

DRG. NO. 2 402 00 40097

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A-Technical Requirement-

A1- This Thyristor firing device shall be used in the scheme for firing the two thyristors, in series.

The unit is a single assembly in the form of a printed circuit board which is installed in an aluminum casing and potted with silicon rubber compound.

The device to use Zener Diodes, suitably rated, for achieving various firing voltages.

A2- For dimensional and other details see the sketch.

A3- Generally the unit shall be within the limiting dimensions of 180 mm (Long), 80 mm (width) and 60 mm (height).

A4- Unit shall have base mounting provisions and shall have removable cover.

A5- The unit is to be mounted in a rotating exciter, mounted at a mean diameter of 600 mm and rotating at 1500 rpm.

A6- Unit shall have following nine terminals protrude from the potted compound for making connections.

- A6.1- For making connection to DC bus-J1A
- A6.2- For making connection to Thyristor gates-J1B, J1C
- A6.3- For putting connecting links to achieve required firing voltage- J21, J22, J23, J31, J32 and J33

A7- These nine terminals should be available as nine screw caps suitable for M-4 screw.

A8- The seven screws(J1A, J21, J22, J23, J31, J32 and J33) should be arranged on the vertex of a equilateral triangle so that identical rigid copper connecting links can be used for any possible shorting.

A9- Six number 0.5 mm thick rigid copper connecting links to be supplied with each unit.

A10- By putting different combinations of connecting links it should be possible to achieve thyristor firing voltages from 180 V to 1080 v in steps of 180 V, Variation of $\pm 5\%$ is acceptable.

A11- Supplier to specify in the offer, details of various combinations of connecting link and corresponding available firing voltage.

This information should be pasted in the form of a printed sticker on the inner side of cover.

B-Testing Requirement-

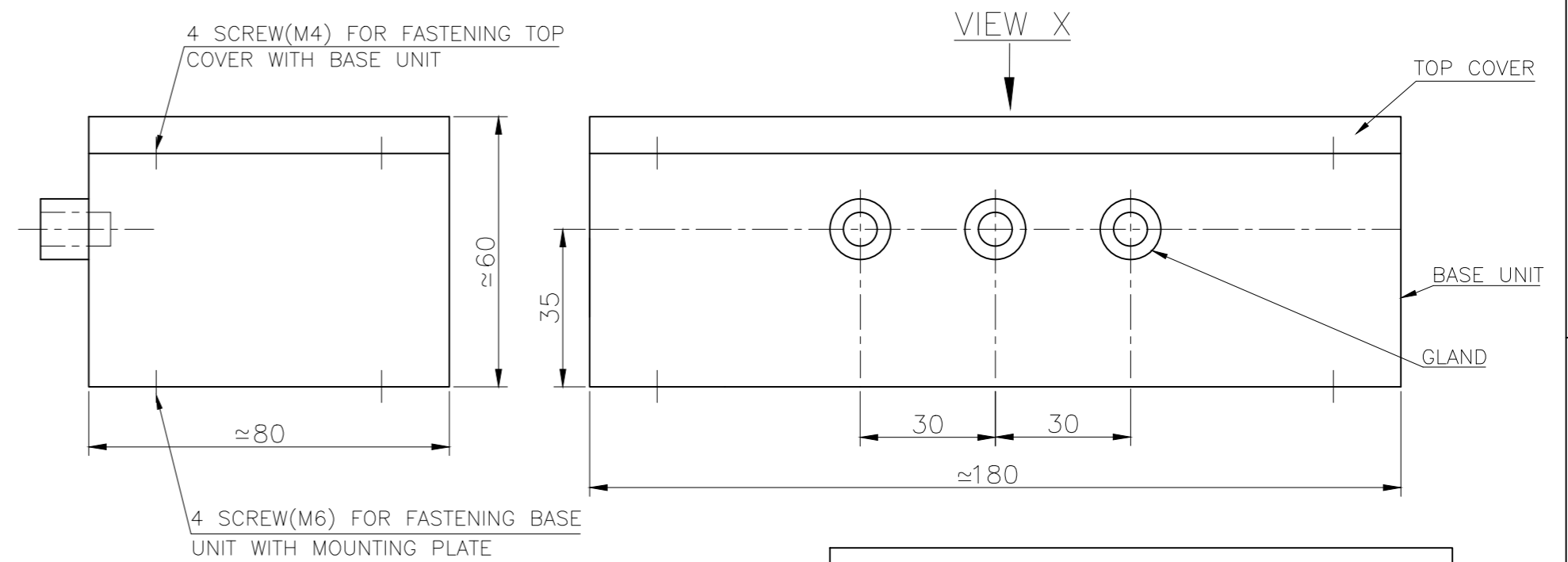
B1-Routine tests on all units-

B1.1- Insulation Resistance between live parts and the housing to be checked with 500 V megger. IR shall be above 3 M Ohms.

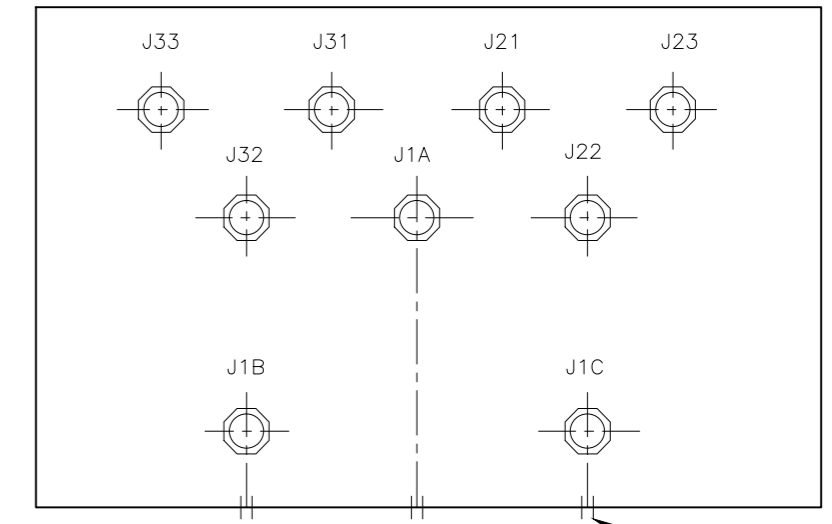
B1.2-High voltage test - 2.5 kV, 50 Hz, for 2 minutes between terminals J1A, J1B and J1C and housing.

B1.3-Test the resistance between the terminals J3.3 (+) and J1B (-) and between J2.3 (+) and J1C (-) by means of the continuity tester. At a measuring voltage of 1.5 V, the resistance value measured must be less than 10 k Ω for the polarity indicated. With reverse polarity, the resistance value measured will be almost infinite.

B1.4-Firing voltage check- By putting various combination of shorting links, achieved firing voltages will be checked using a motorized megger(variable voltage DC source).



OPERATING VOLTAGE –BETWEEN CONNECTION J1A AND J1B, J1C=1500V.(DC)
 TEST VOLTAGE –2.5kV,50Hz FOR 2.0min BETWEEN TERMINALS (J1A, J1B AND J1C AND HOUSING)



STYLE LIST		
IT.NO.	DESCRIPTION	STYLE NO.
01	FIRING DEVICE	BP9043035718

B2-Type test- on one unit of the lot-

B2.1-All tests called in routine test B1 above.

B2.2- Thermal aging-Unit shall be kept in an oven at a temperature of $70^{\circ} \pm 5^{\circ} C$ for 4 hours and then checked for any visual deformation and then subjected to all routine tests stated at B1.

B2.3-Rotational test-The test unit shall be subjected to rotational test as described below,

Unit shall be mounted on a rotating wheel at a diameter of about 600 mm and rotated 25 cycles. Each cycle shall comprise of following runs in succession,

- 5 minute at 1500 rpm.
- 2 minutes at 1800 rpm
- 5 minutes at 1500 rpm.

Unit shall be visually checked for any deformation in the unit housing and cover, looseness of the potting and other components. Unit shall once again be subjected to all routine tests stated at B1.

ADDITION INFORMATION			TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				STANDARD			
STATUS OF DRAWING			DEPT. BHARAT HEAVY ELECTRICALS LTD. BHOPAL				NAME, SIGN, DATE			
DISTRIBUTION OF PRINT			DRN RV 09.12.2010				73 NO. OF VAR			
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			APPD NK 09.12.2010							
REV	DATE	ALTERED CHECKED APPROVED	DEPT. CODE	GRADE OF UNTOL. DIM. C/M/F	SCALE	WEIGHT (kg)	REF. TO ASSY. DRG.	ITEM NO.	75 NO. OF ITEMS	77
ZONE			TITLE				7 DRAWING NO. 2 402 00 40097			
							22 REV. 24			
							SHEET NO. 01 NO. OF SHEET 01			

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