DSC - Driver of DSC PLC Protocol
User's Manual

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1. DSC - Driver of DSC PLC Protocol

1.1. Driver Use

The DSC driver is used for data exchange between an **asix** system computer and the DSC 2000 PLC. The data exchange is performed by means of standard serial interfaces of the **asix** system computer.

The cooperation of the **asix** system with the DSC 2000 PLC does not require any controller's program adaptation.

1.2. Declaration of Transmission Channel

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

logical_name=DSC,*id*,*port*

where:

id	- number assigned to the DSC PLC,
port	- name of the serial port e.g. COM1.

EXAMPLE

An example declaration of transmission channel based on the DSC Protocol.

CHAN1=DSC,5,COM3

The logical channel named CHAN1 has the following parameters defined:
- DSC protocol,
- data exchange is performed with the controller no. 5,
- COM3 serial port is used for data exchange.

1.3. Addressing the Process Variables

The syntax of symbolic address which is used for variables belonging to the DSC driver channel is as follows:

I<index>

where:

I	- symbol of the variable type, the same for all process variables of the DSC protocol;
index	- **number in hexadecimal format** identifying the process variable. Legal numbers are only those specified in the *Nummer* item in *"Beschreibung der Rechnerschnittstelle"*, page 3.

All the variables except variables I10 and I11 (status of alarms) are variables the values of which may be read and written. The status of alarms may be read only.

Values of all process variables of the DSC 2000 controller are sent to the **asix** system in the form of 16-bit fix-point unsigned number. This principle is valid for floating-point and fixed-point variables. For that reason in order to show a floating-point value of process variable it is necessary to convert the value received from the controller to the floating-point format by means of a conversion function (most often ANALOG_FP).

EXAMPLE

Examples of declaration of process variables:

```
# set value of chlorine - floating-point number, two decimal places
X1,   I17,     CHAN1, 1,  1, ANALOG_FP,0,1000,0.0,10.0

# set value of pH - floating-point number, two decimal places
X2,   I2A,     CHAN1, 1,  1, ANALOG_FP,0,1000,0.0,10.0

# alarms and flags 1 - 16-bit fixed-point number
X3,   I10,     CHAN1, 1,  1, NOTHING

# alarms and flags 2 - 16-bit fixed-point number
X4,   I11,     CHAN1, 1,  1, NOTHING

# access code to the operator panel - 16-bit fixed-point number
X5,   I15,     CHAN1, 1,  1, NOTHING
```

The DSC driver is loaded as a DLL automatically.