Overexcitation protection of transformers and generators.

STV

Overexcitation Relays

Application

- Transformer and generator protection
- Alarm and backup protection

Protection and Control

- Overexcitation
- Adjustable pick-up voltage
- Adjustable time delay

Features

- Target seal-in units
- Drawout case

DESCRIPTION

The Type STV relay is a single-phase static overexcitation relay. It consists of an overexcitation sensing unit which has a linear volts per hertz pickup characteristic (Fig. 2), and a timing unit to provide a definite time before initiating some protective action. A target seal-in unit is also provided to protect the timing unit contacts during tripping duty.

APPLICATION

The Type STV relay is designed specifically for equipment protection in case of overexcitation. Overexcitation of a generator or power transformer may occur during start-up, shutdown, or as a result of remote load rejection. As as result, overheating due to core saturation within a very short time may cause severe damage. This relay, employing a constant volts per hertz pickup, recognizes overexcitation and initiates some appropriate action to protect the equipment.

Although voltage regulators are available with voltage-frequency characteristics desirable for over excitation control, the STV relay is recommended for alarm and backup protection or primary protection in case of regulator failure.

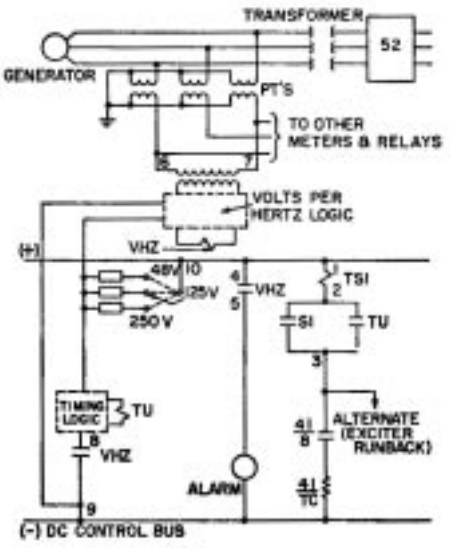
BURDENS

The ac burden is approximately 0.6 volt-amperes.

Dc Burden

Volts Dc	Watts	
	Timer not Energized	Timer Energized
48	1.10	5.8
125	2.99	16.0
250	6.00	34.5

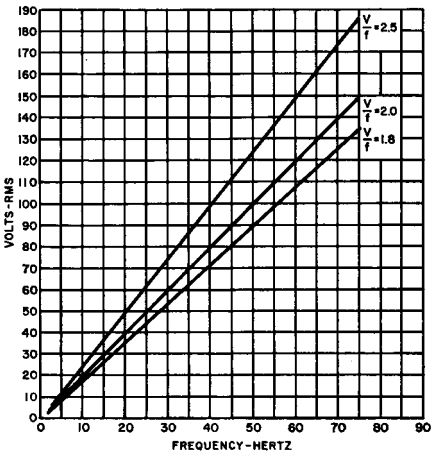
Fig. 1. External connections for the Type STV11A relay



MULTILIN

APPLICATION

Fig. 2. Pickup volts vs. frequency, Type STV relay (60 Hz models)



CONTACT RATINGS

Timing Unit (TU)			Volts/Hz Unit (VHz)			
Target Seal-in Ratings	Current Tripping	Current Continuous	Volts	Hertz	Current Inductive①	Current Non-inductive
0.2/2.0	5.0	0.4	48 125	dc dc	1.0 0.50	3.0 1.5
2.0/and above	30	4.0	250 115 230	dc 60 60	0.25 0.75 0.50	0.75 2.0 1.0

① Inductance of average trip coil.
Note: Current ratings are listed for voltages not in excess of 250 volts dc.

SELECTION GUIDE

Rating		Oper. Range (Hz)	Pickup Adj. Range (V/Hz)	Time Delay (Sec.)	Dc Control (Volts)	Target and Seal-in (Amps Dc)	Model Number	Case Size	Approx. Wt. in Lb (kg)	
Volts	Freq. (Hz)								Net	Ship
				0.5-15.0		0.6/2.0	12STV11A1A			
120	60	15-72	1.8-2.5	2.0-60.0	48/125/250	0.6/2.0	A2A			
				0.5-15.0		0.2/2.0	A4A			
				2.0-60.0		0.2/2.0	A5A			
120			2.2-2.9	0.5-15.0	48/125/250	0.6/2.0	A3A	S-1	15 (6.8)	18 (8.2)
120			2.2-2.9	0.5-15.0	48/110/220	0.2/2.0	A6A			
100			1.8-2.5	0.5-15.0	48/110/220	0.2/2.0	A7A			
110	50	15-72	2.2-2.9	0.5-15.0	48/125/250	0.6/2.0	A8A			
120			2.2-2.9	2.0-60.0	48/125/250	0.6/2.0	A9A			
120			2.2-2.9	2.0-60.0	48/110/220	0.2/2.0	A10A			
120			2.2-2.9	2.0-60.0	48/110/220	0.6/2.0	A11A			
110			1.8-2.5	2.0-60.0	48/125/250	0.2/2.0	A12A			