



**'Jyoti'
Auxiliary Relay
(voltage operated
Plug-in type)**

Designed for
the performance
you insist



'Jyoti' Auxiliary Relay (voltage operated Plug-in type)

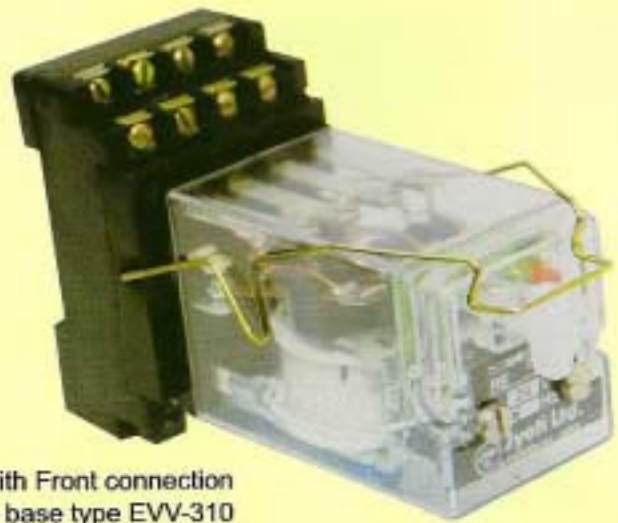


Fig. 1 Relay with Front connection
Plug-in base type EVV-310

The voltage operated auxiliary relay type RE-300 / RE-301 / RE-302 are extremely rugged and highly reliable. They are extensively used in control panels for critical load applications in thermal power stations, petrochemicals, cement plants, etc. The relay RE-300 can be also used in seismic areas as per class 'SS' of IS-8714:1974.

APPLICATION :

- Auxiliary relay panels
- Multiplication of contacts
- Voltage selection
- Anti-pumping
- As an output relay in PLC system
- Fuse failure indication in control circuits

DESCRIPTION :

The relay movement consists essentially of a coil attracting an armature carrying the moving contacts. The fixed contact-reeds of the four change over contacts are held in the moulded base of the relay. The contacts making surfaces are silver and the contacts are fitted in such a way that they ensure a reliable and low resistance contact. The moving contact reeds are made of specially treated material to preserve initial elasticity under the severest switching condition.

PLUG-IN BASE :

Front connection base type : EVV-310 (fig. 2)

Rear connection base type : ERV-310 (fig. 3)

The screw connection bases are specially partitioned to prevent short circuit between adjacent terminals. The external wiring is terminated either on front connected plug in base type EVV-310 or Rear connected plug in base type : ERV-310. The plug in feature facilitates easy inspection of the relay on the panel without disturbing any connection.

The Front connection base type EVV-310 is suitable for DIN Rail mounting. The maximum wire diameter that may be used with the base is 2.5mm. Also 2 Nos. 2.5mm wires can be used on each terminal with suitable lugs.

OPERATION INDICATOR :

1. The relay is normally supplied with a red electromechanical indicator which appears in the window above the name plate when the relay operates. The indicator is self-reset type.
2. The relays are also available with Electronic (LED) indicators as an optional feature. This indicator is also self reset type. It has Free Wheeling Diode as standard feature for D.C. supply. The details for the same can be furnished on request. The burden of relays with LED indicator will be higher by about 5mA.

NOTE :

Non standard voltage coils within range of 6V to 250 V DC or up to 415V, 50Hz can be supplied against specific requirements. These auxiliary relays operate satisfactorily between 80% and 110% of the rated voltage as per IS:3231 and IEC 255-1-0. The lower limit is for reliable operation and the upper limit is determined by the thermal stability of the coils. (On request, DC relays can be supplied with an operating range between 70% and 110% of rated voltage, type reference being RE-301)

WEIGHT :

Approx 0.3 Kg including plug-in base.

CASE AND MOUNTING :

The relay is fitted with a transparent cover and is suitable for projection mounting only, with front or rear connection plug-in base.

MANUAL TESTER :

Each relays is supplied with a manual tester - key which locks the relay movement during transit.

This is to be completely removed before energizing the relay. This tester can also be used for operating the relay manually by inserting it through the opening in the cover.

MOUNTING :

The relays shall be mounted on a vertical plate and the inclination shall preferably be within $\pm 5^\circ$.

INSTRUCTION FOR HANDLING AND STORAGE :

The relays are generally despatched in boxes which can sustain reasonable shocks during transit. Upon receipt of the relays, it is advisable to examine them. In case of any damage, it should be reported to us quoting the order number. If the relays are not be installed immediately, they should be stored in the original boxes. The storage place should be free from acid fumes, excessive dust and moisture.

ADJUSTMENT :

No adjustment is required at site.

MAINTENANCE :

1. The contacts shall be periodically examined for cleanliness.
2. The contacts can be cleaned with help of painter's brush and carbon tetrachloride.
3. Distance between the contacts shall not be altered.

DETAILS REQUIRE WITH ORDER :

1. Type of relay (RE-300/301/302)
2. Voltage rating
3. DC or AC frequency
4. Whether optional LED indicator required
5. Type of Plug in base, whether front connection (EVV-310) or rear connection (ERV-310) type.



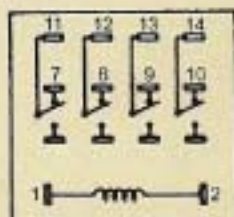
Fig. 2 Plug-in base type EVV-310



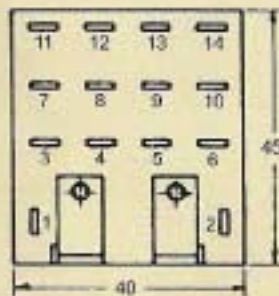
Fig. 3 Plug-in base type ERV-310

Relay Type	RE-300	RE-301	RE-302 DC sensitive relay
Contact Arrangement	Four self-reset change over contacts	Four self-reset change over contacts	Four self-reset change over contacts
Standard coil voltage	DC : 24, 30, 48, 50, 75, 110, 127, 220 AC, 50 Hz 24, 30, 63.5, 110, 127, 220, 230, 240, 415	DC : 24, 30, 48, 50, 75, 110, 127, 220	DC : 24, 48
Operating range	80% to 110% of rated voltage	70% to 110% of rated voltage	80% to 110% of rated rated voltage
Coil consumption*	DC : 3.5 to 4 watt AC : 6 VA.	DC : 3.5 to 4 watt	DC : 2.1 watt
	* indicates relay with LED indicator may raise coil consumption by 5mA.		
Contact rating	Making Capacity : Make and carry continuously : AC : 2500 V A with a maxima of 250V AC and 10 Amp. (Resistive load) 1250 V A with maxima of 660V AC and 5 Amp. (Resistive load) DC : 1250 watt with a maxima of 220V DC and 5 Amp. (Resistive load) 240 watt with 24V DC and 10 Amp. (Resistive load) Make and carry continuously for 3 seconds : 7500V A with a maxima of 660 V and 30 Amp. Break rating : AC : 1250 V A with a maxima of 660 V and 5 A with a minimum power factor of 0.4 DC : 100 watt (Resistive) with a maximum of 220V and 5 Amp. 50 watt (inductive) with a maxima of 220V and 5 Amp with time constant 45 mS.		
Operating time	Without free wheeling diode Make time on energization 25mSec Make time on de-energization 30mSec With Free wheeling diode Make time on de-energization 60mSec		
Mechanical Endurance	20 million operation with a maximum switching frequency of 3600 operations/hour.		
Electrical Endurance	The relays are capable of withstanding 1 million operation at a maximum switching frequency of 1200 operations/hour and the rated contact capacity. For more details refer Fig.4		
Insulation	2kV, AC(RMS) 50Hz for one minute between all terminals connected together and the earth as per IS:3231 1kV, AC(RMS) 50Hz for one minute between normally open contacts of the relay in open position as per IS:3231		
Insulation resistance value	> 100MΩ at 500V DC		
Impulse voltage withstand capacity	5kV peak impulse voltage as per IS:3231 (part2/Sec1) : 1987		
Ambient Temperature	-5° to 45° C.		

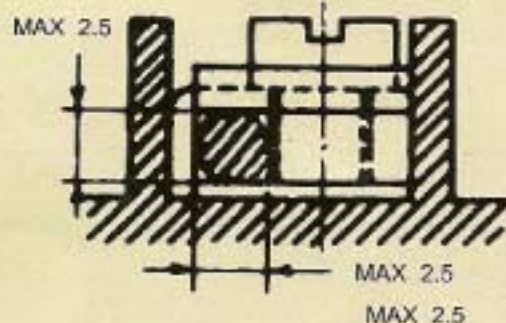
DIMENSIONAL DETAILS OF RE RELAY WITHOUT PLUG IN BASE



SCHEMATIC DIAGRAM OF RE BASE PLATE

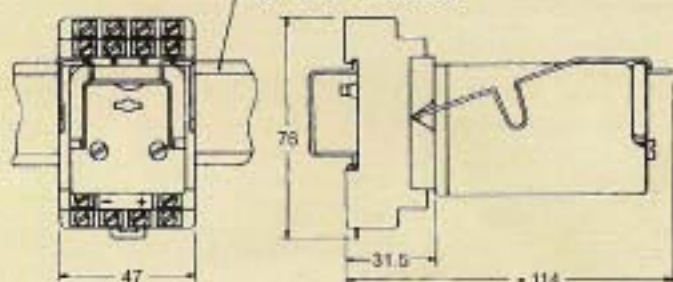


FRONT SCREW CONNECTION

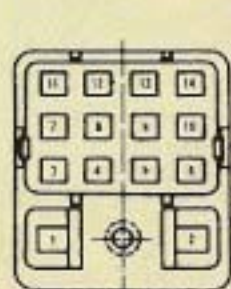


RE 300/301/302 RELAY WITH PLUG-IN BASE TYPE EVV-310 SUITABLE FOR DIN RAIL MOUNTING.

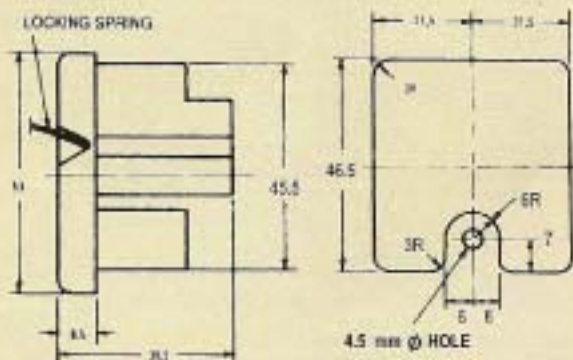
TOP HAT RAIL TH35-15 / TH35-7.5 AS PER IS - 11039-1983



DIMENSIONAL DETAILS OF PLUG IN BASE TYPE EVV-310



REAR VIEW



PANEL CUT-OUT DETAILS FOR EVV 310

CURVED GIVING THE CONTACT CAPACITY FOR DIFFERENT VOLTAGES

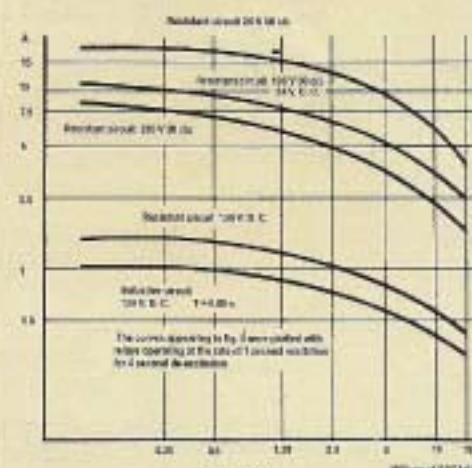


FIG. 4



FOR FURTHER ENQUIRIES PLEASE CONTACT

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