Digital AC voltage indicator / controllers

Function	True RMS single phase voltage indicator / monitor / window comparator over / under voltage protection			True RMS Three phase voltage indicator / monitor / window comparator over / under voltage & frequency monitor (xx-VM32)		
Format	DIN Rail	Panel Mount		DIN Rail	Panel Mount	
Size	72mm wide	48mm x 48mm	48mm x 96mm	72mm wide	48mm x 48mm	48mm x 96mm
Model	D4-VM1x	P44-VM1x	P49-VM1x	D4-VM3x(N)	P44-VM3x(N)	P49-VM3x(N)
Description of operation	Relay(s) remain energised while monitored voltage remains within pre-set upper & lower values. Once tripped, the voltage must recover by the pre-set hyteresis voltage (difference between trip & recovery) before the relay operates again. **Display scale:** Adjust the display to match the input of a voltage transformer. **Start-up delay:** At start-up the relay remains energised for this pre-set time to allow the input voltage to stabalize before monitoring starts. **Reaction delay: (tripp delay)** Once energised, the relay will tolerate fault conditions for this pre-set time before the relay is de-endergised. This allows for short term fault conditions. **Recovery delay:** Whenever the relay is de-activated, it will not operate again until this time has lapsed. **Latch facility:** Once de-energised, the relay will not operate until the short across the latch pins is removed. (even if the fault condition has been corrected). **Additional features:** Auxilliary supply voltage is isolated from the measured AC			Affix (N) to end of part number to add Neutral line monitoring. Relay(s) remain energised while monitored voltage remains within pre-set upper & lower values. Once tripped, the voltage must recover by the pre-set hyteresis voltage (difference between trip & recovery) before the relay energises again. **Additional protection against:** • over / under voltage, • over / Under frequency (VM32 only) • loss of neutral (xx-VM3xN devices only) • phase imbalance (phase to phase voltages), • phase failure, • phase reversal, • phase angle error • regenerated EMF **Additional features include:** • adjustable Startup delay, • reaction delay • recovery delay • latch facility to force mechanical reset after fault • Monitors own supply and frequency		
Standard Voltages	AC: 110V , 240V , 400V, 525V ±15%			AC: 110V , 240V , 400V, 525V ±15% (phase to phase)		
Adjustable parameters	scale 5V - 3050V upper limit (if full scale = 300V) 0V - 300V lower limit (if full scale = 300V) 0V - 300V hysteresis 1V - 300V start-up delay 0 - 99 seconds reaction delay (tripp delay) 0 - 99 seconds recovery delay (minimum relay off time) 0 - 99 seconds calibration 90% - 110% keypad and menu lock			upper limit 150V - 500V lower limit 150V - 500V hysteresis 1V - 20V phase imbalance (ph - ph) 0V - 20V phase imbalance hysteresis 0V - 20V frequency 45Hz - 55Hz start-up delay 0 -99 seconds reaction delay (tripp delay) 0 - 99 seconds recovery delay (minimum relay off time) 0 - 99 seconds		
Accuracy	0.3% of full scale					
General information	All parameters are saved to non-volatile EEPROM memory, thus eliminating the need to re-program after a power failure					
Contact rating	10A 250V AC					
Technical information	TRUE RMS by taking ±180 readings per cycle			TRUE RMS by taking ±150 readings per cycle		
LED Indication	14mm x 4 char RED	9mm x 8char RED	14mm x 4 char RED	14mm x 4 char RED	9mm x 8char RED	14mm x 4 char RED
	relay status, input voltage			relay status, ave of 3 phases, phase to phase V, frequency		
Connection Diagram						