

Ref. No. : ABB/4118/CLW/PE/0102

Date: 11.04.2025

To,
Dy Chief Electrical Engineer,
Centre for Design & Development
Chittaranjan Locomotive Works
Chittaranjan - 713 331

Kind Attn: Shri Pankaj Kumar (Dy CEE/D&D/CLW)

Subject: Request for regular approval of software version 56 in redesign Traction Converter in P7,G9 & P5 loco .

Ref : - 1. RDSO Minutes of Meeting held at CLW on 21.2.2025 on reliability issues of IGBT based Propulsion System equipment fitted in of 3 Phase electric locomotives.
2. Software version 55 approval Letter no - C-D&D/T/21, Vol.II , Dated – 27.6.2024
3. Software version 54 approval Letter no - C-D&D/T/24/ABB/typetest , Dated – 18.4.2023

Dear Sir,

With reference to the above subject matter, we are pleased to submit the software release note for releasing the software version 56 in redesign Traction Converter in P7,G9 & P5 loco's.

1.1 - Improvements in software version 56

Issue Reported: Time out dc link pre-charge during neutral section: MC trip at neutral section causing inconsistent Line contactor operation (converter with MC trip opens line contactor and healthy converter doesn't open), leading to DC link pre-charge timeout

Solution: Line contactor operation of both converters synchronized during trip by considering feedback of faulty converter via P2P link, with hardware DI as a backup if P2P link fails.

1.2 - Modifications in software version 56

Change request: Change implementation done for Energy Saving Scheme as per RDSO and CLW modification Request C-D&D/T-24 and SPEC RDSO/2008/SPEC/0071/ Rev5.

Implementation: The Energy Saving Mode Activation signal comes from BUR which masks the converter coolant flow low trip and transformer pressure low trip over the period of ES mode activation.

Based on the satisfactory performance of trial loco no – 37317 & joint note on dated 26.2.25 at ELS ED , we now request you to provide for regular approval of software version 56 in redesign Traction Converter in **(For Train type P5, P7, G9)**

ABB India Ltd

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Request to CLW – D&D - plz modified Micas VCU DDS Message HEX file(DIA File) to compatible with SW V 56 implementation of both channel Plausibility Check between two channels of transformer oil temperature sensor in DDU message.

Yours Sincerely,
For ABB India Ltd.,



Mohit Sharma
Service Manager – Traction (India)
Mob- +91- 9686841604

Copy to: DSE/TPL/RDSO :For your kind information.

Attachment – Software Version 56 release note & ELS ED joint note dated -26.2.25

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1 Introduction

Aim of this document is to summarize the solution/ updates and test results for the issues reported from the field on **Bordline CC1500 AC 25 kV M 2300 fitted in 1500A IGBT** based redesign traction converter system equipped with PEC Trac controller.

2 Release Notification

2.1 Improvements in software version 56

Issue Reported: Time out dc link pre-charge during neutral section: MC trip at neutral section causing inconsistent Line contactor operation (converter with MC trip opens line contactor and healthy converter doesn't open), leading to DC link pre-charge timeout
(For Train type P5, P7, G9)

Solution: Line contactor operation of both converters synchronized during trip by considering feedback of faulty converter via P2P link, with hardware DI as a backup if P2P link fails.

2.2 Modifications in software version 56

- **Change request:** Change implementation done for Energy Saving Scheme as per RDSO and CLW modification Request C-D&D/T-24 and SPEC RDSO/2008/SPEC/0071/ Rev5.
- **Implementation:** The Energy Saving Mode Activation signal comes from BUR which masks the converter coolant flow low trip and transformer pressure low trip over the period of ES mode activation.

3 Release Approval

By the verification of modification, this software is valid for installation or downloading on the target system.

3.1 Verification of Modification


All the modifications of the new SW release are verified by testing the new functionality comprehensively on the real time setup and converter on the vehicle and made valid to install in another locomotives.

4 Required tools / systems and versions for installing this SW

Tool Name	Version	Manufacturer	Function
PEC Tool	2.6.3.0	ABB	Download tool

5 Field Action

It is recommended to upload the software into Locomotive and test the application for improved converter reliability and to address the different issues reported by zonal railways.

Prepared	Harija H	25.03.2025	Project	CLW 3-Phase Locomotives			No of pages 1
Reviewed	Vaibhav Tripathi	28.03.2025	Title	Change note for Software Ver-56			
Approved	Karthick Gunasekaran	02.04.2025	Converter	Bordline® CC1500 AC 25kV M2300 004 B01			
Department	MOTR						
<div> ABB India Ltd.</div>			Document No.		Language	Rev.	Page
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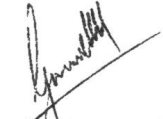
PERFORMANCE JOINT REPORT

Joint Report Made On : 26.02.2025
Firm's Name : ABB India Pvt.Ltd
Name of the Equipment : SR1 & 2
Make : ABB
Equipment Serial No : 982 & 988
Loco No. : 37317 / WAP7
Software Version : SR: 55-08

M/S.ABB released the SR-SW version 55-08 on date 27th December 2024. Software loaded in loco number 37317 on 27.12.2024 and given for passenger service. Loco arrived at shed on 17.02.2025. VCU and SR Data downloaded and analyzed. No abnormalities found.


(E. HARI KRISHNAN)
SERVICE ENGINEER
ABB


(VINOD KUMAR)
DEE/RS/ED


(GANESH M)
SSE/E8/ELS/ED

Copy to,
Sr.DEE/RS/ED.