

OMV24

OMV24 communication protocol

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Supported device types and versions

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Communication line configuration

- Communication line category: [Serial](#), [SerialOverUDP Device Redundant](#)
- Parameters of the serial line according to the settings of telemetry transmission system.

Communication station configuration

- Communication protocol "**OMV 24**".
- Address parameter is not required. The communication line can be used only for one Gaspartner.

The text messages are not supported.

Station protocol parameters

[Communication station - configuration dialog box](#) - tab "Protocol parameters".

These parameters influence some optional parameters of the protocol. You can set the following station parameters:

Table 1

| Keyword | Full name | Meaning | Unit / size | Default value |
|-----------|-----------------------|---|-------------|----------------|
| WT | Wait Timeout | Delay between the response reading until it is completed. | ms | 1000 millisec. |
| SCAN | Scan-only Mode | A permanent passive mode of data scan only (mode 2). | YES /NO | NO |
| PERIODE | Write Periode | Transmission period of the output data block. A station must be in an active mode 1 . If the valid data have not been received and three-time of this time elapses, the station switches to a communication error after. | sec | 60 |
| TM_FACTOR | Write Collision Delay | A timeout of two functions: <ol style="list-style-type: none">1. If there are some communication problems (full input block has not been received, noise, etc.), the reception is totally reinitiated and incomplete data are ignored after the configured time elapses since receiving the last data.2. The output data block is sent only after this time elapses since the last reception of valid data. | sec | 10 |
| TRACE_VAL | Trace Values | Detailed tracking of data (e.g. through D2000 SysConsole). Detailed data about an analyzed value is written after every received line (record). | YES /NO | NO |
| TMASK | Time Value Mask | Mask for date and time conversion from received data. | - | yy-mm-dd hh:mi |
| MOXAT | Moxa Timeout | Timeout for detection of failure of one communication line on SerialOverUDP Device Redundant lines. After elapsing the timeout since receiving the last character, the communication is redirected to another communication line, i.e. reading/writing will be done via a secondary/backup device. | mi:ss | 02:00 |
| SENDT | Send Delay | The delay between sending individual lines of a communication message. | sec | 0.000 |

A string containing the protocol parameters is defined as follows:

Key_word=value;Key_word=value; ...

Example:

WT=400;PERIODE=20;

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

I/O tag configuration

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

The Gaspartners transfer each other data in blocks with defined periodicity. A received input block is analyzed and the values are assigned to the proper input tags according to the parameter *Identifier* (Ai, Ci, Di, or Qi). Output block consists of output tags (Ao, Co and Do). These output tags must contain a control object, tab "Control of output".

Note: I/O tag of Qi type, which is used as the control object, used for output tag Co.

Identifier

The blocks of data are transferred during this communication. Every object (I/O tag) has its unique number "Identifier", which is required. An identifier is a number in the range of 1 up to 998 (0 and 999 are reserved). The same values of *Identifier* can be used in both input and output blocks.

Exponent

Exponent is a value that should be defined for Ai, Ci, Ao, and Co tags. The input value from the communication is recalculated by a result 10^{Exponent} . The implicit value is 0 (i.e. input value *1). For Ao and Co tags, the calculation is the same and the result is sent by output data block.

Decimal places

The number of decimal places for Ao (output tag). It defines an accuracy of sending data to Gaspartner.

Redundant system

This protocol supports two modes of activity:

1. Activity in the state of connection to the "hot" server (HS). The protocol executes an active communication, i.e. sends a request for data according to the configuration.
2. Activity in the state of connection to the "stand-by" server (SBS). The protocol just reads and analyzes the received data. This state can be used for the whole communication line and all stations, which are defined on it, at any time with the help of parameter SCAN that should be used at least in one station.

A transition from SBS -> HS is executed with a transient phase, i.e. data are read for 1 minute to detect silence on the communication line, which means a detection whether the previous **D2000 KOM**, connected to the HS server, has switched to Mode 2.

Errors and problems

The error messages, mentioned below, may occur during the start or communication. It is recommended to activate the monitoring of communication in the configuration of line for easier identification of problem. You can choose it from these levels:

- Monitor (at least)
- Monitor & Disk (recommended)
- Disk (recommended)

When you set "Monitor & Disk" or "Disk", the file "line_name.LOG" occurs in the "Trace" subdirectory in the application directory on the computer with the running communication process. This file contains all the debug and error messages.

| | |
|--------------|--|
| Error: | >OMV24 - Id of Point: ' <i>point_name1</i> ', Id: <i>Identifier</i> , is already used with Point: ' <i>point_name2</i> ' ! |
| Description: | There cannot be two I/O tags with the same Identifier (address parameter) in input or output block. |
| Error: | >OMV24 - Error in address, Point: ' <i>point_name</i> ' ! |
| Description: | An error has occurred in the address parameters. Check all data on tab "Address" in I/O tag configuration dialog box. |
| Error: | >OMV24 - Station: ' <i>station_name</i> ', Received invalid character(s) ! |
| Description: | The forbidden characters were received through communication. The protocol specification denies them. Only printable characters are permitted - '0' to '9', 'A' to 'Z' and *;,:-: blank space, CR, and LF. |
| Error: | >OMV24 - Station: ' <i>station_name</i> ', Data block error, invalid line number <i>CountedLines</i> / <i>ReceivedLines</i> ! |

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|------------------|--|
| Descr iption: | Number of lines (records) with <i>CountedLines</i> , which were analyzed from the data received, is not in compliance with the number of lines <i>ReceivedLines</i> , which is referred to on the last line with the value <i>Identifier</i> 999 (final record). |
| Error: | OMV24 - Station: '<i>station_name</i>', Unknown data block lines number !" |
| Descr iption: | Unable to read the final record <i>Identifier</i> 999 with a total number of lines. |
| Error: | >OMV24 - Station: '<i>station_name</i>', Unknown data record quality (data line: '<i>data_record</i>') !! |
| Descr iption: | The line with an unknown character "Quality" has been received. The value is ignored. |
| Error:: | >OMV24 - Station: '<i>station_name</i>', Unconvertible value for <i>value_type</i> type (data line: '<i>data_record</i>'), Point: '<i>point_name</i>' ! |
| Descr iption: | The received data record cannot be assigned to I/O tag <i>point_name</i> of type <i>ValueType</i> . |
| Error: | >OMV24 - Station: '<i>station_name</i>', Unconvertible value for Qi type (data line: '<i>data_record</i>'), Point: '<i>point_name</i>' ! |
| Descr iption: | The received value cannot be converted to Qi type. Transition values are 0-Error, 1-Off, 2-On, 3-Moving. The values out of range 0..3 cause that this error occurs. |
| Error: | >OMV24 - Station: '<i>station_name</i>', Unknown data record format (data line: '<i>data_record</i>') ! |
| Descr iption: | Received the unknown data format. |
| Error: | >OMV24 - Station: '<i>station_name</i>', Error during data analyzing (data line: '<i>data_record</i>') ! |
| Descr iption: | When analyzing the data record, an unspecified error occurred (e.g. an attempt to change a text to a number). The error can be caused when receiving defective data. The protocol does not specify any checksum, therefore this situation can happen. |

Literature

- TRANSGAS - RUHRGAS - OMV format specification document 1992-12-21.

Changes and modifications

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Document revisions

- Ver. 1.0 - September 18, 2003 - Creation of document



Related pages:

[Communication protocols](#)