

ASJ50-GQ Voltage Monitor for Air-conditioning Compressors

Installation and Operation Manual V1.1

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Contents

1.OVERVIEW.....	1
2. PRODUCT FEATURES.....	1
3. MAIN PARAMETERS.....	1
4. OUTLINE AND STRUCTURE.....	2
5. OPERATION GUIDE.....	2

1. Overview

ASJ50-GQ Voltage Monitor for Air-conditioning Compressors (“Monitor”) is applicable for single-phase, 220VAC, 50Hz/60Hz consumers or loads. It will protect the monitored air-conditioning compressors when it is activated by line over-voltage or under-voltage.

The monitor provides the line over/ under voltage protection and the automatic delayed recovery of normal line voltage. It is characterized by small size, high precision, compact structure and easy installation.

1.1 Reference standards

GB/T 14598.127-2013 Measuring relays and protection equipment---- Part 127: Functional requirements for over/under voltage protection

2. Product features

- A highly-efficient processor is integrated, which is very reliable and little sensitive to interference.
- Cut off the line in case of over/ under voltage, and reset the line automatically in delay after line voltage recovery without need for manual operation.
- Common frequency at 50Hz/60Hz and power consumption up to 2VA
- Electrical life: 10000 cycles
- Hole mounting

3. Main parameters

Table 1 Technical Parameters

Rated supply voltage	220VAC	
Working frequency	50/60Hz (60Hz by default)	
Over-voltage actuation threshold	120%Ue±2.5%	
Over-voltage recovery threshold	115%Ue±2.5%	
Under-voltage actuation threshold	80%Ue±2.5%	
Under-voltage recovery threshold	85%Ue±2.5%	
Actuation time	1s±0.1s	
Resetting time	180s±5%	
Rated isolation voltage	300V	
Max. power consumption	2VA	
Contact type	1Z (NO)	1Z (NC)
Contact capacity	20A 240VAC	10A 240VAC
Environment	Working temperature	-10℃-+55℃
	Storage temperature	-25℃-+70℃
	Humidity	≤95%, without condensation
	Altitude	≤2000m
Workplace	Free of direct rain/ snow, aggressive gases and violent vibration	
Protection level	IP30	

Class of pollution	3
Category of installation	III

4. Outline and structure

Figure 1 gives the outline and dimensions of the monitor.

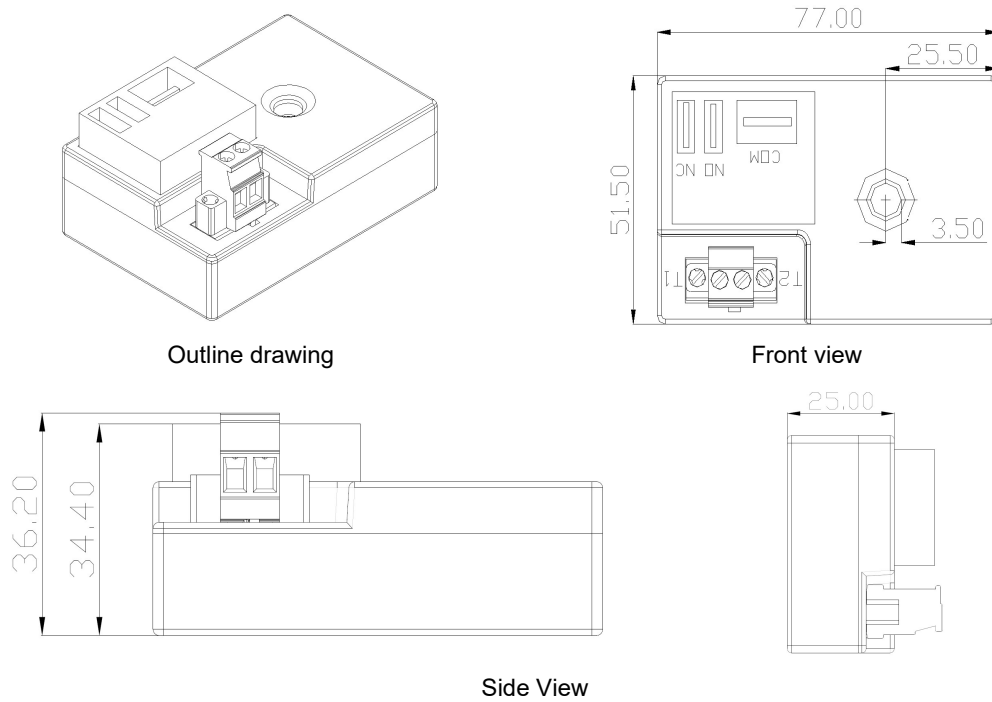


Fig. 1

Note: The recommended installation torque is 5Nm.

5. Operation guide

5.1 Operating instructions

1. Wire the monitor correctly in accordance with the wiring diagram, switch on the power supply and close the relay in 180s.

2. The over/ under voltage protection works in case of over/ under voltage failure, and the relay is open. When the supply voltage is recovered in the range between 85% and 115% of the nominal value later and the monitor determines the availability of stable voltage, reset automatically in 180s and the relay is closed.

5.2 Voltage actuation diagram

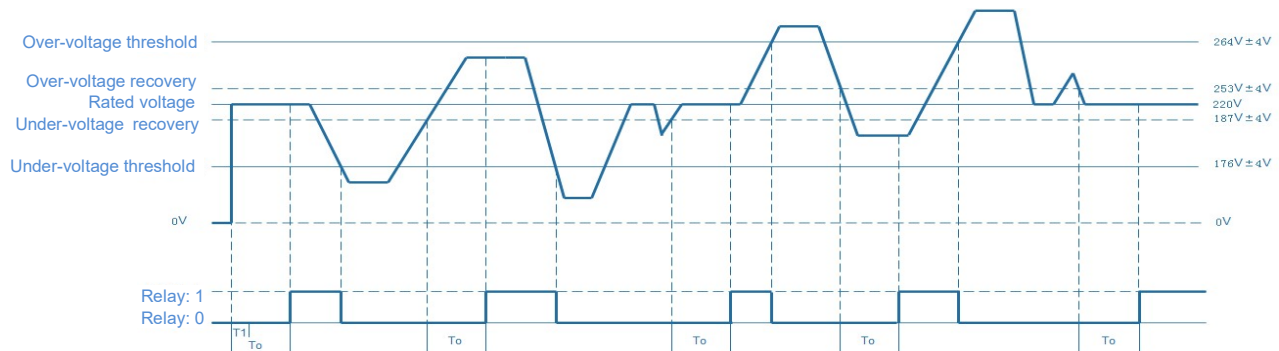


Fig. 2

Note: T1: time to determine the rated voltage after the monitor is powered

T0: time for relay resetting

The relay will still be open when the voltage fluctuation from under-voltage recovery is lower than the threshold.

Wait the signal returning to the return coefficient and restart counting the time if the voltage fluctuation is lower than the return coefficient but higher than the threshold.

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