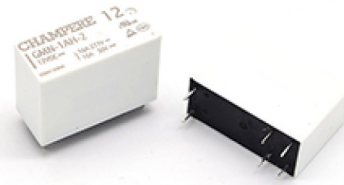




# GMIN. SUBMININATURE POWER RELAY

## FEATURES

- ▶ 29.2 X 12.8 X 20.6(H) MM.
- ▶ 16A MAX SWITCHING CAPACITY.
- ▶ AVAILABLE IN 1 & 2 POLES AND VARIOUS PIN PITCHES.
- ▶ DIELECTRIC VOLTAGE > 5KV.
- ▶ UL CLASS F INSULATION AVAILABLE AS STANDARD.



 File Number: E513402  
 File Number: R50466083

## CONTACT RATINGS

Contact Form	1A, 1B, 1C, 2A, 2B, 2C		
Contact Resistance	≤50mΩ (1A 6VDC)		
Contact Material	Ag Alloy (AgSnO <sub>2</sub> , AgSnO <sub>2</sub> In <sub>2</sub> O <sub>3</sub> , AgCdO)		
Rated Load (Resistive)	Form A	Form C	
		NO	NC
	16A 277VAC (1AH Type) 16A 30VDC (1AH Type) 10A 277VAC (1A Type) 10A 30VDC (1A Type) 5A 277VAC (2A Type) 5A 30VDC (2A Type)	16A 277VAC (1CH Type) 16A 30VDC (1CH Type) 10A 277VAC (1C Type) 10A 30VDC (1C Type) 5A 277VAC (2C Type) 5A 30VDC (2C Type)	8A 277VAC (1CH Type) 8A 30VDC (1CH Type) 5A 277VAC (1C Type) 5A 30VDC (1C Type) 3A 277VAC (2C Type) 3A 30VDC (2C Type)
	Max. Switching Current	16A (1 Pole) 5A (2 Pole)	8A (1 Pole) 3A (2 Pole)
Max. Switching Power	4,432VA / 480W (1 Pole) 1,385VA / 150W (2 Pole)	2,216VA / 240W (1 Pole) 831VA / 90W (2 Pole)	
Max. Switching Voltage	277VAC / 30VDC		
Min. Permissible Load	100mA at 5VDC		

## CHARACTERISTICS

Operate Time	≤ 15ms		
Release Time	≤ 5ms		
Insulation Resistance	1,000MΩ (@ 500VDC)		
Dielectric Strength	I / O	O / O	
	5,000VAC 1min	1,000VAC 1 min	
Impulse Withstand Voltage	10,000V (1.2 x 50μs)		
Shock Resistance	Non-energized	Destruction	Malfunction
	100 m/s <sup>2</sup> (10G)	1,000 m/s <sup>2</sup> (100G)	100 m/s <sup>2</sup> (10G)
Vibration Resistance	Destruction		Malfunction
	10 to 55 Hz, (1.5mm double amplitude)		10 to 55 Hz, (1.5mm double amplitude)
Ambient Temperature	Operating: -40°C to +105°C with no icing or condensation		
Ambient Humidity	Operating: 5% to 85%		
Mount Type	PCB Pins		
Weight	Approx. 13g		

## COIL DATA

Standard	Approx. 540mW				
Rated Voltage (VDC)	Operate Voltage (VDC)	Release Voltage (VDC)	Max. Voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω) ±10%
5	≤3.75	≥0.5	6.5	106.4	47
6	≤4.5	≥0.6	7.8	88	68
9	≤6.75	≥0.9	11.7	58	155
12	≤9	≥1.2	15.6	44.4	270
24	≤18	≥2.4	31.2	21.8	1,100
48	≤36	≥4.8	62.4	10.9	4,400
High Power	Approx. 720mW				
Rated Voltage (VDC)	Operate Voltage (VDC)	Release Voltage (VDC)	Max. Voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω) ±10%
5	≤3.5	≥0.5	6.5	138.9	36
6	≤4.2	≥0.6	7.8	120	50
9	≤6.3	≥0.9	11.7	78.3	115
12	≤8.4	≥1.2	15.6	60	200
24	≤16.8	≥2.4	31.2	29.3	820
48	≤33.6	≥4.8	62.4	14.5	3,300

## LIFE EXPECTANCY DATA

Mechanical Life Expectancy	10,000,000 Operations	
Electrical Life Expectancy	FORM A	FORM C
	1AH TYPE: 100,000 Operations (16A 277VAC Resistive Load, 1s ON / 9s OFF)	1CH TYPE: 100,000 Operations (NO: 16A / NC: 8A 277VAC Resistive Load, 1s ON / 9s OFF)
	1A TYPE: 100,000 Operations (10A 277VAC Resistive Load, 1s ON / 9s OFF)	1C TYPE: 100,000 Operations (NO: 10A / NC: 5A 277VAC Resistive Load, 1s ON / 9s OFF)
	2A TYPE: 100,000 Operations (5A 277VAC Resistive Load, 1s ON / 9s OFF)	2C TYPE: 100,000 Operations (NO: 5A / NC: 3A 277VAC Resistive Load, 1s ON / 9s OFF)

NOTE: The electrical life data items shown are possible at 23°C.

**SAFETY APPROVALS**

ULus / cUL TUV	Coil Rating	Contact Rating	
		NO	NC
	5 to 48VDC	16A 277VAC / 30VDC 105°C 50,000 cycles (1xH Type) 10A 277VAC / 30VDC 105°C 50,000 cycles (1x Type) 5A 277VAC / 30VDC 105°C 50,000 cycles (2x Type)	8A 277VAC / 30VDC 105°C 50,000 cycles (1xH Type) 5A 277VAC / 30VDC 105°C 50,000 cycles (1x Type) 3A 277VAC / 30VDC 105°C 50,000 cycles (2x Type)

For more details and other ratings, please refer to our approval appendix.

**ORDERING INFORMATION**

Type	Contact / Seal Key	Variation Key	Coil Key
<b>GMN</b>	<b>S 1 A D H</b>	<b>K F</b>	<b>24 VDC</b>
<b>Seal Type</b>	Nil: Flux Proof; S: Plastic Sealed		Insulation Class Nil: Standard Insulation; F: Class F Insulation
<b>NO of Pole</b>	1: Single Pole; 2: Double Pole		Pin Pitch Nil: 1 Pole: 3.5mm Contact Pin Pitch; 2 Pole: 5mm Contact Pin Pitch
<b>Contact Form</b>	A: Form A / Normally Open; B: Form B / Normally Close; C: Form C / Change Over		Power Consumption Nil: Standard Coil: 0.54W; K: High Power Coil: 0.72W
<b>Contact Material</b>	Nil: Silver Alloy (ROHS Compliant); D: Silver Alloy: AgCdO		Contact Capacity Nil: Standard Switching Capacity (10A for 1 Pole, 5A for 2 Pole); H: High Switching Capacity (16A and Above for 1 Pole)

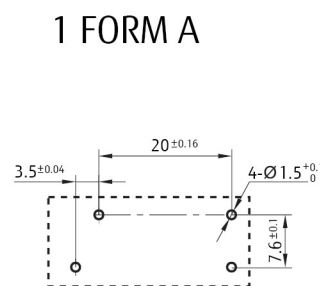
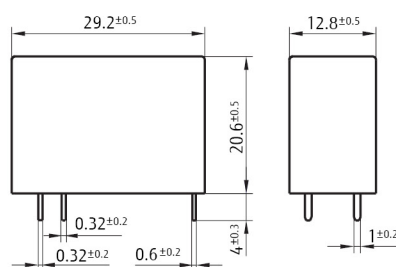
Example: GMN-1AH-F 24VDC stands for Class F, 1 FORM A GMN relay with high power capacity and 5mm pin pitch, coil voltage is 24VDC. For full list of ordering codes please visit our website.

**DIMENSIONS (UNIT: MM)**

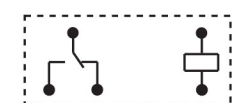
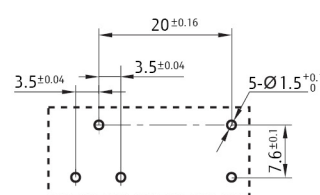
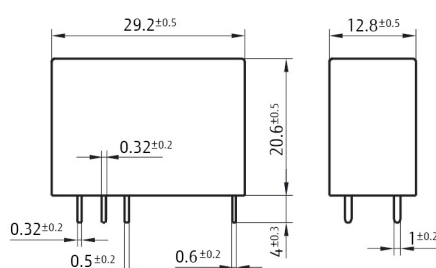
Outline Dimensions

PCB Layout (Bottom View)

Wiring Diagram

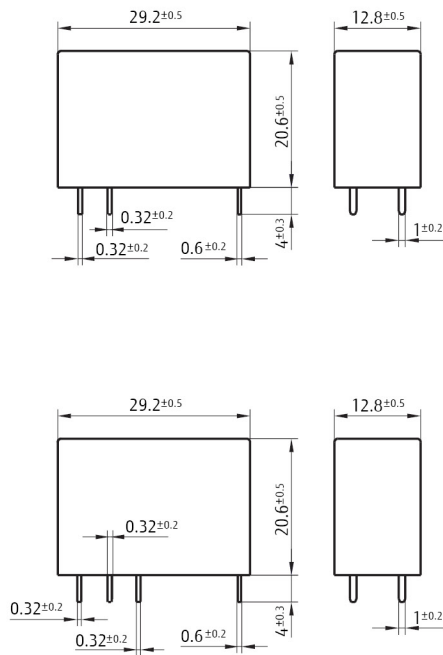


1 FORM C



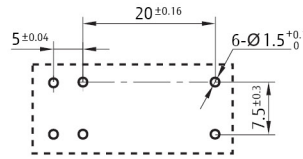
DIMENSIONS (CONT.)

Outline Dimensions

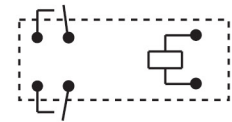


PCB Layout (Bottom View)

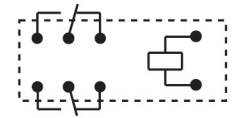
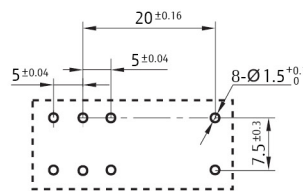
2 FORM A



Wiring Diagram



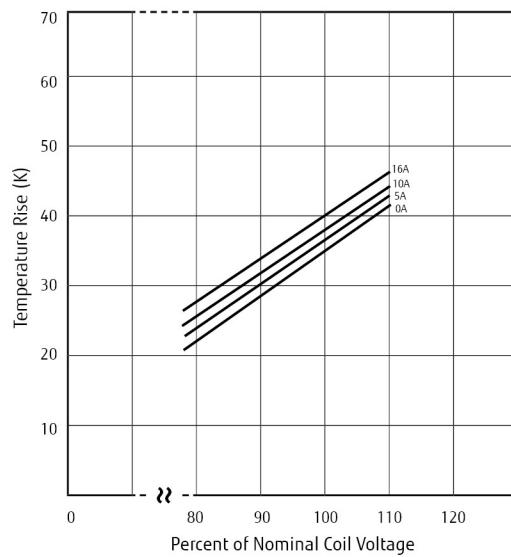
2 FORM C



ENGINEERING DATA

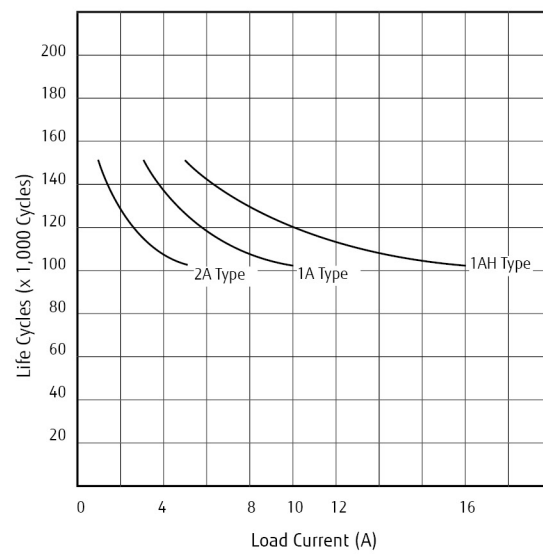
Coil Temperature Rise

Temperature: 70°C; Distance: 10mm.



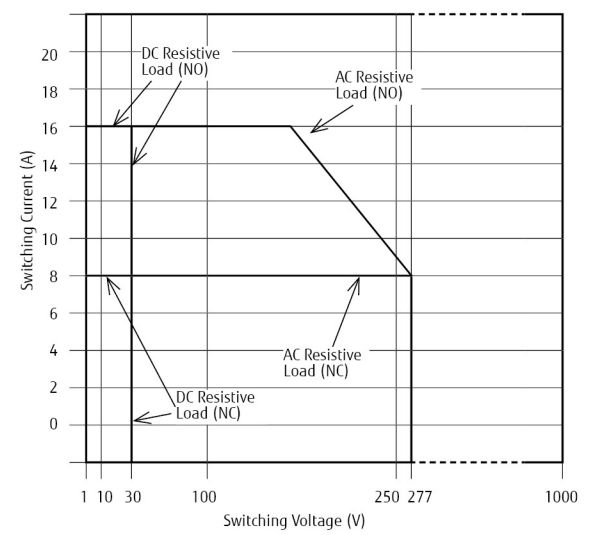
Electrical Endurance Curve

NO: 277VAC Resistive 1s ON / 9s OFF



Max. Switching Capacity

GMN-1H Type



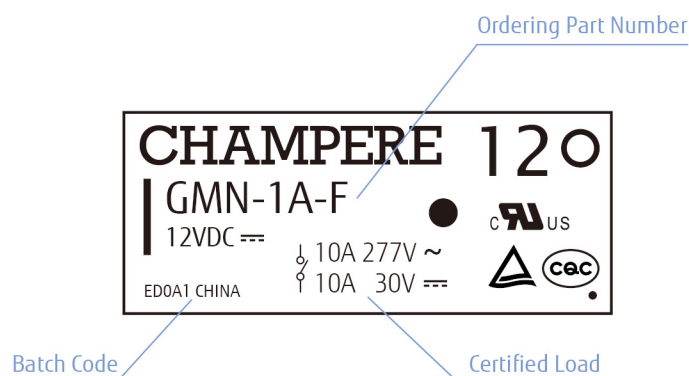
PRINT LAYOUT

Below layout is for reference only.

TOP PRINTING

LASER PRINTED ON WHITE CASE (-H TYPE) (blue case optional)

LASER PRINTED ON BLACK CASE (OTHER THAN -H TYPE) (blue case optional)



PACKAGE INFORMATION

Inner Package Type & Quantity	25Pcs Per PVC Tube
Outer Package Type & Quantity	1,000pcs per Carton with Logo and Sticker
Outer Package Dimension & Weight G.W. / N.W.	50 x 32 x 20 cm; 13Kgs / 12.5Kgs

