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AC VOLTAGE RELAY LVM SERIES

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DIGITAL MICROCONTROLLER BASED DEFINITE-TIME UNDER VOLTAGE (UV) AND OVER VOLTAGE (OV) RELAY / LINE VOLTAGE MONITOR (LVM) IEEE DEVICE CODE-27, 59

Features

- Site selectable system voltage
- Continuous display of the measured voltage parameter
- 16 character 2 line LCD display with back-lit
- Accurate reading for balanced and unbalanced load
- Wide range of auxiliary input for both AC & DC
- Independent contacts for both Under & Over voltage
- Self reset & site selectable reset gap
- Built in fixed instantaneous Under & Over voltage highest trip
- User friendly setting modes using key pads
- Low power consumption
- Tropicalized design using micro controller & Ideal for industrial environment

Applications

- Monitoring & Supervision of Under and Over voltage in power generating plants & distribution system
- To protect Generators & AMF switch boards
- For protection of synchronous & induction motors
- For transformer feeder panel
- Protection for capacitor control panels

Introduction

Prok dvs make AC DIGITAL MICROCONTROLLER BASED DEFINITE-TIME UNDER VOLTAGE (UV) AND OVER VOLTAGE (OV) RELAY / LINE VOLTAGE MONITOR (LVM) is a microcontroller based voltage monitoring and supervision relay for polyphase system. It can monitor both under voltage (uv) and over voltage (ov) conditions in the system. Both under voltage(uv) & over voltage(ov) conditions are associated with definite time tripping characteristics. It has wide setting range f or OV&UV settings and also wide range of operating time on the occurrence of fault condition. DIGITAL MICROCONTROLLER BASED DEFINITE-TIME UNDER VOLTAGE (UV) AND OVER VOLTAGE (OV) RELAY / LINE VOLTAGE MONITOR (LVM) provides wide range of time delay for healthy resumption of the operating voltage.

Working Principle

All the line voltages are monitored and sensed simultaneously using three independent scale down potential transducer this low level ac signal is subjected to signal condition, which includes surge suppressors and harmonic filter, filtered signal is fed to the ADC of the industrial grade pic micro controller, When the sensing voltage level exceeds the user set value f or under or over voltage, Digital Microcontroller based definite-time under voltage (uv) and over voltage (ov) relay/line voltage monitor(LVM) gives an output signal in the form of relay change over for tripping/alarming.

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Technical Specifications

	3 Phase 4 Wire	3 Phase 3 Wire
Aux voltage	85 to 275V A C/DC	85 to 275V A C/DC
System voltage Un	220V230V/240V/250VAC site selectable	110V/380V/400V/415V/433VAC site selectable
Over voltage setting range	101% to 120% in steps of 1% site selectable	101% to 120% in steps of 1% site selectable
	0-30sec in steps of 0.1sec	0-30sec in steps o f 0.1sec
Over voltage trip time	70% to 99% in steps 1% Site selectable	70% to 99% in steps 1% site selectable
Under voltage setting range	0-30sec in steps of 0.1sec	0-30 sec in steps o f 0.1sec
	1% to 5% o f Un in steps of 1%	1% to 5% of Un in steps of 1%
Under voltage trip time	0 -30sec in steps of 1sec	0 -30sec in steps o f 1sec
Reset gap	Fixed UV high set <70% of Un Fixed OV high set >120% of Un	Fixed UV high set <70% of Un Fixed OV high set >120% of Un
On time delay	Independent contact for UV/OV	Independent con tact f or OV/OV
Default high set setting With instantaneous trip	1 C/O or 2C/O , 6A -230VAC	1 C/O or 2C/O , 6A -230VAC
Contacts	Display of the Magnitude and nature of fault by LCD an d LED indications for relay trip	Display of the Magnitude and nature of fault by LCD an d LED indications for relay trip
Contact rating	144x144x120mm [H x W x D]	144x144x120mm [H x W x D]
Indications	137 mmx137mm	137 mmx137mm
Model dimension	LVM11-Both UV&OV LVM02-UV only LVM03-OVonly	LVM11A-Both UV&OV LVM02A-UVonly LVM03A-OVonly
Cut out dimension		
Models		

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Setting Procedures

Connect Aux. Supply and sensing voltage to the DIGITAL MICROCONTROLLER BASED DEFINITE-TIME UNDER VOLTAGE (UV) AND OVER VOLTAGE (OV) RELAY / LINE VOLTAGE MONITOR (LVM) (refer wiring diagram).Relay displays

After few | Please wait ..... | seconds display shows system voltage, system configuration and measured values.

To enter the setting mode- Press and release Mode Key, now select Un-system voltage, by using ▲ key or ▼ key and press SET key to register the value.
Display shows | Select Un
3p 4W-380 Un-220V |

Setting of Under Voltage (OV)-after selecting Un display changes to | Select Under vg%
85%[70%-99%] |

Now select % o f Under Voltage by using ▲ and ▼ press SET key to register the value

Setting o f UNDER VOLTAGE (UV) trip time- after selecting % o f Under Voltage display changes to | Select Uv trip time
00.0[0.0-30.0s] |

Now select the trip time for Under voltage condition by using ▲ key or ▼key and press SET key to register the value.

Over Voltage (OV) setting- after selecting the Uv trip time display changes to

| Set over vg%
105%[101%-120%] |

Select over voltage % by using ▲key or ▼key and press SET key to register the value.

Setting of over voltage trip time- after setting over voltage % , display changes to

Now select trip tim f or over voltage condition by using key or key | Set on delay
0.00[0.0-30.0s] |

And press SET key to register the value

Setting of ON time delay- after selecting the Ov trip time display changes to

Select required ON time delay by using ▲ key or ▼key for healthy recovery and press key to register the value. | Set reset gap
1% [1%-5%] |

Selection of rest gap-after selecting the On time delay display changes to

Select required % reset gap by using ▲ key or ▼key and press SET key to register the value. | Rn-220V Yn-220V
Bn-220V 3P4W/220V |

After selecting the reset gap in % display changes to

This completes the setting of the relay.

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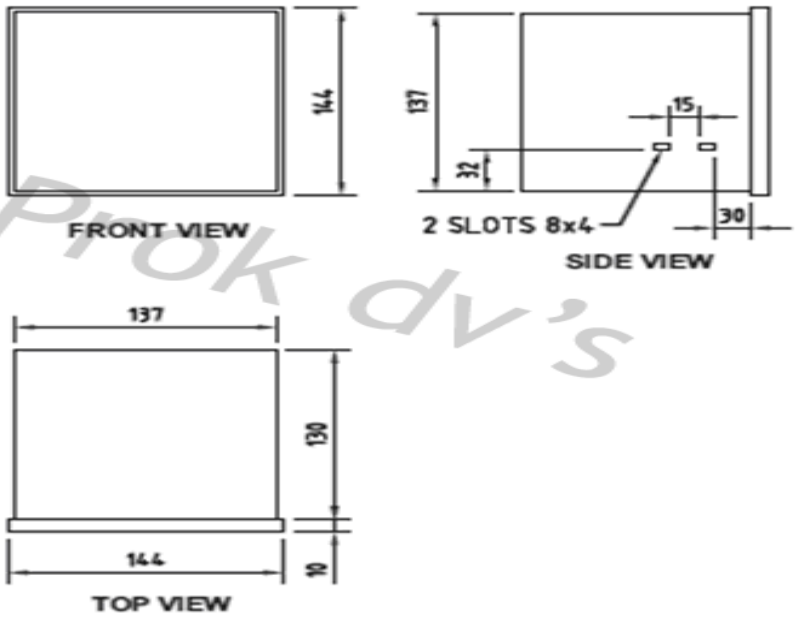
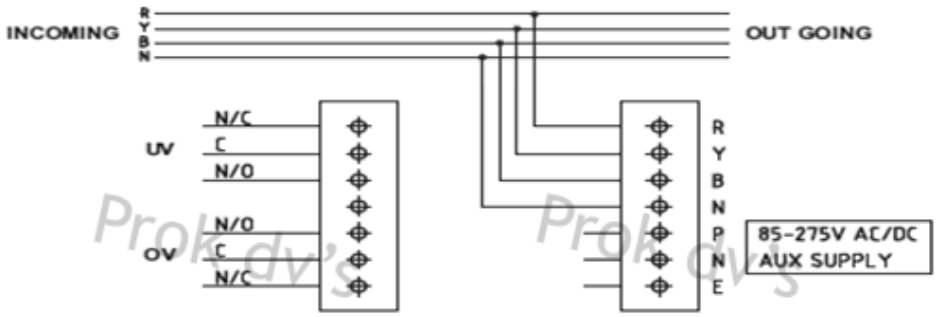
MECHANICAL DIMENSION- DIMENSIONS OF DIGITAL MICROCONTROLLER BASED DEFINITE-TIME UNDER VOLTAGE (UV) AND OVER VOLTAGE (OV) RELAY / LINE VOLTAGE MONITOR (LVM)



WIRING DIAGRAM _DIGITAL MICROCONTROLLER BASED DEFINITE-TIME UNDER VOLTAGE (UV) AND OVER VOLTAGE (OV) RELAY / LINE VOLTAGE MONITOR (LVM)



NOTE: FOR SHUNT RELEASE CONNECT C & N/O CONTACTS
FOR UV RELEASE OR CONTACTOR COIL CONNECT C & N/C CONTACTS
ARE SHOWING IN HEALTHY CONDITION

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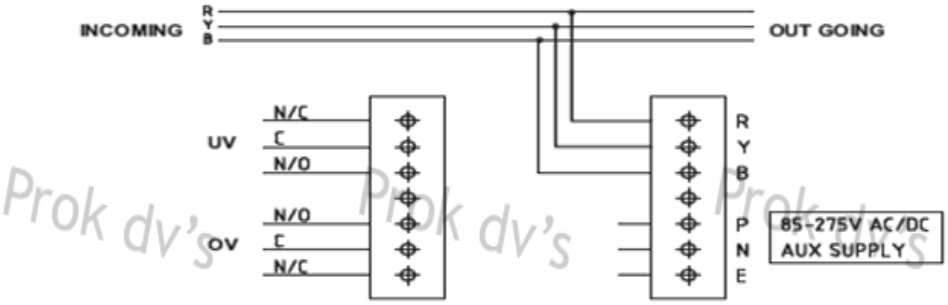

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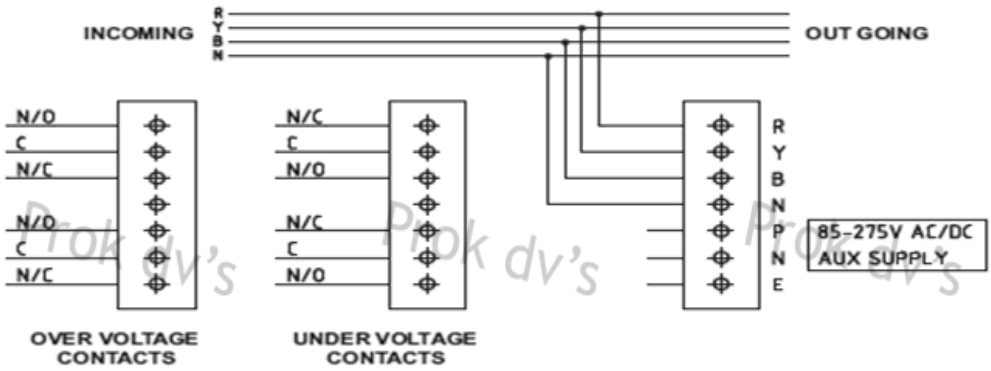

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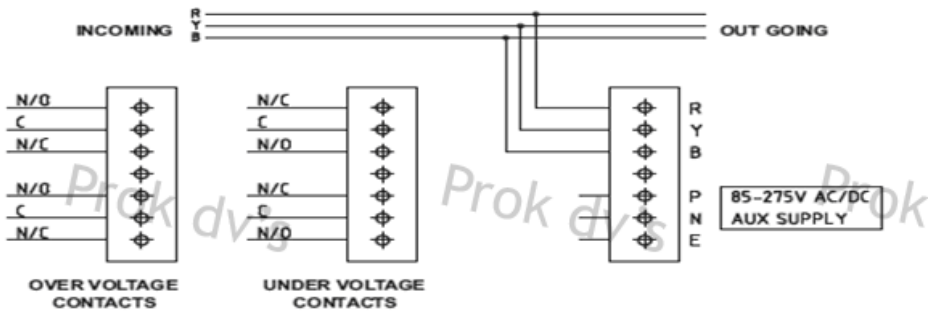

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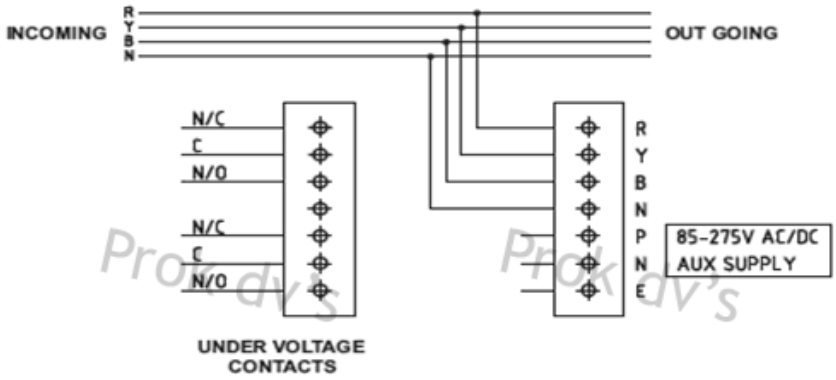

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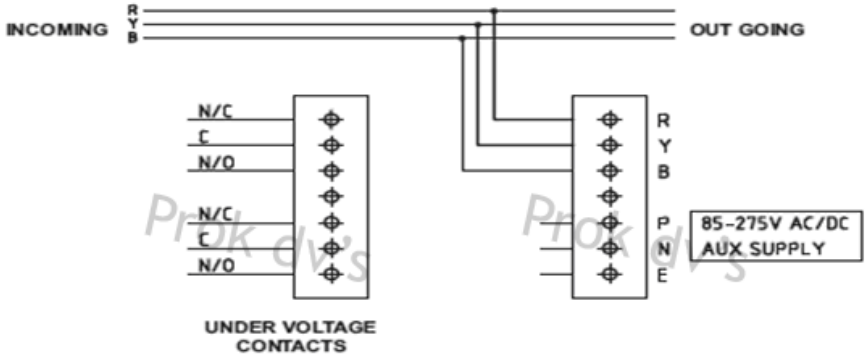

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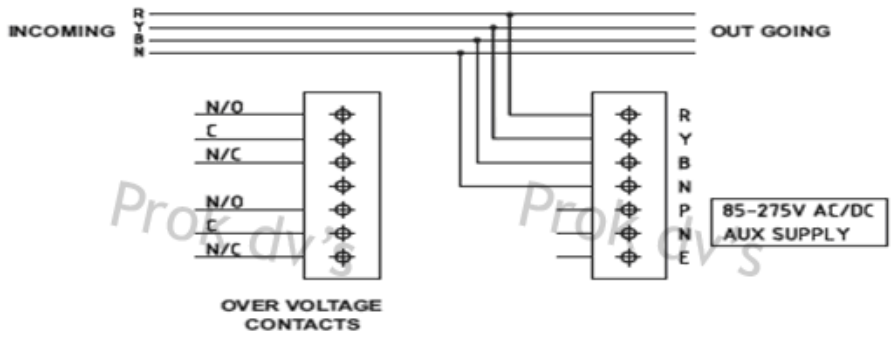

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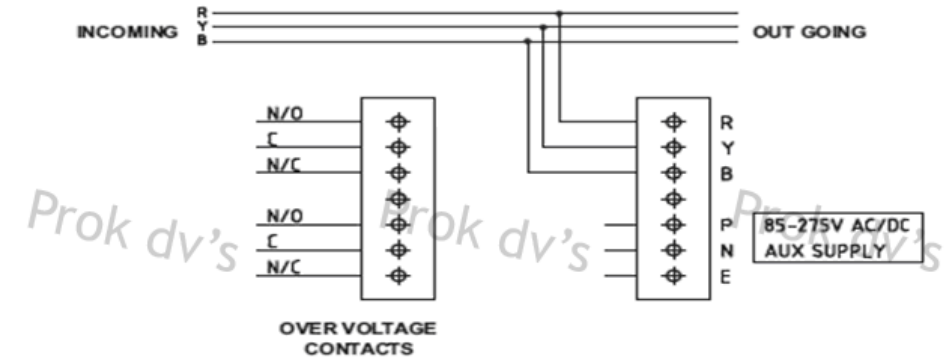

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