RecordBase Central Station

v5.8 Rev 0

Release Description

DATE: 2025-09-05

FEATURE ENHANCEMENTS

- Cyber Security:
  - None
- General:
  - Added support for record collection from T-PRO 2000.

CORRECTIONS TO ISSUES

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

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UPDATE INSTRUCTIONS

This section can be ignored if neither RecordBase View (RBV) nor RecordBase Central Station (RBCS) has been previously installed, or if version v5.0 or above of either has already been installed.

If older versions of both RBV and RBCS are presently installed, then RBCS must be updated first.

RBV and RBCS v5.0 and above use a different database format (SQLite) than earlier versions (Microsoft Access) and existing databases must be converted to the new format after installation. RBCS will be unable to open the database until this conversion is performed. Please perform the following steps to convert your database:

1. Install the RBCS update.
2. Launch RBAdmin. It will detect your existing database and prompt you to convert it. Follow the prompts to perform the conversion.
    a. The conversion is automated but may take some time, possibly many hours, depending on the size of your existing database, network performance for remote databases, and the performance of the storage media.
    b. The existing database is automatically backed up to the location indicated prior to the conversion. However, ERLPhase recommends also manually backing up the existing database prior to proceeding with conversion for additional protection.
    c. Ensure the PC/Server running the conversion does not go to sleep, lose power, or lose access to the database during the conversion.
    d. If the user declines the request to automatically convert the existing database when first running RBAdmin, the database will have to be manually converted at a later time.
3. Additional databases (file extension .mdb) can be converted at any time in RBAdmin by selecting the menu ‘Tools->Database Conversion’.

COMPATIBILITY

TESLA 2000 Firmware	v2.1 to v4.1
TESLA 3000 Firmware	v2.7 and below
TESLA 4000 Model 4000 Firmware	v2.4 and below
TESLA 4000 Model 4000-A Firmware	v1.2 and below
TESLA 4000 Model 4000-SV Firmware	v1.4 and below
TESLA 4000 Model 4003 Firmware	v1.0
TESLA LITE Firmware	v1.1 and below
IO Expansion Firmware	v1.1 and below
L-PRO 4000 Firmware	v2.6b and below
L-PRO 4500 Firmware	v2.3a and below
S-PRO 4000	v1.0
S-PRO 4000 (Model 4001)	v2.1a and below
B-PRO 4000 Firmware	v2.1a and below
B-PRO 4000 Multi-Busbar Firmware	v1.2b and below
T-PRO 2000 Firmware	v1.0
T-PRO 4000 Firmware	v1.3a and below
T-PRO 4500 Firmware	v2.2b and below
F-PRO 4000 Firmware	v1.0
F-PRO 215 Firmware	v2.0 and below
F-PRO 216 Firmware	v1.4 and below
F-PRO 235 Firmware	v2.6 and below
F-PRO 295 Firmware	v1.5 and below
F-PRO 297 Firmware	v1.2 and below
F-PRO 298 Firmware	v1.8 and below
F-PRO 4500 Firmware	v1.0
M-PRO 2000 Firmware	v1.0
RecordBase CS Manual	v5.7 Rev 0
RecordBase View	v5.7 Rev 0
RecordGraph	v6.4 and above
Microsoft Windows	Windows 10 Professional Windows 11 Professional Windows Server 2022

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 v6.3 is provided with this release. Refer to the RecordGraph release notes for compatibility details

REVISION HISTORY

v5.7 Rev 0 – 2025-04-04

- Enhancement:
  - Added support for record collection from M-PRO 2000.
  - Added support for record collection from F-PRO 4500.
  - Included RecordGraph 64-bits application.
- Major: Fixed issue where in some rare conditions, Database Manager maybe locked up and failed to collect records or events. An automatic reboot will be issued to the Database manger when that condition occurred to resume records and events collection.
- Major: Fixed issue where records cannot be deleted from the database.

v5.6a Rev 1 – 2024-02-01

- Minor: Add a Release Description link in Help About to the website, where previously the release description pdf file was included in the installer.
- Minor: Update User Manual to v5.6 Rev 0

v5.6a – 2023-10-19

- Enhancement: Added automated Event collection for TESLA 4000 Models 4000, 4000-SV, and 4000-A. Firmware versions v2.0 and above for model 4000. All firmware versions are supported for models 4000-A and 4000-SV.
  - RecordBase Central Station daily Event collection from enabled IEDs.
  - RecordBase Admin display and management of all Events collected from selected IED(s).
- Enhancement: Moved the “FTP Mode” configuration to the ‘Comms’ (Communication) menu in the RecordBase Collector application with ‘use PASSIVE mode for FTP record transfers’ as the default selection for a more intuitive user experience. FTP is used to transfer records from supported IEDs except for the following TESLA 4000 models: 4000 with v2.0 firmware and above, 4000-A, and 4000-SV.
- Minor: Fixed issue where RecordBase Admin was not able to display the fetched record when it was collected from the IED using Modem communication. This issue was introduced in version v5.5a.
- Minor: Fixed issue where the heading of the “Message” column was missing when printed in Portrait mode.
- Major: Fixed issue where the IED configuration information was lost when updating RecordBase Central Station from versions v5.0 and below to v5.5 or v5.5a.

v5.5a – 2023-09-07

- Enhancement: Added support for TESLA 4000 Model 4000-A firmware v1.0 with setting version 701.
- Added an option in Record Collector Long FileName (IEEE C37.232) configuration to allow the time offset field to be set to either UTC time offset 0 or to local PC time offset, with or without DST in Record Name.
- Added support of cooperative mode record collection with a mix of TESLA 4000 Model 4000-SV and Model TESLA4000-A units in the same group.
- Restored the 'Delete Remote Records After Transfer' option in Record Collector IED Collection Rules configuration.
- Minor (affects TESLA 3000): Fixed issue where a record collection notification request sent from TESLA 3000 cannot be processed after a TESLA 4000 with firmware v2.0 and above had its record collection notification request processed.
- Minor: Fixed issue where record collection may fail with error code '481' when a record collection notification is received from an IED at the same time as scheduled record polling of that same IED.
- Minor: Fixed issue where the System Manager shortcut was not removed from the Windows Start Menu when updating RecordBase Central Station.
- Minor: Fixed issue where the previously removed Database cannot be added back to the Databases List in Recordbase Admin Manage Databases configuration.

v5.5 – 2021-12-17

- Enhancement: Added the ability for RecordBase Central Station to run in the background as a Windows service without the need for user intervention to launch and run.
- Minor: Fixed issue where the Activity Log and the Diagnostics Log in RecordBase Monitor were cleared if the 'Number of Entries' on the LogInfo screen of RecordBase Collector was changed and applied.
- Minor: Fixed issue where database conversion from Microsoft Access to SQLite failed if any non-record files, such as COMTRADE, were present in the database.
- Minor: Fixed issue where RecordBase Admin stopped functioning when adding an unrecognized record instead of notifying the user of the issue.
- Minor: Fixed issue where an unexpected error message "Could not obtain product list: (1) Generic Error." was displayed under certain conditions when settings were saved in RecordBase Admin.
- Minor: Fixed issue where RecordGraph was not able to execute the "Calculate Derived Channels Now" option when RecordGraph was launched from RecordBase Admin. If the same record was imported directly into RecordGraph the option worked as expected.
- 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.

v5.4 – 2021-06-01

- Enhancement: Enhanced email functionality:
  - Added a new 'Test' button to assist in setting up and debugging email notifications. This allows email to be set up without requiring IEDs to be added or set up, and does not require records to be collected.
  - Added recipient management controls to enable the recipient list to be conveniently managed within the Collector 'Notify' dialog instead of using an external file editor.
  - Added notification frequency controls to provide a choice between sending an email for each record collected or a single 'daily summary' email.
  - Added the ability to filter email notifications based on record type (high speed, low speed, and CDR).
  - Added ability to individually enable or disable email notifications for specific IEDs.
  - Trigger times displayed in email notifications now follow the user-selected 'Time Display' in RBAdmin and RBView (Tools->Options->Time Display).
  - Improved messaging in the Monitor Diagnostic log for email notification activity and status.
  - Improved CDR email notification behavior so that they only appear in the 'daily summary' emails and are no longer sent for each individual CDR record fetched.
  - Added the ability to send email notifications on any communication failures and other abnormal session terminations with IEDs. The type of failure, time of occurrence, and other information is sent to all recipients in the current recipient list.
  - Added error checking on SMTP Host URL to identify malformed host names (e.g. spaces). If a malformed host is detected, an error message will appear in Monitor's Diagnostic Log tab and no email will be sent.
- Enhancement: Improved the speed of database conversion and repair operations in RBAdmin.
- Enhancement: Reduced memory usage to allow databases containing more than 1.5 million records to be opened, representing a 2x increase.
- Minor: Fixed an issue with database conversion/repair where record names would not always retain their original name.
- Minor: Fixed an issue where carriage returns in the RBV/RBA comment field can sometimes appear to get lost and multiple lines unexpectedly combine.

v5.3 – 2021-03-24

- Enhancement (TESLA 4000-SV): Added support for displaying Data Quality in the events list created by IEDs with v1.1 firmware or above.
- Major (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 of a high-speed event derived channel was incorrect in a CSV exported from a combined fault and swing recording. The Data Quality for the same low speed event derived channel 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 (All): Fixed issue where the record names were missing in the Print Record list, Print Record list preview, Print Summary and Print Summary preview.
- Minor (All): Fixed issue where the information for only one record was displayed when multiple records were selected when using Print Record list, Print Record list preview, Print Summary and Print Summary preview.

v5.2 – 2020-12-04
- Enhancement (Cyber Security) TESLA 4000-SV: Added support for cooperative groups.
- Enhancement (Cyber Security) TESLA 4000, TESLA 4000-SV: Record download from TESLA 4000 (firmware v2.0 and above) and TESLA 4000-SV (firmware v1.1 and above) cooperative groups using the ERLPhase native communication protocol instead of standard FTP. This has the following benefits:
    - Significant reduction in the number of Audit Trail and Syslog security event messages, from 5 per record to only 4 per connection session, regardless of the number of records transferred per session.
    - Reduced overhead for record transfers resulting in improved download performance.
- Enhancement: TESLA 4000-SV: Added support for displaying Virtual Input events with data types of Dbpos (DPS Double Point Status), Health, Int32, and Int32u in records created by IEDs with v1.1 firmware or above.
- Minor: Fixed issue where occasional communication timeouts could happen under some circumstances. Collecting from a large number of IEDs or using the ERLPhase native communication protocol increased the probability of the timeouts. The connection recovered automatically and continued normally after the timeout.

v5.1 – 2020-06-30
- Enhancement (Cyber Security): Record download from TESLA 4000 IEDs with firmware v2.0 or above, and from TESLA 4000-SV, performed using the ERLPhase native communication protocol instead of standard FTP when the units are not part of a cooperative group. This has the following benefits:
    - Significant reduction in the number of Audit Trail and Syslog security event messages, from 5 per record to only 4 per connection session, regardless of the number of records transferred per session.
    - Reduced overhead for record transfers resulting in improved download performance.
- Enhancement (Cyber Security): Set the Remote Access Permission to Add, Edit and Delete records to disabled by default when adding a database to the database list in RecordBase Admin.
- Enhancement: Added support for TESLA 4000-SV with sampled value recording.
- Enhancement: Increased the number of supported IEDs from 200 to 250.
- Minor: Fixed issue where adding or querying for records using RecordBase Admin fails if the Station Name contains special characters (' " < > &).

v5.0 – 2020-03-02
- Enhancements: Added SQLite database support with database management

functionality. This replaces the Microsoft Access format database, which was restricted to a maximum file size of 1GB. Existing Microsoft Access databases must be converted to SQLite before use with RecordBase Central Station v5.0.

- Enhancements: Changed from a network drive-mapped model to a client-server model for access to remote databases. This allows for more efficient, controlled access and management of the remote database. IMPORTANT: Read and understand section 8 of the v5.0 RecordBase Central Station manual prior to updating/installing to understand the implications of the new access model.
- Enhancements: Added support for group cross triggering, allowing the user to set up sub-groups of IEDs to cross-trigger each other, instead of all of the IEDs in the system.
- Enhancements: Enhanced error handling and recovery mechanisms, improving the robustness of the tool and providing enhanced error reporting information to help identify, mitigate or eliminate the error conditions from reoccurring.
- Enhancements: Added the ability to remove units from the RecordBase Admin drop down list.
- Major: Fixed issue where retrieving a record with derived channels from a cooperative group using a Windows 10 PC resulted in RecordBase Central Station crashing.
- Minor: Fixed issue where RecordBase Admin does not display the active setting group of L-PRO 4500 and T-PRO 4500 records.
- Minor: Fixed issue where the response to a cross trigger request by RecordBase Central Station to the IO Expansion IED wasn't handled correctly.

v4.2 – 2019-03-31

- Enhancements: 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.

v4.1 – 2019-01-14

- Enhancements (Cyber Security): Added support for configuring the TCP (Transmission Control Protocol) port number used to connect to the IEDs.
- Enhancements: Added support for the collection of CDR data from IEDs if available.
- Enhancements: Added support for record collection from all 200, 4000 and 4500 series ERLPhase IEDs.
- Enhancements: Modified the method used by RecordBase Central Station (RBCS) to establish the connection with IEDs using modem or serial ports. This modified method allows RBCS 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).
- Enhancements: Added support to the AutoCOMTRADE command line utility to convert ERLPhase proprietary format and named records, downloaded directly from IEDs via FTP, to COMTRADE format records with configurable filename formats.

v4.0 – 2018-04-13

- Enhancement: Added support for naming records per NERC PRC-002-2 requirements.
- Enhancement: Added support for configuration of login credentials for IEDs with user configurable FTP username and password.
- Enhancement: Added email notification capability.

- Major: Fixed issue where cross triggering of other IED's failed when generated by a TESLA 3000 or a TESLA 2000 recorder.
- Minor: Fixed issue where 'Periodic Polling' increased by approx. 1 minute for each successive poll cycle.
- Minor: Fixed issue with the activity and diagnostic log tabs in RecordBase Monitor not being displayed in some circumstances.
- Minor: Fixed issue where RecordBase View and RecordBase Administrator only worked for users with administrator privileges.

v3.1 – 2016-12-18

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

v3.0 – 2015-12-19

- Enhancement: Removed dependency on Microsoft Access Runtime to eliminate the need for 3rd party software to be installed. This resolves compatibility issues with newer Windows operating systems and with systems having Microsoft Access 2010 or later. No database conversion is required. The appearance of the user interface changes but the functionality is unchanged except as noted in this release description.
- Enhancement: Added checkbox to IED (Intelligent Electronic Device) Collection Rules dialog in RecordBase Collector to enable/disable time offset to 0 during COMTRADE export.
- Enhancement: Added combining of external and virtual inputs into the same record when exporting to COMTRADE.
- Major: Corrected issue with high CPU usage when cursor is over RecordBase Admin window.
- Major: Improved date and time format handling to enhance support for installation on computers configured for languages other than English (Canada). Note that only English (Canada) is fully tested.

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.

Feature 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.