

VOLTAGE MONITOR RELAYS

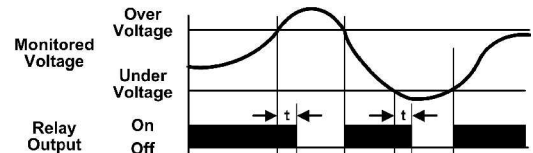
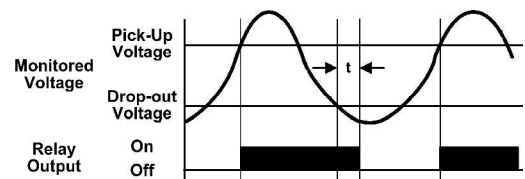
PRODUCT SUMMARY



Voltage Monitor Relays monitor either AC single phase (50-60Hz) or DC voltages to protect equipment against voltage fault conditions. No separate supply (input) voltage is required on any Macromatic Voltage Monitor Relays. All versions are available in a compact plug-in case utilizing an 8 pin octal socket.

Macromatic offers two styles of Voltage Monitor Relays:

- ◆ Over/Under Voltage Relays--provides protection to equipment where either an over or under voltage condition is potentially damaging. When used as an under voltage relay, they provide protection to equipment that is required to operate above a minimum voltage. When used as over voltage relays, they protect equipment against excessive voltage conditions. Over/Under Voltage Relays are designed to operate when the operating voltage reaches a preset value and drop-out when the operating voltage drops to a level below the preset value.
- ◆ Voltage Band Relays--provides protection to equipment that is required to operate within an upper & lower voltage limit. As long as the operating voltage remains within an OVER & UNDER voltage range, the internal relay stays energized. If the operating voltage falls outside this range, the relay will drop-out.



These products are summarized below:

OVERVOLTAGE/UNDERVOLTAGE RELAYS					
Monitored Voltage	Pick-up Setting	Drop-out Setting	Time Delay on Drop-out	Series	Page
12V DC, 24V AC, 24V DC, 48V DC, 110V DC & 120V AC	Adjustable	Fixed	Fixed 500ms	VMP	23
	Adjustable	Adjustable	Fixed 500ms	VMKP	23
	Adjustable	Fixed	Adjustable 0.5-10 Seconds	VAP	24
	Adjustable	Adjustable	Adjustable 0.5-10 Seconds	VAKP	24
208-240V AC	Adjustable	Adjustable	Adjustable 0.1-10 Seconds	VAKPU	26
VOLTAGE BAND RELAYS					
Monitored Voltage	Overvoltage Setting	Undervoltage Setting	Time Delay on Drop-out	Series	Page
12V DC, 24V AC, 24V DC, 48V DC, 110V DC & 120V AC	Adjustable	Adjustable	Fixed 500ms	VWP	28
	Adjustable	Adjustable	Adjustable 0.5-10 Seconds	VWKP	28
208-240V AC	Adjustable	Adjustable	Adjustable 0.1-10 Seconds	VWKPU	30

VOLTAGE MONITOR RELAYS

VWKPU SERIES VOLTAGE BAND (WINDOW)

208-240V PLUG-IN



- ◆ Monitors 208-240V AC single phase voltage
- ◆ Provides voltage band (window) protection
- ◆ Wide range of user-adjustable Over Voltage and Under Voltage settings
- ◆ Independantly adjustable time delay on Pick-Up and Drop-Out
- ◆ LED indicates output relay status
- ◆ Compact plug-in case utilizing industry standard 8 pin octal socket
- ◆ 10A SPDT output contacts

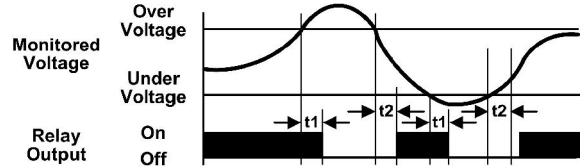


with appropriate socket

Voltage Band Relays provide protection to equipment that is required to operate within an upper & lower voltage limit. As long as the operating voltage remains within an OVER & UNDER voltage range, the internal relay stays energized. If the operating voltage falls outside this range, the relay will drop-out.

The VWKPU can be used to monitor any 208, 220 or 240V AC single phase voltage. The relay will energize (pick-up) when the voltage falls within the preset OVER trip point

(adjustable 100-125% of nominal) or UNDER trip point (adjustable 75-100% of nominal) for a period longer than the pick-up time delay (t_1). If the operating voltage falls outside the preset OVER or UNDER trip points for a period longer than the drop-out time delay (t_2), the relay will de-energize (drop-out). When the voltage returns to normal (within the preset OVER & UNDER trip points) for a period longer than the pick-up time delay (t_1), the unit automatically resets and the relay energizes. The pick-up time (t_1) and drop-out time (t_2) are independantly adjustable.



Adjustable Nominal Voltage Setting 208-240V AC Adjustable Time Delay on Pick-up & Drop-Out from 0.1 - 10 Seconds

NOMINAL VOLTAGE	UNDER VOLTAGE RANGE	OVER VOLTAGE RANGE	PRODUCT NUMBER	WIRING/ SOCKET
208, 220 & 240V AC	75-100% of Nominal Voltage Setting	100-125% of Pick-Up Setting	VWKPU	8 PIN OCTAL 70169-D MONITORED VOLTAGE DIAGRAM 150

Application Data & Dimensions—Page 31
Sockets & Accessories—Pages 80 & 81



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VOLTAGE MONITOR RELAYS

VWKPU SERIES VOLTAGE BAND (WINDOW)

208-240V PLUG-IN APPLICATION DATA & DIMENSIONS

APPLICATION DATA

Voltage Tolerance:

+50%/-40% of nominal voltage; AC voltages are 50-60Hz;
No supply (input) voltage is required.

Load (Burden): Less than 3VA

Voltage Settings:

Over Voltage: 100-125% of Normal Voltage

Under Voltage: 75-100% of Normal Voltage

Temperature:

-28° to 65° C (-18° to 149° F)

Output Contacts:

SPDT: 10A @ 240V AC/30V DC, 1/2HP @ 240V AC

Life:

Mechanical: 10,000,000 operations

Full Load: 100,000 operations

Response Times:

Power Up: 2 seconds fixed delay

Operate: 0.1 - 10 seconds adjustable

Release: 0.1 - 10 seconds adjustable

Indicator LED: Red steady when relay is energized; Green when relay is off; Green rapid flashing when in power-up mode.

Reset: Automatic

Approvals:

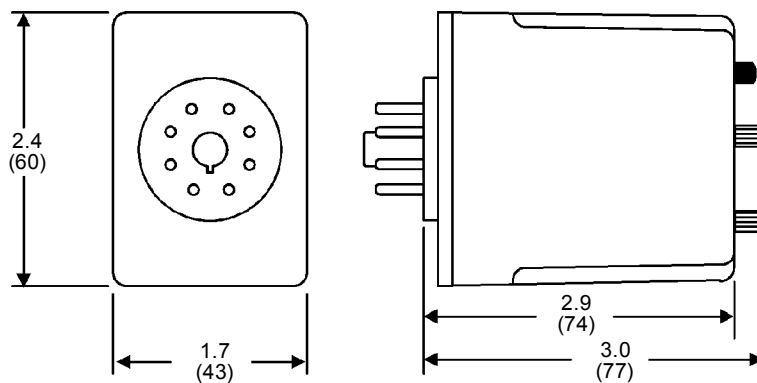
C **UL** **US**
File #E109466



Low Voltage & EMC Directives
EN60947-1, EN60947-5-1

UL **LISTED**
IND. COMM. EQUIP.
with
appropriate
socket
File #E109466

DIMENSIONS



All Dimensions in
Inches (Millimeters)