

GEC Measurements

Type VDG13

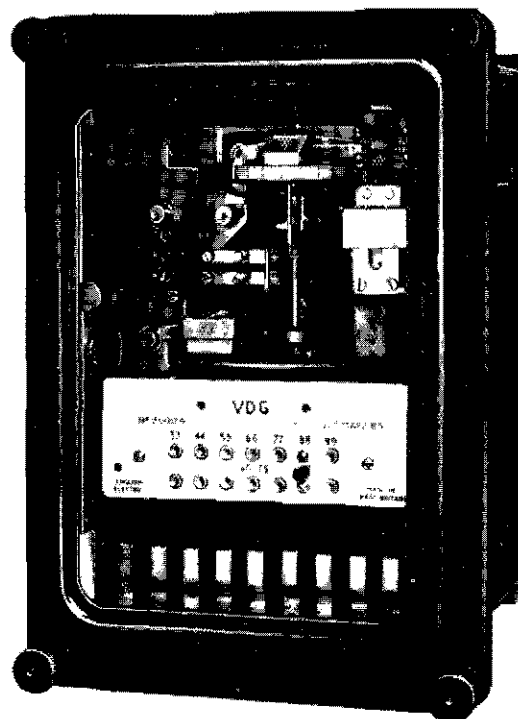
The type VDG13 undervoltage relay is a frequency compensated induction disc unit with an adjustable inverse time/voltage characteristic. Applications include the protection of induction motors against restoration of voltage on loss of supply or severe voltage dip.

Overload or temperature relays will usually prevent a motor from running on sustained undervoltage as this condition generally causes overcurrent. Undervoltage protection must be applied to a fan motor however, because the load drops sharply with speed and prevents the motor current from increasing.

Taps on the operating coil and a series resistance are connected to a link board and provide a constant inductance/resistance ratio for frequency compensation on each voltage setting.

Adjustment of the time setting is made by rotating a knurled moulded disc against a graduated time multiplier scale.

The disc unit contact is closed when the operating coil is de-energised.



VOLTAGE SETTINGS

50–90% of 110 volts a.c. adjustable in five equal steps or 30–90% of 110 volts a.c. in seven equal steps (with externally mounted resistor) at 50 or 60 c/s.

An external voltage transformer can be supplied to enable operation on 230/250 or 440/480 volts a.c.

Resetting Voltage

105% of voltage setting

TIME SETTINGS

0–5 seconds at zero voltage (see characteristic)

Resetting Times

If the voltage reduction is sustained long enough to cause the relay to operate, on restoration to rated volts and with the time multiplier set at 1.0, resetting times are:

Relay setting (%)	30	40	50	60	70	80	90
Resetting time (seconds)	1	1.5	2	4	5	10	12

BURDENS

At voltage setting: 5VA

At normal voltage:

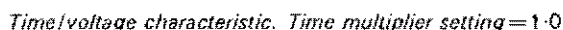
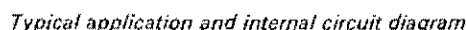
Relay setting (%)	30–90% version						
	50–90% version						
	30	40	50	60	70	80	90
VA at normal voltage	50	31	20	14	10.5	8	6

FREQUENCY ERRORS

The maximum pickup variation between 40 and 70 c/s is 7%.

AUXILIARY UNITS AND OPERATION INDICATORS

An auxiliary attracted armature with a hand reset operation indicator for either shunt reinforcing or series seal in is fitted as standard.



Supply frequency
Voltage setting
External transformer requirements
Trip circuit (shunt reinforcing or series seal in)
Trip circuit current (series seal in)
Trip circuit voltage (shunt reinforcing)
Auxiliary contacts (hand or self reset)
Operation indicator inscription if required
Case finish and mode of mounting

Our policy is one of continuous product development and the right is reserved to supply equipment which may vary slightly from that described.

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