

Relay Board for VX-2000

RK-8VX

■ DESCRIPTION

The relay board RK-8VX is designed to operate with the VX-2000 system. It comes with a low-drop voltage regulator to secure safe operation also during battery backup. The regulator stabilises the operation voltage of the relays at 24 VDC. It also provides a further fused (self recovery) 24VDC output for external equipment. An overheat protection is provided and in case of overheating a LED will light. The relay board has low current control inputs and can be operated from the VX-2000's control outputs and from the VX-200SO control outputs. Additional control inputs allow further parallel control of single relays by separation diodes. Similar contacts of the relays can easily be connected parallel provided by the print layout. The relay board is mountable on DIN rails, and can be cut at certain lines to obtain single devices.

The relay board can be used for zone selection, control of external high current devices and other controls. The fused voltage output can be used to supply power to external devices like attenuators with relay control.

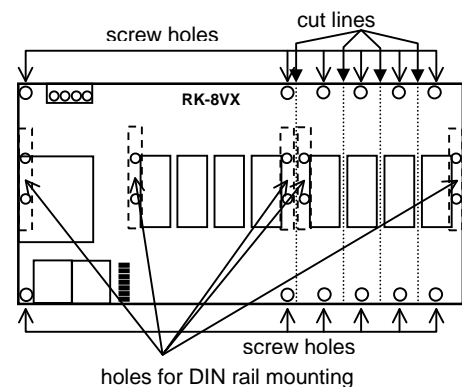
■ MOUNTING AND ADAPTATION

Mounting Facilities

The relay board can be mounted by screws or on DIN rails. In the drawing on right side you can find all mounting points and cut lines.

Adaptation of the Relay Board

To match the relay board with the requirements, it can be cut at the cut lines a, b, c or d. All the relays which are on the board with the regulator (left side) can be powered directly from the VX-2000DS or VX-200PS through the power connector. The relays which are not on the board with the regulator must be powered by 24V DC through the soldering pins at the lower side.

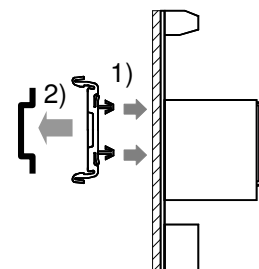


Mounting on DIN-Rails

- 1) Push two or three of the attached DIN rail brackets into the holes for the DIN rail brackets as shown in the drawing on right side. Select positions for a stable mounting on the DIN rails.

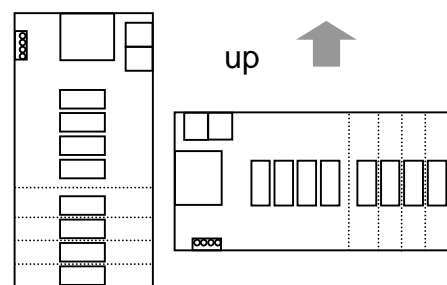
Make sure that the DIN rail brackets snap in complete.

- 2) Then click the relay board with the DIN rail brackets onto the DIN rails.



Preferable Mounting Directions

The heat dissipation of the heat sink can affect the polyswitches when the latter are in a higher position. If the polyswitches become too warm, this can cause no recovery after a short circuit.



■ CONNECTIONS

Power Supply

The relay board can be connected to the VX-2000DS or VX-200PS. The built-in low-drop regulator protects the relay from too high voltage.

Voltage Output

External equipment (e.g. other relays or external attenuators) can be connected to the fused voltage outlet.

Control Inputs and Jumpers

The relay board provides two RJ45 jacks to be connected to either the control outputs of the VX-2000 or the VX-200SO. Do not combine both. The table below shows the jumper positions and RJ45 connections:

Control output	RJ45 jack	J1 ~ J7
VX-2000	①	right position
VX-200SO	① ②	left position

NOTE:

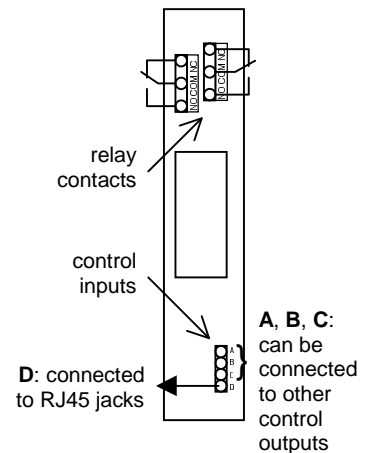
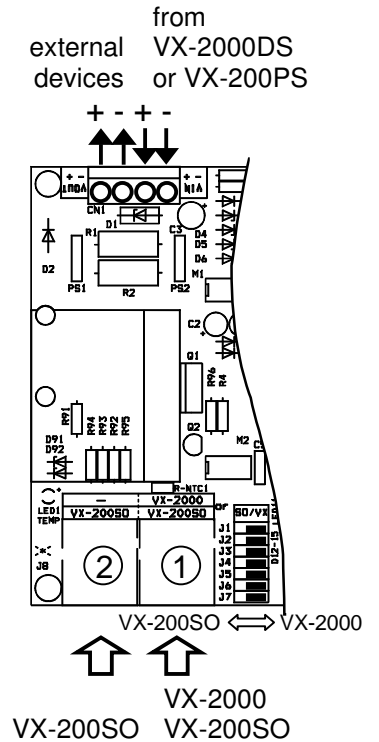
Consider that the control outputs 4(12) and 6(14) of the VX-2000 are exchanged resulting that control output 4(12) controls relay RY6 and control output 6(14) controls relay RY4.

Connections to the Relays

Each relay provides two switch-over contacts. Their status (when not activated by control input) is printed next to the soldering contacts and can be seen in the figure right.

Each relay can be activated by 4 control inputs (separated by diodes) which are available by soldering contacts named with A, B, C and D. The control input D is connected parallel to the RJ45 jacks, i.e. when using the RJ45 jacks, then you should not use the control inputs D.

Similar pins are placed in the same line so that it is possible to connect similar contacts parallel just by soldering a straight wire on this line between the contacts (refer to the system example).



■ SPECIFICATIONS

Parameter	condition	value
Input voltage	save operating of relays	18 ~ 40 VDC
Current consumption	all relays on	200 mA (typ.)
Output voltage	when supplied voltage > 25 VDC	24 VDC
Output current	V_{IN} 40 VDC, ambient temp. 50 °C	max. 100 mA
	V_{IN} 32 VDC, ambient temp. 40 °C	max. 200 mA
Voltage loss	input to output, $V_{IN} < 24$ VDC	max. 200 mV
Relay contact's capacity	-	100 V AC, 5 A
Control current	-	< 0.3 mA
Ambient temperature	no condensation	0 °C ~ 50 °C
Dimensions	W x L x H	197 x 98 x 41 mm

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