

1 Introduction

This document summarizes purpose, new features of the Software Version: 51 for the Projects Bordline CC1500 AC 25kV M 2300 fitted in 1500 Amp IGBT Based Traction Converter equipped with PEC Trac Controller and results of the test in software version 50_05.

2 Release Notification

2.1 Major bug in former SW

- LC Overcurrent during dynamic conditions.
Solution: Parameterization of LC Controller for detection of fast OHE variation and adaption of the same on the run.
- MC Overcurrent during dynamic conditions.
Solution: Adaption of Motor Controller for seamless effort generation and reduced oscillation in the motor current.
- Isolation of single motor in case earth fault in motor.
Solution: Motor pulsing state detection during earth fault and isolation of motor on the basis of the same.
- In consistency in pop up message reported in field operation.
Solution: Pop-up display from non-volatile state memory for Blocked Motor.
- Correction of Motor 4 and 6 temperature for Traction Converter 2.
Solution: Correction of SLG2-207, 88-XTempMotor1 and 88-XTempMotor3.
- Correction in scaling of the power signal XPN.
Solution: Power scaling adapted to (+/-100% = +/-10MW).

2.2 New features and extensions


- a) Implementation of CE Reset during operation as per RDSO Modification Sheet no RDSO/2018/EL/MS/0475 and as tested in software version 50_05.
Solution: SLG1_103 /SLG2_203 XSpeed signal optimized after CE Reset to restore the driving direction FLG1-1035_0 47-BdriveDirec1 and 47-BdrivDirec2 from FLG.
- b) Identification of intermittent interruption of speed sensor signal and correction of speed validity in traction converter to address reported problems of speed not increasing/jerk/TE-BE not responding.
Solution: Additional monitoring added for very fast interruption detection of speed sensor feedback and correction of speed validity bit based on this function.

3 Release Approval

All the modifications of the new SW release are verified by testing the new functionalities comprehensively on the real time setup.

4 Field Action

With the RTS test results, and test result of 50_05 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.

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