

# 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 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 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 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 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 0C the real time writing.

## Literature

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DSN

## Changes and modifications

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- January 21, 2000 – Testing

## Document revisions

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- Ver. 1.1 – February 8, 2000 – Updating



### Related pages:

[Communication protocols](#)