



PRODUCT STANDARD
SWITCHGEAR ENGINEERING DIVISION

SG 12210

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**SPECIFICATION FOR AUTOMATIC VOLTAGE REGULATING RELAY WITH
& WITHOUT LINE DROP COMPENSATOR**

1.0 SCOPE :-

This standard covers specification and acceptance norms for Automatic Voltage Regulating Relay With & Without Line Drop Compensator used in RTCC Panels.

2.0 SPECIFICATION :-

- Type : Static / Micro Controller Based
- Auxiliary supply : 110 VAC \pm 15 %, 50 Hz, 15 VA
- PT Supply : 110 V AC \pm 10 %, 50 Hz, 1.5 VA and readable on DPM
- Lower voltage setting : Adjustable between 95 V to 125V and readable on display
- Raise voltage setting : Adjustable between 90 V to 120V and readable on display
- Frequency variation : 47 Hz To 57 Hz
- Dead band setting : 0.5 V To 5V above nominal voltage
0.5 V To 5V below nominal voltage.
- Time delay setting : 10 – 120 sec continuously adjustable
- Under voltage blocking : Internal blocking at 80% of regulated value.
Restoration at 85% of regulated value.
- Time delay resetting : Instantaneous resetting with voltage deviation occurring in
Opposite direction.
- Control Relays : i) One pair of normally open potential free contacts of
Rating 230 V AC @ 5A resistive load / 1.5 A inductive
load for each lower, raise and under voltage control relays.
ii) One pair of normally open potential free contact of
rating 5A/220V DC resistive load for
“PT supply Fail/Under voltage” alarm.
- Control Operation : Single pulse operation with approx. 2 sec. on time.
- Indication : 3&1/2 digits ,0.5” LED Red color Digital display to read
PT set PT, Lower & Higher dead band.
- Operating Temperature : 0 – 55 ° C.

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REV.	01	PRINTS TO :-	APPROVED –		
ALTD.	Arpan/ Dinesh	CRP CEG	R K SHUKLA		
APPD.	PKU	C P PLNG 11 KV PLNG	PREPARED	ISSUED	DATE
DATE.	13/03/14		PKU	RKK	31.03.01



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Reference standards : IS 3231 / IS 8686

Connection Diagram :

Function	Terminal No.
Aux. Supply 110V AC	1-2
PT Supply 110V AC	3-4
Earth	8
Lower	9
Common	10
Raise	11
U.V.Relay	13-14

1) ITEM -01(AVR RELAY WITHOUT LDC) BP code:9049117490

Overall size : 92 mm (H) * 192 mm (W) * 220 mm (D)

Panel cutout : 90 mm (H) * 184 mm (W)

Mounting : Flush

2) ITEM -02(AVR RELAY WITH LDC) BP code:9049117643

Overall size : 378 mm (H) * 146 mm (W) * 260 mm (D)

Panel cutout : 330 mm (H) * 135 mm (W)

Line drop compensator : Required with resistive and reactive compensation of Either polarity up to 20% and suitable for operation with 1A, 5VA current transformer.

3.0 TESTS AS PER IS3231 / IS8686 INCLUDING :-

- (1) Power frequency at 2 KV for 1 minute
- (2) Insulation resistance.
- (3) Functional test.

4.0 ACCEPTANCE CRITERIA :-

- (1) Routine test reports furnished along with the consignment to be examined.
- (2) 100% visual check.
- (3) Rating plate to be verified as per specification.

5.0 DOCUMENTS TO BE FURNISHED WITH OFFER :-

- (1) Two copies of Descriptive leaflets, Dimension Drawing with mounting arrangements, Connection diagram, Instruction manual & Type test certificates shall be furnished before dispatch of equipment.

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