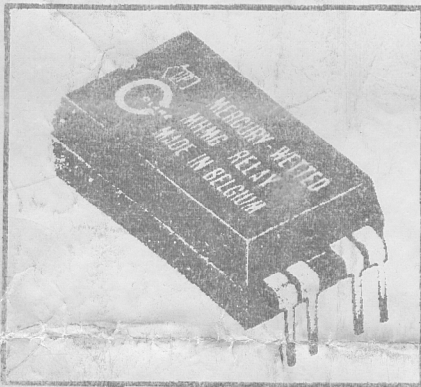




# MOULDED MERCURY-WETTED CONTACT RELAYS



## MHMG SERIES

Clare's MHMG relay series represent a new design dimension and freedom to the solution of switching problems. They offer billion operation-bounce free mercury-wetted switching performance, load handling capability from signal-level to 50 VA, multipole flexibility, epoxy moulded packaging construction, and at a cost approaching dry reed relays. The MHMG mercury-wetted contact relay modules are high quality components for telecommunication, computer peripherals and business machines, industrial control, and other electronic instrument applications. They form an excellent power switching interface. MHMG relays are designed for printed circuit board mounting.

## SPECIFICATIONS

**CONTACT RATING (Resistive load)**  
 Power 50 VA maximum  
 Voltage 350 Vdc or peak ac, maximum  
 Current 1 A maximum  
 Carry load 3 A (not switched)

**CONTACT RESISTANCE**  
 40 mΩ maximum, ± 2 mΩ throughout life

**LIFE EXPECTANCY**  
 1 x 10<sup>9</sup> operations at maximum contact rating with proper contact protection

**OPERATE TIME**  
 1.5-2.4 milliseconds  
 Release time with diode at nominal voltage: 1.8 milliseconds

**DRAIN TIME**  
 30 seconds after reaching vertical position.

**DIELECTRIC STANDOFF**  
 1500 Vac, rms, 50 Hz or 2000 Vdc across open contacts  
 1000 Vac, rms, 50 Hz or 1400 Vdc between all mutually insulated terminals

**INSULATION RESISTANCE**  
 500 MΩ over open contacts  
 10,000 MΩ between coil and contacts

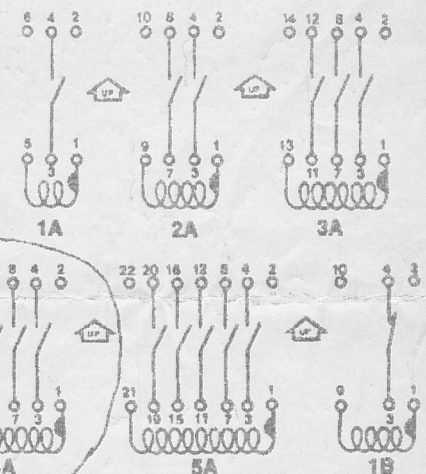
**ENVIRONMENTAL**  
 Vibration 10-500 Hz, 0.06" double amplitude or 10 g's (non operating)  
 Shock 30 g's, 11 ± 1 ms, 1/2 sinewave (non operating)  
 Temperature -38° to +105 °C (operating)

**SUGGESTED HOLE SIZE IN PCB**  
 1.3 mm (.051")

**MOUNTING**  
 Upright within 30° of vertical

## ELECTRICAL DIAGRAMS

Bottom views



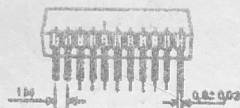
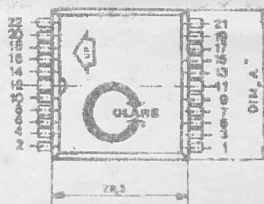
Standard part number	Contact forms	Coil resistance ± 15% (Ohms)	Must operate voltage (Vdc)	Must release voltage (Vdc)	Max. voltage (Vdc)	Nom. voltage (Vdc)
852A 05 B1A*	1A	120	3.75	0.5	15	5
851A 05 B1A		77	3.75	0.5	12	5
851A 12 B1A		490	9	1.3	31	12
851A 24 B1A		1870	18	2.6	61	24
851A 48 B1A		7130	38	5.3	120	48
Compatible to high fan out TTL logic 120 ohms min., ± 20% max.						
851A 05 B2A	2A	32	3.75	0.4	9	5
851A 12 B2A		184	9	0.9	23	12
851A 24 B2A		744	18	2	47	24
851A 48 B2A		2850	38	3.9	92	48
851A 05 B3A	3A	25	3.75	0.4	9	5
851A 12 B3A		157	9	1	23	12
851A 24 B3A		680	18	2.2	47	24
851A 48 B3A		2475	38	4.4	95	48
851A 05 B4A	4A	20	3.75	0.4	9	5
851A 12 B4A		126	9	1	23	12
851A 24 B4A		510	18	2.1	47	24
851A 48 B4A		1920	38	4.2	95	48
851A 05 B5A	5A	16	3.75	0.4	8	5
851A 12 B5A		100	9	1	21	12
851A 24 B5A		375	18	2	41	24
851A 48 B5A		1510	38	4.1	82	48
851A 05 B1B	1B	75	3.75	0.5	8	5
851A 12 B1B		507	9	1.3	21	12
851A 24 B1B		1850	18	2	43	24
851A 48 B1B		7100	38	3.9	84	48

All characteristics at 25 °C.

## DIMENSIONS

In mm, M = 2.54 mm

Contact forms	Dim « A »
1A	11 mm
2A or 1B	16 mm
3A	21 mm
4A	26 mm
5A	31 mm



**NOTE:** Positive potential applied to the start of winding indicated by a dot will close the contacts shown open on the electrical diagram.