

# 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](#), [SerialOverUDP](#) [Device Redundant](#).
- 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**.
- The 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 the protocol. You can define the following parameters:

Table 1

Keyword	Full name	Description	Unit	Default value
RC	Retry Count	The number of request retries when an error in communication occurs.	-	2
RT	Retry Timeout	The delay between request retries if an error in communication occurs.	ms	100 ms
WFT	Wait First Timeout	First waiting for a response after sending a request.	ms	100 ms
WT	Wait Timeout	Delay between the readings of a response until it is completed.	ms	100 ms
MWR	Max Wait Retry	The number of response readings 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 keyword with a valid value has not been found in the initial string, the default value is used according to Table 1.

### I/O tag configuration

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

For the relation between D2000 Value Type and Modbus Data Type, the following table applies:

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

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

## Literature

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

## Changes and modifications

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## Document revisions

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



### Related pages:

[Communication protocols](#)