Paufex DIRAS-B communication protocol

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 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.
- If necessary, you may enable the synchronization of real time of station.

Station protocol parameters

You can set the following station parameters:

Table 1

Key word	Full name	Meaning	Unit	Default value
RC	Retry Count	Number of response retries if some error in communication occurs.	-	3
MWR	Max Wait Retry	Maximum retries of reading the response until it is completed.	-	8
RT	Retry Timeout	Delay between the response retry if some error in communication occurs.	ms	1000 millisec.
WT	Wait Timeout	Delay between readings the response until it is completed.	ms	400 millisec.
WFT	Wait First Timeout	First waiting for response after sending the request.	ms	500 millisec.

String containing the protocol parameters is being defined as follows:

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

Example:

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

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

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 by 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 other way on how to read/write the real time. The address must be Address=FFFF, Offset=FFFF (Type, number, reference for ToA can be optional).

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

Literature

DSN

Changes and modifications

- January 21, 2000 – Testing

Document revisions

- Ver. 1.1 – February 8, 2000 – Updating

ⓘ **Related pages:**

Communication protocols