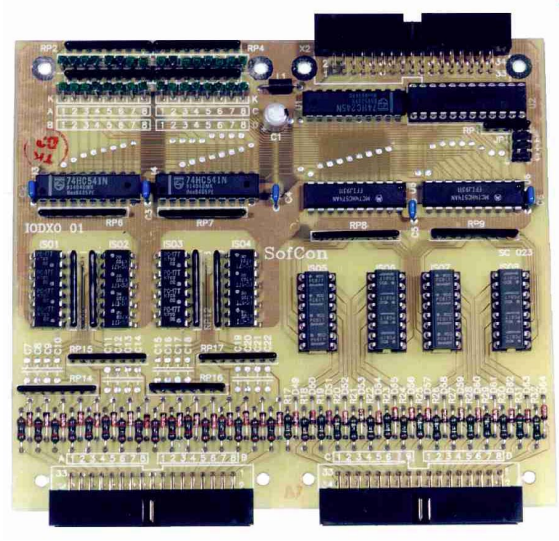
Extension Input/Output Cards IODXO01, IODXO02 Card with 16 optic inputs and 16 optic outputs

SofCon® AUTOMATIZAČNÍ TECHNIKA

3.7

- 24VDC inputs with galvanic separation
- 4 ports with 8 bits, each controlled through IOBUS
- LED indication of input and output signals
- input protection against polarity reversal
- output protection with antiparallel diode

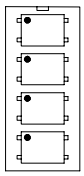


Basic Characteristics

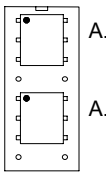
The IODXO01/02 digital input card is used to galvanically separate industrial logic signals from the microcomputer control system of a KIT V40 kit. It is connected to the control unit through IOBUS. The card contains 2 input ports labeled INA and INB and 2 output ports labeled OUTA and OUTB.

Input signals INx-,INx+ are supplied to the card using a 34-pin X3 connector. Each input circuit consists of a resistance T element, which can be completed with a filter capacitor and optocoupler. The optocoupler inputs are fitted with protective diodes, the optocoupler outputs have indication LEDs. The data read are transmitted to the internal data bus through 74HC541 registers. Register signals RD1 and RD2 are generated by a GAL circuit.

On output ports OUTA and OUTB, data are separated from the IOBUS by a 74HC541 driver. The outputs are connected to the internal data bus through the 74HC574 output registers and activated using the OE signal. Data are written to them using WR1 and WR2 signals. The control signals of the output registers are also generated by a GAL circuit. Both poles of the output switches are terminated on a 34-pin X4 connector. Each output is fitted with a protective diode.



optocoupler



optorelay

On the IODXO01 card, output optocouplers are fitted in sockets, i.e. the fitted optocoupler type is selected according to the required switched voltage and current. Optocouplers can be replaced with PVG612 optorelays in the sockets. However, because the optorelay is in a housing with 6 terminals, it is fitted in the socket instead of two optocouples and only the even bits in the port are used. The optorelay is connected like a DC switch.

On the IODXO02 card, the output optocouplers are strengthened with 0.2A/35V switching transistors.

JP1 Jumpers are used to set one of the seven available card address spaces.

Technical Data

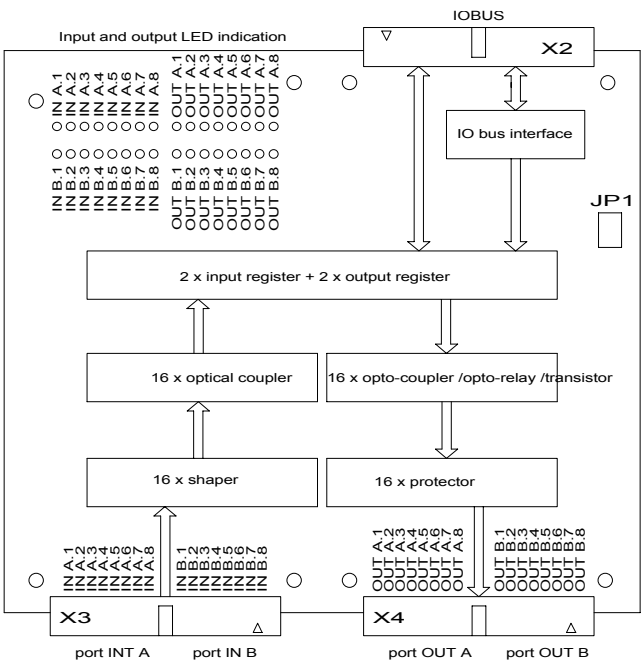
Unit type	IODXO01	IODXO02
Number of input/output	16 (2 x 8) / 16 (2 x 8)	
Input voltage L level	max. 8 VDC	
H level	min. 16 VDC	
H max. level	30 VDC	
Type of output	Optocoupler/opto relay	transistor
Max. switched voltage/ max. switched current		
optocoupler PC817	10mA/35 VDC	
optocoupler PC816	10mA/80 VDC	
optocoupler PC815	50mA/35 VDC	
optocoupler PC853	100mA/300VDC	
optorelay PVG61	1A/60 VDC	
transistor		0.2A/35VDC
Electric strength of separation between control part and I/O part	500 VAC	

Power supply	through IOBUS
Connection to processor	through IOBUS
Location	KITV40 set
Input connection	34-pin connector
Output connection	34-pin connector
Base address	300,310,330, 340,350,360
Reading INA/writing OUTA	base + 0
Reading INB/writing OUTB	base + 1
Output connection	base + 2
Outputs disconnection	base + 3
Working temperature	0 to +70 °C
Storage temperature	-10 to +80 °C
Card dimensions	122 x 138 x 10 mm

Ordering Information

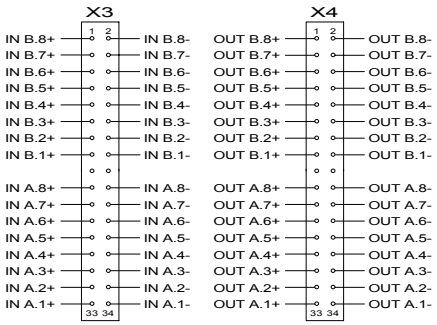
The order must specify the control voltage for inputs (default 24 VDC) and the type of output optocoupler for IODXO01. Self-stripping PFL34 connectors and AWG2834 cables for the connection of inputs are available upon special order.

Location of jumpers and wiring

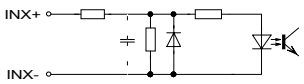


Addressing using jumper JP1

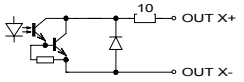
Signals on X3 ands X4 connectors



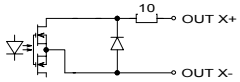
Input shaper connection



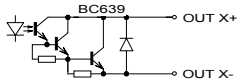
Output circuit connection



Opto coupler (IODXO01)

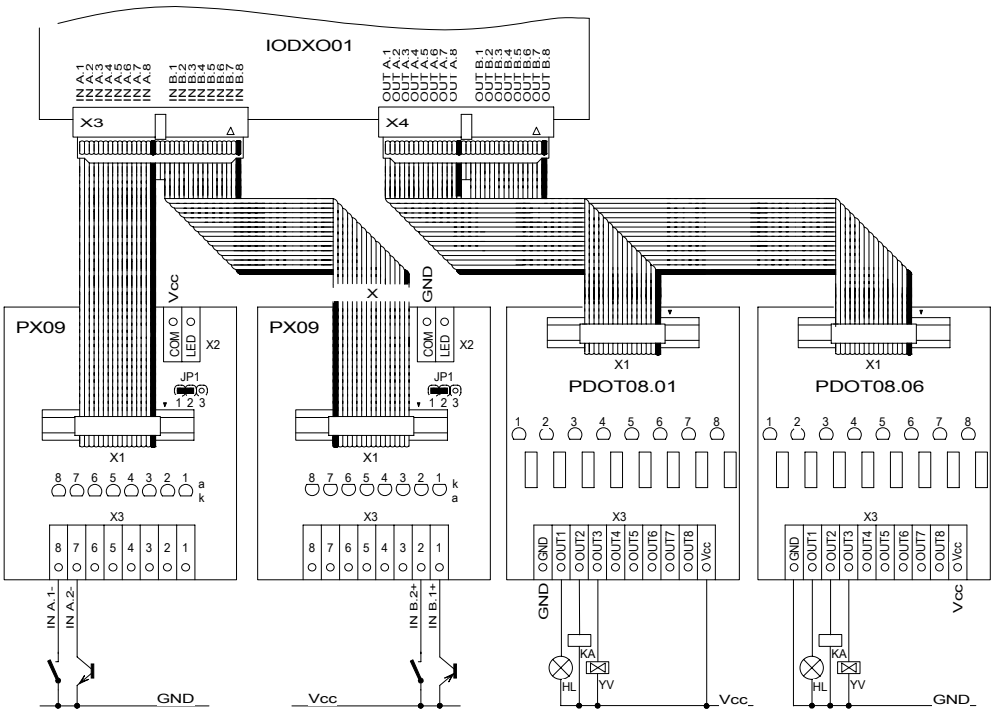


Opto-relay (IODXO01)



transistor (IODXO02)

Input and output circuits connection



Input connection with common minus

Input connection with common plus

Output connection with common plus

Output connection with common minus

5.9.2000