

Type: 45085

3-Phase Under / Over Voltage Relay plus Time Delay

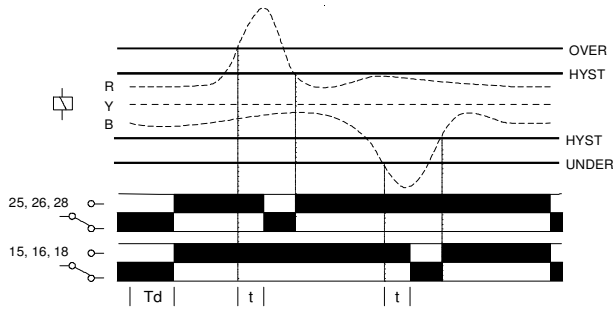
- ❑ Detects Under or Over voltage condition regardless of phase sequence
- ❑ Monitors phase to phase voltage of own 3-phase supply
- ❑ Separate adjustment for upper level and lower level
- ❑ User selectable nominal voltage (380, 400 or 415V)*
- ❑ Time delay (from fault) for each level with adjustable setting
- ❑ 2 x SPDT relay output
- ❑ LED indication for supply and both relay statuses



Dims:
H. 78mm
W. 45mm
L. 99mm

Terminal Protection to IP20

• TIMING DIAGRAM



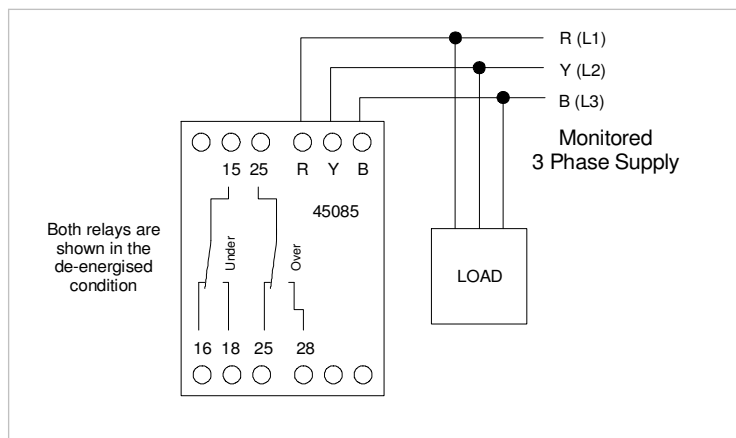
• INSTALLATION AND SETTING

- **BEFORE INSTALLATION, ISOLATE THE SUPPLY.**
 - Connect the unit as shown in the diagram below.
 - Select the correct nominal voltage using the rotary switch (400V unit only).
 - Set the 'over volts' adjustment to maximum and the 'under volts' adjustment to minimum.
 - Set the 'over delay' and 'under delay' adjustments to minimum.
 - Apply power (green 'supply on', red 'under' and red 'over' LED's will illuminate, both relays will energise and contacts 15 / 18 and 25 / 28 will close).
- To set the unit:**
- Set the 'over volts' and 'under volts' adjustment to give the required range.
 - If large supply variations are anticipated, the adjustments should be set further away from the nominal.
 - Set the 'over delay' and 'under delay' adjustments as required.
 - **Note:** The unit incorporates a 'power on delay (Td)' which operates immediately the supply is applied. The delay prevents either relay from energising if the measured voltage is above or below the set levels.
- If the red or blue phase is lost, both relays will de-energise and all LED's will extinguish. There will be no delay (t).

Troubleshooting.

- If the unit fails to operate as described, check the wiring and voltages present on the supply terminals.

• CONNECTION DIAGRAM



• TECHNICAL SPECIFICATION

Supply/Monitored voltage Un:	220, 400*, 480, 600V AC 45 - 65Hz
(phase to phase)	
Supply variation:	85 - 115% of Un
Isolation:	Over voltage cat. III (IEC 664)
Rated impulse withstand voltage:	4kV (1.2/50μs) - up to 480V 6kV (1.2/50μs) - up to 600V
Power consumption:	≈ 3.9 VA (red and blue phases) ≈ 0.2 VA (yellow phase)

Voltage setting:	±10% of Un
*Voltage selection:	380, 400, 415V selectable by rotary switch (only available on 400V unit)
Measuring ranges:	Lower 90 - 98% Upper 102 - 110%
220V:	198 - 216V AC 224 - 242V AC
380V:	342 - 372V AC 387 - 418V AC
400V:	360 - 392V AC 408 - 440V AC
415V:	373 - 407V AC 423 - 456V AC
480V:	432 - 470V AC 490 - 528V AC
600V:	540 - 588V AC 612 - 660V AC
Accuracy:	± 2% of measuring range
Hysteresis :	< 2%
Reaction time:	τ < 200mS, worst case reaction may be up to 5 x τ
Adjustable time delay (t):	0.1 - 10S (-10/+30% on max setting) (N.B. t = set delay + reaction time)
On delay (Td):	≈ 5S, worst case delay may be Td / 2

Ambient temp:	-20 to +60°C
Relative humidity:	+95%

Contact rating:	2 x SPDT
AC 1	250V AC 8A (2000VA)
AC 15	250V AC 6A
DC 1	25V DC 8A (200W)

Electrical life:	≥ 150,000 ops at rated load
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Housing:	Orange flame retardant UL94 VO
Weight:	≈ 320g (< 480V), ≈ 340g (600V)
Mounting option:	On to 35mm symmetric DIN rail to BS5584:1978 (EN50 002, DIN 46277-3)

Approvals:	Conforms to UL, CUL, CSA & IEC CE Compliant
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• MOUNTING DETAILS

