

OVER, UNDER VOLTAGE RELAY [59], [27] 1Ø

DOV-M15D, DUV-M20D



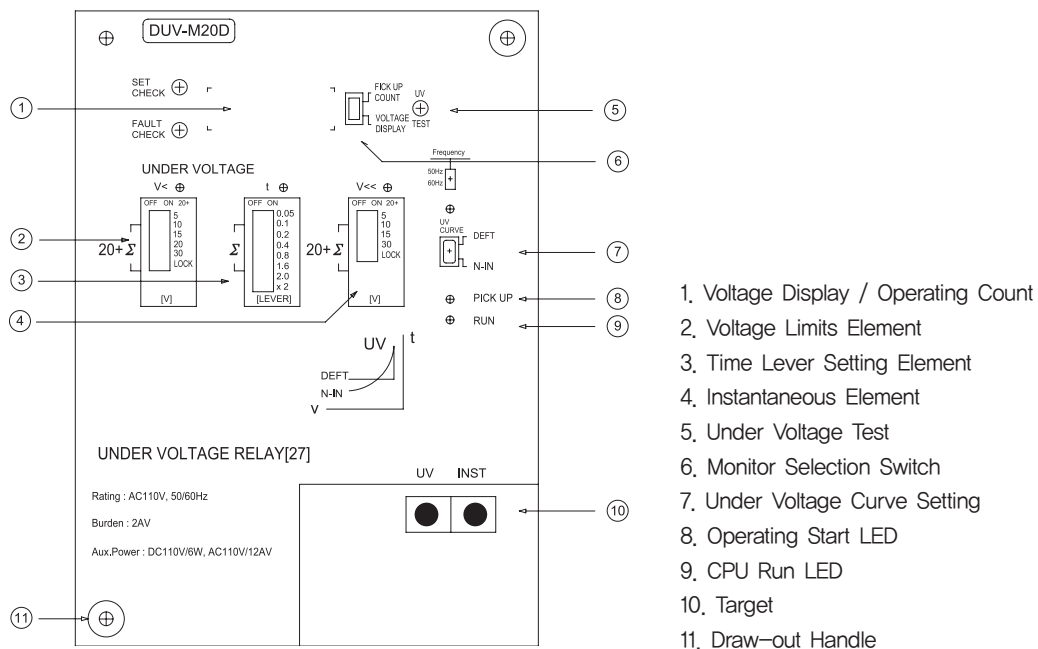
Introduction

In abnormal voltage condition, voltage shall be dropped because of sudden increasing voltage due to generator's fault and power off or short circuit time. Normally, voltage relay setting shall be done priorly against the voltage variation. When voltage become over the setting value, voltage relay shall be operated.

Characteristics

- Control voltage is obtained from power transformer secondary without requiring any separate source of power supply that system configuration wiring and handling are convenient.
- Internal circuit constructed of semiconductors offer semipermanent service life without worries for malfunctioning caused by mechanical vibration and shocks.
- A/D converter circuit offers digital display of input voltages (substitutes AC voltmeter)
- Target shall show the fault condition accurately.
- Due to low power consumption and low burden of PT, this relay is economical.

Front plate



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DOV-M15D (Draw out)
DUV-M20D (Draw out)

IEC255 JEC 2500, 2510

Specifications

■ Rating

Rated Voltage	AC 110V
Frequency	60/50Hz ±5%
Auxiliary Voltage	AC/DC 110V(80~260V)
Ambient temperature	-10°C to 60°C(with no icing)

■ Voltage setting

Over Voltage range	115~150V/(steps of 5V)
Under Voltage range	20~100V/(steps of 5V)
Under voltage instantaneous range	20~80V/(steps of 5V)

■ Time setting & Curve Definite time or Inverse time

Over Voltage time	0.05~10.3(steps of 0.05)
Under Voltage time	0.05~10.3(steps of 0.05)
	0.05±25ms, 0.1~10S±10%
Instantaneous time	Less than 60ms
Reset value	OV:V<90%, UV:V>110%
Reset time	Less than 100ms

■ Burden

Over Voltage	Less than 2VA
Under Voltage	Less than 2VA
Aux. Voltage	12VA(AC), 6W(DC)

■ Contact

Out put Relay	Trip 1c, Alarm 1a
Trip & contact capacity	
Make	AC 240V 10A(L/R=0ms) DC 1000W 0.5Sec(L/R=0ms)
Break	AC 240V 3A(L/R=0ms) DC 30W 0.5Sec(L/R=0ms)

■ Indicator

Operating start	LED(Red)
Operating(trip)	Target(Manual Reset)

■ Operating time

Over Voltage	Inverse or definite time
Under Voltage	
Degree Protection	IP 52

■ Vibration resistance

Malfunction	10Hz 5mm double amplitude 30s each in X and Y directions 16.7Hz 2.5mm double amplitude 600s each in X, Y, and Z directions
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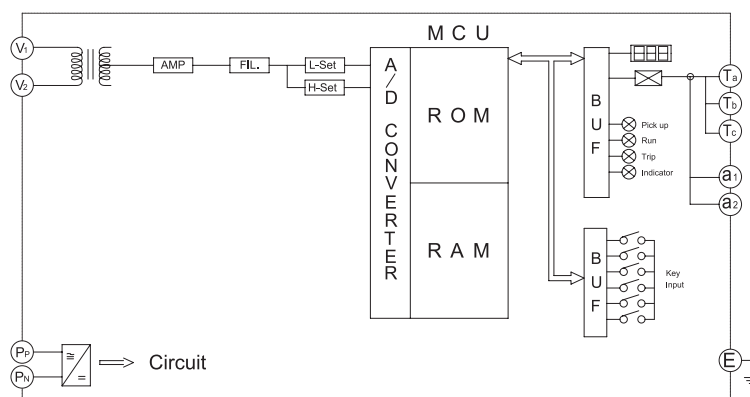
■ Shock resistance

Destruction;	300% $\frac{1}{3}$ (approx. 30G) 3 time each in 3 directions
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■ Insulation to IEC 255

Dielectric withstand	2kV for 1 minute between all terminals and case earth
Insulation resistance	at 500V > 100M Ω
Impulse Voltage Withstand	5kV-1.2/50 μ s
Surge transient simulator	2.5kV 1MHz/200 Ω
Weight	2.0kg

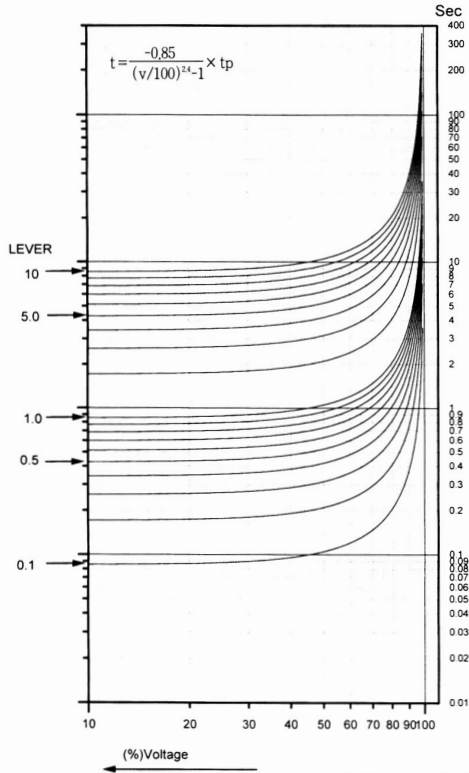
Block diagram



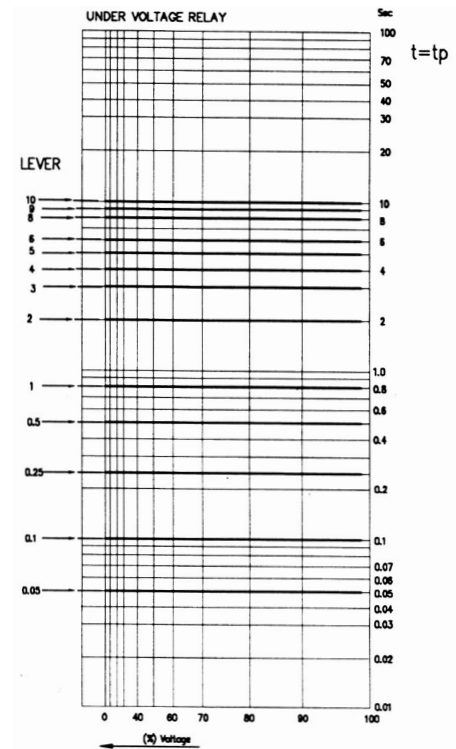
Operating time curves

Under voltage relay

(Inverse time)

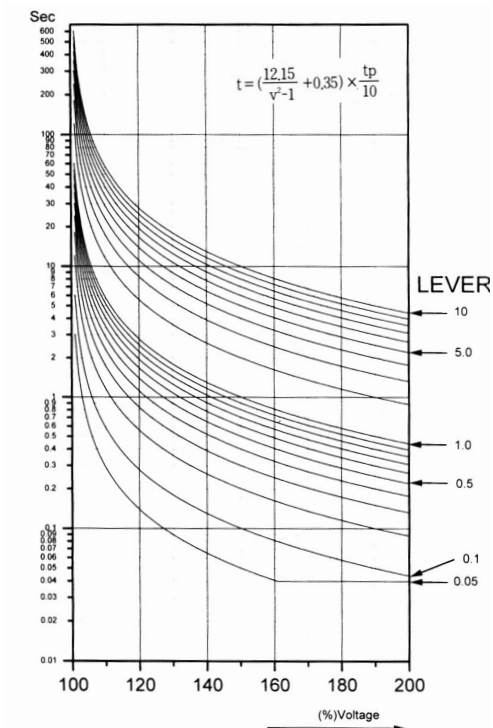


(Definite time)

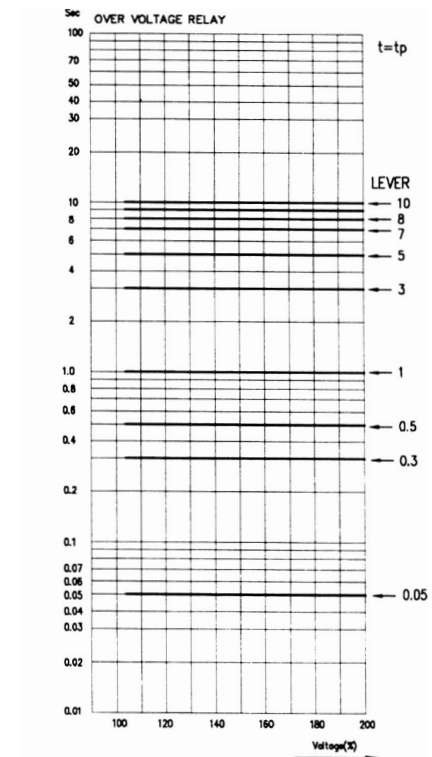


Under voltage relay

(Inverse time)

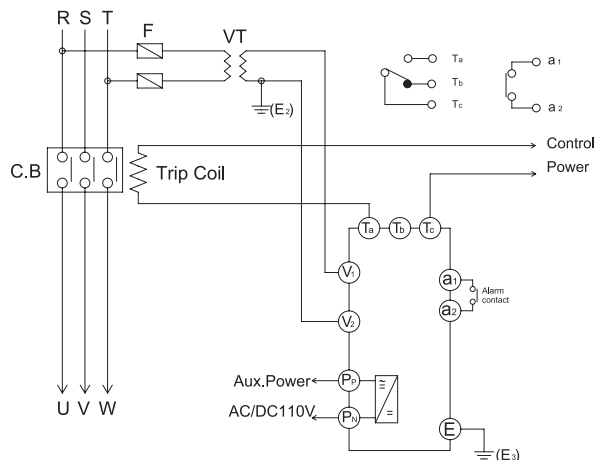


(Definite time)

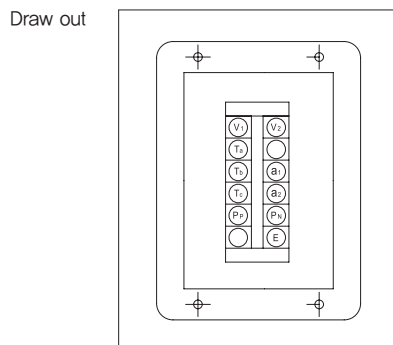


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Wiring



Terminal Arrangement



Dimension

