ALYA Lubrications

ALYA Lubrications communication protocol

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Supported device types and versions

This protocol supports data reading/writing from the controllers of ALYA lubricant reservoirs.
Since July 2015, this protocol supports a group of I/O tags for data reading/writing from/to the Manex production lines - see Table 4.

Communication line configuration

- Communication line category: Serial.
- Serial line parameters:
  - Baud Rate: 38400 Baud
  - Odd parity, 8 data bits, 1 stop bit

Communication station configuration

- Communication protocol: **ALYA Lubrikacie**.
- The station address is an address of the control station for the communication over RS485 bus. The address is a one-byte value.
  Note: commonly used station addresses (A, B, C...) must be configured as their ASCII codes, i.e. 65, 66, 67 ...

Station protocol parameters

Communication station - configuration dialog box - "**Protocol parameters**" tab.
They influence some of the optional parameters of the protocol.

Table 1

Key word	Full name	Meaning	Unit	Default value
WT	Wait Timeout	Delay between the readings of response until it is completed.	ms	100 millisec.
WFT	Wait First Timeout	First waiting for a response after sending the request.	ms	100 millisec.
RT	Retry Timeout	The delay between the retry of a request if a communication error occurs.	ms	100 millisec.
MWR	Max Wait Retry	The number of response reading retry until it is completed.	-	6
RC	Retry Count	The number of request retries in case of a communication failure.	-	2

A string containing the protocol parameters must be written as follows:

Key_word=value;Key_word=value; ...

Example:

```
WT=150;MWR=10;
```

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

I/O tag configuration

I/O tags: **Ai, Ao, Di, Dout**.

I/O tag address is an abbreviation of the mnemonic name of I/O object. The list of objects is shown in the table below:

Table 2

Address	Meaning	Value type	Read/Write

AV	Current weight [kg]	Ai	R
HI	Emergency minimum [kg]	Ai, Ao	R/W
HA	Emergency maximum [kg]	Ai, Ao	R/W
PN	Operating minimum [kg]	Ai, Ao	R/W
PX	Operating maximum [kg]	Ai, Ao	R/W
SP	Filling status (TRUE - filling, FALSE - draining)	Di	R
EN	Error number - see Table 3	Ai	R
WS	Write to serial EEPROM (all changes of Ao must be written to EEPROM, if not, they will be lost during the next reset)	Do	W
RT	Reset (it causes the reset of the control station)	Do	W

The list of error codes when reading the "EN" parameter:

Table 3

Error code	Meaning
0	Weight is OK.
1	Weight is under the permitted range.
2	Weight is over the permitted range.
3	Weight is under the emergency minimum.
4	Weight is over the emergency maximum.
10	The weight converter does not respond.
20	The weight converter is not connected.
30	The strain gauge (tensometer) is not connected.

I/O tags for data reading/writing from/to Manex production lines:

Table 4

Address	Meaning	Value type	Read /Write
RN	New weighted roving. After weighting and printing the weight ticket, the application writes a text string into the I/O tag in the format: **ID;CV;VZ;POC;ZD;** where: • **ID** - identification number of weighting. Autoincrement integer [1, 2, 3, ...]. • **CV** - number of scale [1, 2]. • **VZ** - preparing from the outside in meters, integer. • **POC** - number of unspool cycles [0, 1, 2]. • **ZD** - including into the line. Integers separated by blank space. The first number means a priority line, the second one, and others represent the alternative lines, e.g. 7 5 6. Example of written value: "5247;2;60;1;6 4 5;"	TxtO	Write
RX	Canceling of a roving. After an operator puts down the roving from the scale, the application will write the number of the scale (1 or 2) into the I/O tag.	Co	Write
PC	The number of spools on the lines. The I/O tag is in the format "C1;C2;C3; … Cn;", where C**i** represents an integral number that indicates the number of spools on line **i**. Example: "626;42;0;78;562;489;28;55;"	TxtI	Read
NC	Reset the counters of spools on the lines. Write any valid value, to reset the counters. The control unit will send a message in the format "C1;C2;C3; … Cn;", where C**i** represents an integer number that indicates the number of spools which were included on line **i** since the most recent information on the number of spools was sent (see PC). This message will be set as a new value of the I/O tag with the *NC* address.	TxtO	Write

Literature

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Document revisions

- Ver. 1.0 - August 21, 2001 - the creation of the document
- Ver. 1.1 - July 15, 2015 - support of Manex production lines

Related pages:

Communication protocols