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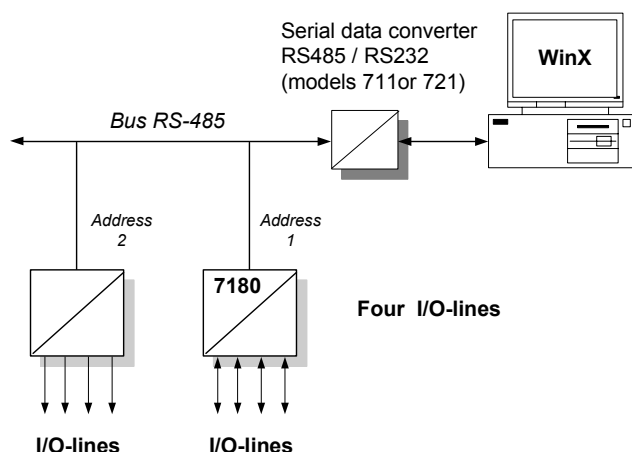Fax. +358-3-3422066

7180 I/O-unit for serial RS-485

- **4 digital I/O-lines**
- **2-wire RS-485 bus**
- **Power supply 24 VDC**
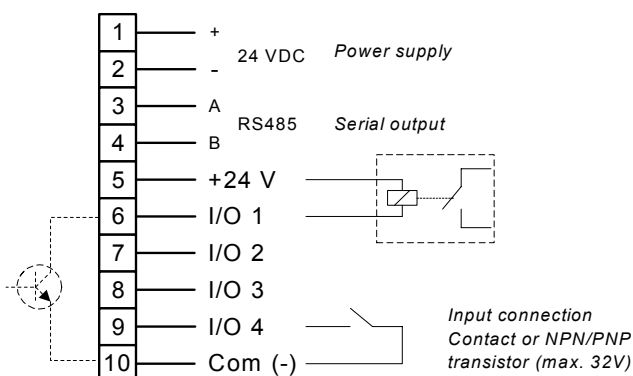- **Mounting to 35 mm DIN-rail**
- **Removable terminals**

The I/O-transmitter 7180 is designed for serial transmission of alarm or switch information from or to the PC. Using this device you can eliminate internal I/O-cards for PC. This device also reduces the amount of wiring when connected with 2-wire RS-485 bus. Serial communication settings are made inside the case by selecting baud rate and the address of the device. Transmission of fast switching data is limited mainly by the baud rate and the application software.
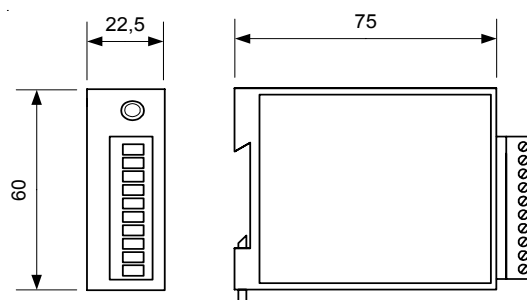
To transmit analog information you can use the transmitter 7100.

Serial data converter
RS485 / RS232
(models 711or 721)

WinX

Bus RS-485

Address 2

Address 1

7180

Four I/O-lines

I/O-lines

I/O-lines

Connection:

1	+	
2	-	24 VDC	Power supply
3	A	
4	B	RS485	Serial output
5	+24 V	
6	I/O 1	
7	I/O 2	
8	I/O 3	
9	I/O 4	
10	Com (-)	

Input connection
Contact or NPN/PNP
transistor (max. 32V)

Dimensions:

22,5

75

60

Removable terminals 1.5 mm²
Mounting rail (35 mm) DIN 46277

SCL-commands:

COMMON COMMANDS:

You can set direction of the lines (input or output), whether the line is inverted (NC or NO) and the default state for the output lines.

DEF 0000

Set the default states of the output lines to the device. On power up, output lines are set as default states. Digits from left to right indicate lines from 1 to 4.

DEF ?

Get the default states of the output lines from device.

DIR 0000

Set the directions of the I/O-lines. '0' = output and '1' = input. Digits from left to right indicate lines from 1 to 4.

DIR ?

Ask from device the directions of the I/O-lines.

NC 0000

Set the types of the I/O-lines. '0' = normal and '1' = inverted. Digits from left to right indicate lines from 1 to 4.

NC ?

Ask from device the types of the I/O-lines.

TYPE ?

Ask the type of the device and the software version.

I/O-COMMANDS:

You can set or get the the states of the lines using I/O-commands.

DI CH [ch] ?

Get state of the input line *ch*. For example to get state of the line 3 use command DI CH 3 ?.

DI SCAN [ch1] [ch2]

Get state of the input lines *ch1...ch2*. For example to get state of the lines 1, 2 and 3 use command DI SCAN 1 3.

DO CH [ch] [state]

Set state of the output line *ch*. For example to set state '1' to the line 2 use command DO CH 2 1.

DO SCAN [ch1] [ch2] [state1] [state2] ...

Set state of the output lines *ch1 ... ch2*. For example to set state '1' to the lines 2 and 3, and state '1' to line 4 use command *DO SCAN 2 4 1 1 0*.

VIRTUAL CHANNEL:

Virtual channel is the combination of several I/O-lines. For virtual channel you can set or get decimal numbers. For example 3-bit virtual channel can have values from 0 to 7. You can select the data presetation as binary, BCD or gray coded. **Note:** For device 7180 you can' create only 1 virtual channel.

Creating virtual channel: CH 1 [type] [ch1] [ch2]

Select type of the virtual channel (*BIN*, *BCD* or *GRAY*) and lines to include. For example to create 4-bit binary coded virtual channel use command CH 1 BIN 1 4 .
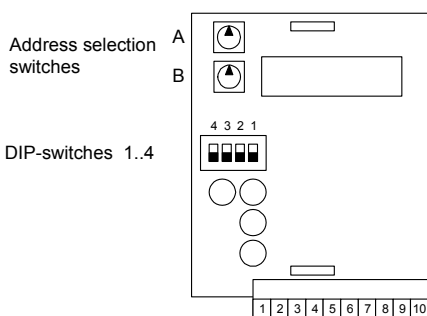
Reading virtual channel input: MEA CH 1 ?

Ask value of the virtual channel as decimal number. Lines to include to value as well as coding type depends on virtual channel creation command.
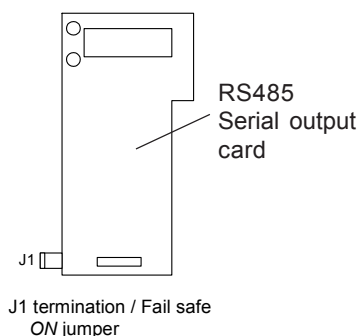
Sending data to virtual channel output: OUT CH 1 [value]

Set the value of the virtual channel. Lines to direct to value as well as coding type depends on virtual channel creation command. Value is the unsigned integer. For 4-bit channel allowed values are 0...15.

Device settings:

Address selection switches — A, B

DIP-switches 1..4

4 3 2 1

1 2 3 4 5 6 7 8 9 10

RS485 Serial output card

J1

J1 termination / Fail safe *ON* jumper

If 7180 is connected to the RS-485 bus as the first or last device on the bus, you have to install jumper 1 (J1) to activate termination.

Address selection:

Serial address for the device is selected by code switches A and B. Switch A selects 1's and B selects 10's. Look at the table below.
Note! States A to F of the code switches are not in use.

Settings of Baud rate DIP-switches 1-3			
bps	1	2	3
300	0	0	0
600	1	0	0
1200	0	1	0
2400	1	1	0
4800	0	0	1
9600	1	0	1
19200	0	1	1

Selection of check sum by DIP-switch 4	
BCC	4
OFF	0
ON	1

Address settings		
Address = A+(Bx10)		
Swich A	Switch B	Switch C
0	0	0
1	0	1
2	0	2
3	0	3
…	…	…
0	1	10
1	1	11
2	1	12
3	1	13
…	…	…
0	2	20
1	2	21
2	2	22
3	2	23
…	…	…
9	9	99
"1"	"10"	Address

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