

1 Introduction

This document summarizes purpose, new features of the Software Version: 99-Modified for the Projects Bordline CC1500 AC 25kV M 2300 fitted .

2 Release Notification

2.1 Major bug in former SW Ver-99

- a) Intermittent Motor Overcurrent Trips while magnetization
- b) Intermittent LC Overcurrent during low speeds during regeneration

2.2 New features and extensions

- a) Intermittent Motor Overcurrent Trips while magnetization
 - Issue: The intermittent MC overcurrent trips during magnetization of the motors were a result of unsupervised data integrity. As a result, the motor controller would take a higher modulation index at the start, and would thereby provide a greater current to the motor.
 - Solution: The data integrity of the motor control has been brought into a faster task management to not allow any presumption of unnecessary values during magnetization
- b) Intermittent LC Overcurrent during low speeds during regeneration
 - Issue: This issue comes into picture during regeneration at low speeds (<15kmph), as this is the zone where braking power is reduced, the DC link voltage falls below the reference, putting extra load on the LC to deliver greater power to maintain DC whenever the loco goes back into motoring
 - Solution: Line converter control at lower DC link voltage for these particular cases is adapted, such that the reference ramp rate is fine tuned, while effecting zero impact on power delivery feature


3 Release Approval

All the modifications of the new SW release are verified by testing the new functionalities comprehensively first on the real time setup and then on the locomotive. The software is also monitored in below limited fleet

Loco No	Shed	Date of Downloading Software
32040 (WAG-9)	ELS AQ	19-June-2019
31971 (WAG-9)	ELS AQ	02-July-2019
37149 (WAP-7)	ELS RPM	13-July-2019
37151 (WAP-7)	ELS RPM	18-July-2019

4 Field Action

With the RTS test results and performance of the above locomotives, it is recommended to upload the software into the entire applicable fleet for improved converter reliability.

Prepared	Saikiran S	06.08.2019	Project	CLW 3-Phase Locomotives	No of pages 1		
Reviewed	Ramu S	07.08.2019	Title	Change note for Software Ver-99			
Approved	Pradip Savaliya	07.08.2019	Converter	Bordline® CC1500 AC 25kV M2300 004 B01			
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