TALAS - Driver of TALAS Analyzer Protocol
User's Manual

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1. TALAS - Driver of TALAS Analyzer Protocol

1.1. Driver Use

The TALAS driver is used for data exchange between TALAS emission computers and the **asix** system by use of serial interfaces. The driver was created in order to operate with devices which have a firm software v 2.3 (007)22 installed.

1.2. Declaration of Transmission Channel

The full syntax of declaration of transmission channel operating according to the TALAS protocol is given below:

logical_name=TALAS, *COMn, baud*

where:

COMn	- number of the serial port to which the TALAS emission computer is connected;
baud	- transmission speed expressed in bauds.

The TALAS driver is loaded as a DLL automatically.

EXAMPLE

CHAN1 = TALAS,COM1,9600

1.3. Addressing the Process Variables

The arrays of data of following categories are read from a TALAS computer:

HM	- current half-minute data,
PI	- current partial integrals,
AI	- current values of half-hour integrals,
HI	- half-hour integrals for a current day,
DIW	- daily distribution of half-hour integrals form a previous day,
YIW	- annual distribution of half-hour integrals from a previous day,
DMV	- distribution of an average daily value from a previous day.

From the arrays above the TALAS driver retrieves process data of the following types:

ATM	- current time (of half-minute data) of the TALAS computer, transferred as a number of seconds in DWORD format;
VAL	- variable value in float format;
STA	- variable status in word format;
OTM	- *work time* of variable counted in tenths of second, transferred in long format;
ITM	- integration period in seconds in short format;
DCL	- classes of classification in word format;
DCT	- classification table for the variable, contents of individual classes in word format, maximal table size – 34 elements,

IVT - table of half-hour integrals for the variable, element is a structure containing time, value (float) and status (word); maximal table size – 48 elements.

Allowable sets type-data category together with waited format of an address string are given in the table below, where *nn* signifies the successive number (not identifying) of the variable in the variable list of the TALAS computer in the range <1..128> for HM, PI and AI categories and <1..64> for HI, DIW, YIW and DMV categories (see: ***Table 1***).

Table 1. Allowable Sets Type-Data Category Together with Waited Format of an Address String for the TALAS Driver.

Address state	Contents	Notes
HM.ATM	dword	actual time of TALAS station in [s]
HM.VAL.nn PI.VAL.nn AI.VAL.nn	float	variable value
HM.STA.nn PI.STA.nn AI.STA.nn	word	variable status
HI.VAL.nn	float	half-hour integral of variable
HI.STA.nn	word	status of the above-mentioned integral

HI.IVT.nn	struct {
	struct
	xtime time;
	float value;
	word status;
	}
		table; size 48

DIW.VAL.nn YIW.VAL.nn DMV.VAL.nn	float	average value
DIW.OTM.nn YIW.OTM.nn DMV.OTM.nn	long	working time of variable in [0.1s]
DIW.ITM.nn YIW.ITM.nn DMV.TTM.nn	short	integration period in [s]
DIW.DCL.nn.mm YIW.DCL.nn.mm DMV.DCL.nn.mm	word	mm: class number <1..34>
DIW.DCT.nn YIW.DCT.nn DMV.DCT.nn	word	table; size 34

1.4. Driver Configuration

Each defined logical channel has its own section, the name of which must be the same as the name of the logical channel. The items, given below, may be used in sections of logical channels using the TALAS driver.

baud=number

bod=number

bps=number

Meaning - the item is used to declare a transmission speed. The item value has priority over a transmission speed given in the definition of the logical channel.
Default value - by default, the transmission speed is assumed to be equal to 9600 Bd.
Defining - manual.
Parameters:
number - transmission speed in bauds.

parity=check_type

Meaning - the item used to declare a method of the parity check.
Default value - by default, it is assumed the even parity check.
Defining - manual.
Parameters:
check_type - identifier of the way of parity check:

- n - no parity bit,
- o - odd parity check,
- e - even parity check,
- m - mark,
- s - space.

EXAMPLE

parity=e

stop=number

Meaning - the item is used to declare a number of stop bits.
Default value - by default, it is assumed 1 stop bit.
Defining - manual.
Parameters:
number - number of stop bits: 1 or 2.

word=number

word_length=number

Meaning - the word item isused to declare a number of bits in a transmitted character.
Default value - by default, it is assumed that the transmitted character has 8 bits.
Defining - manual.

Parameters:
number - number of bits in a character (from 5 to 8).

EXAMPLE

word=8

timeout=number

Meaning - the item is used to declare a waiting time for an answer from the TALAS computer.
Default value - by default, it is assumed 10 seconds.
Defining - manual.
Parameters:
number - waiting time for an answer in seconds.

KM_Interval=number

Interval=number

Meaning - the item is used to declare a time interval between readings of values of short-time averages and partial integrals from the TALAS computer.
Default value - by default, it is assumed to be 30 seconds.
Defining - manual.
Parameters:
number - time interval in seconds.

EXAMPLE

KM_Interval=30

IW_Interval=number

Meaning - the item used to declare a time interval between readings of values of half-hour integrals and actual integrals from the TALAS computer. By default it is assumed to be 30 minutes.
Default value - by default, it is assumed to be 30 seconds.
Defining - manual.
Parameters:
number - time interval in minutes.

FD_Interval=number

Meaning - the item used to declare a time interval between readings of values of distributions from the TALAS computer.
Default value - by default, it is assumed to be 60 minutes.
Defining - manual.
Parameters:
number - time interval in minutes.

log=name

Meaning	- the item is used to declare a file to which a diagnostic information of the TALAS driver are written. The item is dedicated to test purposes.
Default value	- by default, the file is not created.
Defining	- manual.
Parameters:	
name	- file name.

2. List of Tables