



RTU Counter Input Quick Operation Guide

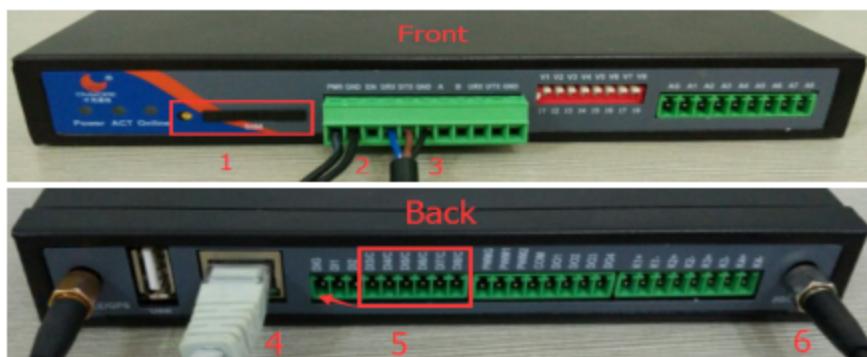
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Xiamen Caimore Communication Technology Co.,Ltd
2 F, 37#, Wanghai Road, Software Park 2, Xiamen, China (361009)

1. RTU Cable Connection



1. SIM card slot: Please ensure the RTU is powered off before pulling or plugging SIM card;
2. Power wire (PWR—black with white, GND—black);
3. RS232(D/RX—blue, D/TX—brown, GND—black): Please use this RS232 serial port to connect PC; USB forwarder to RS232 can be instead of if there is no RS232 serial port on PC;
4. The cable connected to PC;
5. Counter input DIG (same as switch input) and 6 counter inputs (low level input range from 0-3.3V, high level input range from 5-24V, the counter frequency is 1KHZ). Those 6 roads inputs can be valued as switch inputs too.
6. 2G/3G/4G antenna;

Please power on RTU after connection.

2. RTU Counter input configuration

2.1. RTU WEB Page configuration

2.1.1. Login RTU local web-based page

Lan Manage

Setup	Start IP *	End IP *	Interface
✓	192.168.1.3	192.168.1.254	Default

Submit Reset



1. Open the browser and enter into the default IP address: 192.168.1.2; then fill in account name: admin, password: admin.
2. To choose English version on the left;
3. RTU IP address: Please change RTU's IP address to avoid conflicts when you use cable connect RTU with switch.

2.1.2. Counter input configuration

RTU

8 IO mode selection

IO NO	Switch/Count
3	Count
4	Count
5	Count
6	Count
7	Count
8	Count

Apply

Counter input configuration

IO NO	Count increasing type	Work Type	Alarm or no	Limit alarm threshold	Mobile phone number for alarm	Alarm contents	Enable	Edit
3	rising edge	Query	NO	0	...	...	NO	Edit
4	rising edge	Query	NO	0	...	...	NO	Edit
5	rising edge	Query	NO	0	...	...	NO	Edit
6	rising edge	Query	NO	0	...	...	NO	Edit
7	rising edge	Query	NO	0	...	...	NO	Edit
8	rising edge	Query	NO	0	...	...	NO	Edit



IO NO	<input type="text" value="3"/> 3
Count increasing type	<input type="text" value="Rising edge"/> 5
Work Type	<input type="text" value="Query+Alarm+active reporting"/> 6
Alarm or no	<input type="text" value="YES"/> 7
Limit alarm threshold	<input type="text" value="20"/> 8
Enable	<input type="text" value="YES"/> 9

Mobile phone number for
alarm(up to 10, with

10

Alarm contents (up to 140 bytes)

11

12

1. Left click "Switch/count" option.
2. Select "Count" from the "Switch/Count" option;
3. Click "Apply";
4. Click "Edit" to edit the relative count input parameters;
5. Count increasing type: Only rising edge valid currently;
6. Work type: To select the relative alarming mode, otherwise, no alarming.
Alarming/ active report's configure see as 2.1.3.
7. To enable alarm.
8. Limit alarm threshold (Alarming will be valid when count value up to the limited value). But first of all, please ensure to enable the alarming function.
9. To enable this road count input interface;
10. The mobile phone number for alarming: up to 10 number, separated by ",".
11. Enter the alarm contents (no more than 140 bytes).
12. Click "Apply"; and then power off RTU first and power on again to reboot, or click "reboot", which is on the top right of this page.

2.1.3. Alarming/Active reporting configuration

2.1.3.1. Alarming configuration

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刪除: on the left menu bar

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刪除: action



English

alarm 1

Advance

- Filter
- NAT/DMZ/UPNP
- Route

VPN

- GRE
- PTP
- IPSEC/L2TP

System

- Status
- Time
- User
- Upgrade
- Debug

RTU

- Server
- ETCP
- PWM/Relay
- SwitchCount
- Digital Output
- AD
- alarm 1

Alarm configuration

Alarm Way: Only Network 2

Alarm interval time: 60 3 (3~3600s)

Alarm Times: 1 4 (0~255)

Alarm receiving mobile phone number(up to 10, with): 18205925040 5

Apply 6 Reset

1. Left click "RTU-Alarm".
2. Alarm Way: Network alarming and SMS alarming. (currently, the module of MC2716, mu609, M305 support SMS alarming; others only support network alarming, 2G communication module can not support SMS due to there is no SMS port);
3. To set the alarm interval time;
4. Alarm times: if the value is 0, then RTU will send alarming info once time is up;
5. The mobile phone number for alarming: up to 10 number, separated by ";"
6. Click "Apply".

Note: You can not query the alarm info in RTU WEB page, but in RTU management platform. For more details, refer to 2.2.8.1.

2.1.3.2. Active report configuration

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Active reporting configuration

Allow to active reporting or not: 2

Active reporting interval time: 3 (3~3600s)

Active reporting type: 4

The receiving mobile phone number for active reporting(up to 10, with:
 5

6

1. Click "RTU--Alarm" on the left of menu bar on the page;
2. Enable "Allow to active reporting or not";
3. To set the alarm interval time;
4. Alarm Way: Network alarming and SMS alarming. (currently, the module of MC2716, mu609, M305 support SMS alarming; others only support network alarming, 2G communication module can not support SMS due to there is no SMS port);
5. The mobile phone number for alarming: up to 10 number, separated by ";"
6. click "Apply".

Note: You can not query the active report info according to RTU WEB page, but by RTU management platform. For more details, refer to 2.2.8.2

2.2. Configure RTU management platform

2.2.1. Configure RTU server

Please refer to 2.1.1 to enter into RTU WEB page.



The screenshot shows a software interface titled "Server parameter configure". On the left, there's a navigation tree with items like Filter, Node, VPN, GRE, PPTP, ISDN, System, Status, Timer, User, Upgrade, Debug, RTU, and Server. The "Server" item is selected and highlighted with a red box. The main area displays a table with columns: NO., Server IP address, PORT, Network protocol, Data center protocol, Local Port, Enable, and Edit. An entry for NO. 1 has its "Edit" button highlighted with a red box. Below the table, there's a detailed configuration panel for entry 1, with fields for Server IP address (27.154.56.174), PORT (18000), Network protocol (TCP), Data center protocol (RTU Management Platform), Local Port (0), and Enable (YES). Buttons for "Apply" and "Reset" are at the bottom.

1. Click "RTU->Sever" on the left menu bar, see as [above](#) picture;
2. Click "Edit";
3. Setting the parameters of RTU sever as below:
NO.: The number of server IP address
Sever IP address: To enter RTU server's IP address: 27.154.56.174 (Caimore RTU management platform)
Port number:18000,
Data center protocol: RTU management platform
Enable server: select "YES"
4. Click "Apply" to finish.

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2.2.2. Setting RTU Identity

RTU Identity

This screenshot shows the "RTU Identity" configuration page. It has three input fields: "RTU ID" with value "00000071", "MODBUS ID" with value "01" (Hex:01-F7), and "SIM number" with value "13888888888". Below the fields are "Apply" and "Reset" buttons. A red box highlights the "RTU ID" field.

1. RTU ID: To enter the distribute ID No. (i.e: 71). This ID can be got after registering on RTU software management platform, if there is no distribute ID. For more details, see as 2.2.4.
2. Click "Apply" to finish, then power off RTU first and then reboot it again.

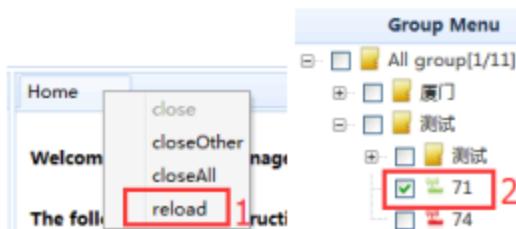
2.2.3. Login to RTU software management platform

Enter the RTU software management platform's IP address into the browser:
<http://27.154.56.174:8091/LoginEnglish.aspx>, fill in the user name and password that be

Administrator
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distributed by Caimore to enter into the RTU software management platform.



1. Please push F5 or click "Home" or right click "home" to select "reload" to refresh continuously, till the icon of the relative RTU ID turn to green;
2. Select the relative RTU ID.

2.2.4. Register RTU ID

Terminal_ID	Device aliases	State	SIM Number	Operation
1	43	Offline	13888888888	[details] [delete]
2	46	Offline	13888888888	[details] [delete]
3	48	RTU_IK	15170459781	[details] [delete]
4	49	jx_c5	15170459781	[details] [delete]
5	58	rtr-test1	13888888888	[details] [delete]
6	59	rtr-test2	13888888888	[details] [delete]
7	62	rtr-test3	13066666888	[details] [delete]
8	70	12345678	13888888888	[details] [delete]
9	71	RTU_TEST_IQS	Online	[details] [delete]
10	74	caimore	13012345678	[details] [delete]
11	77	test	1212	[details] [delete]

1. Click "Registration" on the top menu bar on the page.
2. You can manage all the group by clicking "Add Group", "Modify Group", and "Delete Group".
3. All the details of current group can be displayed on the Group menu.
4. You will get a new RTU ID number when you click "Add device" and edit, also you can modify the device's parameters by clicking "Modify device".
5. You can find the details of RTU device if you click "details".
6. The RTU device will be deleted when you click "delete".

2.2.5. Setting connected interface

Each terminal device has multiple interface, which can be distinguished by named them. (for example: 1st relay):



The screenshot shows a software interface for configuring resource aliases. At the top, there are tabs: Alarm_query, Remote_configuration, Resource_alias (highlighted with a red box), Remote_upgrade, File_upload, and System management. Below the tabs, there are buttons: Home (5), Analog input (4), Resource_alias (1), Read alias (checked), and Save alias (highlighted with a red box). A table titled 'Type' lists four options: digital input, analog input, counter, and relay output. Under the relay output section, there is a table with columns 'NO.' and 'set alias'. Row 1 has NO. 1 and set alias 'relay_1' (highlighted with a red box). Rows 2, 3, and 4 are empty.

1. Click "Resource Alias";
2. Click "+" on relay output row;
3. click the column you want to set and named it
4. Click "Save alias";
5. Click "Read alias" to confirm or enter into remote configure page to check.

Note: a. the ball window will close automatically during the configuration. We don't suggest you to confirm it by manual.

B. You can check if all the operation has been done by clicking "system management" on the right top of the menu bar, and then click "status record".

Administrator

说明: Name each relay output in the table.

2.2.6. Count input parameters configuration

The screenshot shows a navigation menu under the 'Remote_configuration' tab. The 'Common use' section is expanded, showing 'Digital input', 'Analog input', 'PWM Output', and 'Counter' (highlighted with a red box). Other sections like 'Senior', 'Router configuration', and 'DTU configuration' are also listed. Below the menu, there is a note: 'is the instructions how to use' followed by 'ition Control'.

The screenshot shows a configuration interface for 'Counter' settings. At the top, there are buttons: Home (1), Counter (highlighted with a red box), Synchronize configuration (highlighted with a red box), Load configuration (highlighted with a red box), and Save configuration (highlighted with a red box). Below the buttons is a table with columns: NO., Alias, Enable or not, Working mode, add mode, Alarm value, Alarm content, and Alarm phone number. Row 1 has NO. 1, Alias 'count_1', Enable 'Yes' (highlighted with a red box), Working mode 'Query + active report' (highlighted with a red box), add mode 'Rising Edge' (highlighted with a red box), Alarm value '20' (highlighted with a red box), Alarm content 'count' (highlighted with a red box), and Alarm phone number '18205924030' (highlighted with a red box). Rows 2 through 6 have 'No' in the 'Enable or not' column and 'Query' in the 'Working mode' column.



1. Click "Synchronize configuration", After login the platform you need to synchronize configuration at least one time;
 2. Select "YES" from drop-down box of "Enable" option;
 3. Work type: To select the relative alarming mode, otherwise, no alarming.
Alarming/ active report's configure see as 2.2.7;
 4. Add mode: only rising edge valid.
 5. Limit alarm threshold (Alarming will be valid when count value up to the limitation value). But first of all, please ensure to enable the alarming function;
 6. Enter alarm content.
 7. The mobile phone number for alarming: up to 10 number, separated by "".
 8. Save the configuration parameters;
 9. Click "Load configuration" to upload the configuration parameters or enter into RTU web-based management platform to ensure success.
- Note: a. the ball window will close automatically during the configuration. We don't suggest you to confirm it by manual.
- B. You can check if all the operation has been done by clicking "system management" on the right top of the menu bar, and then click "status record"

Administrator

刪除: Click "Synchronize configuration", which will at least to synchronize configuration once enter into this platform;

2.2.7. Alarming/Active reporting configuration

The following is the instructions how to use

Acquisition Control



Home 1 Active report 11 10

Synchronize configuration Load configuration Save configuration

Active Report: No 2

Active Report Mode: Only Network 3

Active report interval(s): 60 4 (3-3600)
18205925030 5

All Receive numbers:

Alarm mode: Only Network 6

Alarm item interval: 60 7 (3-3600)
Alarm Time: 60 8 (0-255)
18205925040 9

All alarm received number:

1. Click "Synchronize configuration", After login the platform you need to synchronize configure at least one time.
2. Set "YES OR NO" from the drop-down box of "Active Report" option.
3. Alarm Report Mode: Network alarming and SMS alarming. (currently, the module of MC2716, mu609, M305 support SMS alarming; the others are only support network alarming, 2G communication module can not support SMS due to no SMS port);
4. To set active report interval time;
5. All receive numbers: All the serial data will be send for these mobile numbers.
6. Alarm Mode: Network alarming and SMS alarming. (currently, the module of MC2716, mu609, M305 support SMS alarming; the others are only support network alarming, 2G communication module can not support SMS due to no SMS port).
7. To set alarm interval time;
8. Alarm times: if the value is 0, then RTU will send alarming info once time is up;
9. All alarm received numbers: All the serial alarm data will be send for these mobile numbers. By the way, each road count input has its own mobile NO. For alarming.

Note: a. the ball window will close automatically during the configuration. We don't suggest you to confirm it by manual.

B. You can check if all the operation has been done by clicking "system management" on the right top of the menu bar, and then click "status record".

Administrator

刪除: which will at least to synchronize configuration once enter into thisplatform.

2.2.8. Alarming query /Active reporting query configuration



2.2.8.1. Active Alarming query

The screenshot shows a software interface for querying active alarms. At the top, there is a navigation bar with tabs: 'Alarm_query' (highlighted with a red box), 'Remote_configuration', and 'Report_query'. Below the navigation bar, there is a list of alarm types: 'Counter alarm', 'Analogue input alarm', 'Digital Input Alarm' (highlighted with a red box), and 'SMS alarm'. The main area displays a search interface with fields for 'Terminal_ID' and time range ('from:2015-09-01' and 'to:2015-09-01'), followed by a 'search' button. Below the search interface is a table with columns: 'Terminal_ID', 'No', 'Alarm content', and 'Time'. A single row is visible in the table, with the 'Time' column containing the value '1'.

1. All the alarm info of RTU will be displayed on this area.
2. To specific a certain time range that you query the alarm info of RTU ID device.

2.2.8.2. Active reporting query

The screenshot shows a software interface for querying active reports. At the top, there is a navigation bar with tabs: 'Report_query' (highlighted with a red box), 'Alarm_query', and 'Remote'. Below the navigation bar, there is a list of report types: 'Counter Report', 'Digital Input Report' (highlighted with a red box), and 'Analog input report'. The main area displays a search interface with fields for 'Terminal_ID' and time range ('from:2015-09-01' and 'to:2015-09-01'), followed by a 'search' button. Below the search interface is a table with columns: 'Terminal_ID', 'No', 'Current state', and 'Time'. A single row is visible in the table, with the 'Time' column containing the value '1'.

1. All the active report info of RTU will be displayed on this area.
2. To specific a certain time range that you query the active report info of RTU ID device.

3. Remote control the count input on RTU management platform

3.1. Enter into RTU management platform

Please refer to 2.2.3.

3.2. Configuration count input



NO.	Alias	Current value
1	count_1	0
2		0
3		0
4		0
5		0
6		0

1. Click "Acquisition" on the left top of the page;
2. Click "Synchronize configuration", which will at least to synchronize configuration once enter into this platform;
3. Click "Counter";
4. Click "Data Acquisition";
5. Click "Reading acquisition", all the selected data will be displayed on the page. And each current value will not changed unless RTU recollect the data again;
6. To display current counter input interface's value. This value will increase if you rising the relative rising edge plug.

Note: a. the ball window will close automatically during the configuration. We don't suggest you to confirm it by manual.

B. You can check if all the operation has been done by clicking "system management" on the right top of the menu bar, and then click "status record".

Appendix 1: Indicator description

Indicator	Status	Description
Power	On	Powered on
	Off	Powered off
ONLINE	Off	Have not <u>ADSL</u>
	One Flash in a second and off in the next one	Fail to find the SIM card
	Twice Flash in a second and off in the next one	Fail to dial-up
	Trip Flash in a second and off in the next one	Success to dial-up
	Light on in a second and off in the next one	Connecting to data center
	On	Success to connect the data center
ACT	Flash	Receive or send out data
	Off	No data be receive or send out



Appendix 2: Faulty analysis

4.1. Power indicator is off

Please ensure the cable be connected correctly, power supply meet the requirement and standards. Otherwise, it may will destroyed DTU.

4.2. Online indicator is off

Online indicator will not be on until RTU terminal access to network successfully. If it off, please ensure the network is normal, and check if SIM card be inserted correctly or data central server software can work normal, or the communication of TCP data is been intercepted by firewall.

4.3. ACT indicator is off

The ACT indicator of RTU with 3G network will never to flash. The others will turn on when there is some certain data be received or sent out.

4.4. All the indicators are normal, but it still can not to communicated.

Please check with local network operator that there is GPRS nework in your area, also please ensure that the configuration of IP address and communication port is correct.

4.5. Too slowly to enter into RTU WEB page

If it is too slowly to refresh the RTU WEB page and frequently to drop RTU packet when you use PING IP command to testing, please to modify the RTU MAC address first. As it maybe caused by same RTU MAC address available.

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Administrator	刪除: of RTU

Basic

- WAN
- LAN 1**
- DDNS
- KeepAlive

Advance

Lan 1

IP	192.168.1.2
Mask	255.255.255.0
MAC	00:01:23:33:67:f0
DNS Servers (use the isp's dns as default)	<input type="checkbox"/>