

# Miniature Relays Series M

## Type MZ 1 pole 5A

### Monostable

CARLO GAVAZZI



- Miniature size
- PCB mounting
- Reinforced insulation 4 kV / 8 mm
- Switching capacity 5 A
- DC coils 1.38 to 160 VDC
- AC coils 4.8 to 264 VAC
- General purpose, industrial electronics
- Types: Standard, flux-free or sealed
- Switching AC/DC load

## Product Description

### Sealing

**P:** Standard, suitable for soldering and manual washing.

**F:** Flux-free, suitable for automatic soldering and partial immersion or spray washing.

**H:** Sealed with inert gas according to IP 67, suitable for automatic soldering and/or partial immersion or spray washing.

For **General data**, notes and special versions see page 48

## Ordering Key

**MZ P A 100 47 05**

### Type

Sealing

Version (A = Standard)

Contact code

Coil reference number

Contact rating

### Version

A = 3.5 mm / Ag CdO (standard);

B = 5.0 mm / Ag CdO

C = 3.5 mm / hard gold plated

D = 3.5 mm / flash gilded

Available only on request Ag Ni

## Type Selection

Contact configuration	Contact rating	Contact code
1 normally open contact (SPST -NO{1-form A})	5 A	100
1 change over contact (SPDT {1-form C})	5 A	001

## Coil Characteristics DC (20°C)

Coil ref. no.	Rated Voltage VDC	Winding resistance		Operating range		Must release VDC
		Ω	± %	Min. VDC	Max. VDC	
40	1.8	11	10	1.38	3.50	≥ 5% of rated voltage
41	3.0	30	10	2.30	5.75	
42	4.1	55	10	3.15	7.80	
43	5.9	110	10	4.51	11.00	
44	7.3	170	10	5.58	13.70	
45	9.2	280	10	7.07	17.60	
46	12.0	450	10	8.99	22.50	
47	15.0	720	15	11.40	28.60	
48	16.5	860	15	12.60	30.80	
49	19.0	1150	15	14.50	35.70	
50	24.0	1750	15	18.20	44.00	
51	30.0	2700	15	22.80	55.00	
52	38.0	4300	15	29.10	69.30	
53	48.5	6450	15	37.20	84.70	
54	61.0	9900	15	46.80	104.00	
55	70.0	12550	15	53.70	117.00	
56	80.0	16200	15	61.30	136.00	
57	92.0	23500	15	70.60	160.00	

## Coil Characteristics AC (20°C)

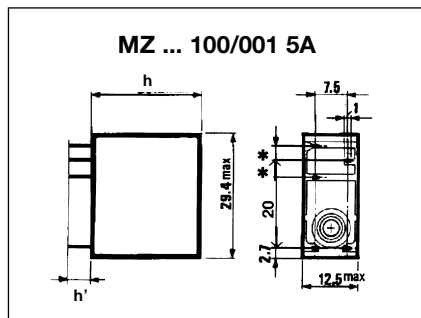
Coil ref. no.	Rated Voltage VAC	Winding resistance $\Omega$	resistance $\pm \%$	Operating range		Must release VAC	Rated Current (mA)		Inductance H
				min VAC	Max. VAC		50Hz	60Hz	
90	6	12	10	4.8	6.6	≥ 15% of rated voltage	270.0	237.0	0.059
91	12	56	10	9.6	13.2		119.0	104.0	0.267
92	24	230	10	19.2	26.4		57.0	50.0	1.123
93	48	870	15	38.4	52.8		30.5	26.7	4.170
94	60	1500	15	48.0	66.0		23.8	21.0	6.450
95	110	5300	15	88.0	129.0		12.3	10.8	22.400
96	220	20000	15	176.0	242.0		5.9	5.2	100.200
97	240	25000	15	192.0	264.0	5.7	5.0	107.800	

## Contact Characteristics

<b>Rating</b>	<b>5 A</b>	<b>Power</b>	<b>1250 VA</b> see diagram 3 <b>100mA at 24VDC</b>
<b>Material</b> (standard version) <sup>2)</sup>	<b>AgCdO</b>	Max. switching power with resistive load in AC <sup>3)</sup> Max. switching power in DC Minimum switching current <sup>2)</sup> (Typical value)	
<b>Current</b> (at 250VAC) Rated current Max. switching current Overload current (4sec ON/40sec OFF cycle)	<b>5 A</b> <b>6 A</b> <b>8 A</b>	<b>Life</b> (see diagram 1) Typical electrical life at max. resistive load  1000 cycles/h 500 cycles/h Max.electrical repetition rate Mech. life at 18000 cycles/h	<b>3 x 10<sup>5</sup> cycles</b> <b>3.5 x 10<sup>5</sup> cycles</b> <b>3600 cycles/h</b> <b>50 x 10<sup>6</sup> cycles</b>
<b>Voltage</b> Rated voltage Max.switching voltage (VDE 0435)	<b>250 VAC</b> <b>380 VAC</b>		

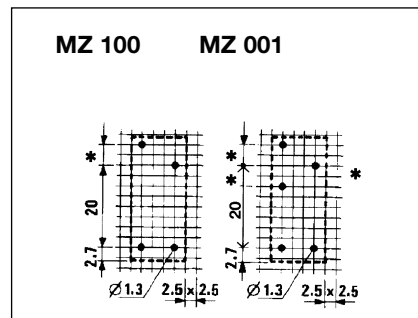
<sup>2)3)</sup> See pag. 48

## Dimensions



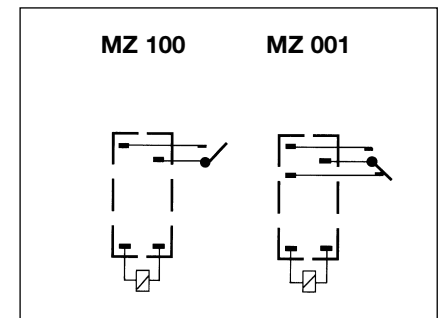
MZP: h = 25,2 mm  
h' = 4,3 - 5,7 mm

## Pin View



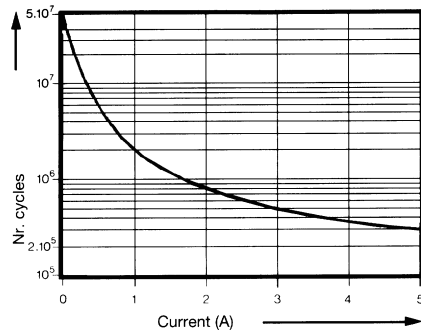
MZF/MZH: h = 26.5 mm  
h' = 2.8 - 4.2 mm  
\* 'A' Standard version = 3,5 mm  
\* 'B' Metric version = 5,0 mm

## Wiring Diagrams

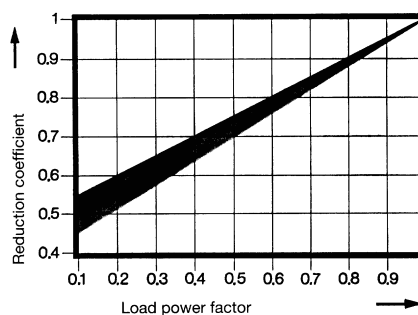


## Diagrams

**1 Expected life at 250 VAC**  
(Resistive loads and repetition rate 1000 cycles/h)



**2 Reduction of expected life against load power factor cos φ**



**3 Max. switching power DC**

