

220V - SWITCH MODULE

DESCRIPTION D021



Figure 1. Top view of the 220V-Switch Module[®].

Short description

The 220 V - Switch Module is based on a 220 V solid-state-relays (SSR). The relays must be connected to the 220V mains by an Euro-connector at the rear of the module (see figure 3). The relays can supply devices up to 1.1 kW. The 220V switch is controlled by a voltage of 3V (2mA) or more.



Figure 3. Front of the module.

From left to right:
 white and red 4 mm sockets for control
 by a digital output of a device;
 blue 4 mm output socket for control of
 another module.



Figure 2. Rear of the module.

From left to right:
 220 V mains entry with fuse-box below it,
 DIN-plug for connection with the UIA or UIB
 board.

Control of the module by the CoachLab or CoachLab II interface

To control the module via outputs of CoachLab or CoachLab II:

- connect the red socket of the module to the blue socket of an output on CoachLab (e.g. 1) or to the blue socket of an output on CoachLab II (e.g. A1).
- connect the white socket of the module to the black socket of an output on CoachLab (e.g. 1) or the blue socket of an output on CoachLab II (e.g. A2).

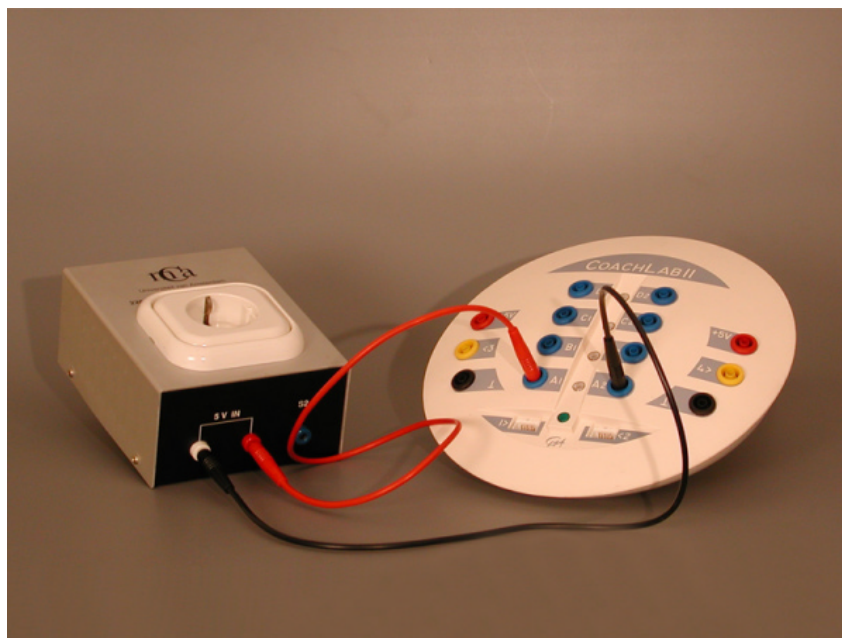


Figure 4. Connecting the switch module to the CoachLab II interface.

In the Coach software the actuator icon *Relay (220V)* should be placed on the same output of the CoachLab panel on the screen as the real module is connected to the interface. The module can be controlled manually or via a control program (see also the Coach Help, keyword 'Actuator').

Note:

When CoachLab's digital outputs are used it is necessary to connect the external mains adapter. The minimal required voltage is 3 V.

Control of the module by a digital output

Via the white and red socket (5 V IN) in the front (see figure 2), the module can be controlled by a digital output. If a digital output in the High state is able to produce a current of more than 2 mA connect:

- the 0V (GND) of the control unit to the white socket;
- the digital output of that unit to the red socket.

Now the 220V is switched ON when the digital control output is High.

In case of insufficient power via the control line connect:

- the +5V of the control unit to the red socket on the module;
- the digital output of the control unit to the white socket.

The 220V is switched ON by a Low state (voltage) on the control output.

Control of the module by the UIA/UIB-board

The relays can be controlled via the DIN-plug in the rear (see figure 3). By means of the supplied cable the module can be linked to the 25-pin connector on the UIA or UIB board. The relays in this case are controlled by the PA0 line, i.e. the least significant bit of port A. The 220 V on the top of the module:

- is ON (supplied with 220 V) when the control line PA0 is Low;
- is OFF when the control line PA0 is High (or set on "input").

The reason for this opposite control situation is that a digital output, when High, is not able to source a sufficiently high current (2mA) to control the solid state relays. If on the other hand such an output is Low, a sufficiently high current can be produced then with respect to +5V.

Control of a second module via the first module

If the module is linked to the UIA or UIB board, then the blue 4 mm output in the front of the module (see figure 2) is connected to the line PA1 of port A.

The relays of a second module can be controlled via this blue output of the first module:

- connect the red socket of module one to the red socket of module two.
- connect the blue socket of module one to the white socket of module two.

Now the 220 V of module one is activated (ON) by a Low on line PA0 and the 220 V of module two by a Low on line PA1.

Technical data

220 V - circuit		
220 V supply of solid-state-relays fuses (one spare) in fuse box below the main entry 220 V output when sufficiently cooled and only charged by resistors, up to 10 A (2.2 kW) could be controlled.	Voltage Frequency Voltage Current Voltage Current Power Frequency	220 V 50 Hz 250 V 5 AT 220 V 5 A max 1.1 kW 50 Hz
Control - circuit		
Control lines of the 220 V relays have been separated optically from the 220 V circuit Via line PA0 (port A) of the UIA Via external control line on red plug (ground on the white plug) via external control line on white plug (+5 V on the red plug)	control voltage switched ON by switched ON by switched ON by	5 V (2 mA) at least PA0 low high signal low signal
Connections		
220 V supply of solid-state-relays 220 V output of solid-state-relays control input, UIA-board (PA0, +5V) control input, external control output, UIA-board (PA1)	euro-connector connector with ground 5-p DIN plug 4 mm wires 4 mm wires	rear top rear red / white socket blue socket
Dimensions		
Module Cable between module and UIA Mains cable	14.5 cm x 11.5 cm x 5 cm; mass 0.45 kg length 0.9 m; mass 0.05 kg length 2 m; mass 0.2 kg	
Delivery		
inclusive of cables for mains and for link to the UIA or UIB board (art.nr 079)	module: 5-p DIN-plug UIA-board: 25-p D-connector	

This product is to be used for educational purposes only. It is not appropriate for industrial, medical, research, or commercial applications.

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