Production Firmware History (October 17, 2016)

Description

This document is intended for end-user informational purposes. It describes the changes between revision levels of the primary control board firmware used in the 9E/93E product line. This document changes periodically and is reposted on Eaton.com to reflect new production level firmware changes. In all cases, the "Changes and Enhancements" listed under a given production release are automatically transferred into the next production release.

Version 1.28 / February 20, 2016

Notes

The main purposes for this release are for an added ambient Over Temperature Alarm and High-Efficiency Mode Fault Detection.

Changes and Enhancements

- Improved transfers out of HE mode
- Improved load percentage accuracy on display
- Removed common battery field from External Battery screen
- Corrected firmware build numbers on display
- Improved Load Share for Parallel operation

Version 1.26 / May 7, 2015

Notes

The main purposes for this release are as follows are for Russian language addition Parallel Load Share Error alarm and compatibility with the original Version 5 hardware.

Changes and Enhancements

- Improved pre-charge time to decrease input inrush current
- Added an enable/disable "load off" display feature
- Russian language
- Added an alarm for Parallel Load share Error
- New Modbus Requirement
- Updated threshold to "zero" the output current meters for larger amounts of load
- Added new custom battery parameters for higher capacity battery models
- HE mode can now work when ABM is disabled
- Changed the product name to "Eaton 93E Series"
- Load percentage and PF are now displayed correctly under an Easy Capacity Test

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- Activations of "Battery Test Fail" under an abnormal exit of a battery test
- Improved Site Warning fault alarm
- Fan speed improved under unbalanced loads
- Adjustable bypass slew rate
- HE storm detection is now active
- Improved generator walk-in delay feature
- Correct display when using Power Share mode
- Improved Battery Time Remaining Calculation
- Corrected Modbus value errors

Version 1.24 (Not Released)

Version 1.22 / Dec 17, 2013

Notes

The main purposes for this release are as follows are for new accessories for Asian applications, low Power Factor compensation, horn / buzzer changes, Option to disable ABM and optimization of External Parallel functions.

Changes and Enhancements
- Integrate 9E 120 kVA into a single / common package
- Added low load PF compensation feature
- Optimization for external parallel turn on sequence
- Changed unit name from "9E" to "93E"
- Added CSB EEPROM value to enable/disable LED/buzzer when notice is active
- Added an ABM disable feature
- Added accessories functions for Asian applications
- Cleared nuisance Output ACOV alarms when load off is used
- Improved Output Overload alarm accuracy
- Increased temperature protection points
- Cleared nuisance configuration error alarms
- Fixed Battery calibration error
- Corrected shutdown reporting error for remaining capacity limit
- Improved "Battery Switch Fail" alarm reporting and detection time
- Improved CSB alarm logging
- Fixed EEPROM shutdown under specific CSB traffic levels
- Improved CSB and LCD interfacing
- Fixed race condition within CAN drivers
- Fixed CSB reboot under "Chimney Fan Fail" conditions
- Improved parallel system "Check Pull Chain Fail" alarm responses
- Fixed UPS number / ID assignment for parallel configurations

Version 1.20 / (Not Released)

Version 1.18 / May 14, 2013

Notes

The main purpose of this release is to support mixed internal and external battery models. The Battery Parameters and Battery Time Remaining screens were updated to support this feature. This release also supports a new battery breaker and its related signals and alarms as well as a "first time run screen".

Original algorithms for On Generator applications were reinstated in this release.

Changes and Enhancements

- New BTR and new Battery Breaker algorithms for mixed battery
- New Battery Breaker status and alarm messages, and shunt trip functions
- Added parallel battery setting screen, to include external options
- Added another CAN package for newly added Node bits in both UPM and CSB part
- Updated calibration algorithms for larger kVA models
- Improved Battery Percent Metering and BTR accuracy
- Network Management Card now displays correct UPS name and correct BTR value
- Removed Battery Test Fail alarms which were occurring after a live discharge test
- Improved operation on generator with light load, both for Rectifier controls and sync with Bypass
- Improved fan speed controls
- Removed nuisance transfer functions under overtemperature conditions
- Fixed Battery Breaker nuisance trip conditions when utility input is removed

Version 1.16 / June, 2012

Notes

Developed for 100–200 kVA models and validated for compatibility on 30–60 kVA.

Changes and Enhancements

- Improved IGBT control and regulation
- Added more Notebits for alarming and status
- Improved temperature monitoring and protections
- Improved unbalanced load application
- Improved transfer operations to and from bypass mode
- Improved fan speed controls
- Applied place holders for upcoming 100K-200K Models
- Added option for internal backfeed control
- Added new Output kVA Ratings: 20 kVA, 30 kVA, 80 kVA, 100 kVA
- Added new UPM-level Node bits
- Update options in applicable display screens to support 100–200K systems
- Update the system information in info screen and printing log

- Update the meters screen to support 200K system
- Improved "Utility Not Present" notice to prevent nuisance notices
- Improved Bypass Voltage metering
- Improved Load % metering under small unbalanced load applications
- Added new output short / fault control conditions
- Improved transfer operation under over temperature scenarios
- Improved bypass current metering for all modes of operation
- Displayed bypass power on HE mode
- Improved synchronization between NMC and LCD when UPS is off
- Added a two (2) NMC application
- Corrected Inverter switchgear failure while performing a Inverter Overload Test
- Corrected DC Link Over Voltage Alarm and improper operation when transferring to Battery mode
- Added Battery Capacity %
- Improved NMC functionality to support 100–200K models

Version 1.12 and 1.14 (Not Released)

Version 1.10 / March, 2012

Notes

Developed for 100–200 kVA models and validated for compatibility on 30–60 kVA.

Changes and Enhancements

- Parameter and screens for de-rated versions of 9E (20 kVA and 40 kVA) and reduced number of internal battery strings
- Corrected inconsistency of displayed messages of Building Alarms vs. the Installation and Operation Manual wording
- Modify the HE enable/disable control screen to note that HE mode is not available in a parallel system
- Added battery controls in the commands screen for all UPMs
- Level 1 Control Password changed for parallel configurations

Version 1.08 / November, 2011
(PLD version 1.17.01 and version 9.1 hardware is required)

Notes

Added External Parallel capability for 30 kVA and 60 KVA (four modules maximum).

Version 1.06 / September, 2011
(PLD version 1.17 and version 9.1 hardware is required)

Notes

Added 60 kVA High Efficiency Mode and Protected kVA Upgrade.