

Transcon DAP 128TC

Transcon DAP 128TC communication protocol

[Supported device types and versions](#)
[Communication line configuration](#)
[Line protocol parameters](#)
[Communication station configuration](#)
[Station protocol parameters](#)
[Status of station \(transmitter\), error attributes](#)
[I/O tag configuration](#)
[Literature](#)
[Changes and modifications](#)
[Document revisions](#)

Supported device types and versions

This protocol supports data reading and writing to the devices "Transcon DAP 128TC data transfer system, the communication format D" and "Temar PRES-COM V2.00".

If there is used only data reading from the central unit Transcon CU-16, or Temar PRES from the transmitter on the lines, the communication may be connected directly to the communication computer. In case of full duplex transmission there is required the communication concentrator KPX-02. It is due to strict timing and synchronization of data that are sent to the central unit in synchronization of the received data. Its application firmware "DAP128 V1.00" executes correct synchronization of transmitted data to the central unit, which are received from the master communication computer asynchronously. The central unit CU-16 is connected on the port A KPX-02 and the communication computer on the port C KPX-02. The both ports are fitted with the connectors DB9M.

The physical communication lines of DAP 128TC can be equipped with so-called transmitters or receivers. Every physical line can be fitted with at the most 16 transmitters/receivers, the address 0 up to 15.

The system Transcon DAP 128TC in D communication format supports 16 physical lines. Temar PRES supports 8 physical lines.

The transmitter contains 7 inputs. Their values can be received by D2000 System as I/O tags, value type Digital input (Di) or Analog input (Ai) or Cardinal input (Ci). The values Ai/Ci are 8-bit, serialized in eight cycle. Input No. 8 is an odd parity, which is used to check the transmission of input data on the inputs 0 to 6.

Each receiver / transmitter is configured as the single station. D2000 communication line is shared by all the lines of particular device Transcon CU-16 (16 physical lines) or Temar (8 lines), i.e. it uses the interface RS232 on device. The number of physical line, on which the receiver / transmitter is placed, is configured in the station address.

Communication line configuration

- Communication line category: [Serial](#), [SerialOverUDP](#) [Device Redundant](#).
- Serial line parameter:
 - Baud rate is 9600 or 19200 Baud (depending on the setting of device),
 - Odd parity, 8 data bits, 1 stop bit.

Line protocol parameters

[Configuration dialog box](#) - tab **Protocol parameters**.

The parameters of line influence some optional parameters of protocol. You can define the following parameters:

Table 1

| Parameter | Meaning | Unit | Default value |
|------------------------------|---|--------------------------------------|--------------------|
| Protocol mode | Enables to choose a protocol mode. | DAP 128TC format D PRES-COM V2.00 | DAP 128TC format D |
| Read Only Mode | Activates the mode which enables only data reading from the transmitters. Data sending to the receivers is disabled. | YES/NO | NO |
| Wait Timeout | Delay between the line readings. | ms | 50 ms |
| Inactivity Timeout | Timeout for receiving of valid data. If, after the lapse of time any valid packet is not received, the stations (transmitters) are switched to the status of communication error . | sec | 10 sec |
| Moxa Timeout | When using a redundant configuration of MOXA NPort serial/UDP converters on SerialOverUDP Device Redundant line, it defines a timeout to switch over between them if an error occurs on a converter which is currently active (being used for communication). | sec | 10 sec |
| Debug Packet Binary Contents | Enables a display of debug info that contains the binary data. | YES/NO | YES |

| | | | |
|-------------------------|---|--------|----|
| Station Status Debug | Shows a debug info about the station status (transmitters) after it receives a valid packet (parity errors etc.). | YES/NO | NO |
|-------------------------|---|--------|----|

Communication station configuration

- Communication protocol: **Transcon DAP 128TC**
- The form of the station address:

X.Y

where

X is the number of physical line (1 to 8 for Temar PRES, 1 to 16 for DAP 128TC format D)

Y is the address of transmitter/receiver on the physical line in the range of 0 to 15.

Station protocol parameters

[Configuration dialog box](#) - tab **Protocol parameters**

The parameters of line influences some optional parameters of protocol. You can define the following parameters of station:

Table 2

| Parameter | | Unit | Default value |
|-------------|--|-------------------------|---------------|
| Module type | Type of station - Transmitter or receiver. | Transmitter Receiver | Transmitter |

Status of station (transmitter), error attributes

In case of communication error, the value of communication station switches immediately to the status of soft communication error COMM_ERR. If the error repeats, the station switches to the status HARD_ERR (hard error) according to the setting of parameter [Time filter](#). As two cycles of reading per second are executed, the station can switch to the HARD_ERR status very quickly.

The error statuses are indicated by the attributes of value of the communication station. There are used these attributes of value:

- Flag P - signalizes the parity error of the transmitter.
- Flag O - signalizes the short circuit on the physical line.
- Flag N - signalizes the lost of communication (see the setting of the parameter "[Inactivity timeout](#)").

I/O tag configuration

I/O tag types: **Di, Ai, Ci, Dout**.

I/O tag address is the number of input/output on the module in the range of 0 to 6 (receiver) or 0 to 7 (transmitter). The input 7 has the value an odd parity on the inputs 0 to 6 and can check the functionality of the transmitter. The status of transmitter parity is also signaled [the error attribute](#).

Literature

- Transcon DAP 128TC, Description of communication formats, Transcon (c) 1999.

Changes and modifications

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Document revisions

- Ver. 1.0 – January 18, 2010 – Creating of document



Related pages:

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