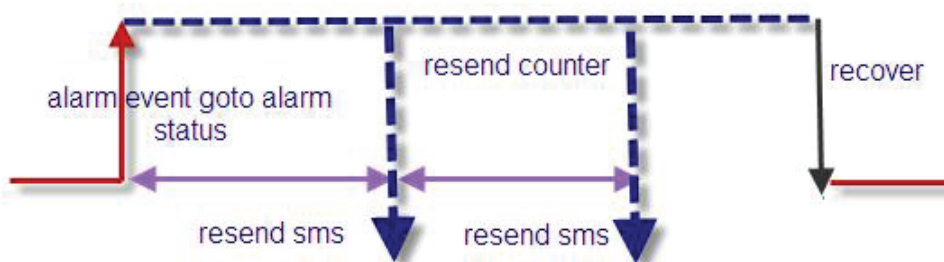
alarm sms limit interval(min)

It is designed to avoid lots of trigger/untrigger sms in a short time.



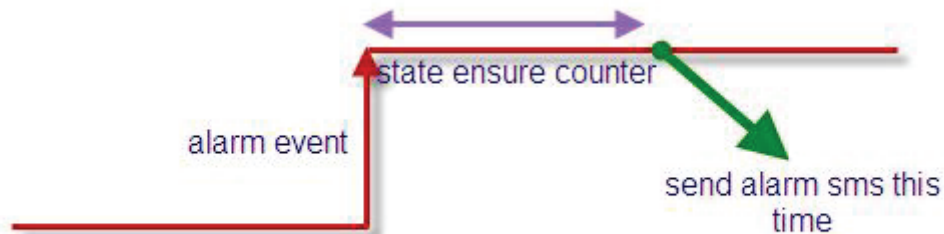
alarm sms resend interval(min)

It is designed for repeat alarm sms, 0 means disable the interval



alarm ensure timeouts(sec)

It is a counter of alarm status ensure timer, designed to avoid shake mistakes. 0 means no counter.

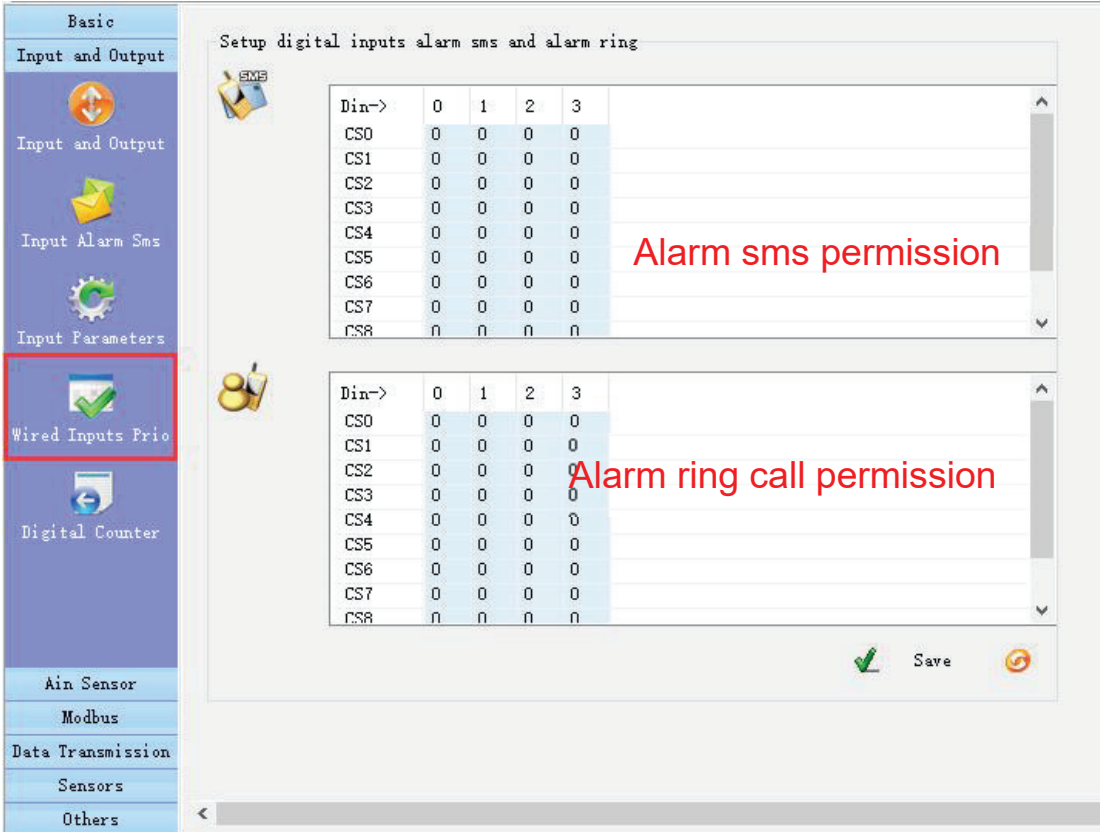


Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

3.4 Wired input prio

In this page, to set digital input alarm permission (in columns) for CS numbers (in rows) "O" represent enable; "X" represent disable.



Basic

Input and Output

Input and Output

Input Alarm Sms

Input Parameters

Wired Inputs Prio

Digital Counter

Ain Sensor

Modbus

Data Transmission

Sensors

Others

Setup digital inputs alarm sms and alarm ring

SMS

Din->	0	1	2	3
CS0	0	0	0	0
CS1	0	0	0	0
CS2	0	0	0	0
CS3	0	0	0	0
CS4	0	0	0	0
CS5	0	0	0	0
CS6	0	0	0	0
CS7	0	0	0	0
CS8	0	0	0	0

Alarm sms permission

Din->	0	1	2	3
CS0	0	0	0	0
CS1	0	0	0	0
CS2	0	0	0	0
CS3	0	0	0	0
CS4	0	0	0	0
CS5	0	0	0	0
CS6	0	0	0	0
CS7	0	0	0	0
CS8	0	0	0	0

Alarm ring call permission

Save

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

4 AIN SENSOR

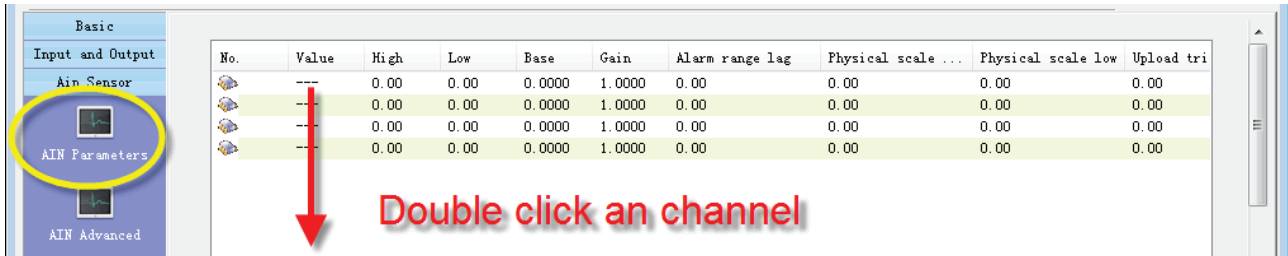
4.1 AIN parameters

The analog input accept 0~20mA (option 0~5V) signal from an analog sensor
Can preset a high and low level for every channel to alarm

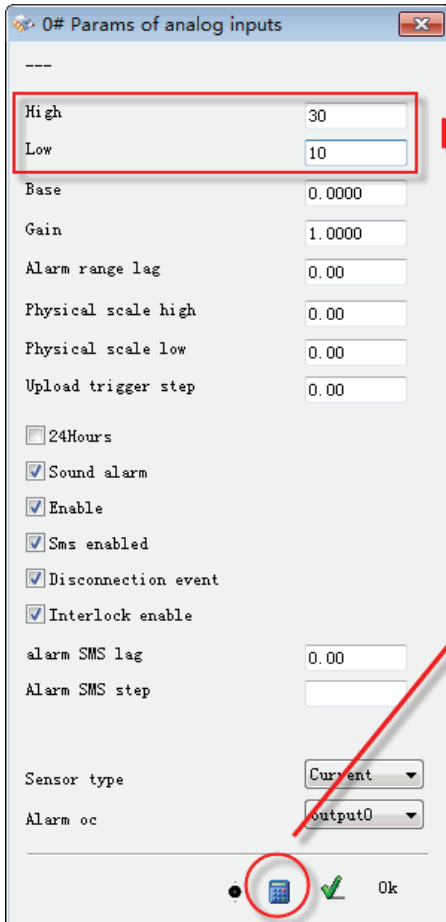
Example:

An analog input connect a temperature sensor, the sensor measuring range is -20°C-80°C, and analog output is 4-20 mA

Need alarm when temperature above 30°C or below 10°C



No.	Value	High	Low	Base	Gain	Alarm range lag	Physical scale ...	Physical scale low	Upload tri
---	---	0.00	0.00	0.0000	1.0000	0.00	0.00	0.00	0.00
---	0.00	0.00	0.0000	1.0000	0.00	0.00	0.00	0.00	0.00
---	0.00	0.00	0.0000	1.0000	0.00	0.00	0.00	0.00	0.00
---	0.00	0.00	0.0000	1.0000	0.00	0.00	0.00	0.00	0.00



High: 30
Low: 10

Base: 0.0000
Gain: 1.0000
Alarm range lag: 0.00
Physical scale high: 0.00
Physical scale low: 0.00
Upload trigger step: 0.00

24Hours
 Sound alarm
 Enable
 Sms enabled
 Disconnection event
 Interlock enable

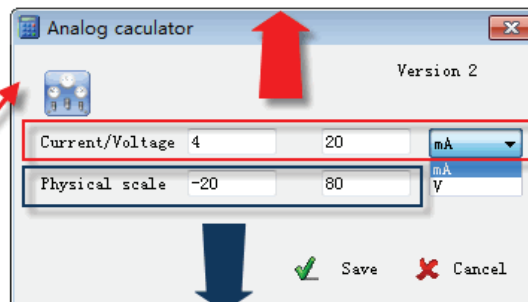
alarm SMS lag: 0.00
Alarm SMS step:

Sensor type: Current
Alarm oc: output0

Ok

Set high and low to alarm

Select current type and enter sensor's analog output range 4-20mA



Current/Voltage: 4 20 mA
Physical scale: -20 80 V

Save Cancel

Enter sensor's measuring range -20°C-80°C

Manual Larmsändare/ RTU CWT5xxx

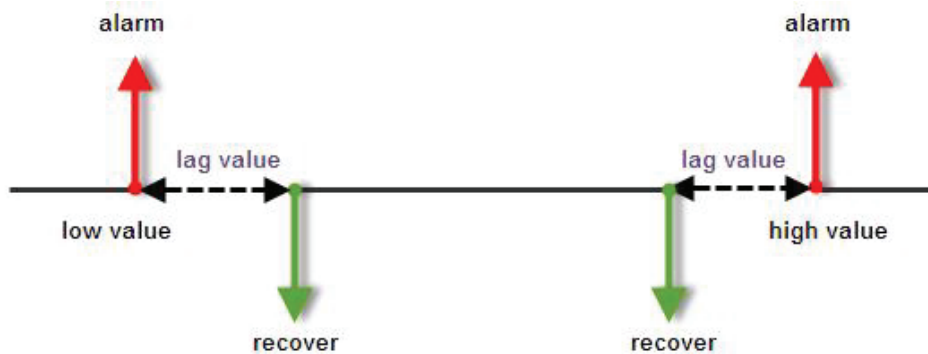
www.processcenter.se

Base	<input type="text" value="0.0000"/>
Gain	<input type="text" value="1.0000"/>

Don't need to set, they are created automatically when measuring range setting done.

Alarm range lag	<input type="text" value="0.00"/>
-----------------	-----------------------------------

Set lag to avoid sending lots of alarm/recover sms around alarm value. "0" means disable the function.



Physical scale high	<input type="text" value="0.00"/>
Physical scale low	<input type="text" value="0.00"/>

Physical measurement rang of the sensor

Upload trigger step	<input type="text" value="0.00"/>
---------------------	-----------------------------------

When the change value of this channel (current value compare to last uploaded value) reach the "step" , it uploads data one time by GPRS

24Hours

This channel input' alarm is available even it is in disarm status.

sound alarm

drive interior buzzer on when alarm

enable

Enable or not this channel

alarm SMS

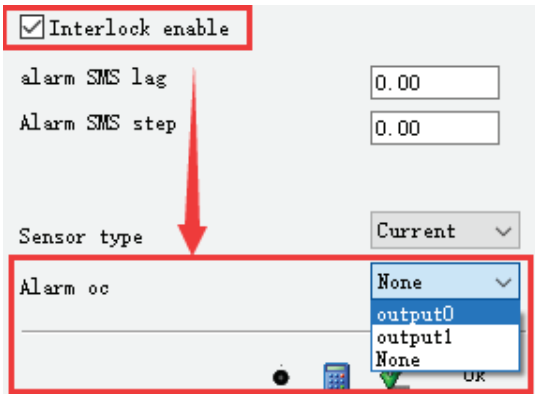
Enable or not this channel's alarm sms sending

Disconnection event

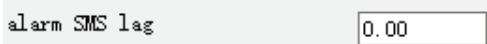
When the sensor is disconnected, an alarm message is sent.

Manual Larmsändare/ RTU CWT5xxx

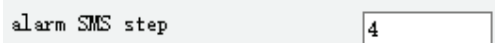
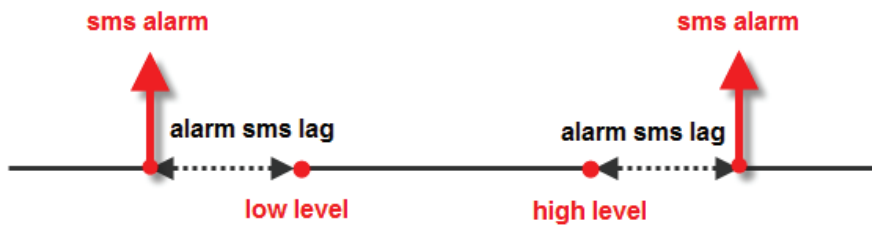
www.processcenter.se



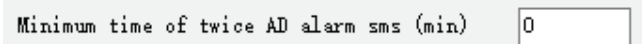
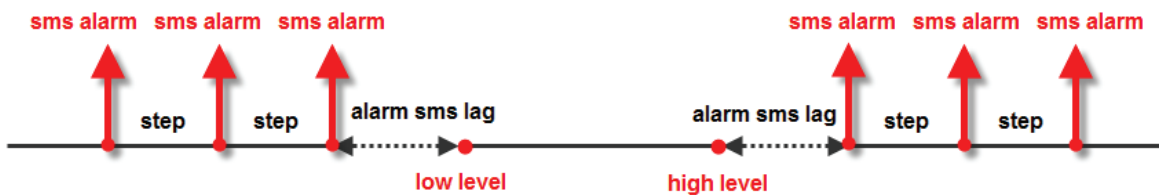
Interlock means
 the selected output get on when this channel alarm (value out of normal range)
 the output get off when recover (value return to normal range)



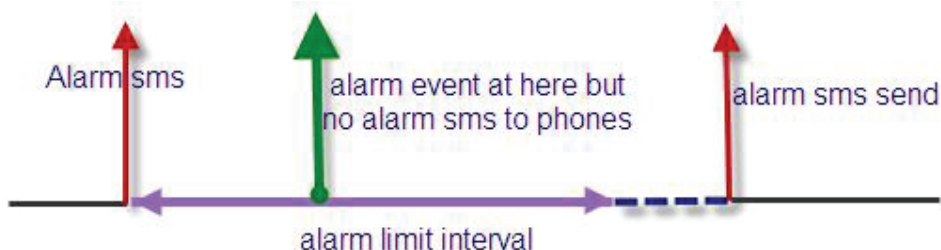
The lag delay sms alarm



In alarm status, resend alarm sms for every increasing the step



It is designed to avoid sending lots of alarm/recover sms around alarm value, "0" means disable the function.

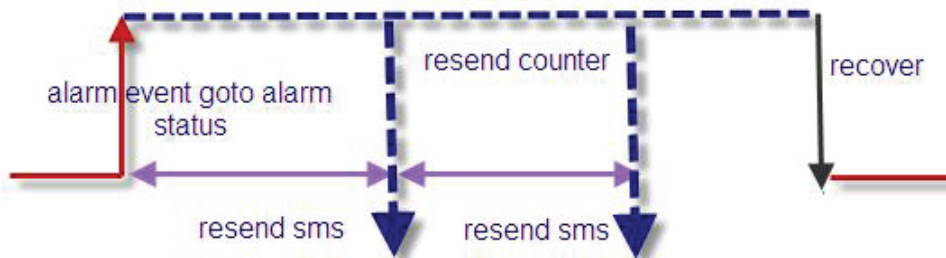


Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

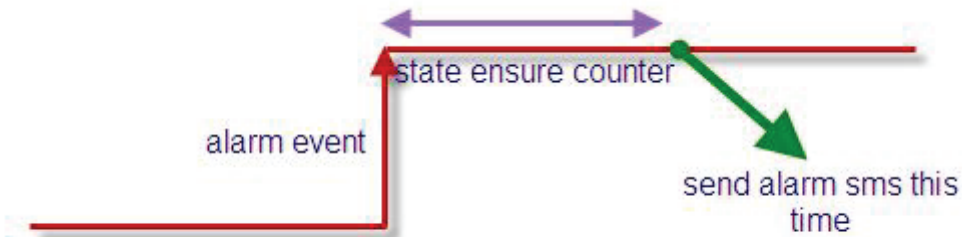
Interval of resend AD alarm state sms

It is designed for repeat alarm sms, 0 means disable the interval



Timespan of ensure AD alarm (sec)

It is a counter of alarm status ensure timer, designed to avoid shake mistakes. 0 means no counter. Default is 5 seconds



Upload data interval (sec)

The interval of upload data by GPRS, Wi-Fi, Ethernet

AD upload hours range (hour - hour) <->

Set a certain time period of uploading data in day, 0-23

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Upload AD when change detected

—	0.00	0.00	0.0000	1.0000	0.00	Physical scale high	0.00	0.00
—	0.00	0.00	0.0000	1.0000	0.00	Physical scale low	0.00	0.00
—	0.00	0.00	0.0000	1.0000	0.00	Upload trigger step	0.00	0.00
—	0.00	0.00	0.0000	1.0000	0.00	<input type="checkbox"/> 24Hours		
—	0.00	0.00	0.0000	1.0000	0.00	<input checked="" type="checkbox"/> Sound alarm		
—	0.00	0.00	0.0000	1.0000	0.00	<input checked="" type="checkbox"/> Enable		
—	0.00	0.00	0.0000	1.0000	0.00	<input type="checkbox"/> Sms enabled		
—	0.00	0.00	0.0000	1.0000	0.00	<input checked="" type="checkbox"/> Disconnection event		
—	0.00	0.00	0.0000	1.0000	0.00	<input checked="" type="checkbox"/> Interlock enable		
—	0.00	0.00	0.0000	1.0000	0.00	alarm SMS lag	0.00	
—	0.00	0.00	0.0000	1.0000	0.00	Alarm SMS step	0.00	
—	0.00	0.00	0.0000	1.0000	0.00	Sensor type	Current	
—	0.00	0.00	0.0000	1.0000	0.00	Alarm oc	None	

Minimum time of twice AD alarm sms (min)

Interval of resend AD alarm state sms

Timespan of ensure AD alarm (sec)

Upload data interval (sec)

AD upload hours range (hour - hour) <->

Upload AD when change detected

enable log saving

4.2 AIN SMS

AIN Sms

No.	Sms
No. 0	ain0 alarm, current value is
No. 1	ain1 alarm, current value is
No. 2	ain2 alarm, current value is
No. 3	ain3 alarm, current value is
No. 0	ain0 return to normal, current value is
No. 1	ain1 return to normal, current value is
No. 2	ain2 return to normal, current value is
No. 3	ain3 return to normal, current value is

Double click to edit each channel

alarm sms content

return to normal sms content

SMS with memo/id/time

add ultra high-low information in alarm SMS

send alarm SMS when ain disconnected

disconnected SMS repeater (min)

Save

Reload successfully, connected with PC!

SMS with memo/id/time

ID, time and description show in alarm sms.

add ultra high-low information in alarm SMS

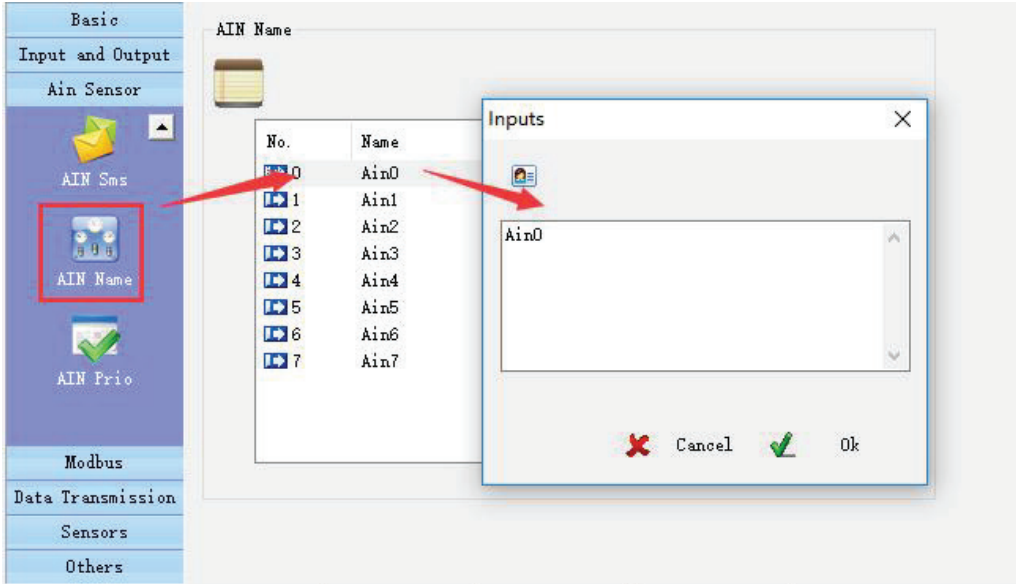
Show it get on high level or low level in alarm sms.

send alarm SMS when ain disconnected

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

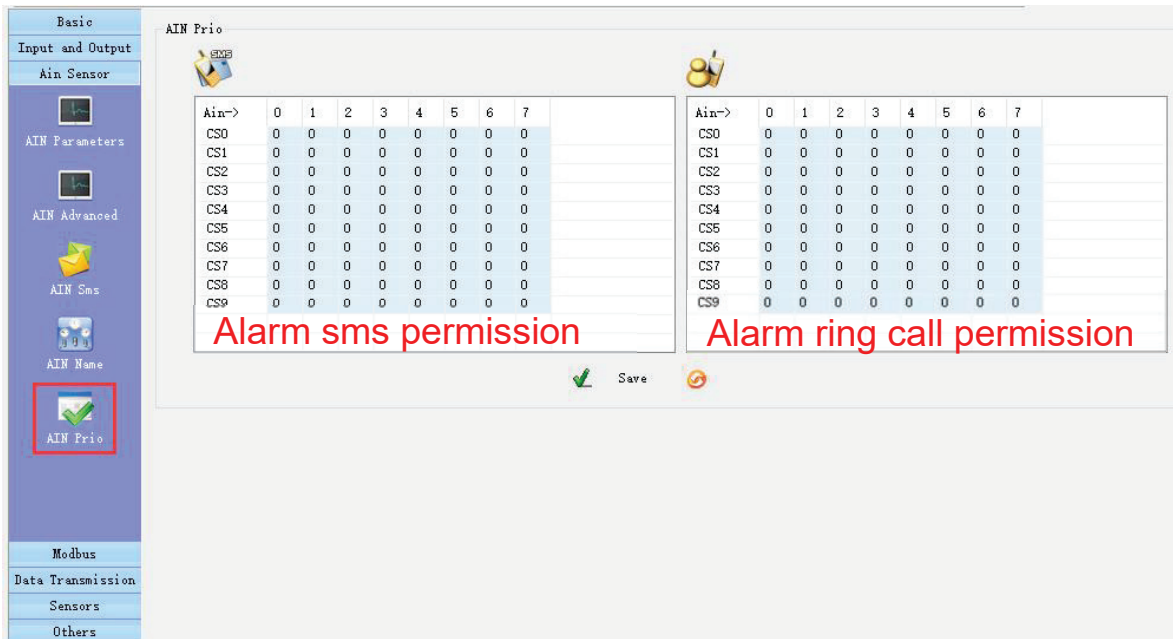
4.3 AIN Name



If you send SMS command to query AD inputs value, the AD inputs name show in the SMS.

4.4 AIN prio

In this page, to set AIN alarm permission (in columns) for CS numbers (in rows) "O" represent enable; "X" represent disable.



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

5 MODBUS

5.1 Modbus poll

Basic

Input and Output

Ain Sensor

Modbus

Modbus Poll

Data Transmission

Sensors

Others

Basic options

Modbus slave addr

Resend alert sms interval (min)

Alarm sms interval (min)

Response timeouts (ms) Frame timeouts (ms)

Polling rate (sec)

Slave lost(sec)

Work mode

Multiple read Slave On rs-232

Upload data interval (sec)

Save

Master options

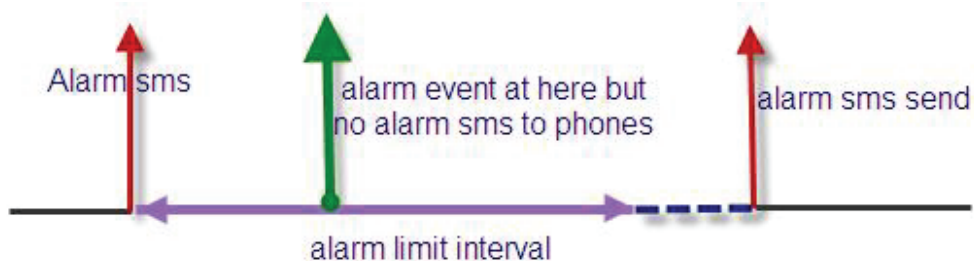
index	Reg Name	Slave...	Register Addr	Type	Normal State	Gain
Aa0	Regis...	0	1	Input Regis...	1.0000	1.0000
Aa1	Regis...	0	2	Input Regis...	1.0000	1.0000
Aa2	Regis...	0	3	Input Regis...	1.0000	1.0000
Aa3	Regis...	0	4	Input Regis...	1.0000	1.0000
Aa4	Regis...	0	5	Input Regis...	1.0000	1.0000
Aa5	Regis...	0	6	Input Regis...	1.0000	1.0000
Aa6	Regis...	0	7	Input Regis...	1.0000	1.0000
Aa7	Regis...	0	8	Input Regis...	1.0000	1.0000
Aa8	Regis...	0	9	Input Regis...	1.0000	1.0000
Aa9	Regis...	0	10	Input Regis...	1.0000	1.0000
Aa10	Regis...	0	11	Input Regis...	1.0000	1.0000

Modbus slave addr

slave address when device as a modbus slave

Resend alert sms interval (min)

It is designed to avoid sending lots of alarm/recover sms around alarm value, "0" means disable the function.

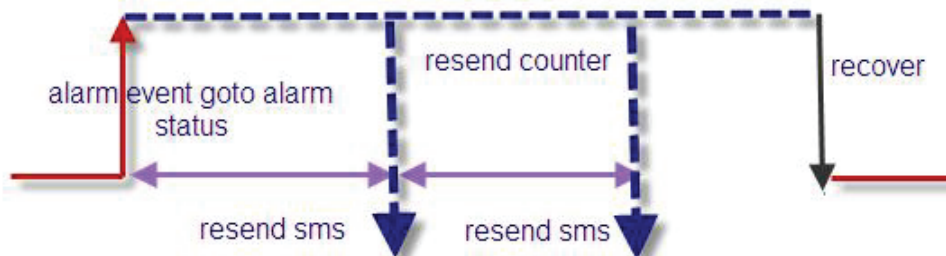


Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Alarm sms interval (min)

It is designed for repeat alarm sms, 0 means disable the interval



Response timeouts (ms)

If a register don't response in this time, that means read the register failure. Device stop reading it until next poll.

Frame timeouts (ms)

if slave do not response in this time that means read failure

Polling rate (sec)

Interval for every polling, 0 means polling continuously have no interval

Slave lost(sec)

When a certain slave to be read failure over this time, device will send sms alarm

Work mode

Set device to be a master or slave

Slave On rs-232

Means device as a slave that can be read on RS232 by master

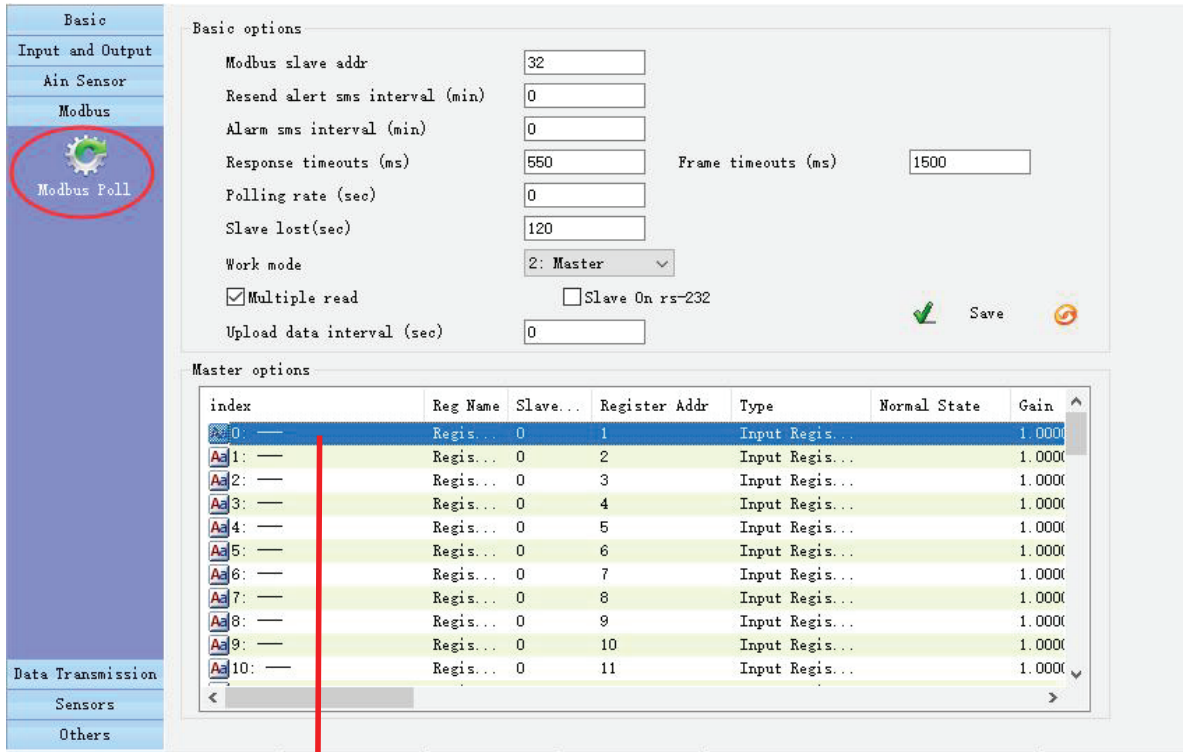
Upload data interval (sec)

Interval of uploading data by GPRS, Ethernet, Wi-Fi

Manual Larmsändare/ RTU CWT5xxx

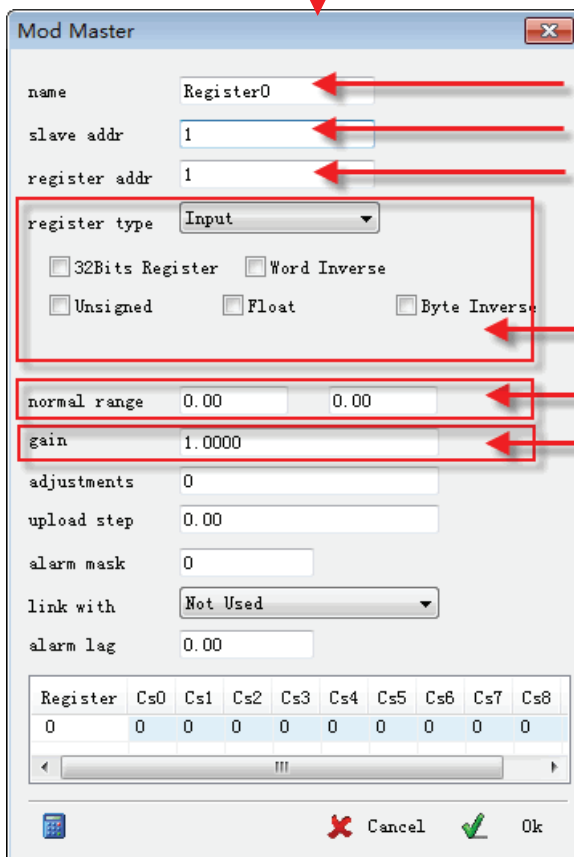
www.processcenter.se

Set register parameters



The screenshot shows the 'Modbus Poll' configuration window. The 'Basic options' section includes fields for Modbus slave addr (32), Resend alert sms interval (min) (0), Alarm sms interval (min) (0), Response timeouts (ms) (550), Frame timeouts (ms) (1500), Polling rate (sec) (0), Slave lost(sec) (120), Work mode (2: Master), Multiple read (checked), Slave On rs-232 (unchecked), and Upload data interval (sec) (0). The 'Master options' section contains a table of registers.

index	Reg Name	Slave...	Register Addr	Type	Normal State	Gain
0	Regis...	0	1	Input Regis...	1.0000	1.0000
1	Regis...	0	2	Input Regis...	1.0000	1.0000
2	Regis...	0	3	Input Regis...	1.0000	1.0000
3	Regis...	0	4	Input Regis...	1.0000	1.0000
4	Regis...	0	5	Input Regis...	1.0000	1.0000
5	Regis...	0	6	Input Regis...	1.0000	1.0000
6	Regis...	0	7	Input Regis...	1.0000	1.0000
7	Regis...	0	8	Input Regis...	1.0000	1.0000
8	Regis...	0	9	Input Regis...	1.0000	1.0000
9	Regis...	0	10	Input Regis...	1.0000	1.0000
10	Regis...	0	11	Input Regis...	1.0000	1.0000



The 'Mod Master' dialog box shows configuration for a specific register. Fields include name (Register0), slave addr (1), register addr (1), register type (Input), and various checkboxes for 32Bits Register, Word Inverse, Unsigned, Float, and Byte Inverse. It also has fields for normal range (0.00, 0.00), gain (1.0000), adjustments (0), upload step (0.00), alarm mask (0), link with (Not Used), and alarm lag (0.00). A table at the bottom shows bit settings for Cs0 through Cs8.

Register	Cs0	Cs1	Cs2	Cs3	Cs4	Cs5	Cs6	Cs7	Cs8
0	0	0	0	0	0	0	0	0	0

Edit register name

The slave ID

The register's offset address. E.g. address is 30001, only enter 1

See below the "register description "

Set low and high to alarm

Actual value=register value*gain

E.g. a meter value is 78.3 read the register value=783 so the gain set 0.1

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Register description

Register type	Register address range	Function code
Coil	0XXXX	01
Keep (holding)	4XXXX	03
Input	3XXXX	04
Discrete state	1XXXX	02

E.g. a register address is 40012; slave id is 1, set as below

slave addr

register addr

register type

32Bits Register Word Inverse

Unsigned Float Byte Inverse

The 5 check boxes are valid for Keep (holding) and Input registers, default read 16-bit register, if 32-bit need check “32bits register” and “Float”

Mod Master ✕

name

slave addr

register addr

register type

normal state

Register type is Coil or Discrete state, only choose the normal state
Normal state is on, means RTU alarm when the register off

normal range

Set high and lower to alarm (available for input and keep register).

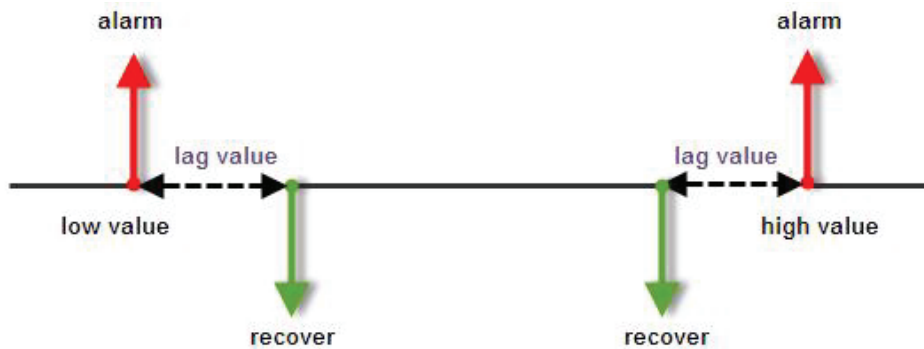
alarm lag

Set lag to avoid sending lots of alarm/recover sms around alarm value. “0” means disable the function.



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se



gain

adjustments

Actual value=register value*gain - adjustments

upload step

When change value of this register (current value current value compare to last uploaded value) reach the "step", it uploads data one time by GPRS

link with

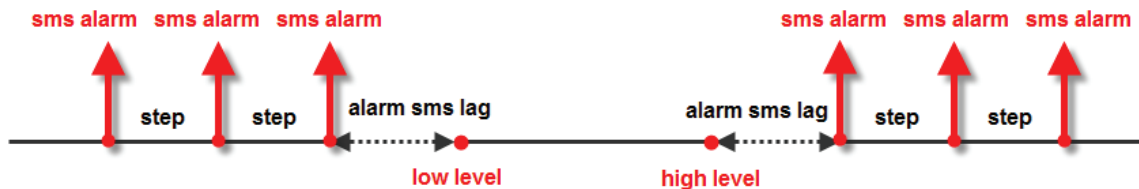
the selected output get on when this register alarm (value out of normal range)
the output get off when it recover (value return to normal range)

Alarm SMS lag

The lag delay sms alarm

Alarm SMS step

In alarm status, resend alarm sms for every increasing the step

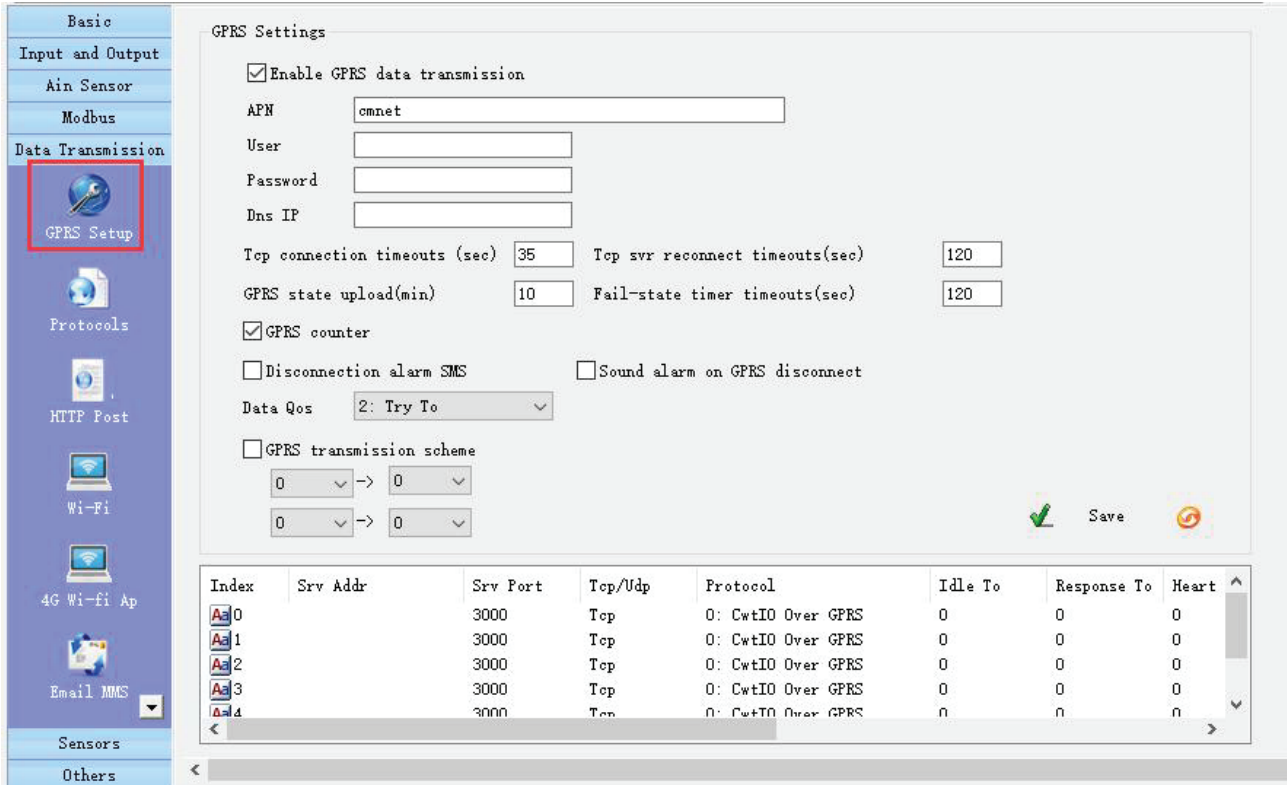


Register	Cs0	Cs1	Cs2	Cs3	Cs4	Cs5	Cs6	Cs7	Cs8	Cs9
SMS	0	0	0	0	0	0	0	0	0	0
Ring	X	X	X	X	X	X	X	X	X	X

To set register sms and ring call alarm permission (in rows) for CS numbers (in columns)
"O" represent enable; "X" represent disable.

6 DATA TRANSMISSION

6.1 GPRS Setup



GPRS Settings

Enable GPRS data transmission

APN

User

Password

Dns IP

Tcp connection timeouts (sec) Tcp svr reconnect timeouts(sec)

GPRS state upload(min) Fail-state timer timeouts(sec)

GPRS counter

Disconnection alarm SMS Sound alarm on GPRS disconnect

Data Qos

GPRS transmission scheme

→

→

Index	Srv Addr	Srv Port	Tcp/Udp	Protocol	Idle To	Response To	Heart
0		3000	Tcp	0: CwtIO Over GPRS	0	0	0
1		3000	Tcp	0: CwtIO Over GPRS	0	0	0
2		3000	Tcp	0: CwtIO Over GPRS	0	0	0
3		3000	Tcp	0: CwtIO Over GPRS	0	0	0
4		3000	Tcp	0: CwtIO Over GPRS	0	0	0

Enable GPRS data transmission

Enable or not data transmission, include GPRS/3g/4g, Ethernet, Wi-Fi

APN

User

Password

It is necessary parameters for GPRS/3g/4g transmission, please check them from your cellular operator.

Tcp connection timeouts (sec)

if there is no any data to be sent in this time, GPRS will disconnect, set it to 0 means GPRS always connect

Tcp svr reconnect timeouts(sec)

if there is no any data to be sent to TCP server in this time, device will reconnect the server, set it to 0 means it will not reconnect

GPRS state upload(min)

GPRS network parameters upload interval

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Fail-state timer timeouts(sec)

If data cannot be sent to server in this time, this data will be discarded

GPRS counter

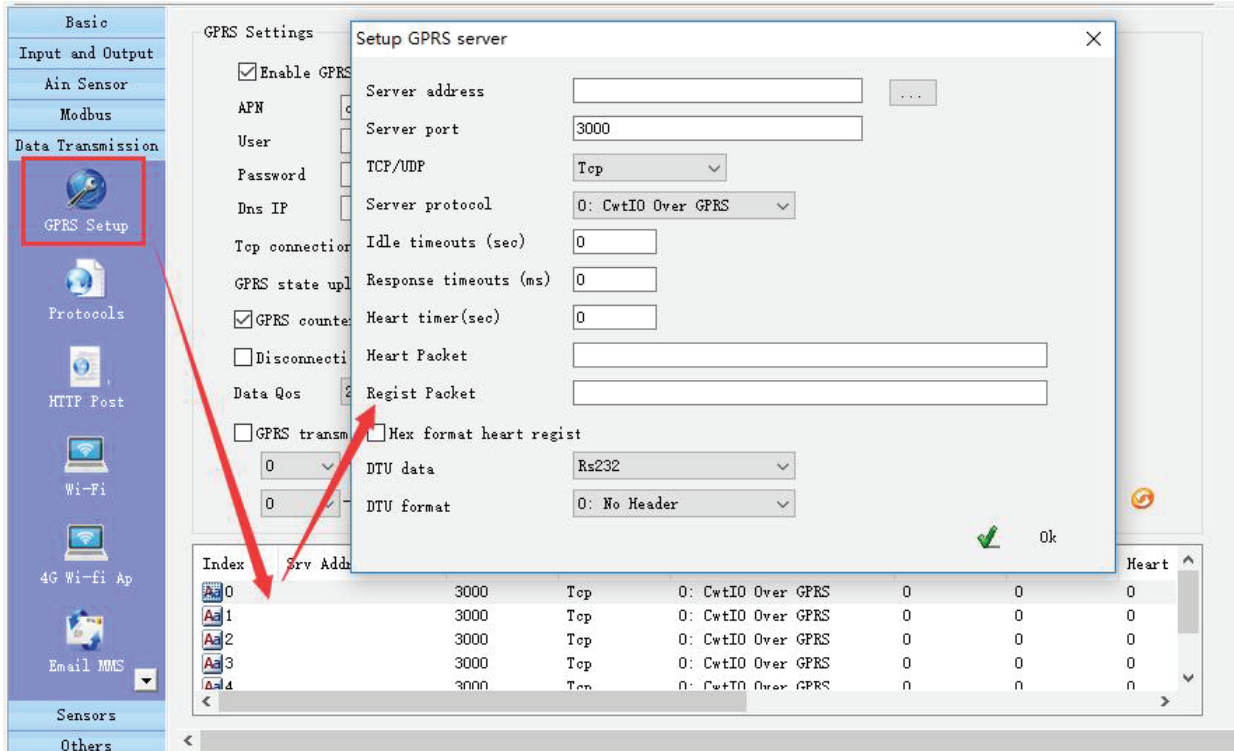
Counting for GPRS data traffic, it is only available CWT_IO protocol

Disconnection alarm SMS

GPRS disconnection trigger alarm sms to CS number

Sound alarm on GPRS disconnect

GPRS disconnection trigger buzzer sound



The screenshot shows the 'GPRS Setup' dialog box with the following fields:

- Server address:
- Server port:
- TCP/UDP:
- Server protocol:
- Idle timeouts (sec):
- Response timeouts (ms):
- Heart timer(sec):
- Heart Packet:
- Regist Packet:
- Hex format heart regist:
- DTU data:
- DTU format:

At the bottom of the dialog, there is a table with columns: Index, Srv Addr, Port, Protocol, Heart timer, Heart Packet, and Heart Packet. The table contains 5 rows of data.

Index	Srv Addr	Port	Protocol	Heart timer	Heart Packet	Heart Packet
0		3000	Top	0: CwtIO Over GPRS	0	0
1		3000	Top	0: CwtIO Over GPRS	0	0
2		3000	Top	0: CwtIO Over GPRS	0	0
3		3000	Top	0: CwtIO Over GPRS	0	0
4		3000	Top	0: CwtIO Over GPRS	0	0

Server address

Enter an IP or domain of server,
IP must be a static and public IP if transmission over GPRS/3g/4g.

Server port

It is a TCP/IP port of applications on server.

TCP/UDP

You can select TCP/UDP transport protocols for sever.



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Server protocol

Select communication protocol and device network

Idle timeouts (sec)

if there is no data to be sent in this time, the server will be disconnected. set it to 0 means always connect.

Response timeouts (ms)

It is valid for CWT_IO and Modbus TCP communication protocols, it means after device send data to server and if it do not receive response from server in this time, device will send data again. Set to 0 to disable the function.

Heart timer (sec)

It is an regular interval for sending heartbeat to hold connection with server

Heart Packet

Set heart packet content, can be null.

Regist Packet

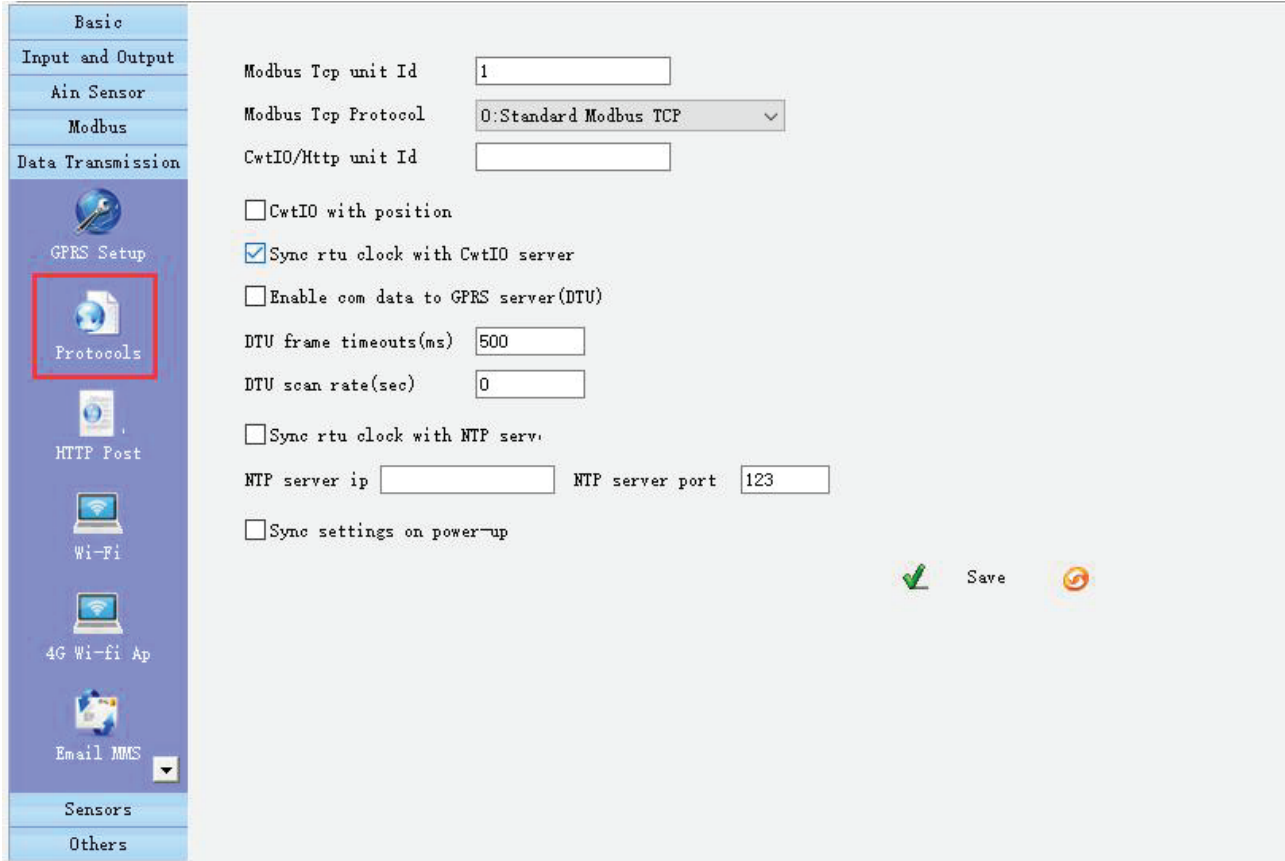
Hex format heart regist

Regist packet is sent to server one time when device start up

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

6.2 Protocols



Modbus Tcp unit Id

This ID is used for sending data to server by modbus TCP protocol

CwtIO/Http unit Id

This ID is used for sending data to server by CwtIO and http post protocol

Modbus Tcp Protocol

The Modbus TCP protocol can select standard 16-bit or enhanced 32-bit data type.

Enable com data to GPRS server (DTU)

DTU frame timeouts(ms)

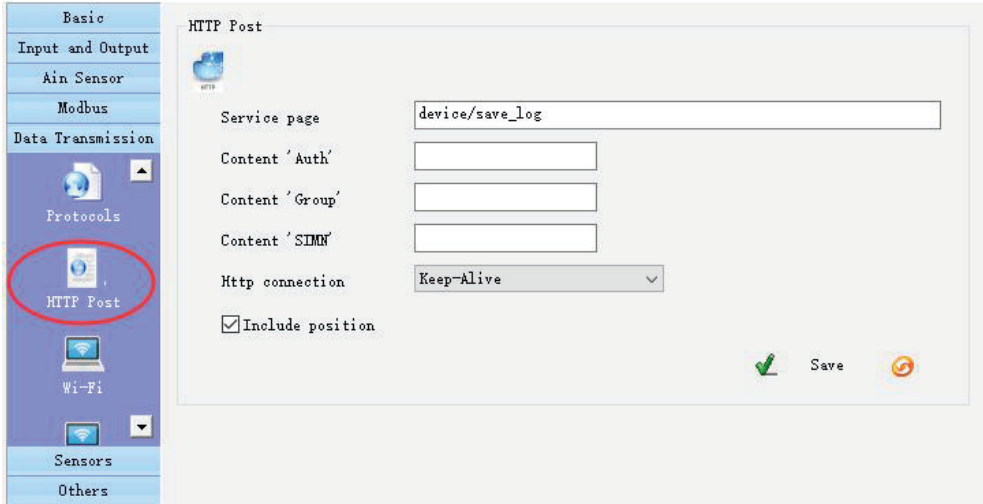
DTU scan rate(sec)

Enable or not DTU function, data transparent transmission between device's RS232/RS485 and Server over GPRS

Manual Larmsändare/ RTU CWT5xxx

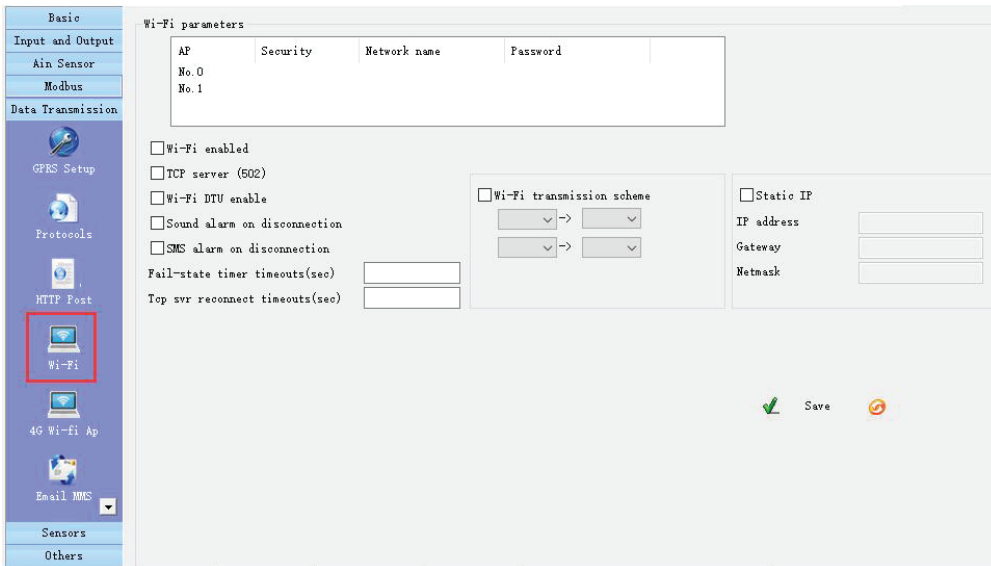
www.processcenter.se

6.3 HTTP Post



Please read http post manual

6.4 WI-FI



Wi-Fi parameters

AP	Security	Network name	Password
No. 0			
No. 1			

Setup Wi-Fi security, network name, password

Wi-Fi enabled

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Enable or not Wi-Fi function.

TCP server (502)

Enable or not device as modbus TCP server over Wi-Fi

Wi-Fi DTU enable

Enable or not DTU function, data transparent transmission between RS232/RS485 and Wi-Fi

Sound alarm on disconnection

SMS alarm on disconnection

Enable or not buzzer sound alarm and sms alarm when Wi-Fi disconnection

Wi-Fi transmission scheme

->

->

Set two work time of Wi-Fi, uncheck the box means Wi-Fi always work.

Static IP

IP address

Gateway

Netmask

Set Wi-Fi static IP.

6.5 4G Wi-Fi AP

This function is available for 4G+Wi-Fi version device.
Device create a Wi-Fi AP to share its 4G

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se



The screenshot shows a web interface for configuring an RTU. On the left is a vertical menu with options: Basic, Input and Output, Ain Sensor, Modbus, Data Transmission, Wi-Fi (highlighted with a red circle), 4G Wi-fi Ap, Email MMS, Sensors, and Others. The main content area is titled 'Wi-fi' and contains the following fields and options:

SSID	<input type="text" value="CWT-5018-668323"/>
Password	<input type="text" value="12345678"/>
Gateway IP	<input type="text" value="192.168.2.1"/>
DHCP start	<input type="text" value="192.168.2.100"/>
DHCP end	<input type="text" value="192.168.2.200"/>

Wi-Fi enable
 Web configuration

At the bottom right of the configuration area are a green checkmark icon, the text 'Save', and a circular refresh icon.

SSID

Password

Set Wi-Fi AP ID and password

Wi-Fi enable

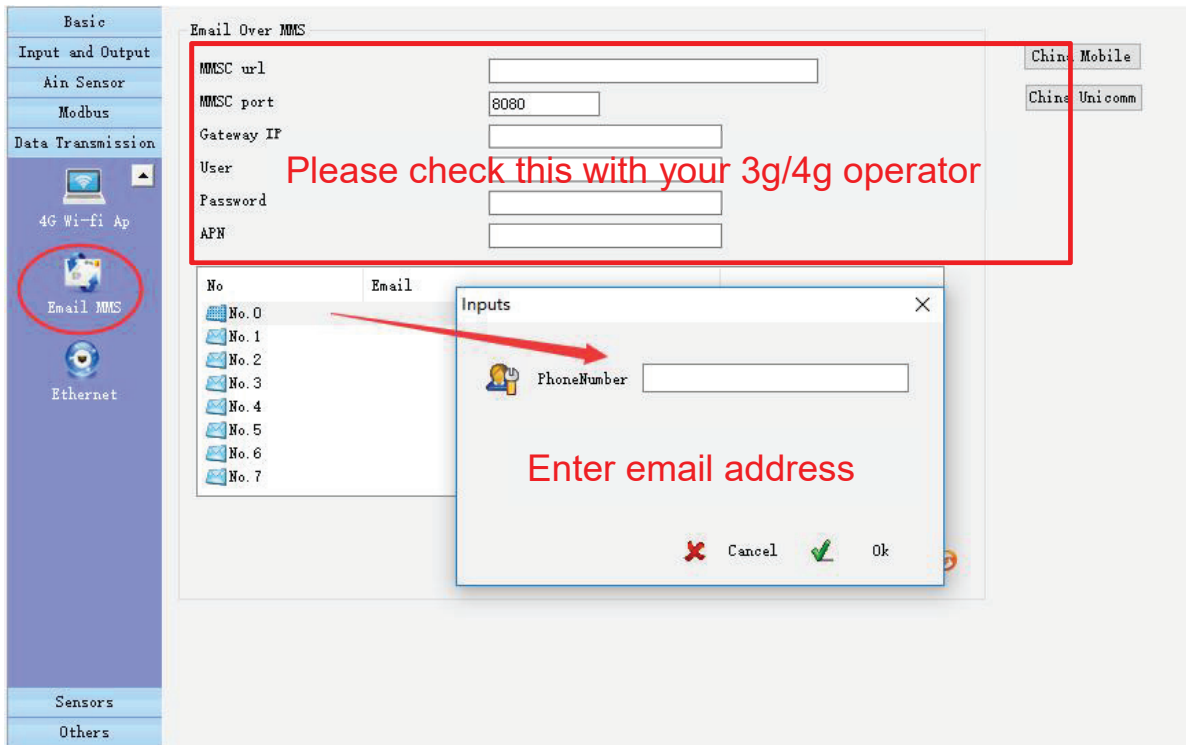
Enable or not Wi-Fi AP function.

6.6 Email MMS

This function is available only for 3g and 4g device, alarm email by MMS

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se



Email Over MMS

MMS url:

MMS port:

Gateway IP:

User:

Password:

APN:

China Mobile
China Unicom

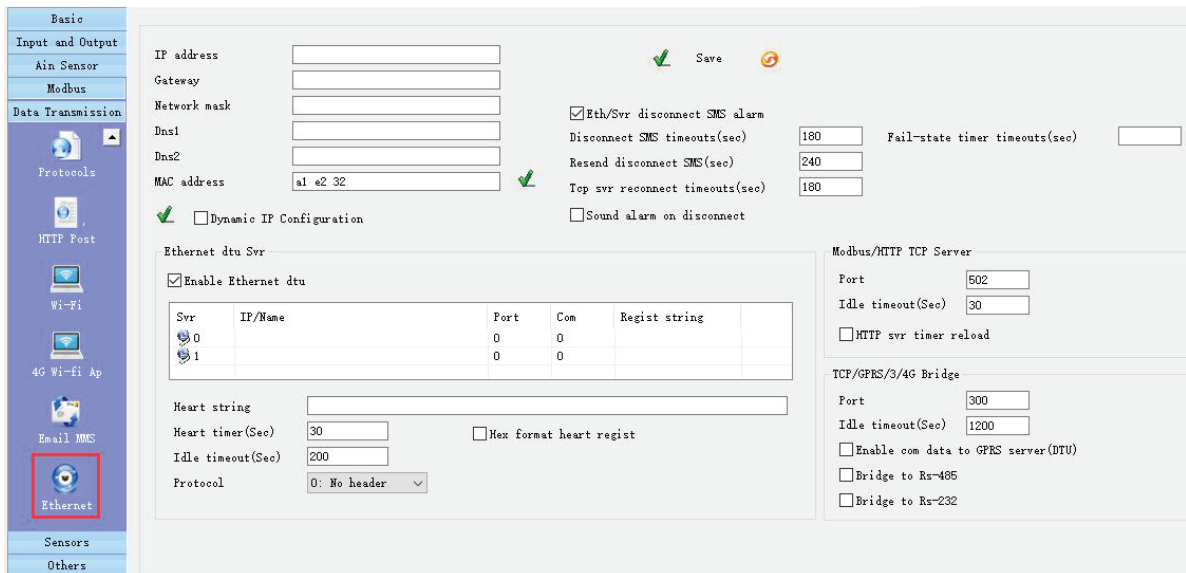
Please check this with your 3g/4g operator

Inputs

Enter email address

Cancel Ok

6.7 Ethernet



Ethernet

IP address:

Gateway:

Network mask:

Dns1:

Dns2:

MAC address:

Dynamic IP Configuration

Eth/Svr disconnect SMS alarm

Disconnect SMS timeouts(sec):

Resend disconnect SMS(sec):

Top svr reconnect timeouts(sec):

Fail-state timer timeouts(sec):

Sound alarm on disconnect

Ethernet dtu Svr

Enable Ethernet dtu

Svr	IP/Name	Port	Com	Regist string
0		0	0	
1		0	0	

Heart string:

Heart timer(Sec):

Idle timeout(Sec):

Protocol:

Hex format heart regist

Modbus/HTTP TCP Server

Port:

Idle timeout(Sec):

HTTP svr timer reload

TCP/GPRS/3/4G Bridge

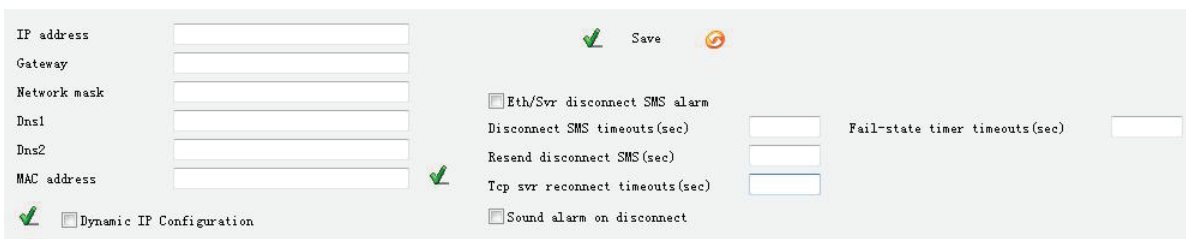
Port:

Idle timeout(Sec):

Enable com data to GPRS server(DTU)

Bridge to Rs-485

Bridge to Rs-232



IP address:

Gateway:

Network mask:

Dns1:

Dns2:

MAC address:

Dynamic IP Configuration

Eth/Svr disconnect SMS alarm

Disconnect SMS timeouts(sec):

Resend disconnect SMS(sec):

Top svr reconnect timeouts(sec):

Fail-state timer timeouts(sec):

Sound alarm on disconnect

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Set device IP parameters.

Eth/Svr disconnect SMS alarm

Enable or not sms alarm for Ethernet disconnect

Disconnect SMS timeouts(sec)

Ethernet keep disconnect over this time, device send sms alarm

Resend disconnect SMS(sec)

Send alarm sms every the time while Ethernet disconnect

Top svr reconnect timeouts(sec)

if there is no any data to be sent to TCP server in this time, device will reconnect the server, set it to 0 means it will not reconnect

Sound alarm on disconnect

Buzzer sound alarm when Ethernet disconnect

Ethernet dtu Svr

Enable Ethernet dtu

Svr	IP/Name	Port	Com	Regist string
0				
1				

Heart string

Heart timer (Sec) Hex format heart regist

Idle timeout (Sec)

Protocol

Series port server function: data transparent transmission between RS232/RS485 and server over Ethernet.

Heart string

Heart string will be sent for a regular interval, can be null

Heart timer (Sec) Hex format heart regist

It is a regular interval for sending heartbeat to hold connection with server

Idle timeout (Sec)

if there is no data to be sent in this time, the server will be disconnected. 0 means always connect.

Modbus/HTTP TCP Server

Port

Idle timeout (Sec)

HTTP svr timer reload



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

Device as modbus TCP server can be polled by master over Ethernet

Idle timeout (Sec):

if there is no data to be sent in this time, the server will be disconnected. set it to 0 means always connect.

HTTP svr timer reload

The data inside the HTTP database will be refreshed.

TCP/GPRS/3/4G Bridge	
Port	<input type="text" value="300"/>
Idle timeout(Sec)	<input type="text" value="1200"/>

TCP/GPRS/3/4G Bridge function:

Data transparent transmission between Ethernet and GPRS/3/4G

Idle timeout (Sec):

if there is no data to be sent in this time, the server will be disconnected. set it to 0 means always connect.

Enable com data to GPRS server (DTU)

Open transparent transfer function.

Bridge to Rs-485

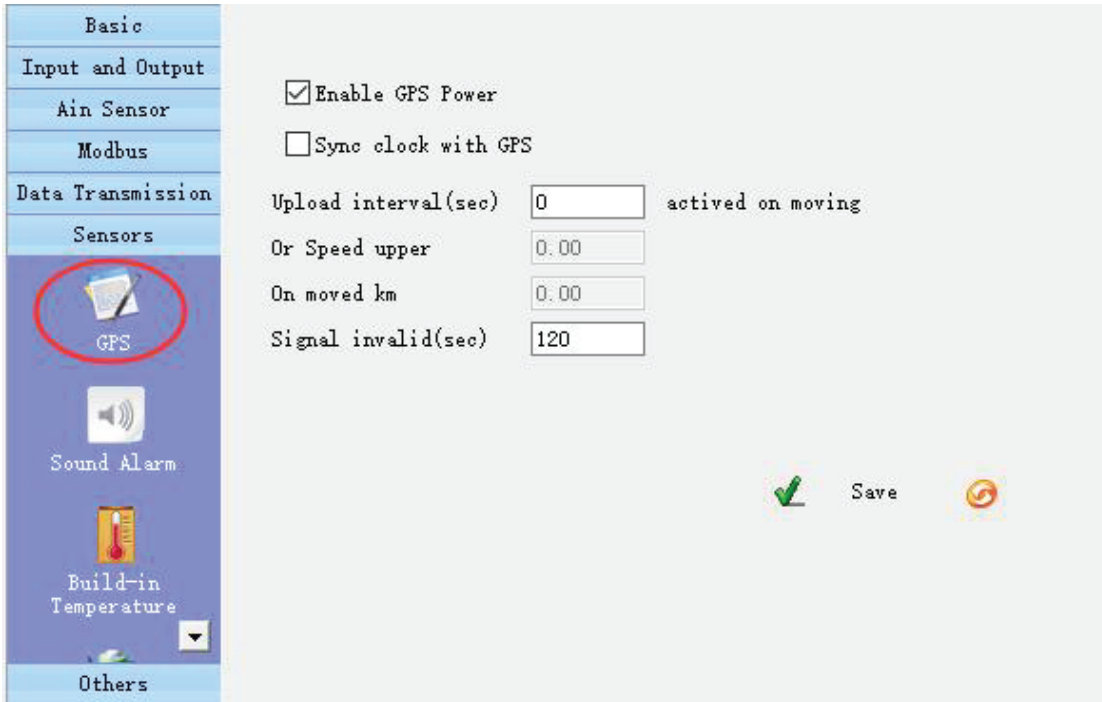
Bridge to Rs-232

Forward to 485 or 232.

7 SENSORS

7.1 GPS

Set GPS parameters



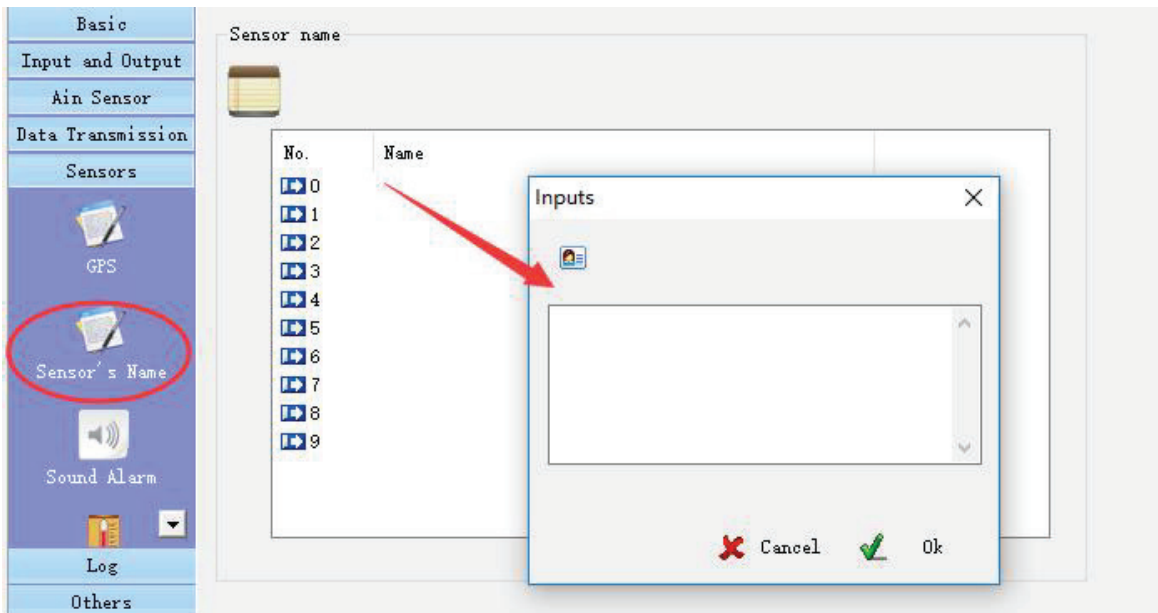
The screenshot shows the 'GPS' configuration page in the software. On the left is a vertical menu with options: Basic, Input and Output, Ain Sensor, Modbus, Data Transmission, Sensors, GPS (highlighted with a red circle), Sound Alarm, Build-in Temperature, and Others. The main area contains the following settings:

- Enable GPS Power
- Sync clock with GPS
- Upload interval(sec) activated on moving
- Or Speed upper
- On moved km
- Signal invalid(sec)

At the bottom right, there is a green checkmark icon, the text 'Save', and a circular refresh icon.

7.2 Sensor's name

Edit exterior temperature and humidity sensor's name, it is available for the device with TI (temperature and humidity input), The name will be showed in alarm sms.



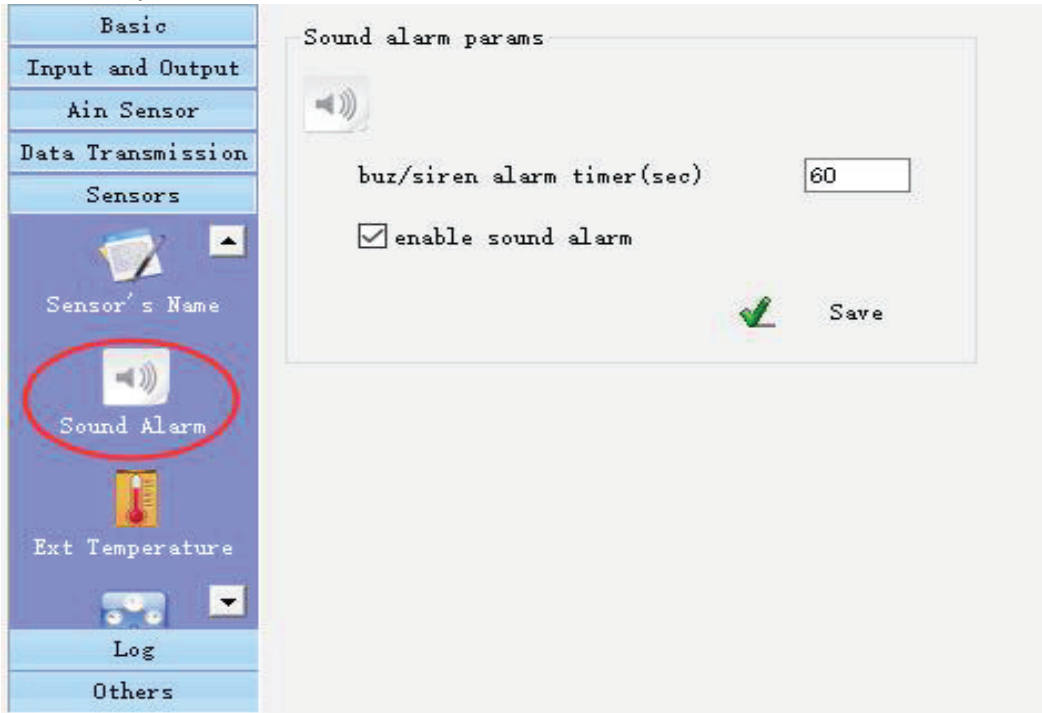
The screenshot shows the 'Sensor's Name' configuration page. The left menu has 'Sensor's Name' highlighted with a red circle. The main area is titled 'Sensor name' and contains a table with 10 rows (No. 0-9) and a 'Name' column. A red arrow points from the 'Name' column to an 'Inputs' dialog box. The dialog box has a title bar with a close button (X), a list icon, and a large empty text area. At the bottom of the dialog are 'Cancel' (with a red X icon) and 'Ok' (with a green checkmark icon) buttons.

Manual Larmsändare/ RTU CWT5xxx

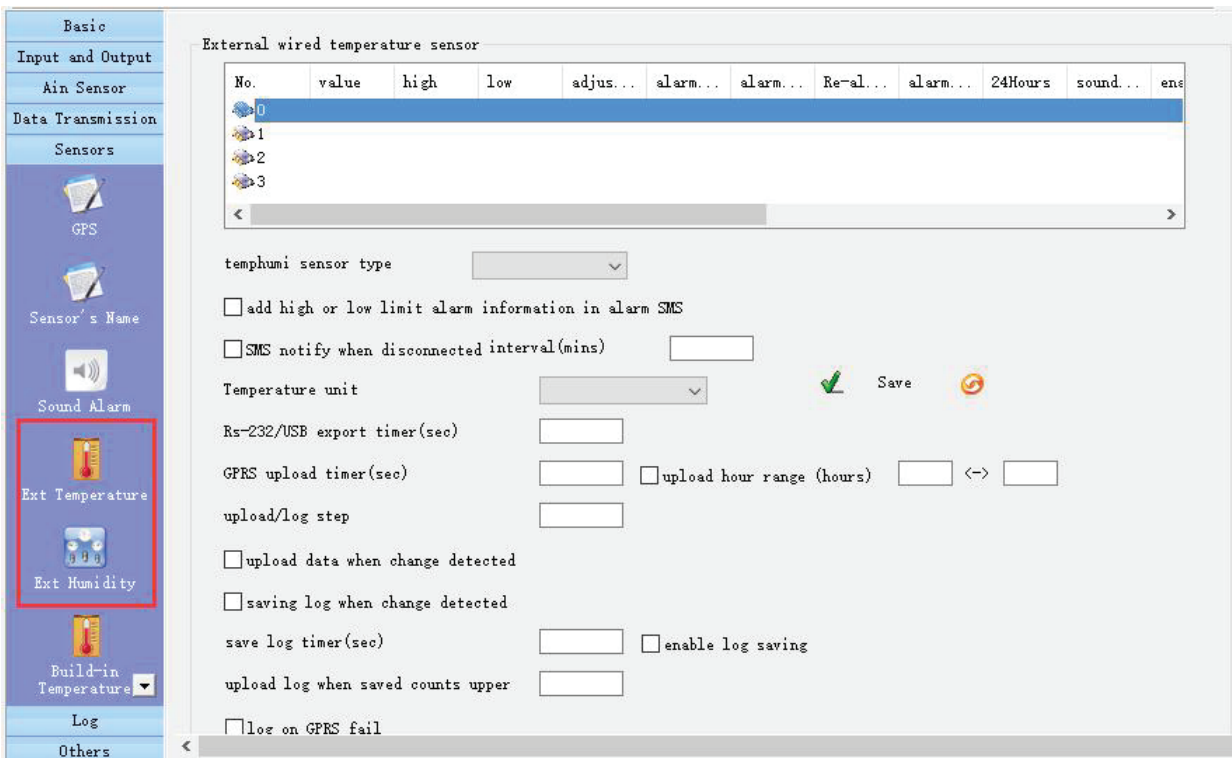
www.processcenter.se

7.3 Sound Alarm

Set buzzer parameters



7.4 Set Exterior temperature Humidity input



No.	value	high	low	adjus...	alarm...	alarm...	Re-al...	alarm...	24Hours	sound...	ens
0											
1											
2											
3											



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

temphumi sensor type

Select temperature sensor type, 0: am2305 1: ds18b20.

add high or low limit alarm information in alarm SMS

Show it get on high level or low level in alarm sms.

SMS notify when disconnected interval(mins)

To send sms notify every this time while disconnected

Temperature unit

Centigrade or Fahrenheit

Rs-232/USB export timer(sec)

The interval of exporting Temperature or humidity data to rs232/USB

GPRS upload timer(sec) upload hour range (hours) <->

The interval of uploading data by GPRS, and the work time of uploading

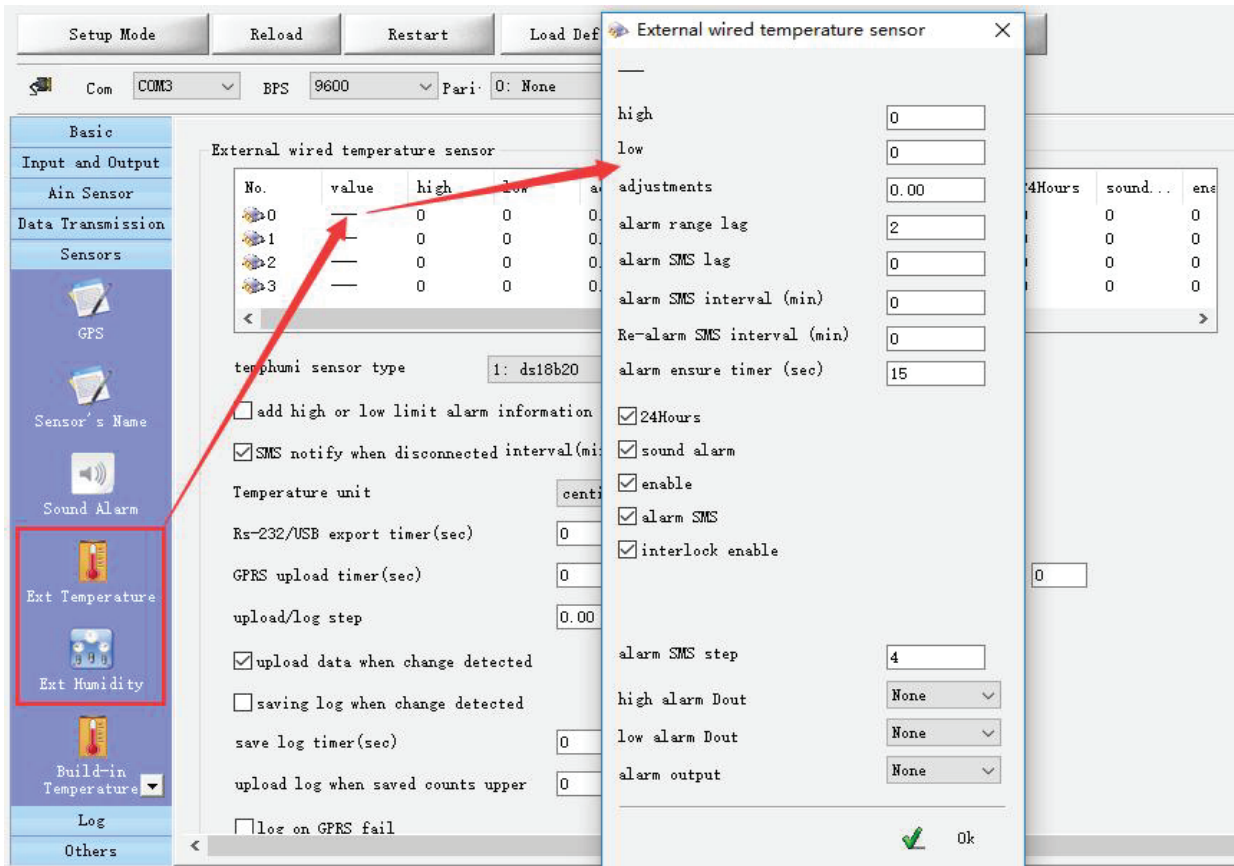
upload/log step

When the change value of temperature (current value compare to last uploaded value) reach the step, it uploads data

upload data when change detected

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se



high

low

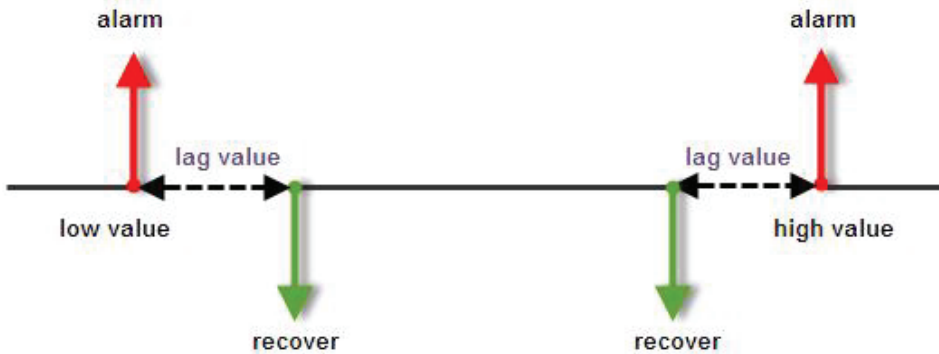
Set the high and low for alarm.

adjustments

Actual value=measurement value - adjustment

alarm range lag

Set lag to avoid sending lots of alarm/recover sms around alarm value. "0" means disable the function.

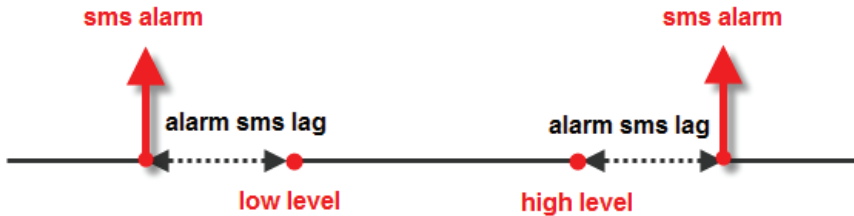


Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

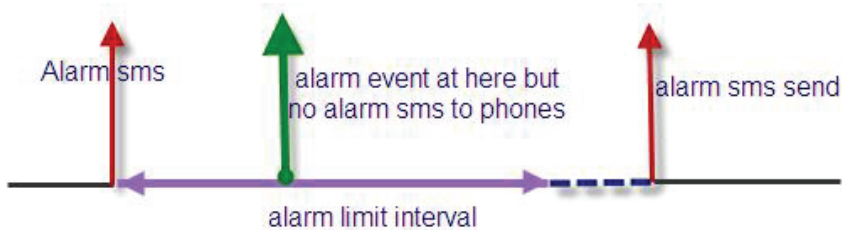
alarm SMS lag

The lag delay sms alarm



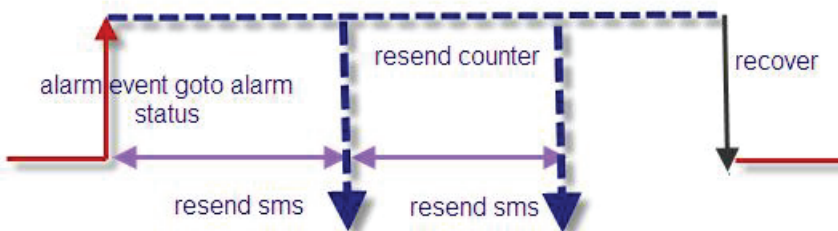
alarm SMS interval (min)

It is designed to avoid sending lots of alarm/recover sms around alarm value, "0" means disable the function.



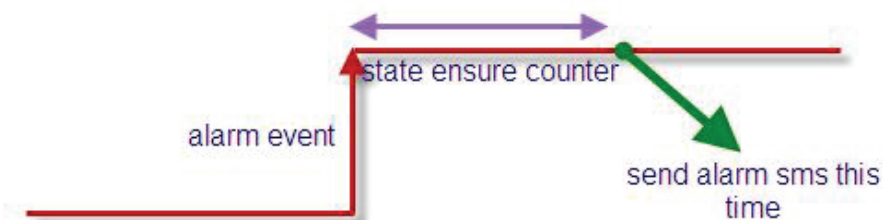
Re-alarm SMS interval (min)

It is designed for repeat alarm sms, 0 means disable the interval



alarm ensure timer (sec)

It is a counter of alarm status ensure timer, designed to avoid shake mistakes. 0 means no counter. Default is 15 seconds



Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

24Hours

This channel alarm is available even it is in disarm status.

sound alarm

drive interior buzzer on when alarm

enable

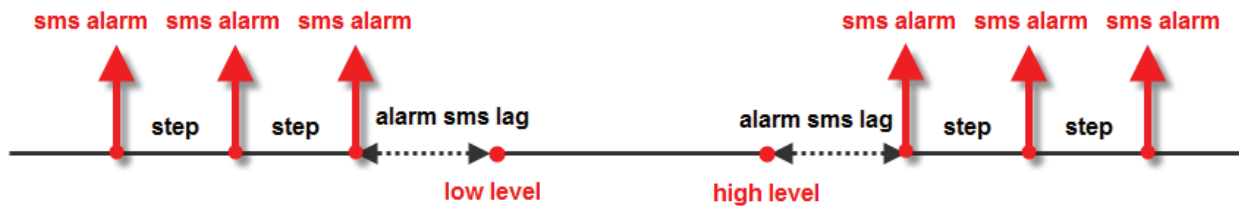
This channel works or not

alarm SMS

Enable or not this channel's alarm sms sending

alarm SMS step

In alarm status, resend alarm sms for every increasing the step



interlock enable

alarm SMS step

high alarm Dout


low alarm Dout

alarm output

Interlock means

the selected output get on when this channel alarm (value out of normal range)
the output get off when recover (value return to normal range)

7.5 Battery



The screenshot shows a web-based configuration interface for an RTU. On the left is a vertical navigation menu with categories: Basic, Input and Output, Air Sensor, Modbus, Data Transmission, Sensors, and Others. Under the Sensors category, several options are listed: GPS, Sound Alarm, Build-in Temperature, and Battery. The Battery option is highlighted with a red rectangular box. The main content area is titled 'Internal battery' and contains the following settings:

- timer of ensure power alarm (sec)
- enable power lost alarm
- interval of resend alarm SMS (mins)
- power-lost SMS:
- power-good SMS:

At the bottom right of the settings area, there is a green checkmark icon, the text 'Save', and a circular refresh icon.

timer of ensure power alarm (sec)

Exterior power supply losing over this seconds, it sends alarm sms

enable power lost alarm

interval of resend alarm SMS (mins)

Resend power losing alarm sms interval.

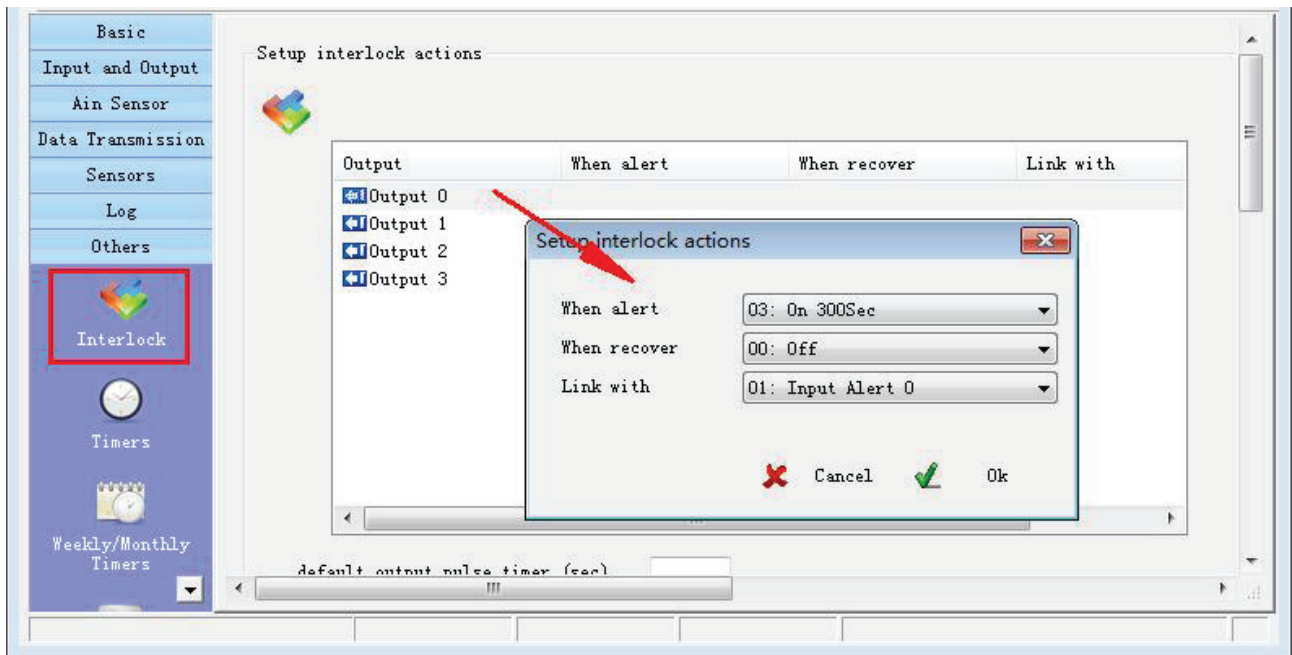
8 OTHERS

8.1 Interlock

Interlock means output will be automatically activated according to device event.

For example

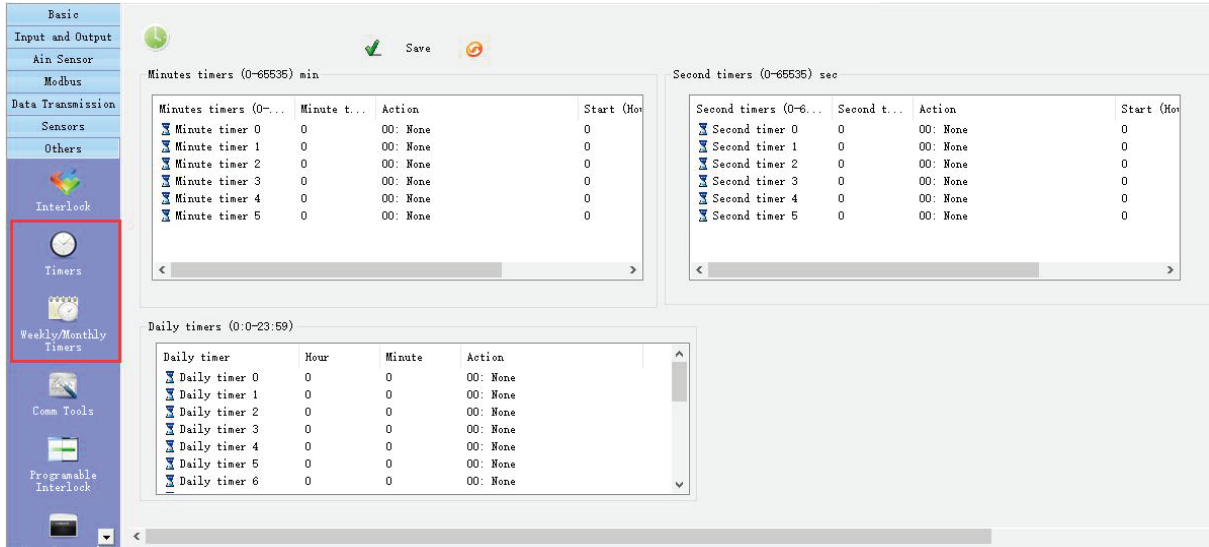
Output 0 on 300 seconds when digital input 0 alert



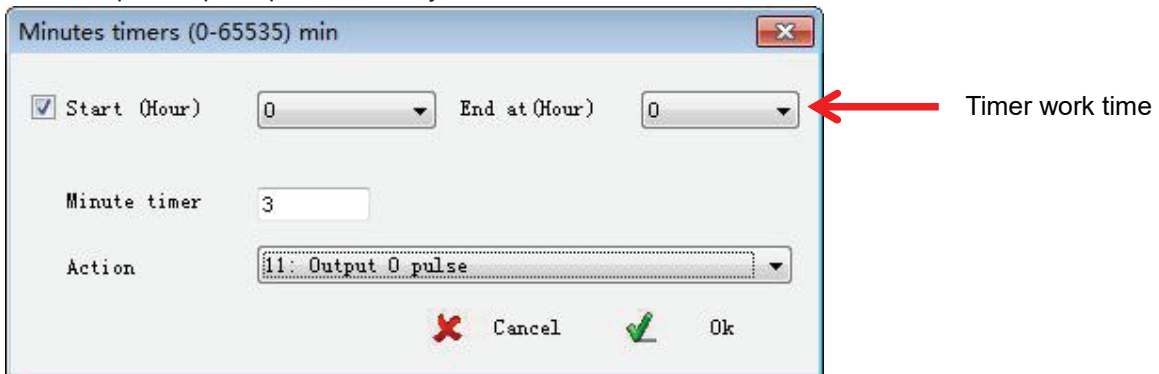
default output pulse timer (sec)

Set pulse time, default is 1 second

8.2 Timers

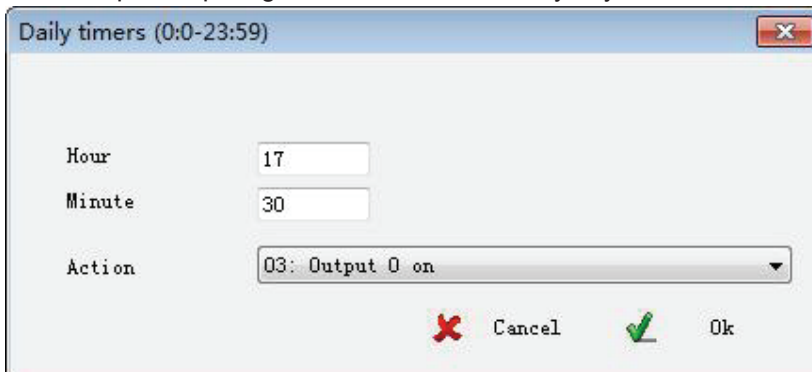


Minute timer means device regularly execute action by minute interval
For example, output 0 pulse for every 3 minutes



second timer is similar with it

Daily timers means set a specific time for every day to let device execute a certain action
For example, output0 goes on at 17:30 for every day

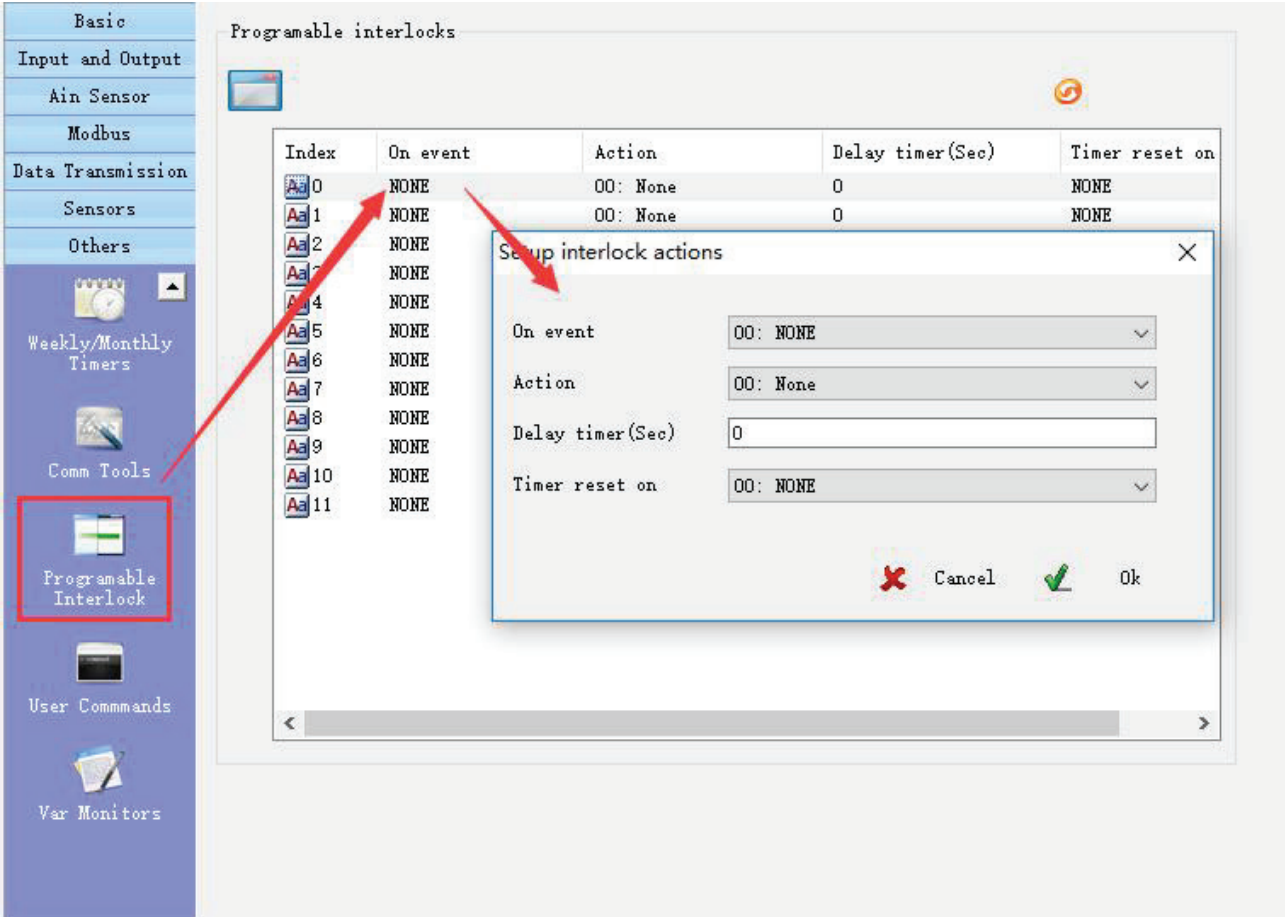


Weekly/month timer is similar with it

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

8.3 Programmable interlock



The screenshot shows the 'Programmable interlocks' configuration window. On the left, a sidebar contains various system settings, with 'Programmable Interlock' highlighted in a red box. The main window displays a table of interlocks and a 'Setup interlock actions' dialog box.

Index	On event	Action	Delay timer(Sec)	Timer reset on
0	NONE	00: None	0	NONE
1	NONE	00: None	0	NONE
2	NONE			
3	NONE			
4	NONE			
5	NONE			
6	NONE			
7	NONE			
8	NONE			
9	NONE			
10	NONE			
11	NONE			

The 'Setup interlock actions' dialog box is open, showing the following fields:

- On event: 00: NONE
- Action: 00: None
- Delay timer(Sec): 0
- Timer reset on: 00: NONE

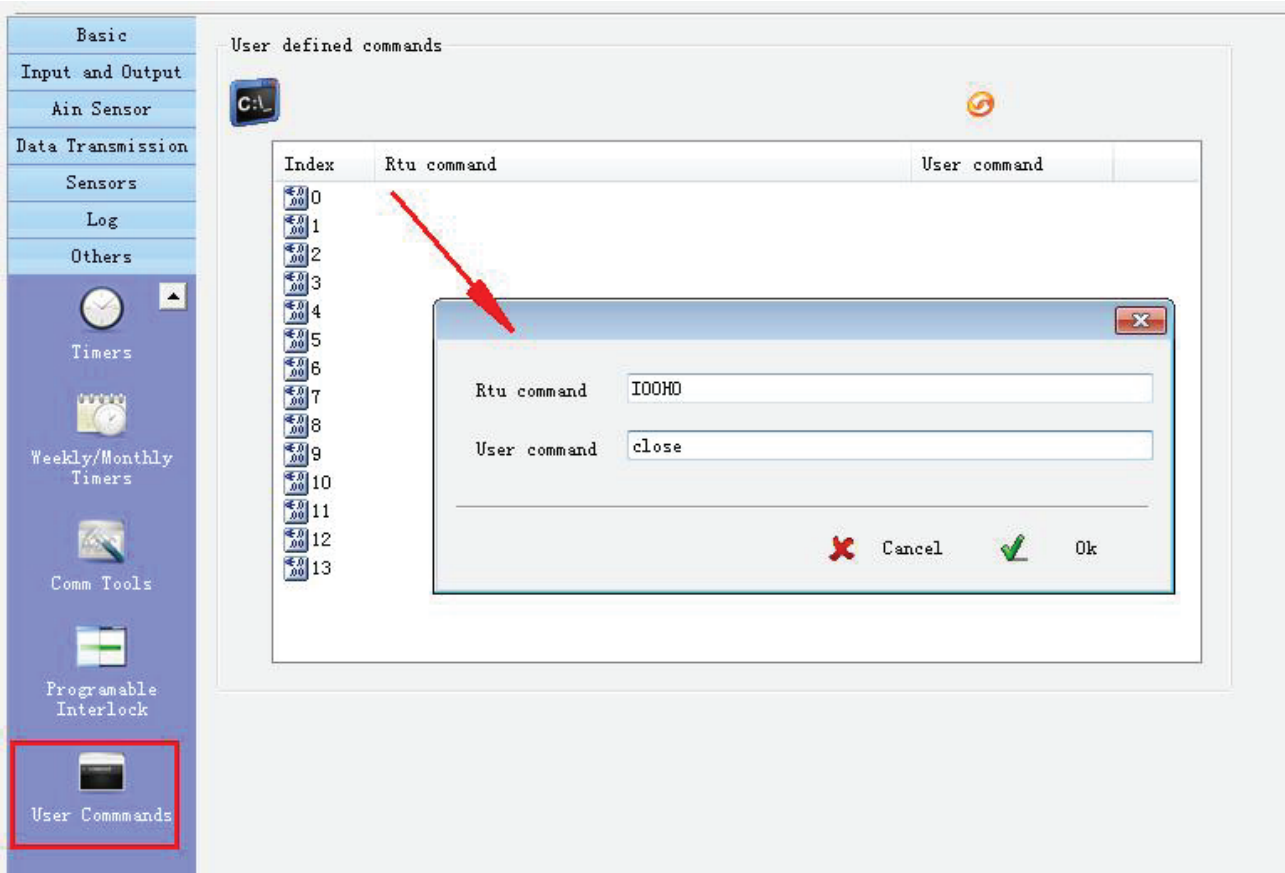
Buttons: Cancel, Ok

Programmable interlock is more powerful than interlock.
There are more system events can be selected to drive device act

Manual Larmsändare/ RTU CWT5xxx

www.processcenter.se

8.4 User Commands



The screenshot shows the 'User defined commands' configuration window. The left sidebar contains a menu with 'User Commands' highlighted. The main window displays a table with the following data:

Index	Rtu command	User command
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

A dialog box is open for editing index 4, showing the following fields:

- Rtu command: IOOH0
- User command: close

Buttons: Cancel, Ok

Device system command can be replaced by customized command

For example,

Create a user command "close" to instead system command "IOOH0"

Sending sms "close" can drive output0 on