MODBUS RTU Quad2000

MODBUS RTU Quad2000 communication protocol

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Supported device types and versions

MODBUS RTU supports the communication with the control systems Quad 2000 of Cooper turbo-compressors.

Communication line configuration

- Communication line category: Serial.
- Transmission parameters according to Quad 2000 (baud rate 300 up to 19200 Baud, 8 data bits, no parity, 1 stop bit).

Communication station configuration

- Communication protocol: **MODBUS RTU Quad2000**.
- Address is MODBUS address that is set in Quad 2000.

Station protocol parameters

Configuration dialog box - tab "Protocol parameters".
They influence some optional parameters of protocol. You can define the following parameters:

Table 1

Key word	Full name	Description	Unit	Default value
RC	Retry Count	Number of retry calls when an error in communication occurs.	-	2
RT	Retry Timeout	Delay between retry calls if an error in communication occurs.	ms	100 millisec.
WFT	Wait First Timeout	First waiting on the response after sending a call.	ms	100 millisec.
WT	Wait Timeout	Delay between the readings of a response until it is completed.	ms	100 millisec.
MWR	Max Wait Retry	Number of retry response reading until it is completed.	-	20

String with protocol parameters is written according to this rule:

Key_word=value;Key_word=value; ...

Example:

```
WT=100;MWR=20;
```

If a key word with valid value has not been found in the initial string, default value is used according to Table 1.

I/O tag configuration

I/O tags: **Ai, Ao, Ci, Co, Di, Do**

For relation between D2000 Value Type and Modbus Data Type Pre is applied this table:

Modbus Data Type	D2000 Value Type
Coil Status - 0x references	Do
Input Status - 1x references	Di
Input Registers - 3x references	Ai, Ci
Holding Registers - 4x references	Ao, Co

The address is Modbus register number in the range of 0 to 65535.

For Ai and Ci points, you must define a type of conversion to physical units. Conversion type RTD, 0-10V, 4-20mA, 1-5V or none is specified in Literature. You can get more detail information about settings of channels directly browsing the channel configuration on Quad display. You can also get the limit values "Zero" and "Range" for the conversion of voltage or current inputs.

Literature

- COOPER TURBOCOMPRESSOR - Centrifugal Compressor Quad 2000 - Modbus Communication Description - Release EDR-K-041 Rev.1

Changes and modifications

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Document revisions

- Ver. 1.0 - October 29, 2002 - Creation of document

Related pages:

Communication protocols