



भारत सरकार Government of India
रेल मंत्रालय Ministry of Railways
रेलवे बोर्ड (Railway Board)



No.2023/Sig/17-Sig Equip/Maintenance/Part

New Delhi, dt. 06.11.2023

PCSTEs
All Indian Railways

Sub: Streamlining Signalling Functions Description Writing at Signalling Installations.

Description writing of functions in Outdoor Location Boxes and Cable Termination Racks (CTR) in Relay Room / Relay Huts / Goomties plays a very vital role during Maintenance & Testing and during attending failures. Presently, in most of the Zonal Railways, both Indoor and Outdoor writing work is being carried out primarily by manual painting. It has been observed that during transfer of functions from defective cable conductors, updation in the writing/painting becomes very difficult due to scarcity / non-availability of painters. Although updation of function particulars on CTR and location boxes is to be permanently done by means of manual painting for legibility, yet to address the above gaps, following strategy may be adopted :

(A) Outdoor:-

1. **Conductor/wire labeling:** Function identification marker (Ferrules with printed letters / PVC sleeve with printed details of the cable core / Signalling function in Black with Yellow background) to be provided on each cable conductor. (Annexure-A, Figure-1).
2. **Description details of Terminals :** The Row of Screwless Disconnect Terminal / ARA Terminal shall be serially numbered as A, B, C, D..... from top and in each row, terminals shall also be serially numbered from left to right starting from 1. (Annexure-A, Figure-2).
3. The Cable Termination Details of Location Box (Location Termination Particulars) shall be prepared in AutoCAD/ any suitable software. One copy of Cable

Termination details shall be fixed in the respective location box duly printed on a board and another laminated copy /copy in plastic cover shall also be kept in the location box. (Annexure-A, Figure-2).

4. After every cable terminated in a row, there should be a minimum gap equivalent to 1-2 ARA terminal or minimum 06 Screwless Disconnect Terminals. (Annexure-A, Figure-3).
5. Inside the Location Box, minimum clearance of bottom most terminal row shall be around 150mm from base of location box. The Centre to Centre Distance between two rows of Screwless Disconnect Terminal / ARA Terminal shall be around 18cm to 20cm or suitable gap between rows to be kept for cable entry holes and description writings. (Annexure-A, Figure-3).
6. Location Box shall be numbered from its front side as well as Back side/side walls with black letter on yellow/white background.
7. The Cables terminated on Location Box shall be identified by punched labels / Cable Identification Tag tied on each end of the cable for correct identification. (Annexure-A, Figure-4)

(B) Indoor:-

1. **Conductor/wire labeling** : Function identification marker (Ferrules with printed letters / PVC sleeve with printed details of the core / Signalling function in Black with Yellow background) to be provided on each cable conductor. (Annexure-A, Figure-1).
2. **Description details of Terminals** : The Rows of Screwless Disconnect Terminal / ARA Terminal shall be serially numbered as A, B, C, D.... and in each row, terminals shall also be serially numbered left to right starting from 1. (Annexure-A, Figure-5).
3. The Centre to Centre Distance between two rows of Screwless Disconnect Terminal / ARA Terminal shall be around 18cm to 20cm. After every cable terminated in a row, there should be a minimum gap equivalent to 1 ARA terminal or 02 spacers / dummy Screwless Disconnect Terminals. (Annexure-A, Figure-5).
4. Screwless Disconnection Terminal / ARA Terminal or any other terminal approved by RDSO shall be used for termination of cables.

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5. The Cables terminated on CT rack shall be identified by punched labels/ Cable Identification Tag tied on each end of the cable for correct identification. (Annexure-A, Figure-4).
 6. Line wise and if necessary, function wise cables shall be provided as per para 15.1.2.(c) of IRSEM
 7. Minimum clearance of bottom most terminal in CT rack shall be normally 300mm from ground.
 8. CT Racks Particulars (i.e., Function wiring and termination details) may be made using Vinyl Printing or Flex Printing on 300 GSM PVC banner roll of suitable size framed or any other means and shall be fixed on wall through suitable wooden/metallic frame (CT Board) adjacent to CT rack such that signal staff can view both CT rack and CT Board details simultaneously.

(C) Periodical Verification & Validation :-

Annually, after monsoon season, SSE/Signal/Incharge of the section shall ensure verification and updation of any changes in cable / wiring termination particulars and replace / update description boards accordingly.

This should be followed in all future installations and to the extent possible in existing installation.

This issues with the approval of Board (Member/Infra).


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Annexure-A

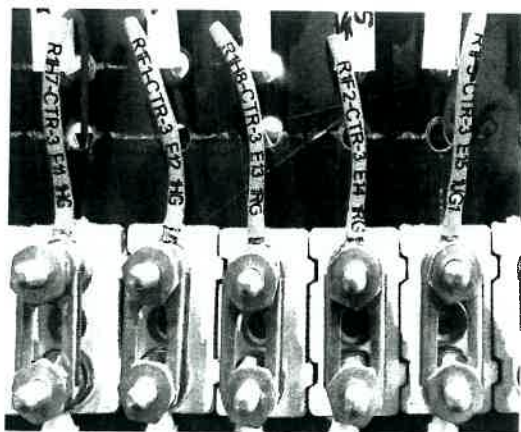


Figure-1

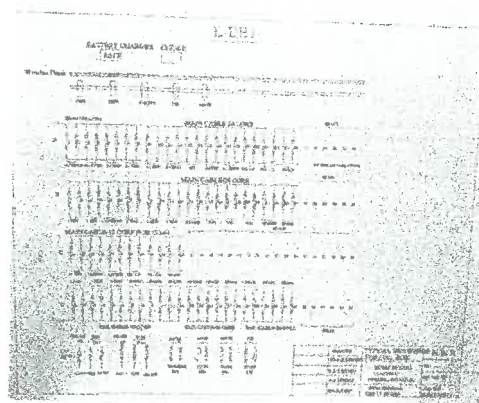


Figure-2

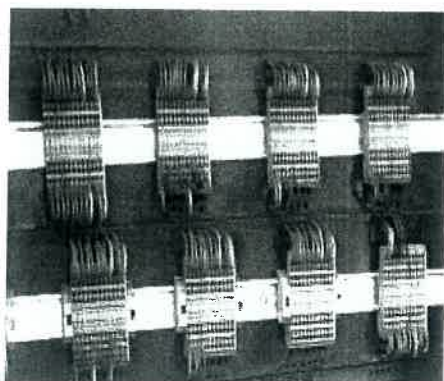


Figure-3

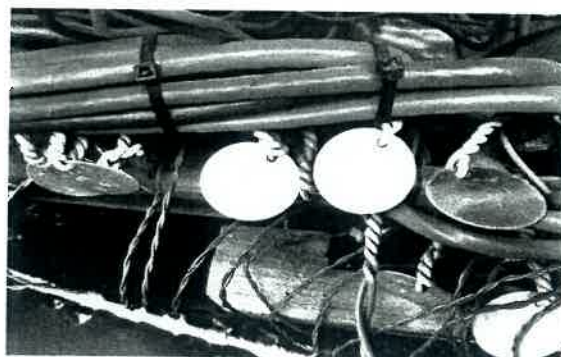


Figure-4

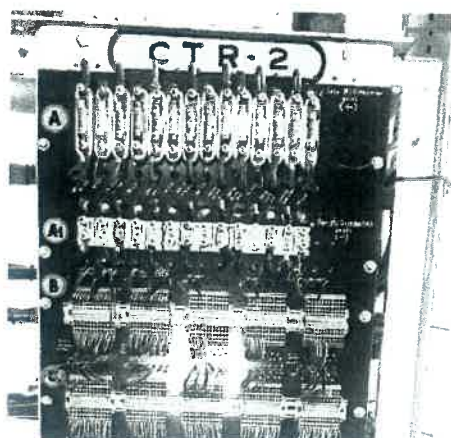


Figure-5