



Description

- Digital Voltage Protection Relay: VPM-05 Series is a relay designed for protecting against undervoltage, overvoltage, phase imbalance, and incorrect phase sequence.
- Supports both 1-phase 2-wire systems and 3-phase 3-wire/4-wire systems.
- Measures values accurately using True RMS.
- Features simple wiring and easy setup procedures for user convenience.
- Includes a memory function for storing the most recent trip event (Last Fault).
- Displays the voltage value using a 3-digit 0.39-inch 7-segment LED.
- Relay Output rated 5 A, 250 VAC, DPDT.
- DIN rail mounting.
- LED indicators show the status of the relay output.

Specification

Model.		VPM-05-P2-2	VPM-05-P4-4	VPM-05-P4-3	VPM-05-P3-3	VPM-05-P3-4
Power Supply		220VAC 50-60Hz (1P/2W)	380VAC 50-60Hz (3P/4W)	380VAC 50-60Hz (3P/3W)		380VAC 50-60Hz (3P/4W)
Power Consumption		3 VA				
Display		7-Segment, Size 0.39 Inch, 3 Digit, 1 Row				
Input	Voltage Range	160-300VAC	280-520VAC (3ø)			
	Over Voltage	230-290VAC	400-500VAC (3ø)			
	Under Voltage	170-230VAC	300-400VAC (3ø)			
	Phase Sequence	No			Yes	
	% Unbalance	No	2-20%			
	Hysteresis	1%				
	Accuracy	±0.25 f.s. +1dgt				
	Resolution	1V				
Output	Relay Output	Relay DPDT Output 5A 250VAC				
	Time Delay Off	0-10 Sec				
	Time Delay On	0-900 Sec				
Ambient Operation	Temperature	-10 °C to 60 °C				
	Humidity	< 85 % RH Non-Condensing				
Ambient Storage	Temperature	-20 °C to 80 °C				
	Humidity	< 85 % RH Non-Condensing				
Protection Degree		IP20				
Installation		DIN RAIL Mounting				
Material		ABS-V0				
Size (mm.)		55 x 72 x 100				
Weight (kg.)		270				

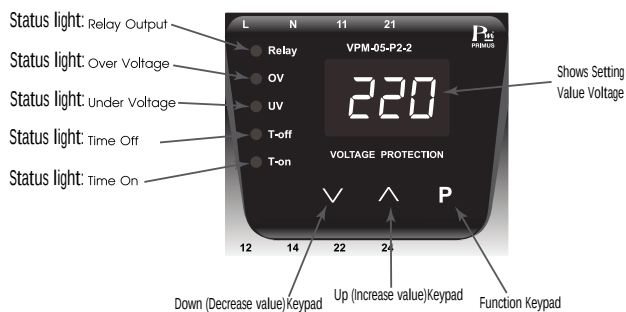
Operation

The VPM-05 Series is a digital voltage protection relay that displays and measures voltage digitally, providing clear and accurate readings. It is available in three models, as follows:

VPM-05-P2: For 1-phase 220 VAC electrical systems.

When power is supplied to the system, the VPM-05-P2 will measure the voltage to check whether it is within normal limits—meaning the voltage is not higher or lower than the preset values. If everything is normal, the VPM-05-P2 will start the T-ON delay according to the set value (range 0–900 seconds). When the delay time is completed, the relay output will activate.

After that, if the VPM-05-P2 detects an abnormal condition—either over or under voltage beyond the preset limits—it will start the T-OFF delay (range 0–10 seconds). When the delay time is completed, the relay output will deactivate.



VPM-05-P3: For 3-phase 380 VAC electrical systems.

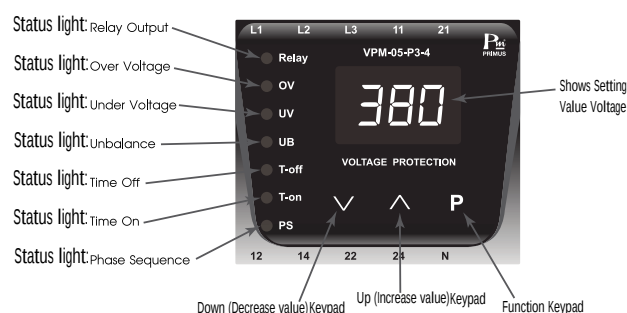
When power is supplied to the system, the VPM-05-P3 will measure the voltage to determine whether it is within normal limits—meaning the voltage is not higher or lower than the preset values. It also checks that the phase unbalance does not exceed the preset percentage (range 2–20%) and that the phase sequence is correct. If all conditions are normal, the unit will start the T-ON delay according to the set value (range 0–900 seconds). Once the delay time has elapsed, the relay output will activate.

After that, if the VPM-05-P3 detects an abnormal condition—such as overvoltage, undervoltage, phase unbalance exceeding the preset limit, or an incorrect phase sequence—it will start the T-OFF delay (range 0–10 seconds). When the delay time is completed, the relay output will deactivate.

The % Unbalance, or the percentage difference between the voltages of each phase, can be set from 2–20%.

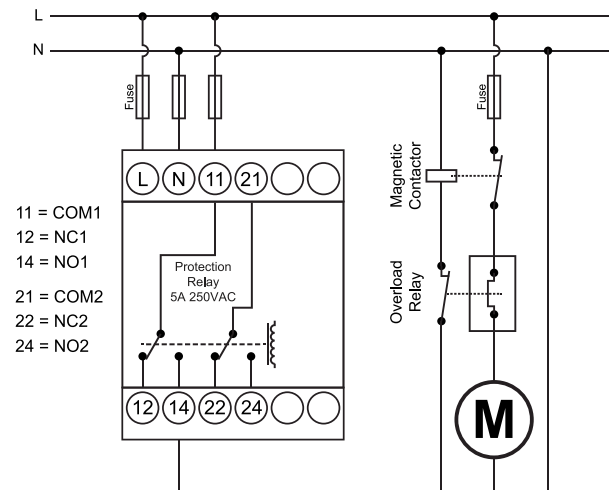
VPM-05-P4: For 3-phase 380 VAC electrical systems.

The operation of the VPM-05-P4 is the same as the VPM-05-P3, except that it does not include phase sequence detection.

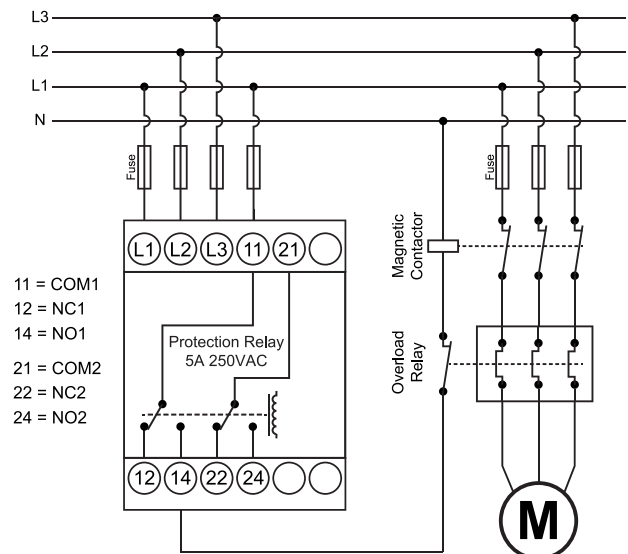


Wiring Diagram

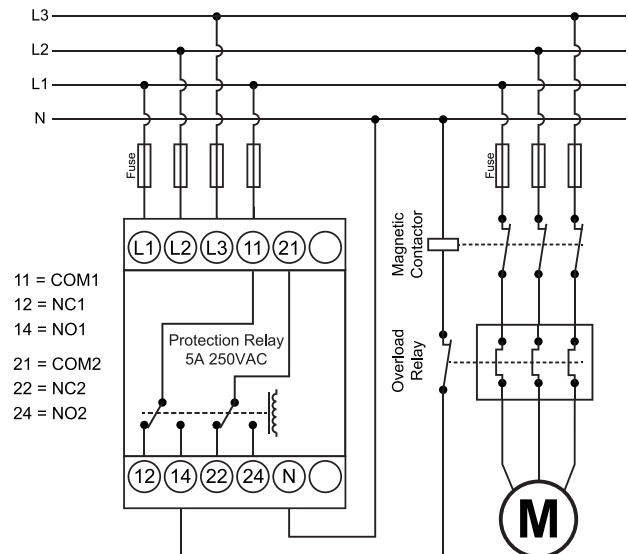
Input 1Phase / 2Wires (VPM-05-P2-2)



Input 3Phase / 3Wires (VPM-05-P3-3, VPM-05-P4-3)

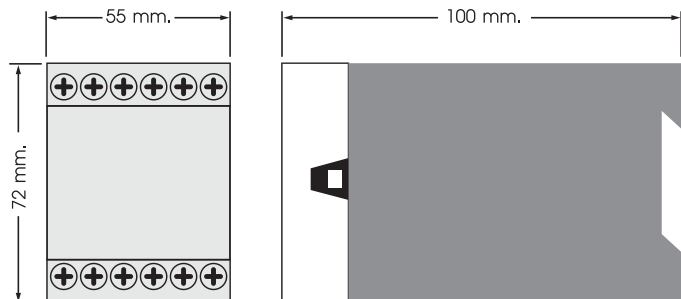


Input 3Phase / 4Wires (VPM-05-P3-4, VPM-05-P4-4)



WARNING More than one power source.
Relay outputs maybe at mains potential.
Disconnect power from all source before install or servicing.

Dimension

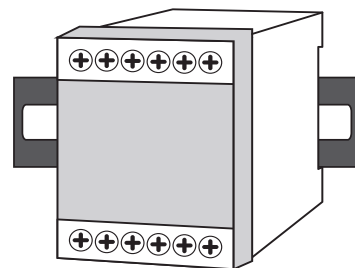


Installation

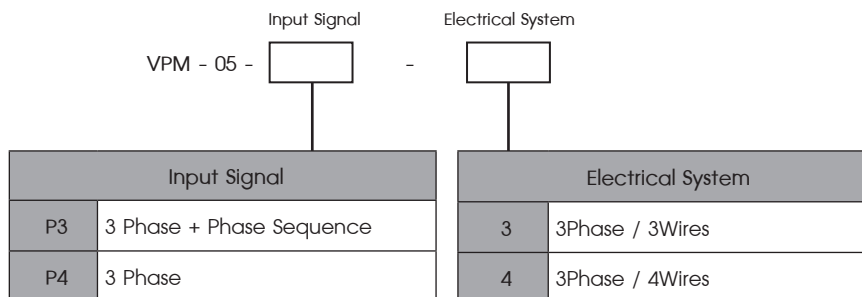
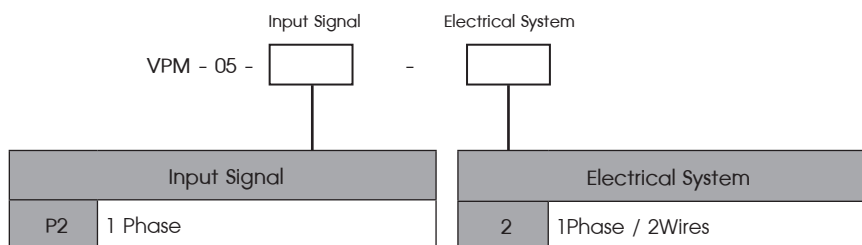
DIN RAIL



DIN RAIL



Ordering Code



EX. VPM-05-P3-3

