PM-021N-3

TWIN PUMP RELAY

TECHNICAL SPECIFICATION

		PM-021N-3	PM-021N-3-1	PM-021N-3-3
Power Supply		115 VAC ± 15% 50Hz		
		230 VAC ± 15% 50Hz		
Power Consumption		2.5 VA		
Display		LED Status, Level, O.F., S.F., Output, AL	LED Status, Level, O.F., S.F., OV, UV, Output, AL	LED Status, Level, O.F., S.F., OV, UV, PL, PS, Output, AL
Input	Voltage Protection			
	Volt RMS	-	1 Phase	3 Phase
		-	220 V~	380 V~
	%Over Volt	-	105%-120%	
	%Under Volt	-	80%-95%	
	Electrode			
	Probe	7 (3 Float Switch)		
Output		Sensitivity : 0 -100%		
		Pump SPST 5A 250V~		
		Alarm SPDT 5A 250V~		
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		IP30		
Installation		DIN-RAIL		
Material		UL94-V0		
Size (mm.)		89.5 x 74.6 x 61.5 mm		
Weight		230 g.		

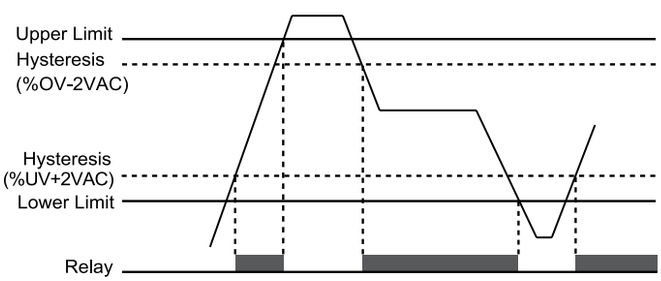
DESCRIPTION

- PM-021N-3 is a Twin Pump Relay for controlling two pump in Signal phase and three phase
- Choice of Water Supply and Drainage (Charging and Discharging)
- Water Well and Water Tank can be checked for use
- Level Sensor Electrode, Float Switch, Pressure Switch
- Latching Function with Memory to switch between two pumps when Electrical drop
- DIP Switch can be disconnected from the system. In case that one of the pumps is broken.
- Booster Function for two pumps running simultaneously. In the case of very low water levels.
- Alarm output when overflow or abnormal voltage.
- Status LEDs for Output, Level and Alarm
- Water Well and Water Tank Level Sensor Fault indicators
- Over and Under Voltage Protection. The output relay will stop if the voltage exceeds the set value
- 1 Phase System, Over and Under Voltage Range 80 - 120% of Nominal Voltage
- 3 Phase System, Over and Under Voltage, Phase Sequence, Phase Loss Range 80 - 120% Nominal Voltage

OPERATION

The PM-021N-3 is a control unit that controls two water pumps to switch between the waterfall and the water tank. There is also a Function for voltage Protection. Handle voltage abnormalities. The pump will be damaged by both parts work together. The water level and the voltage must be normal. The pump will work (Relay ON) is available for both 1-phase and 3-phase

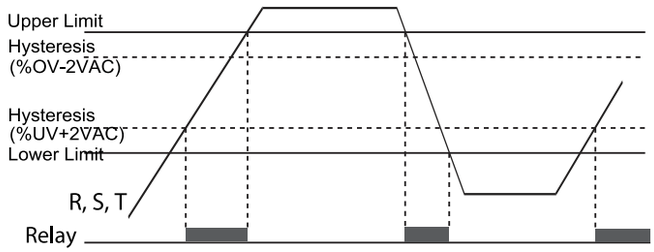
Overvoltage and Overvoltage if the voltage is between the low limit and the upper limit, the output relay is ON and the pump is running. If the voltage is lower than the low limit or higher than the upper limit set, the output relay will be OFF and the LED will display the fault status



1-Phase Under and Over vattage Protection working method

OPERATION

3-Phase, Over and Under Voltage, Phase Sequence and Phase Loss When the voltage is in the normal state, it is between the lower limit and the upper limit set. The phase sequence is valid for all phases (R,S,T) Relay Output Will ON and order the pump to work. If the voltage is lower than the lower limit or higher than the upper limit or phase sequence is incorrect. All phases not ready together. Relay output is OFF and LED display the status of voltage fault



3-Phase Under and Over Voltage Protection working method

Water Supply Systems

Normal Operation

When the water in the water tank is lowered to the level of Probe M of Electrode B (Float Switch C = Low Level is ON, Pressure Switch C = Normally Close (NC) is lower than Set Point). 1st Pump Output will enable and command to the 1st pump running after 1st pump runs the water level in the water tank to rise to the Probe H of the Electrode B (Float Switch C = High Level is the OFF Pressure Switch C = Normally Open (ON) is higher than Set Point). Output of Pump1 stops and the pump stops also

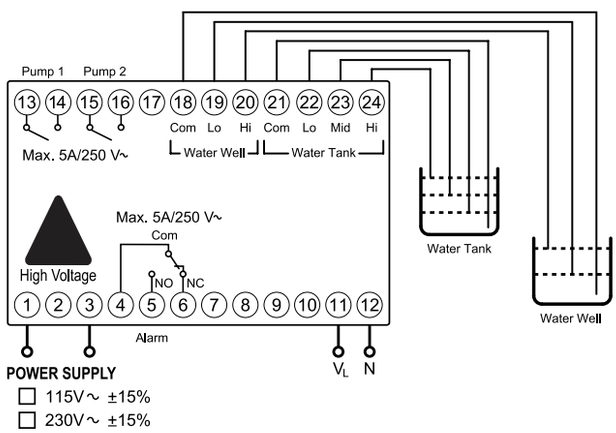
The water tank in the water tank is lowered to the level of Probe M of Electrode B (Float Switch C = Low Level is ON, Pressure Switch C = Normally Close (NC) is the pressure lower than set. Point switches the output of Pump 2 to operate and the second pump runs after the second pump. The water level in the water tank increase to the Probe H level of Electrode 8 (Float Switch C = High Level OFF, pressure switch C =Normally Open (ON) is higher than Set Point) Output of Pump2 Stop and stop the pump. Both pumps are switched on at the same time as the water level increases and decreases. If the water well is below the Probe L level of the Electrode A (Float Switch A = Low level is OFF), the output of Pump1 and output Pump2 will also be OFF to prevent the pump going blank. No water And will return when the water level in the water well is higher than Probe H of Electrode A (Float Switch A = High Level ON)

Booster Operation

In case one of pumps os already running. The water level is related to the Probe L of Electrode B (Float Switch B = Low Level is ON, Pressure Switch B = Normally Close (NC) is lower than Set Point). Keep the pump 2 running simultaneously, both pumps will stop working. When the water level in the water tank increase to the level of Probe H of Electrode B (Float Switch C = High Level is OFF, Pressure Switch C = Normally Open (ON) is the pressure higher than set point

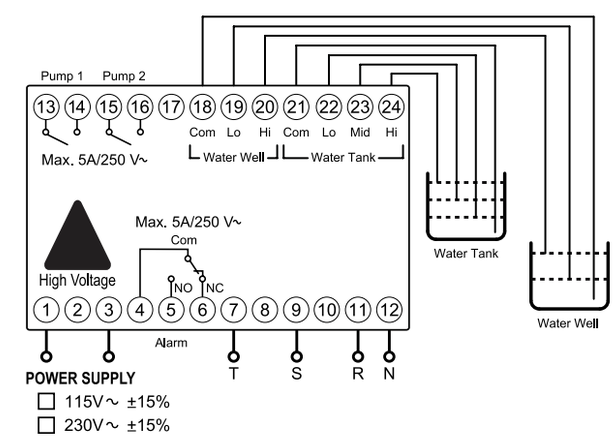
PM-021N-3-1

Twin Pump Relay With Signal Phase Protection



PM-021M-3-3

Twin Pump Relay With 3 Phase Protection



WARNING

Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.

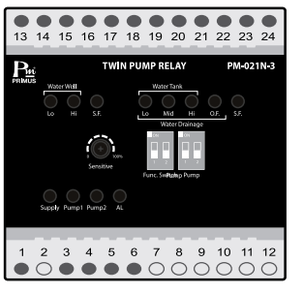
Never modify the unit to prevent damage or incident such as malfunction and fire etc.

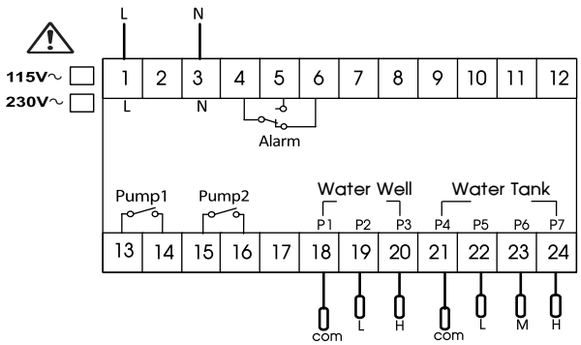
PM-021N-3

TWIN PUMP RELAY

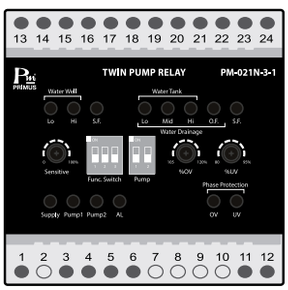
WIRING DIAGRAM

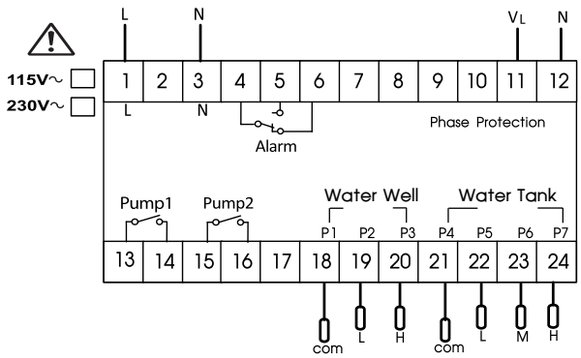
PM-021N-3 Twin Pump Relay



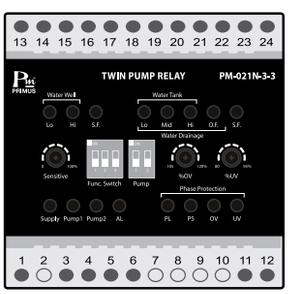


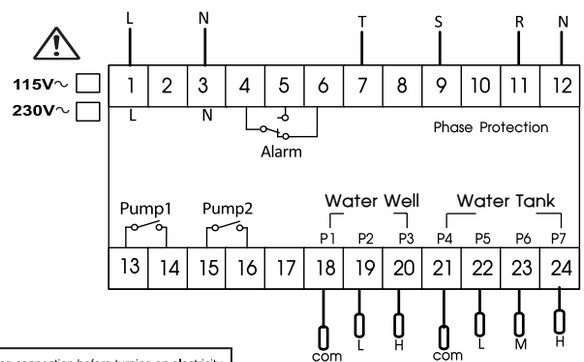
PM-021N-3-1 Twin Pump Relay With Single Phase Protection





PM-021N-3-3 Twin Pump Relay With 3 Phase Protection





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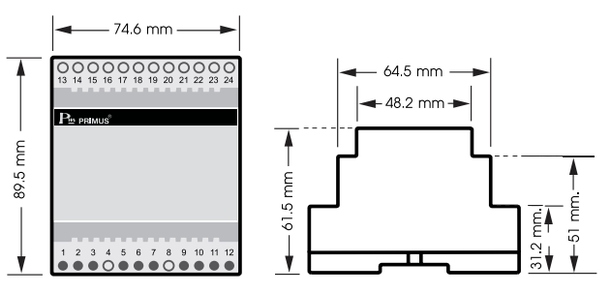
DIMENSION



ORDERING CODE

PM-021N-3 – [VOLTAGE PROTECTION] – [POWER SUPPLY]

VOLTAGE PROTECTION	
None	None Voltage Protection
1	1 Phase, Over&Under Voltage
3	3 Phase, Over&Under Voltage, Phase Sequence and Phase Loss

POWER SUPPLY	
None	230 VAC
115	115 VAC