Paufex DIRAS-B communication protocol

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Supported device types and versions

This protocol supports data reading and writing to DIRAS devices produced by Paufex s.r.o. Prešov.

Data reading is executed more effective block way in comparison with the original protocol version Paufex DIRAS.

Communication line configuration

- Communication line category: Serial.
- The parameters of the asynchronous line are set according to version and type of device connection.

Communication station configuration

- Communication protocol: **Paufex DIRAS B**
- The station address is a decimal number in the range of 0 up to 127, it can be also specified as a hexadecimal number with a hash at the beginning, e.g. #0A.
- If necessary, you may enable the synchronization of the real-time of the station.

Station protocol parameters

You can set the following station parameters:

Table 1

Keyword	Full name	Meaning	Unit	Default value
RC	Retry Count	Maximum count of request retries. If no reply returns after a request had been sent, the station's status will change to a communication error.	-	3
MWR	Max Wait Retry	The maximum number of retries of the response reading.	-	8
RT	Retry Timeout	Timeout before resending a request if no response has been received.	ms	1000 ms
WT	Wait Timeout	The delay between the response readings.	ms	400 ms
WFT	Wait First Timeout	The delay after sending the request and before reading the response.	ms	500 ms

A string containing the protocol parameters is defined as follows:

```
Key_word=value;Key_word=value; ...
```

Example:

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

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

I/O tag configuration

I/O tags: **Ai, Ao, Ci, Co, Di, Do, TiA, ToA, TiR, ToR**

The Address requires two parameters: address and offset.

All values are in hexadecimal format:

- Address – 0 up to FFFF
- Offset – 0 up to 7F

For output tags (Ao, Co, Do, ToA, ToR) you should also set the address parameters: type, number, and reference.

The values are in hexadecimal format:

- Type – 0 up to FF
- Number (Nr) – 0 up to FFFF
- Reference (Ref) – 0 up to FF

Data reading and writing

Data reading is done in the blocks by Message 00. The tags with the same address are read in one block. The length of this block can be at most 128 bytes and this shows that the highest permitted offset is 7F for 1-byte data (Ci, Co, Di, Do) and 7C for 4-byte data (Ai, Ao, TiA, ToA, TiR, ToR).

To enter a new value into reference, use Message 03 and the address parameters - type, number, and reference.

I/O tag of TiA type (or ToA) is another way of reading/writing the real-time. The address must be Address=FFFF, Offset=FFFF (Type, number, reference for ToA can be arbitrary).

Message 0B ensures the reading of real-time and Message OC the writing of real-time.

Literature

DSN

Changes and modifications

- January 21, 2000 – Testing

Document revisions

- Ver. 1.1 – February 8, 2000 – Updating

Related pages:

Communication protocols