



Firmware/Software Release Note

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Distribution: **Public**

Reference: **GER-4972**

P40 Agile Enhanced * Firmware **Software Version 08B - August 2024**

Key New Features

Platform

- Advanced cybersecurity options complying with NERC-CIP/IEC 62351 standards.
- 61850-control authority feature - OrCAT- Local/remote control feature (described in IEC 61850 7-4: Annex B).
- Trip Bus supervision functionality included.

P24D/N- Motor Protection Series

- Support new ordering code options for Motor protection and control.

Other New Features

Platform

- Support of new languages: German and Polish.
- Increased number of Virtual outputs supported up to 256.
- Increased number of Virtual Inputs supported up to 256.
- Increased number of Timers up to 64.
- Increased number of Flexelements up to 16.

Notable Quality Improvements

- Fixed an issue that caused Pos Seq UV 1 and Pos Seq UV 2 texts to be displayed incorrectly in drop-down lists.
- Fixed an issue that prevented Eth 1 link status error alarm from being reset when Eth 1 was enabled.
- Fixed an issue that prevented IN calculation being done properly when no current flowing through phase A.
- Fixed issue that caused Breaker Failure operation and re-trip indication from being unavailable in Last Trip or HMI.



- Fixed issue that caused some texts (Switchgear references and Current summary) in EnerVista D&I Setup/HMI from not displaying properly.
- Fixed issue that caused Breaker status operand - CB Not configured - from being unavailable in the Target messages and Flex Operand list.
- Fixed issue that caused Min Power Demand miscalculation when device is Powered Off, and also Min Power Demand calculation is not blocked when injection $< 0.02 \times CT$.
- Fixed issue that prevented Default Screens\Display Time setting from displaying in 20TE.
- Fixed issue that caused SEF IOC drop out at $0,5 \times CT$ not happening in defined range.
- Fixed issue that caused PTOC to operate incorrectly when using User Curve configured as FR ST Inverse.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with D&I EnerVista Setup v4.15 and newer.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v08B compatible with v06B, v06A, v05C, v05B, v05A, v03C, v03B, v03A and v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.
- Configuration of the CID file is required to be created or converted from the previous version using:
 - D&I EnerVista Setup v4.15 or newer.

Software Version 06B - May 2024

Notable Quality Improvements

- Fixed an issue that prevented the CT Supervision feature from operating properly in non-VT models.
- Fixed an issue that prevented Directionality from calculating properly in Sensitive Ground models when multiple instances are being used simultaneously.
- Fixed an issue that prevented Phase Over Voltage protection from properly applying time delay, when operated for a second time.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with D&I EnerVista Setup v4.12 and newer.
- Compatible with EnerVista Flex v1.30 and newer.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v06B compatible with v06A, v05C, v05B, v05A, v03C, v03B, v03A, v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.
- Configuration of the CID file is required to be created or converted from the previous version using:
 - D&I EnerVista Setup v4.12 or newer
 - EnerVista Flex v1.30 or newer

Software Version 06A - February 2024

Key New Features

- Added support for Moving Average Voltage Protection for Phase Overvoltage.

Other New Features

- Added Volt/Hertz feature in P94VB model.
- Added Minimum Time setting for ANSI 51 elements.
- Added Reactive and Apparent Power Demand Metering to IEC 61850 MMTR_3 Logical Node.

Notable Quality Improvements

- Fixed an issue that IEC 61850 communication stopped if no client data request sent for a long period.
- Fixed an issue that caused CB Arcing current to be calculated incorrectly.
- Fixed specific texts in English US language for VT inputs menu, and in Spanish language for Voltage Disturbance and Admittance Protection menus.
- Fixed an issue that caused CB Trip/Close command to be incorrectly executed after reboot.
- Fixed an issue in RS485 port settings that caused the device to operate incorrectly after sending CID settings.
- Removed Synch Check setting for UF Restoration element in P94VB models.
- Added missing Neutral OV1 PKP and OP flexoperands.
- Added missing Fault Locator elements in IEC 61850 Logical Node for P14DZ models.
- Added missing Ethernet Link Error flexoperands.
- Added missing Minimum Power Demand calculation.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with D&I EnerVista Setup v4.12 and newer.
- Compatible with EnerVista Flex v1.30 and newer.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v06A compatible with v05C, v05B, v05A, v03C, v03B, v03A, v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.
- Configuration of the CID file is required to be created or converted from previous version using:
 - D&I EnerVista Setup v4.12 or newer.
 - EnerVista Flex v1.30 or newer.

Software Version 05C - December 2023

Key New Features

N/A

Other New Features

N/A

Notable Quality Improvements

- Fixed an issue that made devices with comms digit (digit 9 of the CORTEC) equal to “2” reboot constantly.
- Fixed an issue in the firmware upgrade that changed the device CORTEC into the default one after flashing.
- Fixed an issue in the HMI that made the status screen of the I/Os show an incorrect number of Input/Outputs, as well as incorrect board and pin names.

Hardware Compatibility

- Design Suffix “E”.

Configuration Management Tool Compatibility

- Compatible with EnerVista D&I version v4.10 and newer.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v05C compatible with v05B and v05A.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.
- Configuration of the CID file is required to be created using D&I EnerVista Setup 4.10 or newer.

Software Version 05B - November 2023

Key New Features

N/A

Other New Features

N/A

Notable Quality Improvements

- Fixed an issue in the PSL that didn't properly load any of the Minor Error signals.
- Fixed an issue in the RS485 2nd port that stopped communicating properly after rebooting the device.
- Fixed an issue in PTP_1588 due to which the RTC was not updating after a change in the PTP master clock's date/time.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with EnerVista D&I version v4.10 and newer.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v05B compatible with v05A, v03C, v03B, v03A, v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.
- Configuration of the CID file is required to be created using D&I EnerVista Setup 4.10 or newer.
- When upgrading from firmware versions below 05A, the CID file conversion is not available. For 05B versions, a configuration of the CID file will need to be created.

Software Version 05A - August 2023

Key New Features

- New model option P14DZ - Enhanced Directional Feeder Management Relay with Transient Ground Fault, TGF.D.
- Neutral Admittance, YN.
- Undervoltage Reactive Power, 27Q/T.
- Power Factor.
- Fast Underfrequency.
- Underfrequency Restoration.
- Volts per Hertz, 24.
- Load Blinder, 21BL.
- Select Before Operate, SBO.

Other New Features

- Added latched trip option.
- Setting groups increased to 6.
- IEC61850 & advanced cybersecurity enhancements.

Notable Quality Improvements

- Improvement in USB driver to prevent the port from being disconnected when the PC goes into sleep mode.
- Introduced some Ethernet management & CPU utilisation improvement.
- Enhanced dead pole functionality - no reboot required after changing the Start/Delta setting.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with EnerVista D&I Setup 4.10.

Upgrade Procedure

- To upgrade the IED from firmware versions below 05A, D&I EnerVista Setup 4.10 is required.
- For detailed information, follow the process outlined in the Technical Manual.

Upgrade Impact

- Firmware v05A compatible with v03B, v03A, v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.

- Always save all data before upgrading.
- Configuration CID file required to be created using D&I EnerVista Setup 4.10 for 05A version.
- When upgrading from firmware versions below 05A, CID file conversion is not available. For 05A versions, a configuration CID file will need to be created.

Software Version 03C - October 2023

Key New Features

N/A

Other New Features

N/A

Notable Quality Improvements

- Enhanced Ethernet communications for high traffic networks.
- Reduced time for IEC 61850 Report to disable after removing connection.
- Fixed an issue in USB driver that causes it to fail to connect when reconnecting the communications cable.
- Fixed an issue in 51P, 51N, 51G protection elements that causes them to operate instantaneously after the blocking condition is cleared.
- Fixed an issue in Pulse signal when used in PSL editor.
- Fixed an issue in VTS function that causes it not to block an operation when used as blocking condition.
- Fixed an issue in SFTP protocol that causes connections to be rejected after a number of them is reached.

Hardware Compatibility

- Design Suffix “E”.

Configuration Management Tool Compatibility

- Compatible with EnerVista Flex version v1.10.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v03C compatible with v03B, v03A, v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.

Software Version 03B - November 2022

Key New Features

N/A

Other New Features

N/A

Notable Quality Improvements

- Current angle reference incorrect correct when no voltage is present.
- Frequency related elements information is not available in IEC 61850, for P94VB models.
- Fault Report information is not available in IEC 61850, for P14N models.
- Settings file loading issue.
- Date and Time information is sometimes not updated in HMI.
- IEC 61850 GOOSE MMS not properly handled in ETH1 communication port.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with EnerVista Flex version v1.10.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v03B compatible with v03A, v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.

Software Version 03A - June 2022

Key New Features

- Supports fast breaker fail reset time (<15ms).
- Supports Logical Nodes - TransRcdRDRE and LEDSIHMI.
- Supports directional earth fault polarising voltage setting configuration.

Other New Features

- MODBUS address mapping is updated to accommodate new function setpoints and measurements. Refer to 'Appendix B - Settings and Signals' in P40AEnh-TM-EN-3 to check MODBUS addresses applicable to version 03A.

Notable Quality Improvements

- Time Overcurrent - IEC Extreme Inverse curve time accuracy improvement.
- Fault magnitude is captured only if fault persists for a longer duration.
- Syslog, logging multiple events, causing Flash memory error .
- Logical Node LGOS - behaviour correction in relays with Ethernet redundancy option.
- Event parameter information not available on the relay HMI.
- Voltage metering information accuracy in disturbance recorder.
- Cybersecurity Role-Based Access Control Management.
- IEC 60870-5-103 communication protocol disconnection issue.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with EnerVista Flex version v1.05.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v03A compatible with v02C.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.

Software Version 02C - September 2021

Key New Features

- Supports additional Binary input/output options: 8i/5o + 1 watchdog, 14i/9o + 1 watchdog.
- Supports Ethernet redundancy protocols (PRP/HSR/LLA) options.
- Support for IEEE1588 precision time.
- Support for single/redundant fibre/redundant copper Ethernet ports.
- Support for Russian and Turkish languages in the relay HMI and toolsuite.

Other New Features

- Cybersecurity Flexlogic operands added.
- Model-specific dependencies added to Simulation Pre-Fault/Fault/Post-Fault menu.
- cbName value changed from fixed to configurable.
- MODBUS address mapping updated to accommodate new function setpoints and measurements. refer to 'Appendix B - Settings and Signals' in P40AEnh-TM-EN-2 to check MODBUS addresses applicable to version 02C.

Notable Quality Improvements

- Boot cycle dependability optimisation.
- Reset of 'Relay 1-Trip' output configured in "Latching" mode, once triggered and the trip condition is cleared.
- Visibility control of current based settings in Frequency, CB Health & CB Arc functions in P94V - now hidden.

Hardware Compatibility

- Design Suffix "E".

Configuration Management Tool Compatibility

- Compatible with EnerVista Flex version v1.02.

Upgrade Procedure

- Follow the process outlined in the Instruction Manual.

Upgrade Impact

- Firmware v02C is not compatible with v01D or earlier versions.
- When updating the firmware, files are overwritten, and all settings could be lost.
- Always save all data before upgrading.

For Further Assistance

For questions or further product support, please contact the GE Vernova support team using:

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