

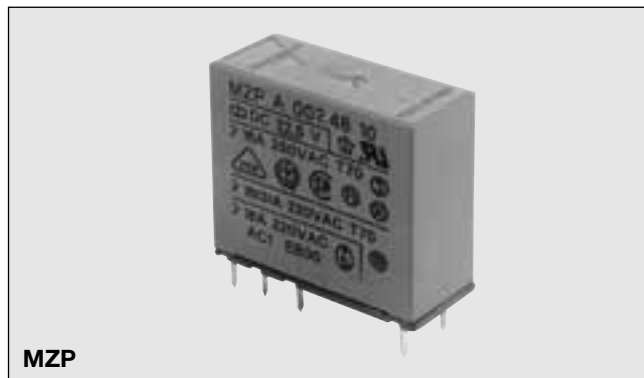
# Miniature Relays Series M

## Type MZ 2 poles 10A

### Monostable



CARLO GAVAZZI



- Miniature size
- PCB mounting
- Reinforced insulation 4 kV / 8 mm
- Switching capacity 10 A
- DC coils 1.87 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 200 47 10**

### Type

### Sealing

### Version (A = Standard)

### Contact code

### Coil reference number

### Contact rating

### Version

A = 5.0 mm / Ag CdO (standard)

C = 5.0 mm / hard gold plated

D = 5.0 mm / flash gilded

S = 5.0 mm / Ag Sn O<sub>2</sub>

Available only on request Ag Ni

## Type Selection

Contact configuration	Contact rating	Contact code
2 normally open contact (DPST -NO {2-form A})	10 A	<b>200</b>
2 normally closed contact (DPST -NC {2-form B})	10 A	<b>020</b>
2 change over contact DPDT {2-form C})	10 A	<b>002</b>

## Coil Characteristics DC (20°C)

Coil reference number	Rated Voltage		Winding resistance		Operating range			Must release VDC
	200/002 VDC	020 VDC	Ω	± %	Min. VDC 200/002	020	Max. VDC	
40	2.6	2.5	11	10	1.98	1.87	3.50	≥ 5% of rated voltage
41	4.3	4.1	30	10	3.30	3.13	5.75	
42	5.9	5.6	55	10	4.52	4.28	7.80	
43	8.5	8.0	110	10	6.49	6.14	11.00	
44	10.5	10.0	170	10	7.99	7.56	13.70	
45	13.0	12.5	280	10	9.98	9.49	17.60	
46	17.0	16.0	450	10	13.0	12.30	22.50	
47	21.5	20.5	720	15	16.3	15.50	28.60	
48	23.5	22.5	860	15	18.0	17.10	30.80	
49	27.0	26.0	1150	15	20.7	19.70	35.70	
50	34.5	32.5	1750	15	26.2	24.90	44.00	
51	42.5	40.5	2700	15	32.6	30.90	55.00	
52	54.5	51.5	4300	15	41.8	39.60	69.30	
53	68.0	64.5	6450	15	52.0	49.20	84.70	
54	87.5	83.0	9900	15	67.2	63.60	104.00	
55	101.0	95.0	12550	15	77.0	73.00	117.00	
56	115.0	109.0	16200	15	87.9	83.30	136.00	
57	132.0	125.0	23500	15	101.0	96.00	160.00	

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### Coil Characteristics AC (20°C)

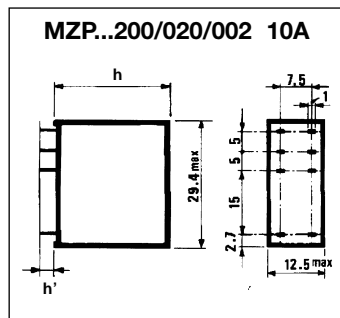
Coil ref. no.	Rated Voltage VAC	Winding resistance		Operating range		Must release VAC	Rated Current (mA)		Inductance H
		$\Omega$	$\pm \%$	min. VAC	Max. VAC		50Hz	60Hz	
90	6	12	10	4.8	6.6	≥ 15% of rated voltage	270.0	237.0	0.059
91	12	56	10	9.6	13.2		119.0	104.0	0.267
92	24	230	10	19.2	26.4		57.0	50.0	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>10 A</b>	<b>Power</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>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>2500 VA</b> see diagram 3 <b>100mA at 24VDC</b>  <b>7.5 x 10<sup>4</sup> cycles</b> <b>8 x 10<sup>4</sup> cycles</b> <b>3600 cycles/h</b> <b>50 x 10<sup>3</sup> cycles</b>
<b>Material</b> (standard version) <sup>2)</sup>	<b>AgCdO</b>		
<b>Current</b> (at 250VAC) Rated current Max. switching current Overload current (4sec ON / 40sec OFF cycle)	<b>10 A</b> <b>12 A</b> <b>14 A</b>		
<b>Voltage</b> Rated voltage Max. switching voltage (VDE 0435)	<b>250 VAC</b> <b>380 VAC</b>		

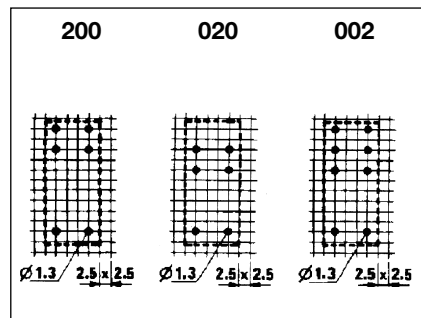
<sup>2)3)</sup> See pag. 48

### Dimensions



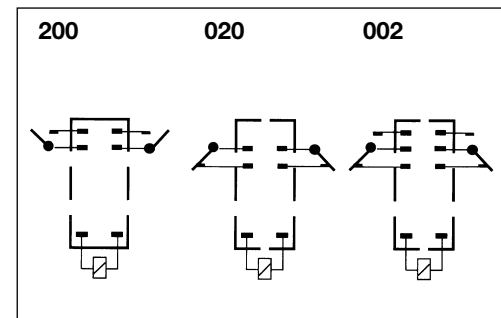
MZP: h = 25,2 mm  
h' = 4,3 - 5,3 mm

### Pin View



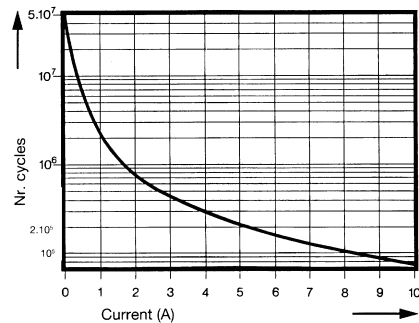
MZF/MZH: h = 26.5 mm  
h' = 2.8 - 3.8 mm

### Wiring Diagrams

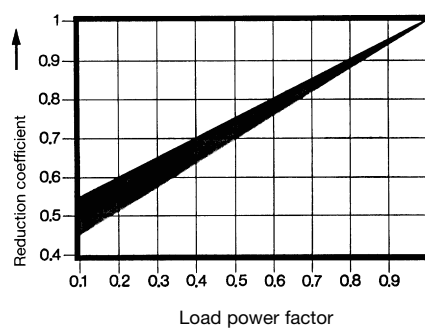


### Diagrams

**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**

