



TESLA Control Panel

v3.7a Rev 0

Release Description

DATE: 2022-01-21

FEATURE ENHANCEMENTS

- Cyber Security:
 - None.
- General:
 - None.

CORRECTIONS TO ISSUES

- Cyber Security:
 - None.
- General:
 - Minor (affects TESLA 4000): Fixed issue where the recording parameters on the Record Configuration screen could not be changed when using TESLA Control Panel v3.7 to connect to a TESLA 4000 with v2.3 Firmware.

COMPATIBILITY

TESLA Model 4000 Firmware Version	v2.3 and below
TESLA Model 4000-SV Firmware Version	v1.3 and below
TESLA Model 4003 Firmware Version	v1.0
TESLA LITE Firmware Version	v1.1 and below
IO Expansion Firmware Version	v1.1 and below
TESLA Model 3000 Firmware Versions	v2.7 and below
TESLA Model 2000 Firmware Versions	v4.1 and below
RecordGraph	v6.1
Microsoft Windows	Windows 7 Professional Windows 10 Professional

Minor releases, designated with a letter suffix (e.g. v3.1a), maintain the same compatibility as the base version (e.g. v3.1=v3.1a).

RecordGraph v6.1 is provided with this release. Refer to the RecordGraph release notes for compatibility details.

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REVISION HISTORY

v3.7 Rev 0 – 2021-12-17

- Enhancement: Added support for copying all settings from one channel to another channel.
- Enhancement: Changed the default values and supported ranges for all trigger settings to prevent settings that could limit IED performance.
- Enhancement (TESLA 4000-SV): Added support for v1.3 firmware.
- Enhancement (TESLA 4000-SV): Added the ability to configure SNTP as a time source.
- Enhancement (TESLA 4000): Added support for v2.3 firmware with new setting version 409.
- Enhancement (TESLA 4000): Added support for new input modules.
 - 401013-2 40x 5A Split Core.
 - 401027 AC/DC Input Module.
 - 401028 600Vac PT Module.
- Enhancement (TESLA 4000): Added warnings if a setting is out of range when converting to setting version 409.
- Minor: Fixed issue where the CDR sample rate was displayed as 6 in Print/Print Preview when the rate was set to 60 samples per second in a 60 Hz system.
- Minor: Fixed issue where the user was not able to set the Channel number to 1 on the TESLA Analog Input Configuration screen after changing from 1 to a different channel number.
- Minor: Fixed issue where TESLA Control Panel may appear frozen when a very large number of records is selected and “Auto Merge Fault Records” is enabled.
- Minor (TESLA 4000 Setting Version 407 and above, TESLA 4000-SV): Added checking to ensure frequency channels are assigned in sequence, starting from 1, with no gaps between channels. Gaps between enabled frequency channels are not supported and result in unexpected operation.
- Minor (TESLA 4000-SV): Fixed issue where the time screen is blank when a user with the SECAUD role logs into the IED.
- Minor (TESLA 4000-SV): Fixed issue where the incorrect sample rate was shown on the Records Configuration screen when the IED was configured for 50Hz and 80 samples per cycle.
- Minor (TESLA 4000 v2.0 firmware and above, TESLA 4000-SV): Fixed issue where a firmware update could not be performed using the USB port when the user had the UPDATE role assigned.
- Minor (TESLA 4000): Fixed issue where the last digit of the Network Redundancy Module MAC address was not shown in the TESLA Control Panel Network Redundancy screen.
- Minor (TESLA 4000, TESLA 4000-SV): Fixed issue where derived channels are missing in a cooperative group record when:
 - The record contains swing recordings with External Input or Virtual Input events for TESLA 4000.
 - The record contains fault and/or swing recordings with configured Virtual Input, External Input, or ProLogic channels, or events of these channel types for TESLA 4000-SV.

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v3.6 Rev 0 – 2021-02-26

- Enhancement (Cyber Security, TESLA 4000-SV): Added support for network redundancy configuration.
- Enhancement (TESLA 4000-SV): Added support for PTP (IEEE 1588 v2) time synchronization configuration and status monitoring for power profile C37.238-2017.
- Minor (TESLA 4000-SV): Fixed issue where the state of non-BOOLEAN Virtual Inputs were incorrectly exported to CSV.
- Minor (TESLA 4000-SV): Fixed issue where the Data Quality exported from a combined fault and swing recording to a CSV was incorrect for high-speed event derived channels. The Data Quality exported for low-speed event derived channels was correct.
- Minor (TESLA 4000-SV): Fixed issue where the Data Quality of derived digital channels was offset by one sample relative to the data channel.
- Minor (TESLA 4000): Fixed issue where an additional “P” or “Q” character appears at the end of the metering screen channel name for some channel types with v2.1 IED Firmware.
- Minor (TESLA 4000-SV): Fixed issue where the External Input channels from multiple overlapping records were not merged into a single record correctly when the “Auto Merge Fault Records” feature was enabled.

v3.5 Rev 0 – 2020-11-13

- Enhancement: TESLA 4000-SV: Added support for GOOSE subscription of Virtual Inputs with data types of Dbpos (DPS Double Point Status), Health, INT32 and INT32U.
- Enhancement: TESLA 4000-SV: Added support for cooperative mode.
- Enhancement: TESLA 4000-SV: Added support for 80 samples per cycle sample rate.
- Enhancement: TESLA 4000-SV: Added support to display Data Quality in the event log, record events, trend events, metering, and in the exported CSV file.
- Enhancement: TESLA 4000-SV: Increased the supported number of Sequence Component channels from 12 to 24.
- Enhancement: TESLA 4000-SV: Added support to configure rear Ethernet ports 410 and 411.
- Enhancement: TESLA 4000-SV: Added support to enable/disable IEC 61850 services independently per Ethernet port.
- Enhancement: TESLA 4000-SV: Added the Configuration ID field to the Add New IED and Edit IED screens when the TESLA 4000-SV is selected. The Configuration ID is used to define the hardware configuration of the IED being accessed or configured.
- Enhancement: TESLA 4000-SV: Added the ability to configure the PPP IP address for the front USB port 450 or the rear COM port 405.
- Enhancement: TESLA 4000-SV: Added the ability to change the baud rate of the front panel USB port 450 and the rear panel COM port 405.

v3.4 Rev 0 – 2020-04-24

- Enhancement: Added support for the TESLA 4000-SV initial release. The TESLA 4000-SV supports sampled value recording.
- Enhancement: Enhanced error messages added for when CDR data retrieval issues are detected.

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- Enhancement: Simplified the IP Address selection in the Add New IED and Edit IED screens to show only the active IP address.
- Minor (Cyber Security): Fixed issue in the Security screen where both Roles and Users could be selected when the view by Role option was selected. This issue affected TESLA 4000 v2.0 FW and above.
- Major: Fixed issue where changes to the Frequency channel were not saved with TESLA 4000 setting versions 406 and below. This issue was introduced in TESLA Control Panel v3.3.
- Major: Fixed issue where the PMU Analog DC metering value was incorrect.
- Minor: Fixed issue with PMU Analog Float data where the unit of power sent to the PDC did not match the setting in TESLA Control Panel.
- Minor: Fixed issue where the Force IED Reset button on the Maintenance => System Diagnostics screen did not work. This issue was introduced in TESLA Control Panel v3.2 and affects TESLA 4000 firmware v2.0 and above.

v3.3a Rev 0 – 2019-12-06

- Major: Fixed issue where the user was not able to connect to IEDs via the USB or modem ports when using a PC configured for Spanish.
- Major: Fixed issue where retrieving a record with derived channels from a cooperative group using a Windows 10 PC resulted in TESLA Control Panel crashing.
- Minor: Fixed issue where converting from setting version 406 to 407 or 408 resulted in a setting file with the frequency configuration having an empty element name. Using this setting file would cause TESLA Control Panel to freeze when the metering screen was viewed.

v3.3 Rev 0 – 2019-07-19

- Enhancement: Added the ability to configure the pickup delay on external inputs on the IO Expansion.
- Major: Fixed issue for IO Expansion where using “Save As” to save settings or “Import” to import settings incorrectly alters settings in the saved or imported file.
- Minor: Fixed issue where the serial number and system frequency of the IO Expansion were not displayed correctly in the Setting screen.
- Minor: Fixed issue where the user is unable to close the Setting tab after loading a setting that changes the sample rate. This affects all products except the IO Expansion.
- Minor: Fixed issue where Metering screen is blank when there is an empty meter group in the setting. This affects all products except the IO Expansion.

v3.2 Rev 0 – 2019-03-31

- Enhancement: Added the ability to configure the mode in which time is displayed: UTC, Local Time with Daylight Saving Time (DST), or Local Time without DST.
- Enhancement: Improved the details provided in error messages during failed record downloads to allow for easier issue diagnosis.

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- Minor (Cyber Security): Fixed issue where a user with only View rights was able to change some time settings when this should not have been allowed. The user was not allowed to save the settings after making the change therefore the impact was minor.
- Minor (Cyber Security): Fixed issue where users with Maintenance or Update rights were not able to use the “Force IED Reset” button on the Syslog Diagnostics screen. The users were still able to use the “Force IED Reset” button on the Identification screen.
- Minor: Fixed issue when using SNTP time mode and time sync wasn’t reported correctly on the time screen, or time was shown only in UTC mode.

v3.1 Rev 0 – 2019-01-14

- Enhancement (Cyber Security): Added the ability to configure the TCP (Transmission Control Protocol) port numbers used to connect to the IEDs.
- Enhancement (Cyber Security): Added support for configuring cyber security event logging by the IED to an external syslog server.
- Enhancement (Cyber Security): Added the ability to change the password on all IED types and revisions when connected via an Ethernet port. This was previously restricted to the front panel USB or serial port only on some IED types and revisions.
- Enhancement: Added IEEE C37.232.2011 Long Filenames support for CDR records.
- Enhancement: Added enhanced Daylight Saving Time configuration and reporting capabilities.
- Enhancement: Added support for enhanced capabilities of THD and Harmonics settings.
- Enhancement: Added support to automatically merge high speed records that overlap in time into a single record for viewing and analysis.
- Enhancement: Moved the SCADA communication configuration settings from the setting file to TESLA Control Panel communication screens for consistency with other settings and products.
- Enhancement: Improved error handling and status reporting in coop configuration and identification screens to make it easier to diagnose issues with coop group communication.
- Enhancement: Modified the method used by TESLA Control Panel to establish the connection with IEDs through modem, serial or USB connections. This modified method allows TESLA Control Panel to be used on Windows 10 PCs to communicate with IEDs over these interfaces. The change works around known issues present in Windows 10 introduced in the Anniversary Edition (1607).
- Enhancement: Improved the error messages for CDR retrieval to be more informative.
- Major: Corrected issue where TESLA Control Panel crashes when calculating derived channels from a coop group record member under some conditions.
- Major: Corrected issue where TESLA Control Panel crashes when switching between “Show Channel Tree” and “Show Element Tree” under some conditions.
- Major: Corrected issue where communication to an ERL I/O Expansion IED could not be configured via Ethernet Port 402.
- Minor: Corrected issue where TESLA Control Panel crashes if user ignores warning upon saving a setting file where input(s) of some settings are deleted.
- Major: Corrected issue where the log entries in the Firmware Update and System Diagnostics screens were displayed incorrectly on some versions of Windows 10.

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- Minor: Corrected a cosmetic issue on the coop screen connection matrix where an unused member's connection status box wasn't disabled.
- Minor: Corrected issue where a space character was included in record names that used the short filename format.
- Minor: Corrected issue where TESLA Control Panel eventually crashed if left in idle state while not connected to an IED under some conditions.
- Minor: Corrected issue where the IEEE C37.232 filename format may use the wrong Station Name under some conditions.
- Minor: Corrected issue where the Local Records list didn't refresh as expected after a record download was cancelled.
- Minor: Corrected issue where the Export button on the records screen was enabled and disabled incorrectly under some conditions.
- Minor: Corrected issue where some buttons intended only for Local Record management were also available for Remote Records.
- Minor: Corrected issue where the Records screen wasn't updated properly when switching from offline to online mode.
- Minor: Corrected issue where the Trend delete button was unavailable if the Trend channel didn't contain any events for the date range selected.
- Minor: Corrected issue where the radio buttons on the Time screen were not updating and displaying as expected under some conditions.

v3.0 Rev 0 – 2018-04-13

- Enhancement: Added Role Based Access Control (RBAC) for enhanced access management. Support is provided for up to 32 users.
- Enhancement: Added configurable password complexity and change frequency rules.
- Enhancement: Added configurable user account validity periods.
- Enhancement: Added automatic disconnection from an IED if no activity detected for a programmable period of time.
- Enhancement: Added audit trail for security events monitoring.
- Enhancement: Changed high speed, CDR, swing, and trend record and event log filenames and file formatting to meet NERC PRC-002-2 requirements.
- Enhancement: Added support for IEEE C37.118.1-2011 (amended by IEEE C37.118.1a-2014) including the addition of P and M class filters.
- Enhancement: Added support for IEEE C37.118.2:2011.
- Enhancement: Increased the number of PMU Analog channels to 24.
- Enhancement: Added frequency and THD support in PMU Analog.
- Enhancement: Increased the number of supported frequency triggers to 12.
- Enhancement: Added support for remote firmware update.
- Enhancement: Enhanced main menu including a search bar for easier management of IEDs.
- Enhancement: Enhanced Time screen and settings to add auto and manual modes with more flexibility in connecting to different IRIG time modes. Added support for B000 and B001 modes.
- Enhancement: Improved user communication messages and control capabilities to provide user with more intuitive information.
- Enhancement: Added a Force Hardware Reset button to the Identification screen.

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- Enhancement: Added silent installation capability allowing installation without user input.
- Enhancement: Added displaying of coop member status to the Coop configuration screen.
- Enhancement: Allow graphing of records whether they are on the IED or already downloaded to a local folder in the Record screen.
- Enhancement: Moved all maintenance features previously available via terminal port (Telnet) access to TESLA Control Panel with access from any communications port.
- Enhancement: Added resource locking of critical resources (settings, configurations, etc.) to prevent multiple users from overwriting the other's changes.
- Major: Fixed issue with crashing when changing the Trend year range.
- Major: Fixed issue that caused TESLA Control Panel to crash when retrieving coop records containing df/dt calculations of swing channels.
- Minor: Fixed issue with TCP crashing when doing print setting or preview.
- Minor: Fixed issue that allowed setting the port number or IP address to the same value on more than one DNP master. This setting can put the IED into a non-responsive state.
- Minor: Fixed issue where the incorrect names are displayed for sequence elements on the metering screen in some circumstances.
- Minor: Fixed issue where the Setting File date in TCP is not correct if the file is imported.
- Minor: Fixed issue where the serial number in the setting file is corrupted when imported into TESLA Control Panel preventing the setting file from loading to an IED.
- Minor: Fixed issue where coop record combining failed for users without administrator privileges.
- Minor: Fixed issue where the maximum record length setting was modified when the setting file was uploaded to the IED.
- Minor: Fixed issue where the user was not prompted to save settings in the Config Edit screen while in offline mode after selecting a new IED. The user's changes were lost.
- Minor: Fixed issue where the very first event triggered on a TESLA 4000 was not displayed.
- Minor: Added a block to prevent the user from setting the DNP3 or PMU port to 2000 or 7631. Setting to one of these ports can cause the IED to become unresponsive.

v2.8a Rev 1 – 2017-06-30

- Minor: Corrected issue where the software was installed to the default folder even if a different folder was entered by the user.

v2.8a – 2017-03-22

- Major: Corrected record combining issue in cooperative mode when the user did not have administrator rights.

v2.8 – 2016-12-18

- Enhancement: Add compatibility with units that support leap second.

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v2.7 – 2016-04-14

- Enhancement: For TESLA LITE:
 - Changed minimum harmonic threshold from 3% to 1% to allow triggering and recording below 3%.
 - Increased the high speed recording pre-fault maximum setting to 4 seconds.
 - Added configurable alarm output contact for time sync loss.
 - Added enforcement of minimum record extension lengths to ensure optimum performance.
 - Changed the method of selecting the IED 1A/5A configuration to be consistent with other ERLPhase products.
- Major: TESLA LITE - Fixed issue where Watts, VARs and Power Factor do not display correctly in metering or in the record.
- Major: TESLA LITE - Fixed issue where “Angle Reference” changes from Va to Ia after setting file is saved under some conditions.
- Major: TESLA 3000 - Fixed issue where Trend Alarm Output Contact wasn’t correctly converted from a 36 channel TESLA 2000 to an 18 channel TESLA 3000.
- Minor: Fixed issue where the password tab on the utility screen was not displayed if the password file on the IED was missing.
- Minor: Fixed issue where users could select “Pre-trigger” and “Normal Record Length” settings that resulted in the triggering event not being captured.
- Minor: Fixed issue where Record Graph opened behind TESLA Control Panel when launched from within TESLA Control Panel on Windows 7.
- Minor: TESLA 4000 - Corrected summation element naming inconsistencies between the Channel Tree screen and the Logic Function Configuration screen.
- Minor: TESLA 4003 - Fixed issue where TESLA Control Panel disconnects from the unit indicating a sample rate change when uploading a new setting file without a sample rate change.
- Minor: TESLA LITE - Fixed issue where the Output Contact numbering was 2 to 7 instead of 1 to 6 in the DNP mapping screen.
- Minor: TESLA LITE - Fixed issue that prevented frequency from being derived from current channels.
- Minor: TESLA LITE - Fixed issue where the Nominal Level for a voltage input displays 69V even if the setting file opened has this set to something else.
- Minor: IO Expansion – Fixed issue where double clicking on a remote record that has already been downloaded results in multiple local records.

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CLASSIFICATION OF CHANGES MADE

The issues fixed in software / firmware upgrades are classified as defined below. While the decision to upgrade installed products is the user's, these classifications provide a guideline for the need and priority of the upgrade.

Critical: Critical changes fix issues/problems that prevent the basic operation of the device and have no workaround. Critical changes merit a product upgrade as soon as possible, if that function is being used under the conditions causing the issue

Major: Major changes fix problems that prevent the basic operation of the device but do have a workaround. Any major changes merit a product upgrade as soon as possible if the function is being used under the conditions causing the issue and a workaround is not acceptable.

Minor: Minor changes fix non vital issues that do not prevent the basic operation of the device and may or may not have a workaround. Product upgrades for such changes are not necessary unless they apply to and are needed by the user.

Enhancement: Feature enhancements add a capability or extend existing capabilities of the product. Upgrades for such changes need be made only if and when that feature enhancement is desired.

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