

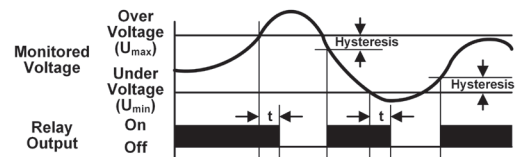
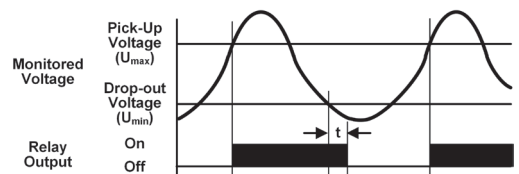
# PRODUCT SUMMARY



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 Relay since each unit is powered by monitored voltage. Versions are available in either a compact plug-in case utilizing an 8 pin octal socket or a 17.5mm DIN Rail mounted case.

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 energize when the monitored voltage reaches a preset value ( $U_{max}$ ) and drop-out when the monitored voltage drops to a level below the preset value ( $U_{min}$ ).
- ◆ **Voltage Band Relays**-provides protection to equipment that is required to operate within an upper and lower voltage limit. As long as the monitored voltage remains within an OVER ( $U_{max}$ ) and UNDER voltage ( $U_{min}$ ) range, the internal relay stays energized. If the monitored voltage falls outside this range, the relay will drop-out.



These products are summarized below:

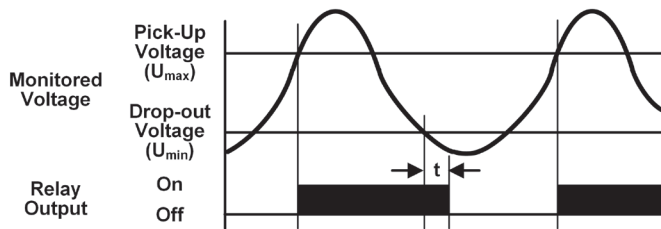
OVER/UNDER VOLTAGE RELAYS					
Monitored Voltage	Pick-up Setting	Drop-out Setting	Time Delay on Drop-out (t)	Mounting	Series
12V DC, 24V DC, 48V DC, 110V DC, 120V AC, 240V AC & 480V AC	Adjustable	Fixed	Fixed 0.5 Seconds	Plug-in	VMP
	Adjustable	Adjustable	Adjustable 0.1-10 Seconds	Plug-in	VAKP
VOLTAGE BAND RELAYS					
Monitored Voltage	Overtension Setting	Undervoltage Setting	Time Delay on Drop-out (t)	Mounting	Series
12V DC, 24V DC, 48V DC, 110V DC, 120V AC, 240V AC & 480V AC	Adjustable	Adjustable	Adjustable 0.1-10 Seconds	Plug-in	VWKP
24V DC, 120V AC, 240V AC	Adjustable	Adjustable	Adjustable 0.1-10 Seconds	DIN-Rail	VWKE

# OVER/UNDER VOLTAGE | FIXED TIME DELAY & DROP-OUT

## 12-480V | VMP SERIES

Over/Under Voltage Relays provide protection to equipment where an over or under voltage condition is potentially damaging. They are designed to energize when the operating voltage reaches a preset value and drop-out when the operating voltage drops to a level below the preset value.

The pick-up voltage setting ( $U_{max}$ ) is user-adjustable across the full range as shown in the table below. The VMP Series has a drop-out voltage setting ( $U_{min}$ ) fixed at 95% of the pick-up voltage setting (an adjustable drop-out setting of 75-95% of the pick-up setting is available on the VAKP Series). The relay energizes (and the LED is Red) when the monitored voltage is above the pick-up setting for a period longer than the fixed pick-up time delay of 0.5 seconds. The relay de-energizes (and the LED is Green) when the monitored voltage is below the drop-out setting for a period longer than the drop-out time delay ( $t$ ), which is fixed at 0.5 seconds.



**Adjustable Pick-Up, Fixed Drop-Out Settings\***  
Fixed Time Delay on Drop-out at 0.5 Seconds

NOMINAL VOLTAGE	PICK-UP VOLTAGE ( $U_{MAX}$ )	DROP-OUT* VOLTAGE ( $U_{MIN}$ )	PRODUCT NUMBER	WIRING/SOCKET
12V DC 24V DC 48V DC 110V DC	9-15V DC 18-30V DC 36-60V DC 83-138V DC	7-14V DC 14-28V DC 27-57V DC 62-130V DC	VMP012D VMP024D VMP048D VMP110D	8 Pin Octal <b>70169-D</b>  MONITORED VOLTAGE <b>DIAGRAM 214</b>
120V AC 240V AC	90-150V AC 180-300V AC	68-142V AC 135-285V AC	VMP120A VMP240AX	8 Pin Octal <b>70169-D</b>  MONITORED VOLTAGE <b>DIAGRAM 213</b>
240V AC 480V AC	180-300V AC 360-600V AC	135-285V AC 270-570V AC	VMP240A VMP480A ▲	8 Pin Octal <b>70169-D</b>  MONITORED VOLTAGE <b>DIAGRAM 150</b>

\* Drop-out Voltage is fixed at 95% of the adjusted Pick-up Setting.

▲ Requires a 600V-rated socket

Sockets & Accessories available



12-120V

240-480V

- ◆ Monitors AC single phase and DC voltages
- ◆ True RMS voltage measurement ensures more accurate sensing
- ◆ Wide range of user-adjustable pick-up voltages
- ◆ Fixed time delay on drop-out of 0.5 seconds
- ◆ LED indicates output relay status
- ◆ Pilot duty rating
- ◆ Compact plug-in case utilizing industry standard 8 pin octal socket



with appropriate socket



Better. By Design.

**800.238.7474**

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