

I/70558/2025



भारत सरकार-रेल मंत्रालय
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No. [RDSO-EL/0/SYS\(RLAY\)/1/2020-O/o PED/SE/RDSO](#)

Date: As Signed

Principal Chief Electrical Engineers,

1. Central Railway, Mumbai CST-400 001	10. South Central Railway, Rail Nilayam, Secunderabad-500 071
2. East Central Railway, Hazipur-844 101	11. South Eastern Railway, Garden Reach, Kolkata-700 043
3. East Coast Railway, Chandrashekharapur, Bhubaneswar-751 016	12. Southern Railway, Park Town, Chennai-600 003
4. Eastern Railway, Fairlie Place, Kolkata-700 001	13. South Western Railway, Hubli-580 024
5. North Central Railway, Subedarganj, Prayagraj-211 033	14. West Central Railway, Jabalpur-482 001
6. Northern Railway, Baroda House, New Delhi-110 001	15. Western Railway, Churchgate, Mumbai- 400 020
7. North Eastern Railway, Gorakhpur-273001	16. South East Central Railway, Bilaspur- 495 004
8. North East Frontier Railway, Maligaon, Guwahati-781 011	
9. North Western Railway, Jaipur-302 006	

Sub.: Regarding comment/Suggestion on Draft MS No. RDSO/2025/EL/MS/xxx (Rev. '0') for provision of 3-pole 80A compact-type electromagnetic contactors in place of conventional electromagnetic contactors in EMC panels for WAP4 and WAG7 locomotives, based on condition assessment.

Ref.: MoM of 41st MSG Meeting.

In reference to the above, RDSO has prepared a Draft Modification Sheet for the provision of 3-pole 80A compact-type electromagnetic contactors in place of conventional electromagnetic contactors in EMC panels for WAP4 and WAG7 locomotives, based on condition assessment. Draft MS has been uploaded on the RDSO Website for Comments/Suggestions for 30 days under the following path:

www.rdsolndianrailways.gov.in → Specifications/Drawings → Loco, EMU & Power Supply → other important links → Important Letters/Documents → Draft MS No. RDSO/2025/EL/MS/xxx (Rev. '0').

The comment/Suggestion on the above draft MS may be emailed to dsetlsrdso@gmail.com.

D.A.: Draft MS.

for **Director General Standard/Electrical**

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सत्य मेव जयते

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Date:

...01.2025

Principal Chief Electrical Engineers;

- Central Railway, HQs Office, 2nd floor, Parcel Office Bldg., Mumbai – 400 001.
- East Central Railway, Hajipur (Bihar) – 844 101.
- Eastern Railway, Fairlie Place, Kolkata – 700 001.
- East Coast Railway, Railway Complex, Bhubaneswar – 751 023.
- Northern Railway, Baroda House, New Delhi – 110 001.
- North Central Railway, Allahabad – 211 001.
- North Eastern Railway, Gorakhpur – 273 001.
- North Frontier Railway, Maligaon, Guwahati – 781012.
- North Western Railway, Jaipur- 302 006.
- Southern Railway, Park Town, Chennai – 600 003
- South Central Railway, HQs Office, Rail Nilayam, Secunderabad – 500 071
- South Eastern Railway, Garden Reach, Kolkata – 700 043
- South East Central Railway, Bilaspur – 495 004
- South Western Railway, Hubli – 580020
- West Central Railway, HQs Office, Opp. Indira Market, Jabalpur – 482 001
- Western Railway, Churchgate, Mumbai – 400 020
- Banaras Locomotive Works, Varanasi – 221004
- Patiala Locomotive Works, Patiala – 147 003.
- Chittaranjan Locomotive Works, Chittaranjan – 713 331.

Modification Sheet No. RDSO/2025/EL/MS/xxx (Rev. '0') dated xx/xx/2025.**1.0 Title:**

The provision of 3-pole 80A compact-type electromagnetic contactors in place of conventional electromagnetic contactors in EMC panels for WAP4 and WAG7 locomotives, based on condition assessment.

2.0 Brief History:

1. Maintenance of conventional electromagnetic contactors is challenging in several aspects compared to the compact-type electromagnetic contactors used in three-phase locomotives.
2. During the 45th MSG meeting, Southern Railway proposed the replacement of conventional electromagnetic contactors with compact-type 3-pole 80A contactors for the following circuits in WAP4 locomotives: MVMT1 (C105), MVMT2 (C106), MVRH (C107), CP-1 (C101) & CP-2 (C102).
3. Central Railway has already implemented the same in 49 (47 WAP4 & 2 WAG7) locomotives by replacing conventional electromagnetic contactors with compact-type 3-pole 80A electromagnetic contactors in the EMC panels of WAP4 locomotives. The modified system's performance has been reported as very good.


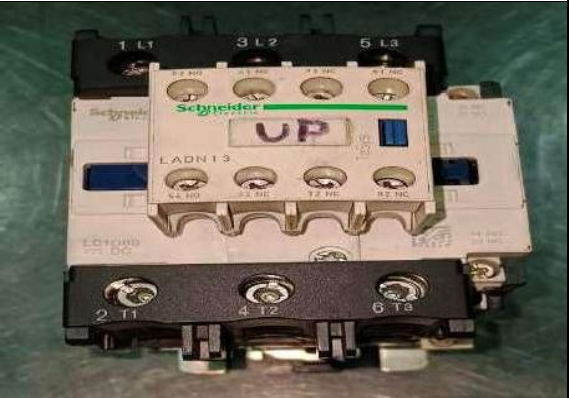


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4. Based on initial feedback from Southern Railway and Central Railway, all zonal railways (ZRs) were advised to replace conventional electromagnetic contactors with compact-type 3-pole 80A electromagnetic contactors in the EMC panels of WAP4 locomotives.

3.0 Objective:

To prevent punctuality losses caused by the malfunction of existing EMCs and reduce maintenance requirements compact-type EMCs should be installed in locomotives during their major schedules when EMC replacement is due.

4.0 Existing and modified arrangement:

Conventional type EM Contactor	Compact type EM contactor
	
	
Existing TK Panel	Modified Panel

5.0 Modifications steps:

Following steps to be followed for modification

1. Unload the conventional-type contactor from the TK panel.
2. Remove the contactor's holding clamp. Disconnect the incoming, outgoing, and control cables.
3. Take two pieces of Hylam/SRBGF sheet with dimensions of 75 cm x 15 cm x 10 mm.
4. Drill holes in the Hylam bars according to the hole positions on the base of the contactor for proper fitment.
5. Drill additional holes in the Hylam bars for mounting them onto the TK panel channel.
6. Fit the Hylam bars into the TK panel channel, ensuring proper spacing between them to accommodate the contactor.
7. Mount the compact contactor (Type LC1D80) onto the Hylam bars inside the TK panel.

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8. Adjust the layout of the incoming, outgoing, and LT power cables according to the new contactor position.
9. Replace the lugs of the incoming power cable, outgoing power cable, and LT cable from ring-type lugs to ferrule-type lugs.
10. Install an additional interlock (Type LADN22) in front of the contactor.

6.0 Material required:

Material Required for WAP4 Roof mounted DBR with two compressor (CP) locos:

1. 5 no's three-phase compact type 80 A contactor, LC1D80.
2. 5 no's LADN22 type aux interlock.
3. 30 no's Ferrule type 25 square mm lug.
4. 60 no's Ferrule type 2.5 square mm lug.
5. Cable: 25 mm² and 2.5 mm² according to layout of hylam bar and contactor fitment.

7.0 Reference:

41st MSG meeting at PLW/Patiala.

8.0 Application to the class of locomotive:

WAP4 and WAG7 Locomotives giving priority to WAP4 locomotive on a condition basis.

9.0 Agency of Implementation:

POH Shops, Electric Loco Sheds holding Conventional Electric Locomotives.

10.0 Periodicity of Implementation:

During POH or Major Schedule when replacement of EMC is due.

11.0 Instruction for Loco Pilots:

Nil

-sd-

Encl: Nil.

for **Director General (Elect.)**

Copy to:

- Secretary (Electrical Engg./RS), Railway Board, Rail Bhawan, New Delhi-110 001:
(Kind attn.: Sh. Vikash Anand, DEE/RS): For kind information.

Encl: Nil.

for **Director General (Elect.)**