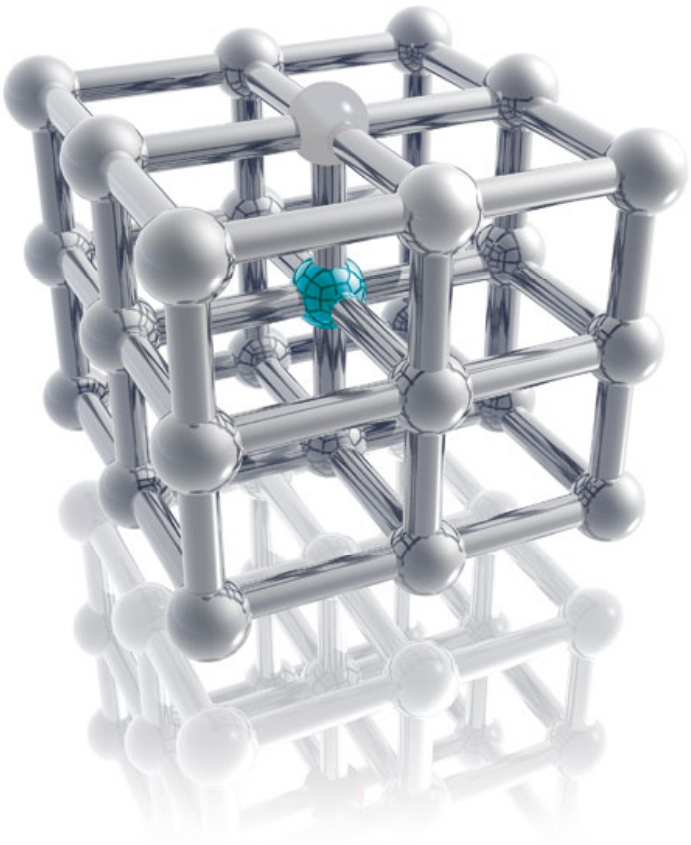

AREVA -

- Driver for Communication with MiCOM Devices

User's Manual

Doc. No. ENP5074
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1. AREVA – Driver for Communication with MiCOM Devices

Driver Use

The AREVA driver is the extension of MODBUS driver in the area of generating alarms in the reaction to events proceeded in a device. The current manual focuses only on this extension. Other information you can find in the MODBUS user's manual.

Parameterization of AREVA driver is performed with the use of Architect module.

Declaration of Transmission Channel

Declaration of the transmission channel using the AREVA driver requires a channel with the following parameters to be added to the *Current data* module:

Standard tab:

Name: logical name of the transmission channel
Driver: AREVA

Areva tab:

Channel parameters:
adres,series, port[,baud,character,parity,stop, max_i/o,max_register]

where:

address	- address of a device in a MODBUS network;
series	- number of device series: 2 lub 4;
port	- serial port name (maximal number of serviced ports: 32);
baud	- transmission speed expressed in bauds; max: 115 kBd;
character	- number of bits in a transmitted character;
parity	- parity check type (even, odd, none);
stop	- number of stop bits,
max_i/o	- maximal number of inputs/outputs, the value of which may be transferred by devices within one cycle (max 127*16 i/o states);
max_register	- maximal number of registers, the state of which may be transferred by the device within one cycle (max 127 registers).

Parameters *baud*, *character*, *parity*, *stop*, *max_i/o*, *max_register* are optional.

Addressing the Process Variables

Declarations of variables are the same as in MODBUS driver.

Driver Configuration

AREVA driver parameters are declared in the *Miscellaneous* module, the *Directly entered options* tab.

The driver parameters can be declared in 'AREVA' section as well as in sections named in the same manner as the transmission channel. The values defined in 'AREVA' section become global ones for all devices. In other sections there are placed the parameters concerning individual devices. Some parameters may be used only in 'AREVA' section, other may appear in all sections.

Example

AREVA1= AREVA, 10, 4,COM1,57600,8,none,1,32,64
AREVA2= AREVA, 10, 4, COM2,57600,8,none,1,32,64
AREVA3= AREVA, 10, 4, COM2,57600,8,none,1,32,64

☑ *Section name: AREVA*
☑ *Option name: Global_alarms*
☑ *Option value: TAK*

☑ *Section name: AREVA*
☑ *Option name: Recv_timeout*
☑ *Option value: 500*

☑ *Section name: AREVA1*
☑ *Option name: Recv_timeout*
☑ *Option value: 1000*

The *Global_alarms* parameter refers to all devices. As devices are not individual parameterized, the parameter can be used only in 'AREVA' section. The *Recv_timeout* parameter placed in 'AREVA' section defines 500 milisecond timeout for all devices with the exception of a device declared in 'AREVA1' channel (for 'AREVA1' the parameter has 1 second declaration).

There are parameters for AREVA driver described below. „Global parameter" means that a parameter can be declared only in 'AREVA' section.

☑ ***Section name: AREVA***
☑ ***Option name: Global_alarms***
☑ ***Option value: YES|NO***

Meaning: the item controls the way of transferring alarms read from devices to the alarm system of **asix**; **global parameter**.
Default value: by default, the alarms are transferred to the alarm system as global alarms (transferred to the alarm system by means of the function AsixAddAlarmGlobalMili()). Setting the value of the item GLOBAL_ALARMS on NO causes that the alarms are transferred to the alarm system by means of the function AsixAddAlarmMili().

☑ ***Section name: AREVA***
☑ ***Option name: Event_check_period***
☑ ***Option value: number***

Meaning: the option declares the interval (in seconds) between checking the state of events and alarm generation in two subsequent devices connected to the same serial port; **global parameter**.
Default value: 10

☑ ***Section name: AREVA***
☑ ***Option name: Field_number***
☑ ***Option value: number***

Meaning: the option declares a field number for a given device; it is transmitted as an alarm parameter.
Default value: -1

☑ ***Section name: AREVA***
☑ ***Option name: Log_file***
☑ ***Option value: file_name***

Meaning: the item allows to define a file to which all diagnostic messages of AREVA driver and all messages describing the telegrams received and sent by AREVA driver will be written; if LOG_FILE does not define the full path, then the log file will be created in the current directory; the log file should be used only while the **asix** start-up; **global parameter**.
Default value: by default, the log file is not created.

☑ ***Section name: AREVA***
☑ ***Option name: Transmission_delay***
☑ ***Option value: number***

Meaning: the item allows to determine a time interval (as a multiple of 10 milliseconds) between two successive operations on a communication bus; **global parameter**.
Default value: by default, the item assumes a value of 1 (10 milliseconds).

☑ ***Section name: AREVA***
☑ ***Option name: number_of_repetitions***
☑ ***Option value: number***

Meaning: the item allows to define maximal number of trials to do the command in case of transmission errors; **global parameter**.
Default value: 3

☑ ***Section name: AREVA***
☑ ***Option name: Recv_timeout***
☑ ***Option value: number***

Meaning: allows to specify a waiting time for arriving the first character of an answer sent from a specified device.
Default value: 1000

☑ ***Section name: AREVA***
☑ ***Option name: Areva2_Alarms / Areva4_Alarms***
☑ ***Option value: yes/no***

Meaning: if the parameter is set to 'yes' alarm servicing of specified device series is turned on; **global parameter**.
Default value: yes

☑ ***Section name: AREVA***
☑ ***Option name: Alarms2_base / Alarms4_base***
☑ ***Option value: number***

Meaning: allows to specify a number to be added to the alarm number of a device in order to obtain the alarm number in **asix** system; **global parameter**.
Default value: 500 for 2 series; 5000 for 4 series

☑ ***Section name: AREVA***
☑ ***Option name: Alarms_base***
☑ ***Option value: number***

Meaning: allows to specify numeration of alarms for each device.
Default value: 500 for 2 series; 5000 for 4 series

Numeration of Alarms

The 2 series:
Recalculation of the event number into the alarm number:

Asix_alarm_number = event_number*16 + bit_number + alarms_base

Bits are counted starting with BIT 0.
Numeration of bits and the meaning of individual bits is described in a device documentation.

The 4 series:
Numeration is based on the documentation: P34x_EN_GC_H54.pdf „MiCOM P342, P343, P344. Generator Protection Relays. Software Version 0320. Hardware Suffix J" - „Event Record Specification for Courier and MODBUS Interfaces" table on page 117.

Range	Meaning
0 - 199	General events. The list of events is available at the end of the table in the mentioned above documentation.
200 - 231	Relay contact events, it is the number of bit counted starting with 0.
300 - 331	Opto-isolated input events; it is the number of bit counted starting with 0.
400 - 491	Latched alarms. The number of alarm can be read form the „Event index 3x10011" column. There is the text: „Bit 15=state, bits 0-14=nn "nn" – alarm number.
500 – 595	Self reset alarms. Numeration as above.
1000 - 2599	Protection events. It is the number of bit counted starting with 0.

Alarm Parameters

Alarm parameters:
1. number of field
2. 16-bits word connected with the event and passed by a device