(11)

ANNEXURE-A

Technical specification

Technical specifications of Fuse Failure Alarm System for monitoring health of various type of fuses with automatic changeover facility along with Audio and Visual indication:

1. SCOPE

1.1 This specification lays down the requirements and tests of Fuse Failure Alarm Systems with automatic changeover facility along with audio and visual indication suitable signaling installations of Railways.

1.2 The changeover facility covered in this specification should be suitable for changing over to spare fuse automatically when main fuse is blown off without affecting the functioning of signaling circuits. At every change over audio/visual indication should appear.

1.3 The system covered under this specification should work on 60V to 140V AC/DC. Working Power Supply should be of SMPS type.

1.4 Each module of Fuse Alarm System should be suitable for monitoring 18 Nos. 'G' type fuses or any other type of fuses of various capacities and should be suitable to fit in the existing relay rack.

1.5 The system voltage of the fuse can be either 12V, 24V, 60V DC or 110V AC etc. Each Card of Fuse Alarm system shall be suitable for monitoring fuses of only one source of supply. Different cards of same module can be used different sources of supply so that one module can be used for different type of supplies.

1.6 Optocoupler must be used in input circuit for every fuse for isolation.

2. CONSTRUCTION :

2.1 Maximum outline dimensions of each module for 18 Nos. of fuses should be 120 mm x 500 mm x 155mm (±5mm). Each module should be suitable to accommodate 18 Nos. of fuse fail circuits having 06 Nos. cards. LED indication for indicating fuse blown off should be mounted on PCB.

2.2 The equipment shall be of natural air-cooled type and shall be suitable for use in the signaling cabins/inside location boxes where the maximum ambient temperature may reach 55° C.

2.3 The equipment shall be of robust construction. They shall be housed in cubicles made of cold rolled cold annealed mild steel sheet of thickness not less than 1 mm.

2.4 The equipment cubicles shall be treated with zinc chromate primer followed by electrostatic epoxy powder coating paint finish. Passivation shall be done through seven stage process. Small metal parts such as nuts, bolts and washers shall be plated. All other metal parts of the Fuse Alarm System shall be plated for protection against corrosion.

2.5 The layout of the components and wiring shall be such that all parts are easily accessible for inspection, repairs and replacement.

2.6 The cables and wires used shall be neatly secured in position by bunching & strapping. Aluminium wires shall not be used. The gauge of wiring shall be such that the current density should not exceed 3 Amps/mm^2. The colour scheme used for wiring shall conform to normal conventions and shall be shown in the instruction manual.

2.7 The following components shall be provided on the Panel housing fuse alarm system.

1.Power ON indication.
2.Buzzer Acknowledge push button.
3.'Test' push button.
4.Common Flashing 'LED' indication.

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