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		Topic
		<b>DECS-2100 and ECS2100 Excitation Control Systems</b>
		<b>Software and Firmware Revision History</b>

## INTRODUCTION

This publication provides a historical summary of the changes made to the software and application firmware of DECS-2100 and ECS2100 Excitation Control Systems. Revisions are presented in reverse chronological order.

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.

## BESTCOMS™ Pro SOFTWARE

Software Version, Date	Changes
2.03.01, Jun 2025	<ul style="list-style-type: none"> <li>Resolved potential lock up during step response</li> <li>Improved Time axis on Real-Time Analysis screen</li> </ul>
2.03.00, Sep 2023	<ul style="list-style-type: none"> <li>Updated Temp Monitor block help file</li> </ul>
2.02.00, Mar 2023	<ul style="list-style-type: none"> <li>Added support for new BCM-2 blocks</li> <li>Added optional (lower) maximum skipfire reference setting</li> <li>Corrected missing context from CSV exports</li> </ul>
2.01.02, Sep 2017	<ul style="list-style-type: none"> <li>Added White Noise Response screen under Commissioning</li> <li>Added spreadsheet reports for App Config View (Tools -&gt; Export) and the Modbus® Map</li> </ul>
2.01.01, Jul 2017	<ul style="list-style-type: none"> <li>Updated USB driver installer for improved Windows® 10 compatibility</li> </ul>
2.01.00, Nov 2016	<ul style="list-style-type: none"> <li>Added Windows® 10 support</li> <li>Added BCM-2 support</li> <li>Added the ability to create settings reports</li> <li>Improved the print controls for logic diagrams</li> </ul>
2.00.05, Dec 2014	<ul style="list-style-type: none"> <li>Corrected display of large values in the Assignment Editor</li> <li>Adjusted the data refresh behavior of the Block setting screen</li> <li>Improved compatibility with configuration files created with various firmware versions</li> <li>Corrected communication behavior with the FCIM</li> </ul>
2.00.04, Aug 2014	<ul style="list-style-type: none"> <li>Added the ability to configure the Event Recorder to run simultaneously with Step Response</li> <li>Restored retention between sessions of the Show Inputs/Outputs checkbox setting on Block Setting views</li> <li>Added ability to change the Event blocks' Enable input assignment on the Data Recording screen</li> <li>Reduced the security access required to upgrade firmware from level 4 to level 3</li> <li>Adjusted the generator simulator block to use industry-standard saturation coefficients</li> <li>Improved system configurability by adding a Transfer Enable parameter to all limiter/protection blocks</li> </ul>
2.00.03, Feb 2014	<ul style="list-style-type: none"> <li>Added upper and lower limit indicators to the Limiter screen</li> </ul>

Publication	Revision	<h1 style="margin: 0;">Revision History</h1>	Date	Copyright
<b>9410100899</b>	<b>E</b>		<b>06/25</b>	<b>2025</b>

Software Version, Date	Changes
	<ul style="list-style-type: none"> <li>Corrected display of the TINT setting on the Preferences screen when the regional setting is changed (French, Spanish, and Russian languages)</li> <li>Expanded the Control Panel screen's display abilities to include actual units of measure and per unit values (similar to the metering screens)</li> <li>Added a Pre-Position Mode indicator to the Control Panel screen</li> <li>Corrected the "Copy RAM to FILE" feature so that it copies the file name into the "File Strategy" column</li> </ul>
2.00.02, Aug 2013	<ul style="list-style-type: none"> <li>Added automatic saving of the user's App Config View settings</li> <li>Improved memory usage to address slow computer responses</li> <li>Added support for multiple USB devices, including connection through a USB hub</li> <li>Corrected issue of Test Injection Signal selections disappearing on the Frequency and Time Response screens</li> <li>Added a checkbox to the Connections dialog to bypass loading block information if a valid configuration file is found</li> <li>Added a Copy to Clipboard button on the Activation Request screen</li> <li>Added support for minimized windows when a BESTspace™ configuration is saved and restored</li> <li>Added automatic sizing of the CustomMessageBox control</li> </ul>
2.00.01, Mar 2013	<ul style="list-style-type: none"> <li>Added bridge status screens</li> <li>Consolidated data recording setup into two screens</li> <li>Added unit information to the control panel and metering screens</li> <li>Added help menu item to metering screens for access to information about blocks associated with the metered parameters</li> <li>Added Help button to "Assign Input" dialog displayed with a block input assignment is changed</li> </ul>
1.01.03, Oct 2011	<ul style="list-style-type: none"> <li>Initial release</li> </ul>

## DECS-2100 SYSTEM DEVICES

Revision histories for the application firmware of the ECM-2 Excitation Control Module and BCM-2 Bridge Control Module are provided as follows.

### ECM-2 Application Firmware

Firmware Version, Date	Changes
2.04.00, Sep 2023	<ul style="list-style-type: none"> <li>Initial release for version 2 hardware</li> </ul>
1.04.00, Sep 2023	<ul style="list-style-type: none"> <li>Maintenance release</li> </ul>
1.03.03, Oct 2018	<ul style="list-style-type: none"> <li>Enhancements to skip-firing capability</li> </ul>
1.03.02, Jul 2018	<ul style="list-style-type: none"> <li>Maintenance release</li> </ul>
1.03.01, Dec 2017	<ul style="list-style-type: none"> <li>Corrected power bridge SCR firing pulse errors at operating power frequencies greater than 400 Hz</li> </ul>
1.03.00, Sep 2017	<ul style="list-style-type: none"> <li>Added USB active status output to the USB block to indicate the download of data to a connected USB drive</li> <li>Added the MWMIN parameter and hysteresis to the POWERTRN F1 alarm</li> <li>Corrected equation of the NLS algorithm</li> <li>Increased the number of inputs and corresponding outputs from four to six on the HVGATE and LVGATE blocks</li> <li>Modified the auto-sync function for better performance</li> <li>Revised the FTOV block by moving the PREOUT output after the scaling function</li> <li>Corrected the behavior of the SOE block with multiple inputs applied</li> </ul>

Firmware Version, Date	Changes
	<ul style="list-style-type: none"> <li>Corrected the saturation calculations within the GENSIM block</li> <li>Corrected annunciation of the LINK_LOSS alarm when the BRG_CNFG block is configured for zero bridges</li> <li>Corrected corruption of event block data following the cycling of ECM-2 control power</li> </ul>
1.02.03, May 2017	<ul style="list-style-type: none"> <li>Resolved the occurrence of Ethernet communication errors</li> </ul>
1.02.02, Dec 2014	<ul style="list-style-type: none"> <li>Resolved Modbus® communication errors</li> <li>Added vector block SWITCH6F to address phase shift measurement issues</li> </ul>
1.02.01, Aug 2014	<ul style="list-style-type: none"> <li>Added Modbus® metering of time and date</li> <li>Added integrator initialization in bypass to VFG block</li> <li>Eliminated possibility of SCR misfires when the firing angle oscillates around a specific threshold</li> <li>Enabled the tying together of analog outputs between ECM-2 controllers</li> <li>Corrected random frequency perturbations</li> <li>Corrected the event recorder capture behavior of pre-trigger samples</li> <li>Revised the generator simulation saturation coefficient to comply with the industry standard</li> <li>Added a transfer enable parameter to all limiter and protection blocks</li> <li>Resolved update failures of the DIGIN_IN1_FB and DIGIN_IN2_FB block outputs</li> <li>Corrected field voltage perturbations caused by missing B-phase firing pulses</li> </ul>
1.02.00, Jan 2014	<ul style="list-style-type: none"> <li>Added Modbus® metering of MEL_P AND UEL_P setpoints</li> <li>Corrected AUTO_SYNC block behavior during low generator or bus frequencies</li> <li>Stopped initiating of data logger due to the cycling of ECM-2 control power</li> <li>Converted the BRIDGES_ON output of the BRG_CONFG block from integer to float</li> <li>Corrected event recorder behavior</li> </ul>
1.01.03, Aug 2013	<ul style="list-style-type: none"> <li>Corrected the behavior of the UEL and MEL curve points displayed in BESTCOMS™ Pro</li> <li>Converted the temperature outputs of the BCM_DATA blocks from integer to float</li> </ul>
1.01.02, Jul 2013	<ul style="list-style-type: none"> <li>Corrected the reset behavior of the LOS2 output</li> <li>Corrected ECM-2 rebooting behavior when connected to corrupted USB circuitry</li> <li>Adjusted the code to reboot the ECM-2 if an FPGA error is detected</li> </ul>
1.01.01, May 2013	<ul style="list-style-type: none"> <li>Corrected communication error between ECM-2 and BCMs when communication with one BCM is interrupted</li> </ul>
1.01.00, Mar 2013	<ul style="list-style-type: none"> <li>Added MBIN, ROC, and REF_ADJ logic blocks</li> <li>Updated Modbus® mapping</li> </ul>
1.00.00, Oct 2011	<ul style="list-style-type: none"> <li>Initial release</li> </ul>

### BCM-2 Application Firmware

Firmware Version, Date	Changes
2.02.00, Mar 2023	<ul style="list-style-type: none"> <li>Added blocks to control a bridge independent of the BCM-2</li> </ul>
2.01.01, Oct 2018	<ul style="list-style-type: none"> <li>Enhancements to skip-firing capability</li> <li>Added ISCALE parameters to CSL block and improved conduction-sensing alarm reset logic</li> </ul>
2.01.00, Sep 2017	<ul style="list-style-type: none"> <li>Enhanced redundant channel communications</li> </ul>
2.00.00, Sep 2017	<ul style="list-style-type: none"> <li>Addressed dc offset when the low-pass filter time constant of the FTOV block is set at zero</li> </ul>

Firmware Version, Date	Changes
	<ul style="list-style-type: none"> <li>Addressed hardware version reporting error</li> <li>Corrected corruption of event block data after cycling of control power</li> <li>Updated redundant channel communications</li> </ul>
1.00.00, Nov 2016	<ul style="list-style-type: none"> <li>Initial release</li> </ul>

## ECS2100 SYSTEM DEVICES

Revision histories for the application firmware of the ECM Excitation Control Module, BCM Bridge Control Module, and FCIM Firing Control Interface Module are provided as follows.

### ECM Application Firmware

Firmware Version, Date	Changes
4.10, Oct 2008	<ul style="list-style-type: none"> <li>Added PK_OVERLOAD_ERROR alarm and watchdog counter metrics for determining how close to overload the ECM is operating</li> </ul>
4.08, Jun 2007	<ul style="list-style-type: none"> <li>Corrected pressure recalibration in the UEL block</li> </ul>

### BCM Application Firmware

Firmware Version, Date	Changes
4.00, Oct 2004	<ul style="list-style-type: none"> <li>Updated CSL and TEMP_MON blocks</li> <li>Added checks for ac fuse failure</li> </ul>

### FCIM (50/60 Hz) Application Firmware

Firmware Version, Date	Changes
4.07, Nov 2011	<ul style="list-style-type: none"> <li>Updated FM_OUT block for bridges from 8 to F</li> </ul>
4.06, Oct 2008	<ul style="list-style-type: none"> <li>Added AND2 and AND3 blocks</li> <li>Updated TEMP_MON block</li> </ul>

### FCIM (420 Hz) Application Firmware

Firmware Version, Date	Changes
4.07, Nov 2011	<ul style="list-style-type: none"> <li>Updated FM_OUT block for bridges from 8 to F</li> </ul>