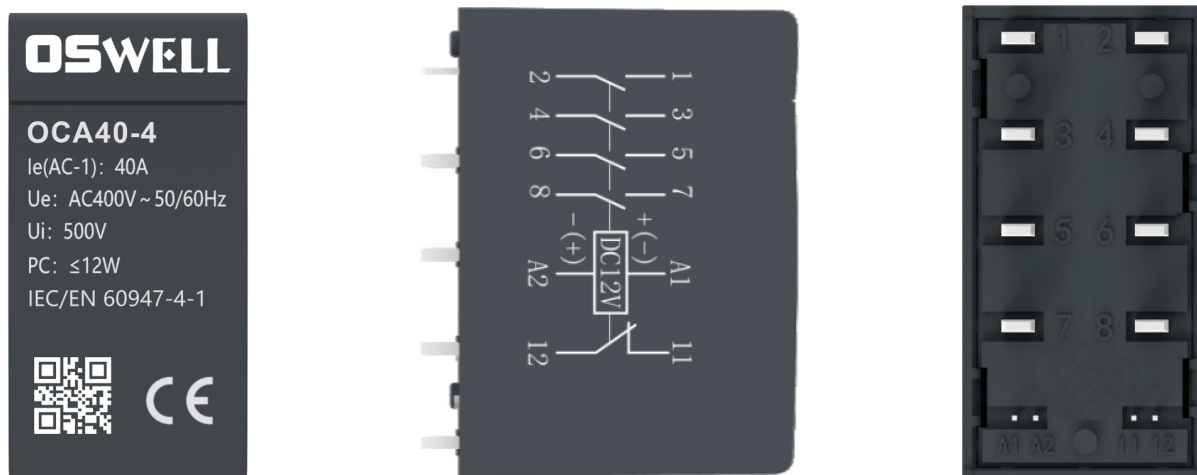


OCA40 Onboard AC Contactor Datasheet

1. Applications

The OCA40 Series onboard AC contactor is primarily used in AC circuits with a rated operational voltage of AC230V/AC400V, a rated operational current of 40A, a frequency of 50Hz/60Hz, and a utilization category of AC-1. It is designed for frequent switching and control of circuits. The OCA40 series AC contactor are particularly suitable for 7kW single-phase AC charging piles, 11kW/22kW three-phase AC charging piles, small-scale energy storage systems, and low-power DC charging piles.

2. Product Image



3. Model Explanation

<u>O</u>	<u>C</u>	<u>A</u>	<u>40</u>	<u>/</u>	<u>2</u>	<u>F</u>
Enterprise code	Product code	Serial number	Rated current		Poles	2-Pole Special Configuration
O : OSWELL	C : AC Contactor	A : Series A	40 : 40A		2 : 2-Pole 4 : 4-Pole	None : Retaining poles 1-2 and 5-6 F : Retaining poles 1-2 and 3-4 N : Retaining poles 5-6 and 7-8

4. Technical Parameters

Main Circuit Characteristics

Poles	2P/4P	
Rated Operational Voltage (Ue)	AC230V/AC400V	
Frequency	50/60Hz	
Rated Insulation Voltage (Ui)	500V	
Rated Impulse Voltage (Uimp)	4kV	
Utilization Category	AC-1	
Rated Operational Current (Ie)	40A	
Conventional Thermal Current (Ith)	40A	
Rated Making/breaking Capacity	500A	
Operating Frequency	360/h	
Rated Conditional Short-circuit Current (Iq)	4.5kA	
Mechanical Endurance	200k ops	
Electrical Endurance	AC400V/40A	50k ops
	AC400V/60A	100 ops

Auxiliary Circuit Characteristics

Number of contact	1NC contact
Rated Insulation Voltage (Ui)	100V
Conventional Thermal Current (Ith)	1A
Rated Operational Current (Ie)	DC-13: DC12V/1A

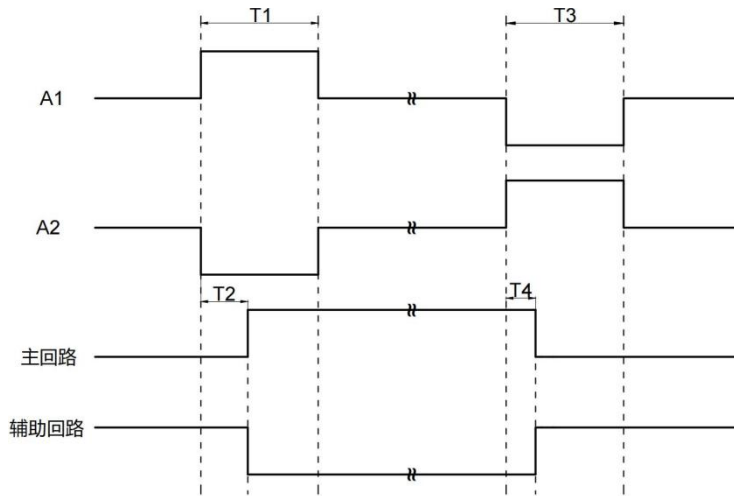
Coil Characteristics

Coil Resistance	2P: 18* (1±5%) Ω 4P: 12* (1±5%) Ω
Rated Coil Power Consumption	2P: 8W 4P: 12W
Coil Type	Single coil bistable (magnetic holding)
Rated Control Supply Voltage (Us)	DC12V

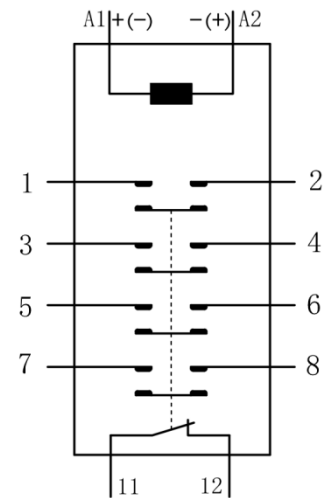
Other Characteristics

Weight	2P: 89g 4P: 95g
Compliance	IEC/EN 60947-4-1, GB/T 14048.4
Operating Temperature	-40°C~+85°C
Storage Temperature	-40°C~+85°C
Vibration	10~55Hz 1.5mm Double Amplitude
Shock	10g

5. Control and Wiring



Control Timing Diagram

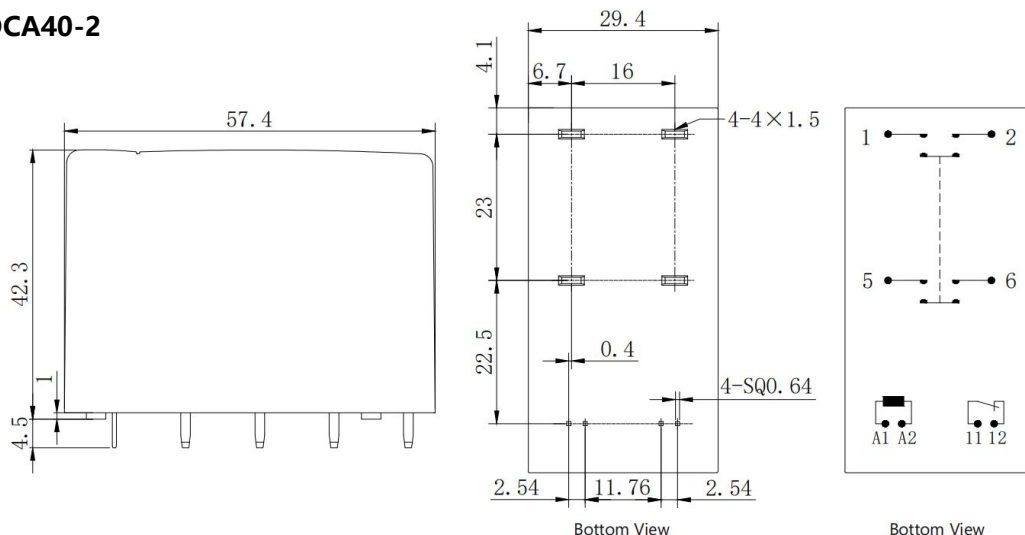


Wiring Diagram

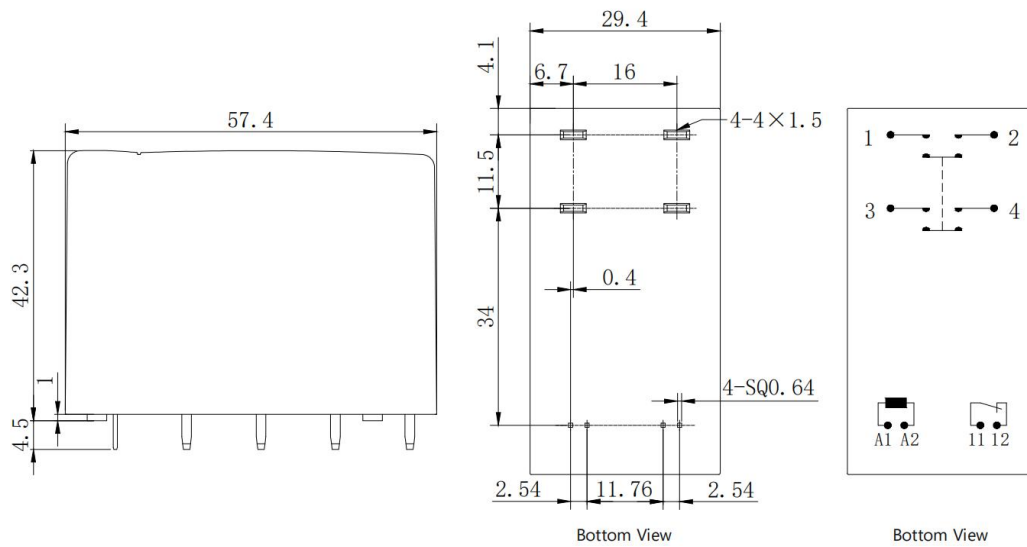
- ① T1: The pulse width time of the power supply required to close the contactor. It is recommended that $50\text{ms} \leq T1 \leq 100\text{ms}$. Connect A1 to the positive terminal (+) of the power supply and A2 to the negative terminal (-) to achieve closing. Power supply output requirement: DC 12V/1A.
- ② T2: Time required for the contactor to close, $T2 \leq 20\text{ ms}$.
- ③ T3: The pulse width time of the power supply required to de-energize the contactor. It is recommended that $50\text{ms} \leq T3 \leq 100\text{ms}$. Connect A1 to the negative terminal (-) of the power supply and A2 to the positive terminal (+) to achieve de-energization. Power supply output requirement: DC 12V/1A.
- ④ T4: Time required for the contactor to open, $T4 \leq 15\text{ ms}$.
- ⑤ For the 2P standard configuration, poles 1-2 and 5-6 are retained. In the 2P special configuration, type F retains poles 1-2 and 3-4, while type N retains poles 5-6 and 7-8.
- ⑥ When the contactor closes or opens, its coil can induce voltage spikes. To ensure reliable circuit operation, it is recommended to implement filtering and absorption measures in the hardware design.

6. Product Dimensions

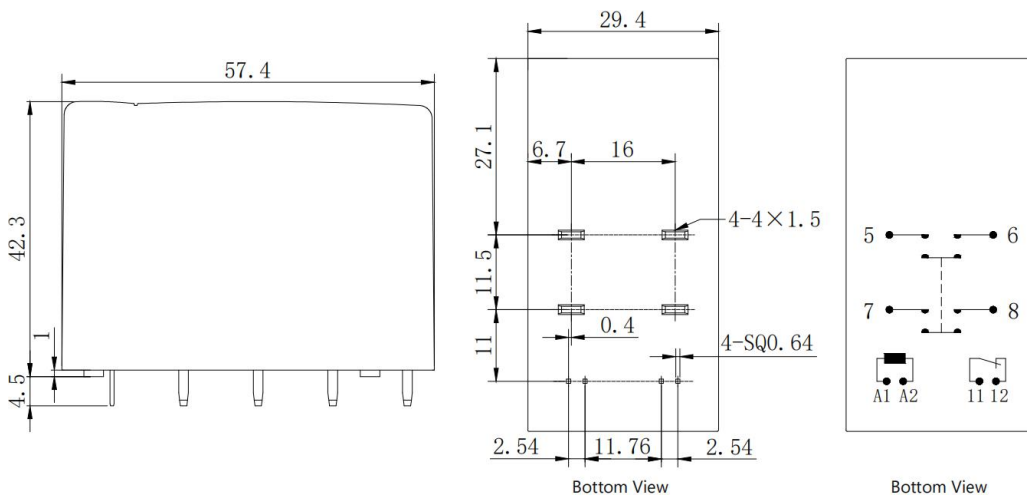
6.1 OCA40-2



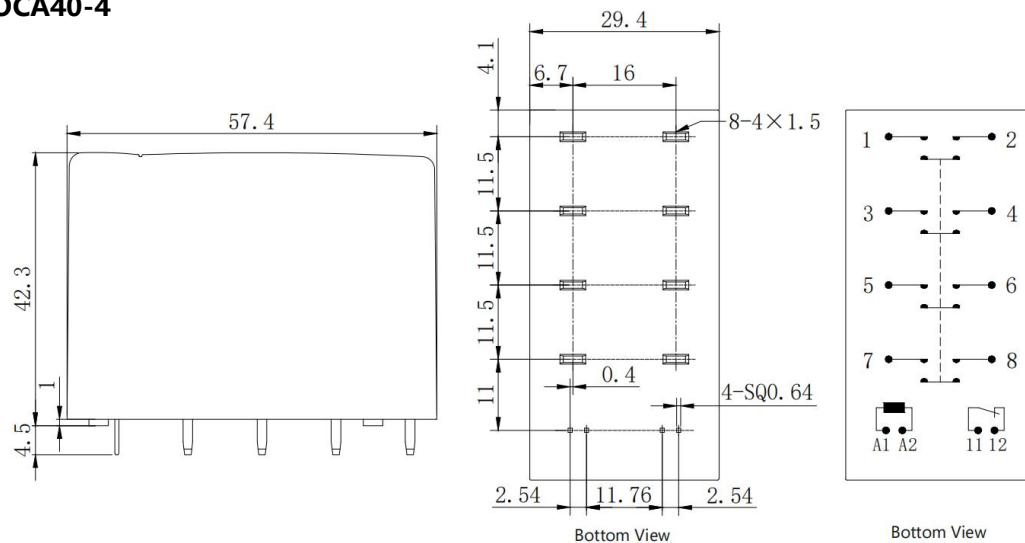
6.2 OCA40-2F



6.3 OCA40-2N



6.4 OCA40-4



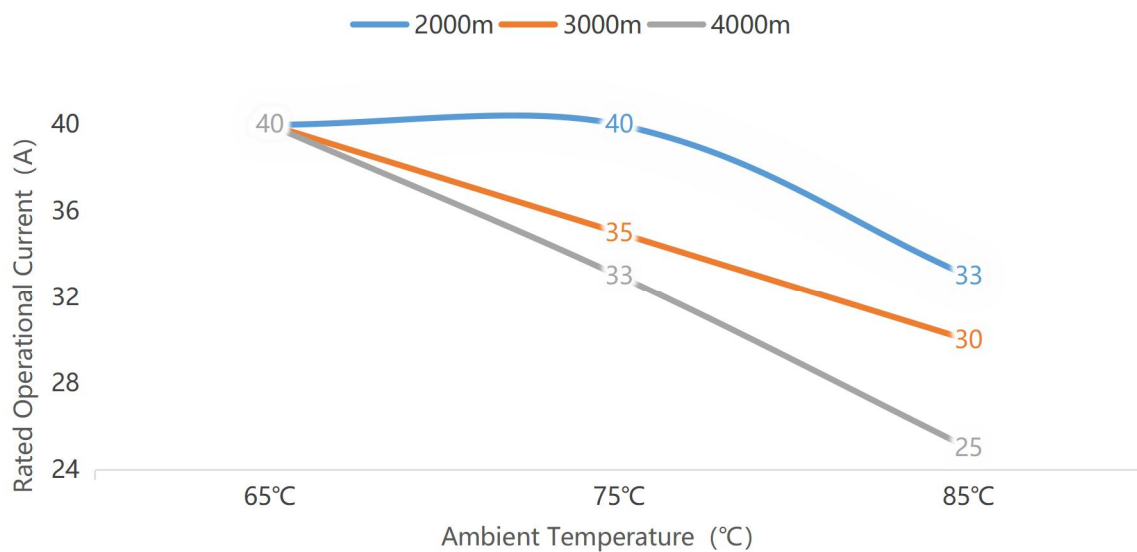
Unspecified dimensional tolerances apply as follows:

- Dimensions ≤ 1 mm: ± 0.2 mm
- Dimensions 1–5 mm: ± 0.3 mm
- Dimensions > 5 mm: ± 0.4 mm

7. Operating Environment

- ① Relative Humidity: $\leq 95\%$
- ② In locations without explosive hazardous media and where there are no gases or conductive dusts sufficient to corrode metals or damage insulation.
- ③ Sheltered: Protected from rain and snow
- ④ Use in an environment that does not contain silicone.
- ⑤ Use in an environment that does not contain moisture, H_2S , SO_2 , NO_2 , Cl , P , dust, or other currently unknown harmful substances and elements.

8. High-Temperature and High-Altitude Derating Curve



9. Important Notes

- The product leaves the factory in the opening state, but it may become closed due to the impact during transportation or installation. It is suggested that the product be in the opening state first when the power supply is connected, so as to ensure safety.
- The product must not be cleaned or surface-treated as a whole after being soldered onto the PCB.
- To ensure reliable opening or closing of the product, the excitation voltage applied to the coil must reach the rated voltage. Do not apply voltage to the coil for an extended period (exceeding 0.2 seconds).
- During transportation, storage, and operation, keep the product away from strong magnetic fields.
- Unless otherwise specified, all parameters in this manual are measured at an ambient temperature (T_a) of 25°C, relative humidity < 75% RH, and at the rated input voltage.
- Unauthorized disassembly of the product is strictly prohibited to prevent product failure or malfunction.