Template:Networking rutx manual input output

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Contents

Summary

Inputs and **outputs** are used for monitoring and controlling a connected device or receiving signals from that device in order to trigger certain events. This chapter is an overview of the Input/Output section for {{{name}}} routers.

The information in this page is updated in accordance with the **[[Media:{{{fw_version}}}_single.bin|{{{fw_version}}}]]** firmware version.

Characteristics

The router's input/output pins can be found inside the power socket:

[[File:{{{file_status_pinout}}}]]

The electric characteristics for the input and output pins are as follows:

- Digital non-isolated input:
  - logic low: 0 - 5 V
  - logic high: 8 - 40 V
- Digital open collector output: 30 V, 300 mA

Status

The **Status** page displays the current states of the router's input and output:

[[File:{{{file_status}}}]]

If you click the the button that looks like a pencil next to an input/output entry, you will be able to create a custom label for the pin.

You can change how the names of the pin and its states are displayed for the device's input:

[[File:{{{file_status_input}}}]]

You can change how the names of the pin and its states are displayed for the device's output. You can also change which state is considered to be active (high level/low level):

[[File:{{{file_status_output}}}]]

Status from command line

You can also obtain the status of the input or output from the command line using the **ubus call ioman get** command:

```
root@Teltonika-{{{name}}}:~# ubus call ioman get '{"pin":"pin2"}'
{
        "ioctl_inverted": 0,
        "response": 0
}
```

- **pin1** is the input:
  - "response": **0** means open state.
  - "response": **1** means shorted state.
- **pin2** is the output:
  - "response": **0** means closed state.
  - "response": **1** means open state.

You can change the state of the output by using the **ubus call ioman change** command:

```
root@Teltonika-{{{name}}}:~# ubus call ioman change
'{"pin":"pin2","value":1}'
{
        "ioctl_inverted": 0,
        "response": 1
}
```

Set the number following after "*value*"*:* to indicate the new state of the output (possible values are 0 and 1).

Input

The **Input** section displays existing input rules. By default, the input rules list is empty:

[[File:{{{file_input_rules}}}]]

To add a new input rule, click the "Add" button. After this you will be redirected to the rule's configuration page:

[[File:{{{file_input_configuration}}}]]

Field	Value	Description
Enable	off | on; default: **off**	Turns the rule on or off.
Input pin	Digital input (pin1); default: **Digital input (pin1)**	Selects to which input pin the rule will apply.
Trigger	Input open | Input shorted | Both; default: **Input open**	Selects which input state will trigger the rule.
Action	Change profile | Reboot | Activate output; default: **Send SMS**	The action that will be taken when the rule is triggered. • **Change profile** - switches to another configuration profile. At least one configuration profile has to be created before this can be used. You can create configuration profiles from the **System → [[{{{name}}} Profiles|Profiles]]** page. • **Reboot** - reboots the device when a specified amount of time passes after the trigger. • **Activate output** - activates the output. This can be done in three ways: - *Seconds* - activates the output for a specified amount of time. - *While exists* - activates the output while the specified trigger still exists. - *Delayed action* - activates the output when a specified amount of time passes after the trigger; deactivates the output when the trigger stops and a specified amount of time passes.

Output

On/Off

The On/Off section is used to turn the output on or off, but it doesn't save the state permanently, meaning that after a reboot the state will revert back to its default value.

[[File:{{{file_output_on_off}}}]]

Post/Get configuration

Enabling **Post/Get** will allow you to send HTTP POST/GET requests to the router that control the state of the output. The figure below is an example of the Post/Get configuration section an the table below provides information on the fields contained in that section:

[[File:{{{file_output_post_get}}}]]

Field	Value	Description
Enable	off | on; default: **off**	Turns Post/Get on or off.
Username	string; default: **none**	Username used for authentication in POST/GET queries.
Password	string; default: **none**	Password used for authentication in POST/GET queries.

Post/Get examples

It is possible to turn the output on and off by using a valid HTTP POST/GET syntax. Use a web browser or any other compatible software to submit HTTP POST/GET strings to the device.

Below is a table containing syntax examples of this usage:

Action	POST/GET URL
Turn output on	http://192.168.1.1/cgi-bin/output?username=user1&password=user1&**action=on**&pin=pin2
Turn output off	http://192.168.1.1/cgi-bin/output?username=user1&password=user1&**action=off**&pin=pin2
Turn output on after a 10 second delay	http://192.168.1.1/cgi-bin/output?username=user1&password=user1&action=on&pin=pin2&**delay=10**
Turn output on for 5 seconds	http://192.168.1.1/cgi-bin/output?username=user1&password=user1&action=on&pin=pin2&**time=5**
Turn output on for 5 seconds after a 10 second delay	http://192.168.1.1/cgi-bin/output?username=user1&password=user1&action=on&pin=pin2&**delay=10&time=5**

Overview:

- 192.168.1.1 - router's default LAN IP address; replace it in accordance with your own configuration.
- username - login name from Post/Get configuration.
- password- password from Post/Get configuration.
- action- the action that will be performed on the output (can be *on* or *off*).
- pin - specifies the output (use *pin2*).
- delay - defines a delay (in seconds) after which the specified action will be performed.
- time - defines a window of time during which the action will take place. For instance, if you post an *on* action while specifying *time=5*, the output will turn on and stay on for 5 seconds before turning off.

Delay and time parameters can be used together. For example, if delay is 10, time is 5, action is on, then 10 seconds after the execution of the command, the output will switch to *on* (or stay in *on* state if it was already that way), then after 5 more seconds it will switch to *off* state. In this case the overall command execution time is 15 seconds.

Periodic control

The **Periodic control** section allows you to set up automatic output control rules that trigger output state changes at the specified period or interval. By default, the control rules list is empty:

[[File:{{{file_output_periodic_control}}}]]

To add a new control rule, click the "Add" button. After this you will be redirected to the rule's configuration page:

[[File:{{{file_output_periodic_control_configuration}}}]]

Field	Value	Description
Enable	off | on; default: **off**	Turns the rule on or off.
Output	Digital output (pin2); default: **Digital output (pin2)**	The output pin that will be be effected by the rule.
Action	on | off; default: **on**	The action that will be performed on the output.
Action timeout	off | on; default: **off**	Action timeout specifies whether an action should end after some time. For example, if action is set to *on* and timeout is set to 10, when the trigger occurs the output will turn on for 10 seconds before turning off.
Mode	Fixed | Interval; default: **Fixed**	When the rule will be triggered. • **Fixed** - triggers the specified action on the specified day(s), hour and minute. For example, every Sunday at 8:30 AM. • **Interval** - performs the action at an interval. For example, every 1 hour during Mondays.

Scheduler

With the help of the output **Scheduler** you can configure a timetable of when the output should be enabled or disabled based on date and time.

[[File:{{{file_output_scheduler}}}]]

[[Category:{{{name}}} Services section]]