

Relay Output Module 8 x 30 V DC/230 V AC
Crimp Snap-in Connector, 40-pin
Screw Plug Connector, 20-pin
Screw Plug Connector, 40-pin

(6ES5 451-8MR12)
(6ES5 490-8MA13/8MA03)
(6ES5 490-8MB21)
(6ES5 490-8MB11)

The technical drawing includes three physical views of the module: a top view showing the 'RELAY OUTPUT 8x30 V DC' label and a status indicator 'F', a side view of the 40-pin crimp connector, and a front view of the 20-pin screw plug connector. The schematic diagram below shows the internal circuitry, including two relay banks labeled A and B, with terminals X.0-X.3 and X.4-X.7. It also shows the power supply connections for +9 V, GND, and Data, and the output terminals M and L+.

Technical specifications

Outputs	8 relay outputs, contact switching varistor SIOV-S07-K275
Galvanic isolation - in groups of	yes 2 with signal status display
Continuous current I _{th}	3 A
Relay type	Dold OW 5699
Switching capacity of the contacts - resistive load	max. 3 A at 250 V AC 1.5 A at 30 V DC
- inductive load	max. 0.5 A at 250 V AC 0.5 A at 30 V DC
Operating cycles of the contacts according to VDE 0660, part 200 - AC - 11	1 x 10 ⁶
- DC - 11	0.5 x 10 ⁶
Switching frequency Fault LED (red)	max. 10 Hz no input voltage
Permissible ambient temperature of module - horizontal arrangement	0 to 60 °C (32 to 140 °F)
- vertical arrangement	0 to 40 °C (32 to 104 °F)
Length of cable - unshielded	max. 100 m (330 ft.)
Insulation rating	VDE 0160
Rated insulation voltage (+ 9 V to L 1) - insulation group - tested with	250 V AC 2 x B 1500 V AC
Rated insulation voltage (+ 9 V to ⊥) - insulation group - tested with	12 V AC 1 x B 500 V AC
Rated insulation voltage (between contacts) - insulation group - tested with	250 V AC 2 x B 1500 V AC
Supply voltage L+ (for the relay) - rated value	24 V DC
- ripple V _{PP}	max. 3.6 V
- permissible range (ripple included) - value to t < 0.5 s	20 to 30 V 35 V
Current consumption - from + 9 V (CPU)	typ. 30 mA
- from L+	typ. 70 mA
Power loss of the module	typ. 1.6 W
Weight	approx. 300 g (11 oz.)