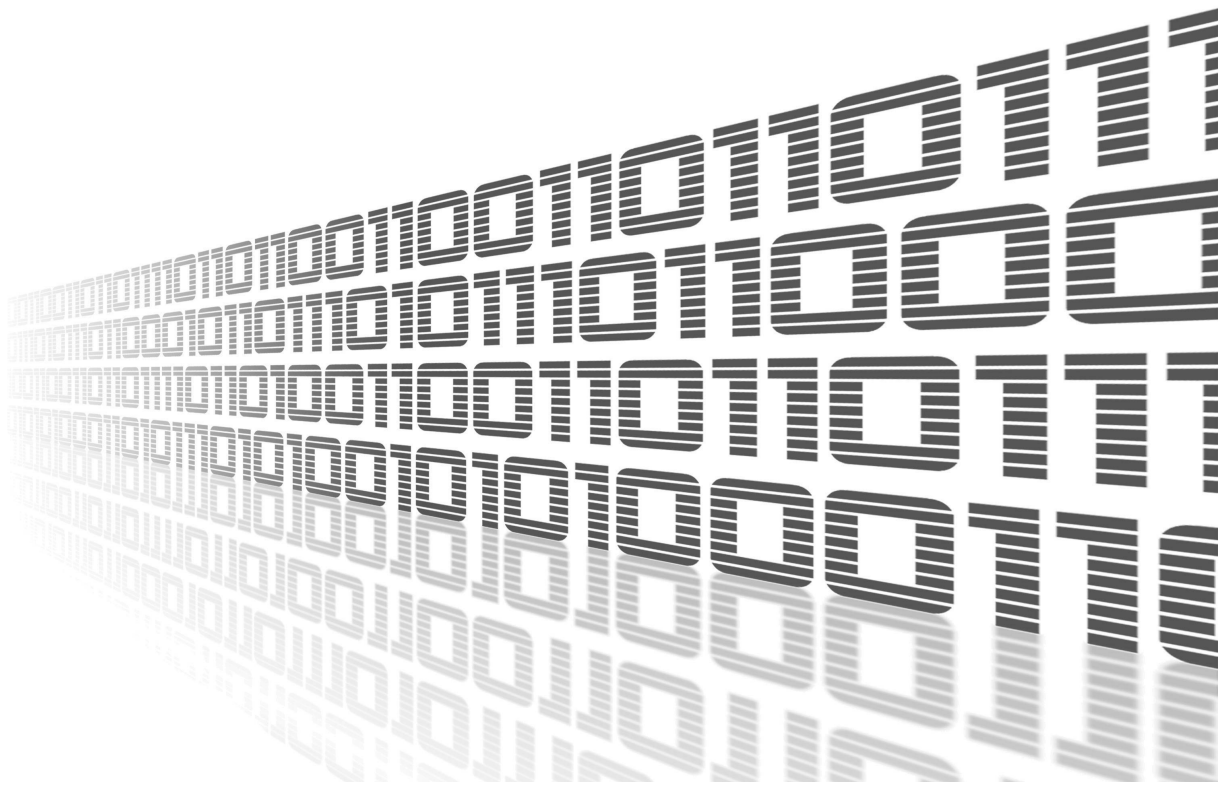




# RTUMAP

APPLICATION NOTE



## Used symbols



*Danger* – Information regarding user safety or potential damage to the router.



*Attention* – Problems that may arise in specific situations.



*Information or notice* – Useful tips or information of special interest.



*Example* – Example of function, command or script.



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# 1. Description of router app



Router App *RTUMAP* is not contained in the standard router firmware. Uploading of this router app is described in the Configuration manual (see [1, 2]).



The router app is not v4 platform compatible.

Using this module, it is possible to periodically read data from the buffer which stores values obtained from connected measuring devices (meters). To each measuring device can be assigned a certain number of registers (or coils). These ranges follow each other, so *RTUMAP* module reads data from a total number of assigned registers (or coils) starting from the specified start address. Well-arranged model diagram can be found in the following figure:

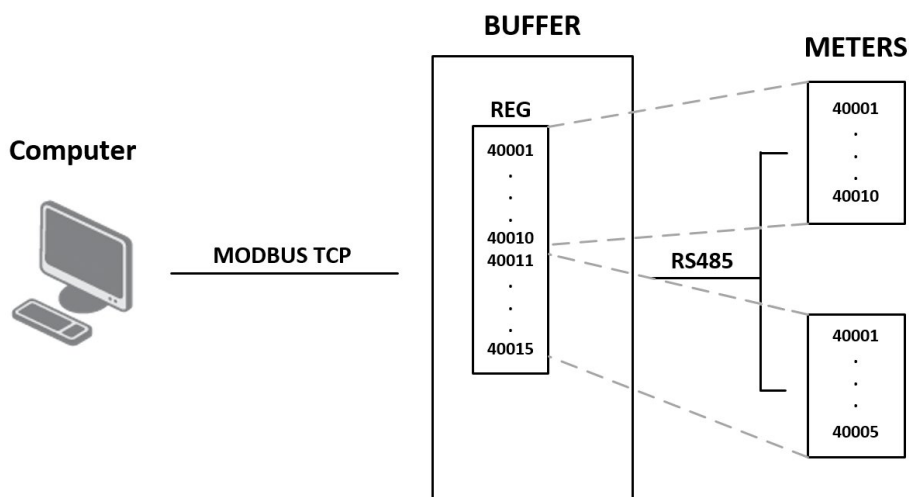


Figure 1: Model diagram

For configuration *RTUMAP* router app is available web interface, which is invoked by pressing the module name on the *Router apps* page of the router web interface. The left part of the web interface (ie. menu) contains only the *Return* item, which switches this web interface to the interface of the router.

## 2. Configuration of router app

The actual configuration of this router app is performed via the form on the right side. The first item in this form – *Enable RTUMAP on expansion port* – is used to activate these router app. Meaning of other items is described in the table below:

| Položka        | Význam  |
|----------------|---|
| Expansion port | Corresponding expansion port ( <i>PORT1</i> or <i>PORT2</i> )   |
| Baudrate       | Modulation rate (number of distinct symbol changes – signaling events – made to the transmission medium per second) |
| Data Bits      | Number of data bits ( <i>7</i> or <i>8</i> )  |
| Parity         | Parity ( <i>none</i> , <i>even</i> or <i>odd</i> )  |
| Stop Bits      | Number of stop bits ( <i>1</i> or <i>2</i> )  |
| Split Timeout  | The delay between readings (in milliseconds)  |
| Read Period    | Period of reading data from the buffer (in seconds)   |
| TCP Port       | TCP port number   |
| Start Address  | Start address of register   |

Table 1: Description of items in configuration form

At the bottom of the configuration form is also available a list of connected meters with information about their settings.

All changes will take effect after pressing the *Apply* button.

Figure 2: Configuration form

## 2.1 Adding and removing a measuring device

Individual meters (measuring devices) can be removed from the list by clicking *[Delete]* item which is situated in front of the meter description. To add meter click on the *[Add Meter]* item. Before adding a meter, it is necessary to enter *Meter Address*, *Start Address*, number of registers or coils (*Number Of Values (Register or Coils)*) and select *Read Function* (see the figure below). This way it is possible to add up to 10 devices.

| RTUMAP New Meter                         |   |
|--|---|
| Meter Address                            | <input type="text" value="1"/>                      |
| Start Address                            | <input type="text" value="0"/>                      |
| Number Of Values                         | <input type="text" value="1"/> (Registers or Coils) |
| Read Function                            | <input type="text" value="3"/>                      |
| <input type="button" value="Add Meter"/> |   |

Figure 3: Adding a measuring device

## 2.2 Read and write functions

The following figure describes functions that are used for reading and writing between PC, *RTUMAP* router app and meter. Functions 0x01 (read) and 0x0F (write) are intended only for coils. To be able to write some values to coils on MODBUS RTU device (by function 0x0F), set the read function in a meter declaration to function number 1.

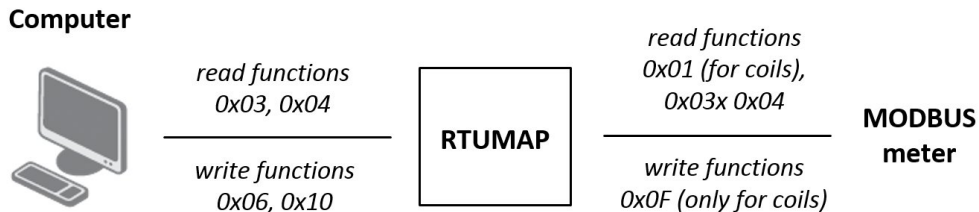


Figure 4: Read and write functions supported by the RTUMAP router app

## 3. Related Documents

You can obtain product-related documents on *Engineering Portal* at [icr.advantech.cz](http://icr.advantech.cz) address.

To get your router's *Quick Start Guide*, *User Manual*, *Configuration Manual*, or *Firmware* go to the [Router Models](#) page, find the required model, and switch to the *Manuals* or *Firmware* tab, respectively.

The *Router Apps* installation packages and manuals are available on the [Router Apps](#) page.

For the *Development Documents*, go to the [DevZone](#) page.