



***CTCalec - Driver of CALECMCP Device
Protocol
User's Manual***

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1. CTCalec - Driver of CALECMCP Device Protocol

1.1. Driver Use

The CTCalec driver is designed to retrieve current values of variables from the CALEC MCP meter of Aquametro.

CTCalec is a dynamic link library (DLL) with an interface meeting the requirements of the UniDriver module. The CTCalec driver together with UniDriver create a driver meeting the requirements of the ASMEN module.

1.2. Declaration of Transmission Channel

The ASMEN module activates the driver after having found (in the ASMEN section of the **asix** application configuration file) the channel declaration, calling to CTCalec, of the following form:

channel_name = UniDriver, CTCalec, *driver parameters*

where:

channel_name - channel name of ASMEN;

driver parameters - configuration parameters of CTCalec described in the further part of the specification.

During loading and initialization of an **asix** application, CTCalec receives from the ASMEN module an address of each process variable retrieved from the source definition of variables (in sequence and one time). The variables supplied by the driver are read-only.

Configuration Parameters

The driver supports the configuration parameters described in the *Błąd! Nie można odnaleźć źródła odсылacza.1*.

Table 1. Configuration Parameters of CTCalec.

Parameter Name	Meaning	Default Value
<i>Port</i>	Indicates the name and parameters of the serial port the device is connected to. For detail description, see below.	N/A – parameter required
<i>ReadingPeriod</i>	Indicates the period (in seconds); a variable value will be updated every <i>ReadingPeriod</i> in the internal driver buffer.	10 s
<i>ReadingTimeout</i>	The maximal time of variable reading from the device (in milliseconds), it is recommended not to be less than 1200.	1200 ms

EXAMPLE

An example of the CTCalec channel declaration (all items must be written in one line):

CalecMCP = UniDriver, CTCalec, Port=COM1:9600:8:even:1, ReadingPeriod=10, ReadingTimeout=1200

Configuration Parameters of Serial Port

The full syntax of the serial port declaration is as follows:

Port=<*port name*>:<*rate*>:<*character*>:<*parity*>:<*stop*>

where:

port name - serial port name in the operation system, e.g. COM1 or COM2;
rate - baudrate of serial transmission;
character - number of bits in a transmitted character;
parity - parity check type (odd, even or none);
stop - number of stop bits, it may be entered 1, 15 (1.5 bits) or 2.

The simplified syntax includes *port name* only:

Port = <*port name*>

For the other parameters default values are assigned respectively: 9600:8:even:1

1.3. Addressing the Process Variables

A variable address consists of a hexadecimal address of the variable in the device and of the type of variable value coding separated by a colon. As the type of variable value it may be assumed FLOAT for floating-point variables and FIX for fixed-point variables.

EXAMPLE

2000:FIX Fixed-point variable to be retrieved from the address 2000 in hexadecimal format,
2080:FLOAT Floating-point variable to be retrieved from the address 2080 in hexadecimal format.

For floating-point variables the conversion function `NOTHING_FP` should be used and for fixed-point variables the conversion function `NOTHING`.

1.4. Period of Variable Refreshing (Updating)

The reading time of one variable is usually in the range from 520 ms to 630 ms (average 570 ms) but for some variables (in a tested device it was the measurement named *Temperaturdifferenz*) it may reach 1300 ms. When defining a driver reading period and variable refreshing period it is necessary to take into consideration that it should be physically possible to read the required variable in the defined refreshing period. Generally the driver reading period and the variable refreshing period are the same.

1.5. Protocol Functions Excluded from Implementation

In the documentation it is mentioned that there is at least one *text* type variable in the device. Because the transmission method of this data type is not described, it is not supported by the driver.

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