

# HAG02 SERIES

# NEW ENERGY RELAY



File No.: CQC21002292050



## FEATURES

- 40A+ 2 poles main contacts + one set of auxiliary contacts
- Contact gap 3.6mm (main contacts)
- RT III type water-sealed relay
- Suitable for inverters, charging piles and energy storage systems for solar photovoltaic power generation

## CONTACT RATINGS

Contact Arrangement	2A, 2A+1A, 2A+1B
Contact Resistance	Max.100mΩ (by voltage drop 6VDC 1A)
Contact Material	AgSnOIn
Contact Rating(Resistive)	40A/277VAC
Contact Gap	3.6mm
Max. Switching Voltage	480VAC/60VDC
Max. Switching Current	40A
Max. Switching Power	11080VA
Mechanical Life	Min. 5×10 <sup>6</sup> OPS
Electrical Life	See more details at "safety approval ratings"

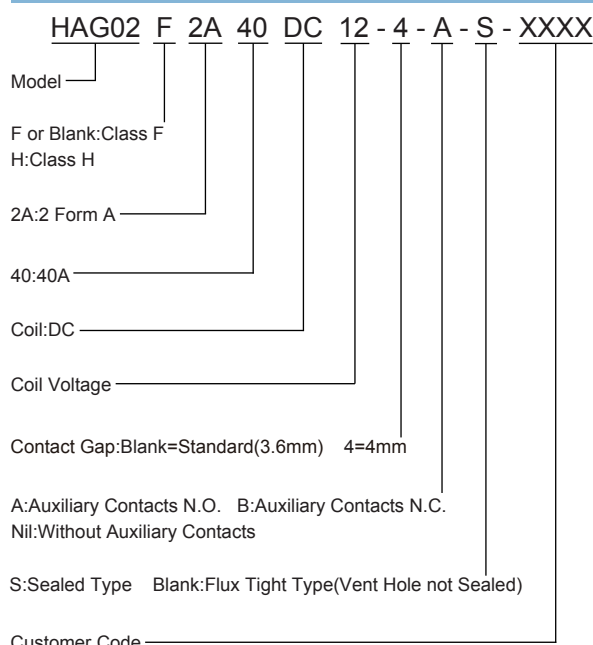
## CHARACTERISTICS

Insulation Resistance	1000MΩ (at 500VDC)	
Dielectric Strength	Between coil & contacts	5000VAC 1min
	Between open contacts	2000VAC 1min
	Between contacts sets	5000VAC 1min
	Between auxiliary contacts	1000VAC 1min
Surge breakdown voltage (Between contact and coil)	10000V	
Operate time (at nomi. volt.)	≤30ms	
Release time (at nomi. volt.)	≤10ms	
Humidity	5% to 85% RH	
Operation temperature	-40°C~+85°C	
UL Class F/H	Insulation System Class F/H	
Shock Resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	10Hz to 55Hz 1.5mm DA	
Unit weight	Approx. 64g	
Construction	Sealed Type, Flux Tight Type	

Notes: The data shown above are initial values.

**This datasheet is for customers' reference. All the specifications are subject to change without notice.**

## ORDERING INFORMATION



Notes:

1. PC board assembled with flux tight type relays can not be washed and/or coated.
2. Flux tight type relays can not be used in the environment with dust, or H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub> or similar gaseous environment etc.

## COIL DATA

at 25°C

Nominal Voltage VDC	Operate Voltage (Max.) VDC	Release Voltage (Min.) VDC	Coil Resistance Ω±10%	Max. Allowable Voltage VDC
6	4.50	0.30	19.1	110%V of nominal coil voltage 150%V of nominal coil voltage*1
9	6.75	0.45	43.1	
12	9.00	0.60	76.6	
24	18.00	1.20	306.4	
48	36.00	2.40	1225.5	

Notes:\*1. With no more than 24 hours per time with non-consecutive voltage application time.



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## COIL

Coil Power	Approx. 1880mW
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## SAFETY APPROVAL RATINGS

UL&CUL	Main Contacts	40A/277VAC, Resistive, 65°C, 1×10 <sup>4</sup> OPS 35A/277VAC, Resistive, 85°C, 3×10 <sup>4</sup> OPS 32A/277VAC, Resistive, 85°C, 5×10 <sup>4</sup> OPS 20A/277VAC, Resistive, 85°C, 1×10 <sup>5</sup> OPS 20A/277VAC, Resistive, 105°C, 1×10 <sup>4</sup> OPS 15A/480VAC, Resistive, 85°C, 1×10 <sup>5</sup> OPS 80A/277VAC, Resistive, 85°C, 1×10 <sup>3</sup> OPS(Contacts in parallel) 40A/60VDC, Resistive, 50°C, 1×10 <sup>5</sup> OPS Making 10A Loading 40A Breaking 10A 277VAC, Resistive Load, 85°C, 5×10 <sup>4</sup> OPS TV-8 277VAC, 40°C, 2.5×10 <sup>4</sup> OPS TV-10 120VAC, 40°C, 2.5×10 <sup>4</sup> OPS
	Auxiliary Contacts	1A 30VDC, Resistive, 85°C, 1×10 <sup>5</sup> OPS 1A 277VAC, Resistive, 85°C, 1×10 <sup>5</sup> OPS
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NOTES:

1. All values without specified temperature are at 25°C.
2. The above lists the typical loads only. Other loads may be available upon request.

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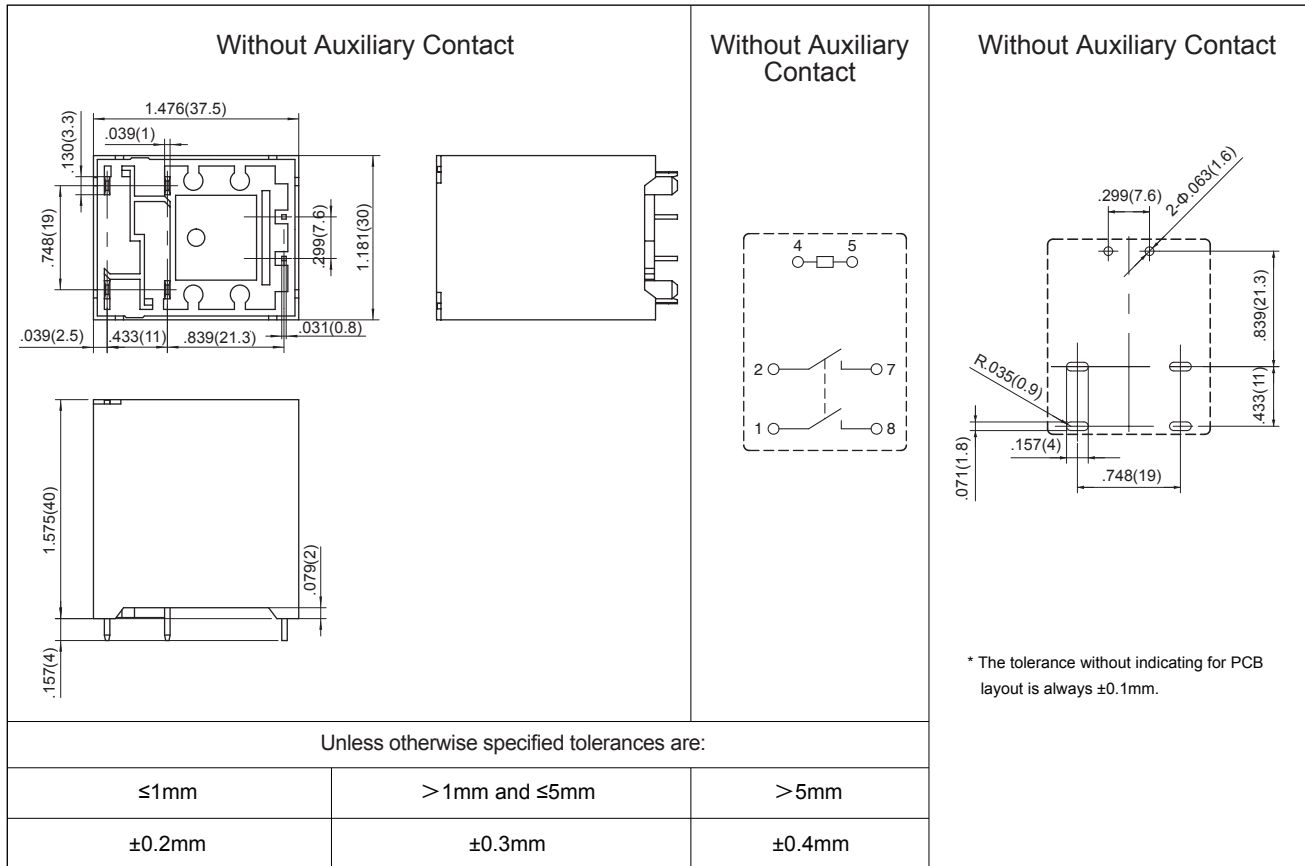
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

Outline Dimensions

Wiring Diagram  
(Bottom view)

PCB Layout  
(Bottom view)



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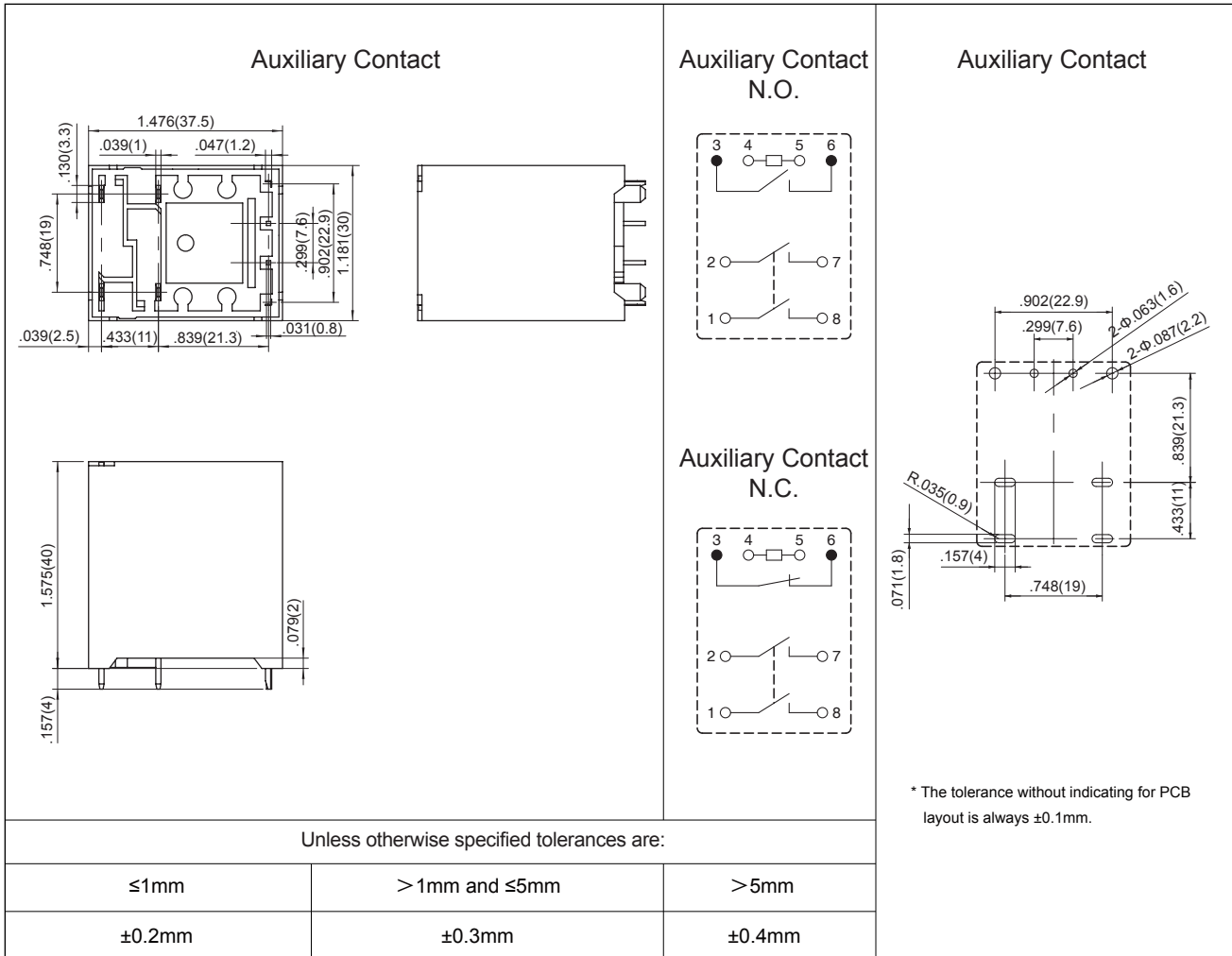
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### Outline Dimensions

### Wiring Diagram (Bottom view)

### PCB Layout (Bottom view)



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## PACKAGING SPECIFICATION

BLISTER BOX	OUTER CARTON	OUTER CARTON SIZE
25PCS	100PCS	L280mm*W220mm*H230mm

## APPLICATION GUIDELINES

### Automatic Wave Soldering

- \* Wave solder is the optimum method for soldering.
- \* Adjust the level of solder so that it does not overflow onto the top of the PC board.
- \* Unless otherwise specified, solder under the following conditions depending on the type of relay.

Preheat time 20°C-100°C	Rising slope 20°C-120°C	Decreasing slope Peak-150°C	Slodering temperature 255°C-265°C
90±5 seconds	<3°C/s	<4°C/s	3~5s

### Hand Soldering

- \* Keep the tip of the soldering iron clean.

Solder Iron	30W or 60W
Iron Tip Temperature	Approx. 350°C 662°F
Solder Time	Within approx. 3 seconds

- \* Immediate air cooling is recommended to prevent deterioration of the relay and surrounding parts due to soldering heat.
- \* Although the sealed type relay can be cleaned, avoid immersing the relay into cold liquid (such as washing solvent) immediately after soldering. Doing so may deteriorate the sealing performance.

### Discard the dropped product

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