



***NetLinkPro -***  
***- Driver for Communication with the S7 Controllers***  
***User's Manual***

*Doc. No. ENP5073*  
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# 1. NetLinkPro – Driver for Communication with the S7 Controllers

The NetLinkPro driver (manufactured by SYSTEME HELMHOLZ and distributed in Poland by [www.mediotech.pl](http://www.mediotech.pl)) task is to communicate with the S7 controllers via the NETLink PRO gateway (an Ethernet <-> MPI/Profibus gateway).

Basic features of the NETLink PRO driver include:

- a/ at the Ethernet side it may support simultaneously up to 6 PC computers
- b/ at the MPI/PROFIBUS side it may support simultaneously up to 12 controllers.

The NetLinkPro driver requires the ASMEN module version 4.13.1 or higher.

Parameterization of NetLinkPro driver is performed with the use of Architect module.

## Declaration of Transmission Channel

Declaration of the transmission channel using the NetLink driver requires a channel with the following parameters to be added to the *Current data* module:

**Standard** tab:

*Name*: logical name of the transmission channel

*Driver*: NetLinkPro

**NetLinkPro** tab:

*Channel parameters*:

*deviceNr*, *slaveNr* [, *contr\_var* [, *alarm\_nr* [, *error\_signal*]]]

where:

- deviceNr* - number of a NetLink Pro module (with use of configuration software);
- slaveNr* - number of a controller in MPI/PORFIBUS network;
- contr\_var* - variable name used for control of a PLC's RUN-STOP state;
- alarm\_nr* - alarm number generated when changing the PLC's RUN-STOP state; by default the alarm is not generated;
- error\_signal* - setting an error status for all the variables in a defined channel in case of switching the PLC to STOP.

## Addressing Process Variables

The rules for creating symbolic addresses of variables belonging to the channel that uses the NetLinkPro driver are the same as for the AS512 driver – see: *AS512 - Driver of AS512 Protocol for SIMATIC S5 PLCs* (in „*Communication Drivers – User's Manual*“).

The set of process variables types for NetLinkPro driver protocol has been enriched (compared to AS512 protocol) with the following items:

- EDI - 16-byte words in INTEL convention,
- ER - floating-point number in a data block,
- EB - contents of the data blocks treated as bytes.

The NetLinkPro driver is loaded as a DLL automatically.

## Parameters of NetLinkPro Driver

NetLinkPro driver parameters are declared in: Architect > *Miscellaneous* module > *Directly entered options* tab.

The driver is parameterized with use of **NETLINKPRO** section.

**Section name: NETLINKPRO**

**Option name: LOG\_FILE**

**Option value: file\_name**

Meaning - the item allows to define a file to which all NetLinkPro driver messages concerning operations performed by the driver are written. If the item does not define the full name, then the log file is created in the current directory.

Default value - by default, the log file is not created.

**Section name: NETLINKPRO**

**Option name: TELEGRAM\_LOG**

**Option value: file\_name**

Meaning - declaration of writing the contents of telegrams sent and received by the NetLinkPro driver within reading/writing of process variables to the log file declared in the LOG\_FILE item.

Default value - NO.

**Section name: NETLINKPRO**

**Option name: MAX\_BUFFER\_LEN**

**Option value: number**

Meaning - the length of telegrams accepted by an MPI interface depends on the CPU type of S7 controllers and on a program executed by them.

Default value - by default, length of a telegram equals 220 bytes.

Parameter:

*number* - length of telegrams passed in bytes.

**Section name: NETLINKPRO**

**Option name: CONSOLE**

**Option value: YES/NO**

Meaning - the item allows to create a console window where NetLinkPro driver messages concerning operations executed by the driver are displayed currently.

Default value - by default, any console window is not created.

**Section name: NETLINKPRO**

**Option name: STATISTICS**

**Option value: YES/NO**

Meaning - the item allows to display (every 1 minute) information about number of transmission sessions that have been carried-out, average transmission time and number of transmission errors. The item was developed as a designer support on the stage of the **asix** system start-up.

Default value - by default, the transmission statistics is not displayed.

**Section name: NETLINKPRO**

**Option name: NUMBER\_OF\_CHECK\_READINGS**

**Option value: number**

Meaning - the item specifying a minimal number of successive readings of control variable (of a constant value) which cause a signalization of the controller STOP status.

Default value - by default, the item assumes a value of 3.

**Section name: NETLINKPRO**

**Option name: SERIALISING**

**Option value: YES/NO**

Meaning - declaration of servicing the transmission from the S7 by transferring single YES or many NO queries.

Default value - YES.

**Section name: NETLINKPRO**

**Option name: WITHOUT\_MULTIPLE\_READ**

**Option value: YES/NO**

Meaning - it allows to block the mode of multiple read creation and enables driver operation in the mode of single read.

Default value - No; in the current version the `s7_multiple_read_req` function is used by default (it allows to build a multiple read) for maximal use of the length of the telegram buffer sent between PC and S7.