

Premex CALMEX II

Premex CALMEX II communication protocol

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Supported device types and versions

The protocol allows reading data from multifunctional calorimetric counters of the VKP and VKPs CALMEX II types by means of the M-Bus bus (originally used RS232/M-Bus Premex RS-M converter, after 15 years replaced by converter RS232toMBus-XL45 from www.prevodniky.sk).

Communication line configuration

- Communication line category: [Serial](#) (both converters), [SerialOverUDP Device Redundant](#) (RS232toMBus-XL45 only).
- Mode 1: Baud rate 300, 8 bit, 1 stop bit, even parity, RTS=1, DTR=1 (RTS and DTR signals are not used by RS232toMBus-XL45).

Communication station configuration

- Communication protocol: **Premex CALMEX II**
- The station address is a decimal number within the range of 1..250 (or a hexadecimal number with a hash at the beginning, e.g. #0A) – it is a VKP address. By default, the address is set by the manufacturer according to the serial number (identification number) of the measuring device as the last three digits. If the last three digits are greater than 250, the higher digit of them is not taken into account. If the serial number is one of the numbers of 000, 300, 400, 500, 600, 700, 800, 900 then must be changed.
- Recommended [polling parameters](#): Delay at least 1 minute.

Station protocol parameters

The following station protocol parameters can be defined:

Table 1

Keyword	Full name	Meaning	Unit	Default value
RC	Retry Count	Maximum count of request retries. If no response returns after a request had been sent, the station's status will change to a communication error.	-	2
RT	Retry Timeout	Timeout before resending a request if no response has been received.	ms	100 ms
WT	Wait Timeout	The delay between the response readings.	ms	500 ms
WFT	Wait First Timeout	The delay after sending the request and before reading the response.	ms	800 ms
MWR	Max Wait Retry	The maximum number of retries of the response reading.	-	40
WUL	WakeUp Length	Length (given in characters) of a so-called wake-up message sent before each request.	-	20
WUD	WakeUp Delay	The delay between wake-up message and a request. It is recommended to enable the option WaitTxEMPTY in the line mode configuration.	ms	400

A string containing the protocol parameters is being defined as follows:

```
Keyword=value;Keyword=value; ...
```

Example:

```
RC=1;RT=500;
```

If a keyword with an invalid value in the initialization string is used, the corresponding default value according to table 1 will be used.

I/O tag configuration

Possible I/O tag types: **Ai, Ci, TiA**

Address: A number from the following table must be entered (as a decimal number or as a hexadecimal number with a hash at the beginning, e.g. #0A):

Table 2

Address	Meaning	Type	Units
1	Measuring device ID.	Ci	-
2	Access number (measurement number incremented by 1 for each data reading).	Ci	-
3	Status number, bit descriptions see the table 3, individual bits are sent to the value attributes.	Ci	-
4	Heat quantity.	Ai	MJ,GJ,kWh,MWh
5	Heat rate.	Ai	W,kW,MW
6	Volume overflow.	Ai	l,m3
7	Volume flow.	Ai	l/h,m3/h
8	Forward temperature.	Ai	°C
9	Return temperature.	Ai	°C
10	Measuring device date+time.	TiA	-
11	Heat quantity on the 1st date.	Ai	MJ,GJ,kWh,MWh
12	Heat quantity on the 2nd date.	Ai	MJ,GJ,kWh,MWh
13	Volume overflow on the 1st date.	Ai	l,m3
14	Volume overflow on the 2nd date.	Ai	l,m3
15	1st date of data.	TiA	-
16	2nd date of data.	TiA	-

Values saved on the 1st date or 2nd date are sent to the D2000 system with the time of saving. The measuring unit of individual parameters depends on the measuring device type.

Meaning of status word bits (Ci address - 3)

Table 3

Bit number	Meaning	Value attribute
0	Always 0.	A
1	0 - current value, 1 - stored value.	B
2	Low input power.	C
3	Constant error.	D
4	Temporary error.	E
5	Water-meter error.	F
6	Temperature pickups error.	G
7	Always 0.	H

Literature

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Changes and modifications

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Document revisions

- Ver. 1.0 - March 13th, 2001 – document creation.
- Ver. 1.1 - 7. September 2016 – support for SerialOverUDP Device Redundant line, information about RS232toMBus-XL45 convertor.



Related pages:

[Communication protocols](#)