

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 main views: a perspective view of the module, a side view of the crimp connector, and a side view of the screw plug connector. The perspective view shows the module with a label 'RELAY OUTPUT 8x30 V DC' and a status indicator 'F'. The crimp connector has 40 pins numbered 1 to 19 on the left and 1 to 20 on the right. The screw plug connector has 20 pins numbered 1 to 20. The internal schematic diagram shows two relay channels, A and B, each with four relays. It details the connection of the +9 V supply, ground (GND), and data lines to the relays and their contacts. The contacts are labeled X.0 to X.7. A terminal block 'M' is shown at the bottom left, and 'L+' is at the bottom right.

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	max. 10 Hz
Fault LED (red)	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)	250 V AC
- insulation group	2 x B
- tested with	1500 V AC
Rated insulation voltage (+ 9 V to \perp)	12 V AC
- insulation group	1 x B
- tested with	500 V AC
Rated insulation voltage (between contacts)	250 V AC
- insulation group	2 x B
- tested with	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)	20 to 30 V
- value to $t < 0.5$ s	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.)