

Introduction

This publication provides a historical summary of the changes made to the application firmware and hardware of the DECS-250 Digital Excitation Control System.

Revision history information for BESTCOMSPPlus® software is provided in the *BESTCOMSPPlus Software Revision History* document.

This information is provided for confidential use with the mutual understanding that it will not be used in any manner detrimental to the interests of Basler Electric.

Firmware Revision History

The revision history for DECS-250 application firmware is provided as follows. Revisions are presented in reverse chronological order.

| Firmware Version and Date | Change |
|--|---|
| 2.09.00, Jan 2026 | <ul style="list-style-type: none"> Added NTPv3 compatibility Added security log functionality Added security version reporting Added system-in-use messaging support Altered auto-synchronizer logic element priority so that open requests take precedence over close requests Improved pre-position priority of release and maintain modes Changed port access to allow reset functionality at Control level Corrected auxiliary control FCR setpoint adjustment calculation Corrected NTP sync issue Increased limiter scaling ranges to 1,000% Removed Russian language support Miscellaneous maintenance updates |
| 2.06.04, May 2023 1.06.04, May 2023 | <ul style="list-style-type: none"> Improved SCL operation during buildup |
| 2.06.02, Aug 2022 1.06.02, Aug 2022 | <ul style="list-style-type: none"> Added pre-position traverse rate settings to HMI and Modbus® Improved tracking time delay Improved V/Hz Limiter alarm Improved OEL scaling Corrected syncing of Auto and Manual mode status with BESTCOMSPPlus Control Panel Corrected updating of Traverse Rate settings Corrected handling of Start and Stop dates for DST Corrected error in PSS final output Corrected operation of logic timers and counters Corrected UEL and Underfrequency - V/Hz alarms from annunciating when the condition does not exist Corrected network load sharing error with redundant units |
| 1.06.01, Feb 2020 | <ul style="list-style-type: none"> Modified microprocessor startup routine |

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| Firmware Version and Date | Change |
|---------------------------|--|
| 1.06.00, Apr 2019 | <ul style="list-style-type: none"> • Added grid code settings, which makes the DECS-250 compatible with grid code compliant systems • Metering labels updated • Added Power Input parameter in data log and real-time monitoring • Corrected Scale Factors for the Terminal Frequency and Compensated Frequency so they are in units of percent in datalogs and analysis charts • Improved Network Load Share algorithm • Improved anti reset windup for the PI controller • Changed low end range of High-Pass Filtering/Integration Inertia (H) PSS Parameter setting to 0.01 • Fixed error in the discrete proportional gain of the PID controller • Increased current ranges for Summing Point OEL and Takeover OEL to allow for proper operation at 20 Adc |
| 1.05.06, May 2018 | <ul style="list-style-type: none"> • Maintenance release |
| 1.05.05, Jul 2017 | <ul style="list-style-type: none"> • Maintenance release for DECS-250N |
| 1.05.03, May 2017 | <ul style="list-style-type: none"> • Added support for synchronizing at 25 Hz • Improved Governor Bias Control Proportional Pulse scaling • Added time delay setting for Network Load Share Config Mismatch • Updated Default Logic for PSS and Network Load Sharing • Added support for metering DC power input • Modified behavior of tracking error in stop mode |
| 1.05.02, Apr 2017 | <ul style="list-style-type: none"> • Improved Auto Tuning on high gain systems • Improved Synchronizer breaker close timing accuracy • Modified time display for 12:00 am and pm. • Improved indication of CAN Bus baud rate selection • Improved display of RTD value when no RTD is connected |
| 1.05.01, Dec 2016 | <ul style="list-style-type: none"> • Added active setpoints to acyclic Profibus points |
| 1.05.00, Jun 2016 | <ul style="list-style-type: none"> • Maintenance release for DECS-250N |
| 1.03.02, Dec 2015 | <ul style="list-style-type: none"> • New ranges for PSS parameters, changed default option or PID Design Mode in Auto Tune function |
| 1.03.01, Jul 2015 | <ul style="list-style-type: none"> • Enhanced auto synchronizer function |

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| Firmware Version and Date | Change |
|---------------------------|--|
| 1.03.00, Feb 2015 | <ul style="list-style-type: none"> • Added Chinese language • Added Generator/Motor operating mode selection • Enhanced network load sharing <ul style="list-style-type: none"> ○ Added Network Load Share metering screen ○ Added Power Input and NLS Error Percent parameter selections for configurable protection ○ Added status logic elements for Config Mismatch, ID Missing, and Network Load Share Active ○ Added NLS Broadcast logic element to broadcast alarms to selected units actively sharing load • Added VAR/PF MODE logic element • Changed the default value of auxiliary control gains to zero • Modified datalog triggering by watchdog • Modified the way PF is scaled when used for an analog output • Modified display of setpoints • Modified datalog to trigger on contact input open • Added PF Active Power Level % to Modbus • Expanded the range for analog outputs to –999,999 to 999,999 • Added Modbus registers for AEM-2020 alarms • Modified unsecured access level security • Modified communication with IDP-800 • Modified total VA and total PF calculations • Modified frequency display in Comtrade files • Modified scaling of RTD values • Modified operation of SCL limiter |
| 1.02.00, Jun 2014 | <ul style="list-style-type: none"> • Added Russian language support • Added overexcitation (24) protection • Added transient excitation boosting function • Added loss of excitation (40Q) protection for motors • Added integrating reset method to takeover OEL • Added angle compensation to synchronizer and sync check (25) • Increased available real-time monitoring plots from two to six |
| 1.01.05, Mar 2014 | <ul style="list-style-type: none"> • Added PF Active Power Level setting for var/PF regulation • Added Network Load Share ID settings • Added secure login via Modbus® communication settings • Added Modbus registers for Binary Points and Metering |
| 1.01.01, Jul 2013 | <ul style="list-style-type: none"> • Miscellaneous Modbus® enhancements |
| 1.01.00, Nov 2012 | <ul style="list-style-type: none"> • Initial release |

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Hardware Revision History

The revision history for DECS-250 hardware is provided as follows. Revisions are presented in reverse chronological order.

| Hardware Version and Date | Change |
|---------------------------|---|
| AK, Nov 2022 | <ul style="list-style-type: none"> Maintenance release |
| AJ, Aug 2021 | <ul style="list-style-type: none"> Updated Analog circuit board |
| AI | <ul style="list-style-type: none"> This revision letter not used |
| AH, May 2021 | <ul style="list-style-type: none"> Membrane now being UV printed in factory |
| AG, Apr 2021 | <ul style="list-style-type: none"> Changed to textured powder coat paint |
| AF, Sep 2020 | <ul style="list-style-type: none"> Changed manufacturer of LCD |
| AE, Sep 2020 | <ul style="list-style-type: none"> Connector plugs changed to UV printed terminal markings |
| AD, Oct 2019 | <ul style="list-style-type: none"> Replaced labels with UV printed markings |
| AC, May 2019 | <ul style="list-style-type: none"> Replaced an internal o-ring with improved version |
| AB, Sep 2018 | <ul style="list-style-type: none"> Updated Analog circuit board |
| AA, Apr 2018 | <ul style="list-style-type: none"> Changed Digital circuit board and Power PC circuit board |
| Y, Dec 2016 | <ul style="list-style-type: none"> Replaced internal cable with improved version |
| X, Aug 2016 | <ul style="list-style-type: none"> Released RoHS compliant PCBs |
| W, Jun 2016 | <ul style="list-style-type: none"> Released firmware version 1.05.00 and BESTCOMS<i>Plus</i> version 3.14.00 |
| V, Dec 2015 | <ul style="list-style-type: none"> Released firmware version 1.03.02 and BESTCOMS<i>Plus</i> version 3.11.00 |
| U, Oct 2015 | <ul style="list-style-type: none"> Updated PCB |
| T, Jul 2015 | <ul style="list-style-type: none"> Released firmware version 1.03.01 |
| R, Mar 2015 | <ul style="list-style-type: none"> Modified case for easier assembly |
| Q | <ul style="list-style-type: none"> This revision letter not used |
| P, Feb 2015 | <ul style="list-style-type: none"> Released firmware version 1.03.00 and BESTCOMS<i>Plus</i> version 3.08.00 |
| O | <ul style="list-style-type: none"> This revision letter not used |
| N, Feb 2015 | <ul style="list-style-type: none"> Released firmware version 1.03.00 and BESTCOMS<i>Plus</i> version 3.08.00 |
| M, Oct 2014 | <ul style="list-style-type: none"> Re-designed analog board to provide clearance for chassis screws |
| L, Sep 2014 | <ul style="list-style-type: none"> Improved hardware on the PowerPC board |
| K, Aug 2014 | <ul style="list-style-type: none"> Increased maximum operating temperature to +70°C Added GND terminal to power connector |
| J, Jun 2014 | <ul style="list-style-type: none"> Released firmware version 1.02.00 |
| H, May 2014 | <ul style="list-style-type: none"> Improved components on digital boards |
| G, Mar 2014 | <ul style="list-style-type: none"> Released firmware version 1.01.05 |
| F, Oct 2013 | <ul style="list-style-type: none"> RoHS updates to documentation |
| E, Jul 2013 | <ul style="list-style-type: none"> Improved power supply isolation Added RoHS compliance |
| D, Jul 2013 | <ul style="list-style-type: none"> Improved escutcheon plate rigidity |
| C, May 2013 | <ul style="list-style-type: none"> Improved alignment of terminal labeling |
| B, May 2013 | <ul style="list-style-type: none"> Improved mechanical design of analog board |
| A, Jan 2012 | <ul style="list-style-type: none"> Initial release |

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