

LME:012: B

LOCOMOTIVE ENGINEERING DEPTT.

PURCHASE SPECIFICATION

LME/ PUR/ 193

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SHEET 1 OF 4

**SPECIFICATION OF AUDIOVISUAL SOLID STATE
BUZZER FOR USE ON
DIESL ELECTRIC LOCOMOTIVE**

**Note-This Specification Supersedes Earlier
Specification No.-LE/DESL/119**

Enclosures : NIL

Rev	Date	Prepared	Rev	Date	Prepared	Rev	Date	Prepared
		Approved			Approved			Approved
Rev	Date	Prepared	Rev	Date	Prepared	Rev	Date	Prepared
		Approved			Approved			Approved

Jushil Kumar
29/07/05

Prepared by :

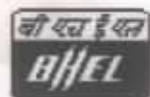
SV

Checked by :

S. Velma
29/7/5

Approved by :

Distribution : Loco Prodn. (001) Loco PPC (002) Loco RC (003) Tech. (004) CRX (005)



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1. GENERAL

This specification covers the manufacture and supply of AUDIOVISUAL SOLID STATE BUZZER to be used on Diesel Electric Locomotive with different system voltage.

2. Service Condition**2.1. Ambient Temperature**

0° C to 70° C with maximum relative humidity of 100% (Saturation). The locomotive will be working in altitude up to maximum of 1000meters above sea level.

2.2. Shocks and Vibrations

During normal working of the locomotive the equipment will be subjected to vibration and buffing shocks as indicated below:

Vertical acceleration	-	1.0g	Maximum
Lateral Acceleration	-	0.5g	Maximum
Longitudinal Acceleration	-	3.0g	Maximum

3. Compliance with National Standards

The Buzzer shall generally comply with relevant Indian standards.

4. Dimension and Tolerances

The solid-state buzzer should have dimension such that it shall fit on the panel cutout of 90mm X90 mm. The Depth/height of the unit shall be maximum 90mm. The electrical terminals provided on the solid state buzzer shall be such that standard 5.2 dia lug can be adopted.

5. Deviation

Any deviation from the standard laid down with a view to improve the performance, utility, efficiency and reliability may be given due consideration provided full particulars and justifications there of are furnished along with the offer.

6. Technical Documents and Drawing to be furnished by the supplier as part of the contract

The suppliers should furnish the conformance certificate along with the type test and routine test certificate.

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7. Drawings

The supplier should submit the General arrangement drawing showing mounting details along with the offer.

8. Guarantee

The supplier shall guarantee all the equipments as a whole against any manufacturing, material and workmanship for a period of 18Months from date of dispatch or 12 months from date of commissioning whichever is earlier. In case any damage or defect noticed during this period due to defective material or workmanship, the equipment shall be replaced by supplier free of cost.

9. Submission of Tender Quotation

All tender documents and quotation shall be submitted in duplicate.

10. Scope of Supply

The scope of supply shall be as given below:-

1. Audio Visual Solid State Buzzer suitable for operating voltage mentioned in the purchase specifications.

11. Technical Specification

11.1. Functional Requirement

- 11.1.1. This audiovisual solid-state buzzer shall be used to provide an audiovisual alarm to the driving crew of the locomotive during a fault condition.

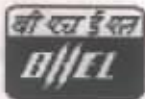
11.2. Type of System

- 11.2.1. The supply system voltage on different type of diesel electric locomotives is different. Therefore, this specification covers two types of system: -

- For 350 and 700HP (TPP) Diesel electric locomotive - Type D
- For 700HP (SPP) Diesel electric locomotive - Type DH

- 11.2.2. In case the system type is not clear from the order particulars, the supplier shall ascertain the same from the indenter/purchaser.

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11.2.3. Regarding supply voltage system, the voltage variation is given as below:-

SYSTEM VOLTAGE-DC		
	TYPE- DH	TYPE - D
Maximum	88V	30V
Average	72V	24V
Minimum	46V	16.8V

11.3. General Design Features

- 11.3.1. The Unit should be fully solid-state device without use of any electromechanical relay/relays.
- 11.3.2. The unit should work satisfactorily continuously for the voltage range indicated in clause no.11.2.3. There should not be any damage to the equipment at voltages less than the minimum specified value for an indefinite period.
- 11.3.3. The sound level to be produced by this buzzer shall be minimum 90db within a distance of 5 Mtr.
- 11.3.4. Suitable nos. of LED shall be provided on the Top of the Buzzer for visual indication. No. of LED shall be minimum 3 nos.
- 11.3.5. The power consumption of the unit shall be maximum 5 Watts.
- 11.3.6. The unit shall be designed for continuous operation.

11.4. Testing

- 11.4.1. The unit shall be tested for continuous duty.
- 11.4.2. Supplier shall submit the test report along with the supply.
- 11.4.3. Sound level produced by this buzzer shall be tested and report shall be submitted along with the supply.

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