

Welcome to the CLICK PLC Programming Software

Version 3.21 December 14, 2021

This document describes some of the changes in this release of the CLICK PLC Programming Software. It also includes known issues as well as updated information for the documentation provided with the software. The information in this file and in the Help file is more up-to-date than the information in the printed software installation and hardware user manuals.

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Part 1: Welcome

AutomationDirect.com would like to thank you for using the CLICK PLC Programming Software. We have included many powerful and exciting features in the software; however, we know that our customers sometimes have great ideas for features. Please feel free to give us input on the CLICK PLC product line and you may even request features that you feel would improve the software for your application.

Part 2: Getting Started

To install the software, run the Install.exe file that is on the CD or in the CD Image folder. Please read the terms and conditions carefully and follow the on-screen instructions.

Part 3: What's New?

Dec 14, 2021 - Version 3.21

Fixed Bugs

Software

- 1) Override of Digital Inputs and Outputs did not function correctly.
- 2) Override View was not retained after closing and reopen.
- 3) Improved reliability of the Project Loader when using the create backup file option.
- 4) Fixed issue of C2 slot modules with AC Inputs could not assign External Interrupts.
- 5) Fixed incorrect error code OBJ-016 when editing an ASCII Send Instruction.
- 6) Fixed display issue with Ribbon Style menu when Windows Autohide Taskbar was also enabled.
- 7) Fixed display issue with System Configuration displaying the wrong addresses for the status bits of Analog modules.
- 8) Corrected wrong error code when trying to configure EtherNet/IP for C2-02CPU-2 which does not support EtherNet/IP. GUI-158 should be displayed.
- 9) The Ribbon view of the PLC status was not displaying when Overrides were enabled.

Firmware

- 1) Fixed issue where the C2-DCM port settings might not get applied after a Project Transfer and required a power cycle to change to the new settings.
- 2) Fixed issue for MQTT Subscribers when using the Auto-Reconnect feature, the Status Bit and Status Code were not updated after reconnecting.
- 3) Fixed issue with some projects converted from previous versions where the software could not control the Digital Outputs on the PLC.
- 4) Fixed issue when an Input Address was used for the Data Logging Log Trigger Bit it would not function correctly.

November 10, 2021 - Version 3.20

New Features

- 1) Support for three new CLICK PLUS CPU models with 2-slots:
 - a. C2-01CPU-2
 - b. C2-02CPU-2
 - c. C2-03CPU-2
- 2) Support for a new Data Communications module, C2-DCM.

Improvements

Software

- 1) MQTT Server field lengths have been increased. Username (from 64 to 128), Password (from 19 to 256), Client ID (from 23 to 64).
- 2) Improved the time needed to open large projects.
- 3) Added new compile warning, Timers and Drums should not be inside of a For/Next loop.

- 4) Added new Embedded Discrete Message feature in Serial Port Send ASCII Instruction.
- 5) Added Instruction List to Ribbon > View > Toolbar.
- 6) Address Picker will now maintain the width of the Address Comment column.
- 7) Added "System Addresses" in the EtherNet/IP setup dialog.
- 8) Added new System Bits SC140-SC147 and System Registers SD140-SD147 for the C2-DCM module status.

Firmware

- 1) The Sub CPU Firmware Version is now stored into System Registers SD7-SD8.
- 2) Increased speed of Port1 ModbusTCP Server communications.
- 3) Added a new MQTT Error Code 4 for when the Broker closes the TCP Connection.

Fixed Bugs

Software

- 1) Corrected a message wrongly stating that the CPU does not support Run Time Edit, when the CPU is in Stop.
- 2) Fixed the incorrect display of a Warning message after performing a Read Project from the PLC, "There are differences between the project and the PLC."
- 3) Fixed issue with Serial Port Receive ASCII Instruction in Monitor mode where the Destination values were displayed incorrectly.
- 4) Fixed spelling mistake in the Port1 Ethernet Setup dialog.
- 5) Fixed issue with Embedded Discrete Messages in the Payload Builder for MQTT could corrupt the intended message.
- 6) Fixed F1 key would not open Help window MQTT Text View window.
- 7) Fixed incorrect out of range error message for the EtherNet/IP TCP Timeout field.
- 8) Fixed F1 key would not open Help window System Monitor window.
- 9) Send/Receive Instructions for Ethernet Ports had minor text error "Serial".
- 10) The Bluetooth password field is now cleared when edited.

September 21, 2021 - Version 3.11

Improvements

- 4) C0-1x CPUs now populate the MAC Address for Port1 into System Data Registers SD188-SD193.
- 5) For CPUs with Ethernet, added CPU MAC Address to Online Project Information Screen
- 6) Export > CLICK Loader File improved error text

Fixed Bugs

Software

- 11) Fixed password history cannot be cleared by clicking the Clear button.
- 12) Fixed issue that caused the password history to show abnormal values after a power cycle.
- 13) Fixed Project Loader getting error when exporting Loader file.

Firmware

- 1) Fixed issue with Slot Module outputs cycled off during Runtime Project Transfer.
- 2) Fixed issue where internal registers, DS1-DS88 retentive values were cleared on power cycle, Write Project Run Mode, or Write Project Stop Mode.
- 3) Improved MQTT Publisher reliability during network retry events.
- 4) Fixed issue if MQTT Broker IP Address is changed the Publisher did not issue a new DNS request to get the new IP. Publisher now makes a new DNS request to update IP address.
- 5) Fixed issue if the MQTT Broker Ping Response is missing the Subscriber will disconnect without status. Added Error Code 3.

July 21, 2021 - Version 3.10

Improvements

- 1) Password requirement for Ethernet CPUs can now be disabled.
- 2) Improved Security by disabling external communications of 3rd party HMIs using the proprietary programming port on UDP 25425. These devices should be reconfigured to use ModbusTCP 502.
- 3) Added a new method for C0-1x and C2-x CPUs to Reset to Factory Default using the RUN-STOP switch. Power up in STOP mode, then RUN-STOP three times before 30 seconds expires.
- 4) Added new System Data Registers for the MAC addresses of Port1 (SD188-SD193) and WLAN (SD194-SD199).

Fixed Bugs

Software

- 1) MQTT Server Name field was improperly limiting the URL to 4 levels.
- 2) Fixed issue with Export CLICK Loader File which caused "Failed! ErrID = 4".
- 3) Fixed issue with CLICK Project Loader which could cause the PLC to lose its firmware.
- 4) The Instruction Menu in Ribbon mode was inserting a Receive instruction for the Send icon.

Firmware

- 1) COPY instruction of DF and DD in Copy Binary mode was operating as Copy Value mode.
- 2) Improved reliability of project transfers which sometimes caused, "Error (-7): Write error" and "GUI-030 Transfer Failed".

Mar 24, 2021 - Version 3.01

Improvements

- 1) Reduced Memory usage for Alternate DNS Port

- 2) Improve Error reporting on firmware mismatch
- 3) Grey out Run Time Edit when PLC is in Stop Mode

Fixed Bugs

Software

- 1) Entering a length in the MQTT Subscriber Payload cause END address to become TXT251658114
- 2) MQTT Text View may be strange when adding a large length to Payload in Subscriber 3) MQTT may be incompletely configured but OK can be selected anyway with no error.
- 4) High Speed Input Configuration – Selecting Delete, deletes the last entry instead of the selected entry
- 5) PLC cannot connect over USB when Firmware is mismatched.
- 6) Firmware Update Fail over WLAN causes IP Address to be 0's. Cannot Edit and change IP address and reconnect
- 7) Read Project from PLC - Popup always claims the project is different from the PLC project even though they are the same.
- 8) Address Picker – Display Modbus Addresses causes scroll to not work
- 9) Error Text cutoff on Send Instruction
- 10) System Configuration and System Monitor - Correct Image width on new modules

Firmware

- 1) Connecting to two EA9 series HMIs stops WLAN
- 2) [MQTT]Cannot subscribe to a published message if there is no topic in the same hierarchy as # wildcard
- 3) Writing the project to the PLC with RUN time edit during Modbus TCP communication to Port1 causes the communications to stop
- 4) Firmware Update Fail over WLAN causes IP Address to be 0's. Cannot Edit and change IP address and reconnect
- 5) [App]If Wi-Fi passkey is incorrect, provisioning app falsely disconnects from PLC
- 6) Bluetooth stops advertising after false disconnect from PLC

Feb 24, 2021 - Version 3.00

New Features

- 1) Support for CLICK PLUS Series of CPU's (C2-0xCPU) and Slot I/O Modules
 - Micro USB

- DHCP support
- DNS support
- Wi-Fi (programming and Modbus TCP)
- Bluetooth (Wi-Fi) provisioning
- SD Card (Data Logging)
- Data Logger
- Network Time Service
- MQTT (Publish/Subscribe)
- Required PLC Password
- Disable Ports
- Strong Password Support
- Disable Ping Response
- Encrypted Password Transfer

2) Support for iOS and Android CLICK PLUS Provisioning App

Improvements

- 1) Added following features C0-1x Click Ethernet CPUs:
 - a. DHCP
 - b. Required PLC Password
 - c. Disable Ports
 - d. Strong Password Support
 - e. Disable Ping Response
 - f. Encrypted Password Transfer
 - g. Connection and Session Security Improvements

2) Added "Reset Window Layout" to Toolbar

Fixed Bugs

- 1) When exporting Modbus Addresses the "Function Code" fields are wrong for: SD and TXT.
- 2) Project corrupted when changing from Analog CPU (C0-x2) to Basic CPU (C0-x0, C0-x1). Y5 and Y6 no longer function in corrupted project.
- 3) PID Monitor does not show the correct PID Mode when address at a multiple of 16.
- 4) High Speed Inputs: When an X relay is registered in "Use Enable", "Current Count Value" is reset to "0" regardless of the "Reset counter to" setting.
- 5) Opening System Monitor causes software to crash.
- 6) Modbus TCP: connection is not cleanly removed when FIN received from server.
- 7) High Speed Counter Addresses in Function Tab Tree do not show the correct value.
- 8) Print Report - C0-08SIM, C0-04TRD-10 and C0-08TR-3 are not listed.

Feb 12, 2020 - Version 2.60

New Features

Support for three new I/O modules:

- 1) CO-04TRS-10
- 2) CO-08TR-3
- 3) CO-08SIM

Improvements

Installation EXE files are digitally signed

Fixed Bugs

- 1) Fix bug that may cause Ethernet CPUs to reboot.
- 2) OUT Coil is not keeping address assignment, or a Nickname is automatically assigned
- 3) Hysteresis Error unavoidable when Autotuning a new PID Loop in the Monitor Window 4)
CO-1x CPUs will Fault when using an Out Coil Immediate option to Output Modules.
- 5) Access Violation occurs in Export I/O MODBUS Addresses
- 6) Find Available Addresses is selecting used addresses

Nov 1, 2019 - Version 2.51

Improvements

- 1) PID PV filter default was 1, changed to 100
- 2) Nickname Export and Import will now open to the previous folder location
- 3) Zoom setting now saved in PID Monitor
- 4) Added % Hysteresis, PV Upper and Lower Limits for better Autotune calculations

Fixed Bugs

- 1) PID Configuration Error - "PIDxxx_ALM_PV_DevHiHi" could cause an error even when the alarm was disabled.
- 2) False errors were reported when Windows language settings changed the Decimal Separator of the comma and period characters. The message "... is not a valid floating-point value" was improperly reported.
- 3) CO-1x CPUs, Modbus RTU/TCP, Function Codes 1 and 2, unused Bits of the Response Bytes may contain non-zero values.
- 4) ASCII Send Instruction - Copy and Paste Embedded Addresses above limit causes error.

- 5) EtherNet/IP - Assembly Object (0x04) Class Attribute 2 was corrected.
- 6) CO-1x CPUs Immediate Coil Out had priority over Overrides.
- 7) When the PID loop is configured for Reverse Acting, the Autotuning does not function correctly.

Sept 18, 2019 - Version 2.50

New Features

- 1) Support 8 PID Control Loops
- 2) The values in all retentive addresses in the PLC can be saved to the project file through the Software Setup window. Improvements

Software

- 1) Software Version is now displayed in the Software Header.
- 2) Cross Reference View now improved to show addresses assigned: Analog I/O, High Speed Inputs, EtherNet/IP, PID.
- 3) The programming software will now correctly prevent assigning invalid IP's to the CPU.

Firmware

- 1) The Built-in Analog Inputs of Ethernet CPUs would previously provide filtered values for the first several scans.

Fixed Bugs

Software

- 1) Nickname Export incorrectly includes all TXT addresses.
- 2) Nickname Import would not import initial values of TXT addresses.
- 3) When a sub-rung was added using <Enter>, then a wire is drawn using <Ctrl+DwnArrow>. After Compile, the new sub-rung was moved below all previous sub-rungs.
- 4) ASCII Send Instruction could be created with more than the allowed 8 Embedded Addresses.
- 5) During Syntax Checking, Rung comments on rungs with no ladder instructions might be deleted. 13) Calendar/Clock Setup - the Time of PLC would be displayed incorrectly as "00:XX" instead of 12:XXAM and 12:XXPM.

Firmware

- 1) High Speed Counter in Quadrature mode and Counting Modes x1 or x2, would continue counting in the previous direction with loss of A or B input signals.
- 2) Copy Single Instruction, using a Hex Constant in Binary mode actually performed a Value operation.
- 3) Compare Contact operates incorrectly with DD registers and values over 0x01000000.
- 4) A Timer in Retained Mode and a certain combination of Contacts and Branches, the Timer would run even while disabled.

- 5) EtherNet/IP, Initial setting of the Clear Output Data option did not apply correctly.

April 10, 2019 - Version 2.40

Fixed Bugs

- 1) The COPY instruction not working correctly in Ethernet CPU's
- 2) Status Monitor in the software not showing the correct state
- 3) Attempting to print to "Microsoft Print to PDF" in the software causes it to crash

New Features

- 3) Support EtherNet/IP Adapter Server
- 4) Address types CTD, TD and SD made available for Receive Instruction Slave Address
- 5) Address types CTD, TD and SD made available for Send Instruction Slave Address
- 6) Copy Instruction – Pointers can be now used with C-bits
- 7) Copy Instruction – Pack from Bits (C) to Registers (DS, DH, DD, DF)
- 8) Copy Instruction – Unpack from Registers (DS, DH, DD, DF) to Bits (C)
- 9) Copy Instruction – Pack from Words (DS, DH) to Double-Words (DD, DF)
- 10) Copy Instruction – Unpack from Double-Words (DD, DF) to Words (DS, DH)
- 11) Copy Instruction – When Copying from a Register to TXT, added Binary option.
- 12) Copy Instruction – When Copying from a TXT to Register, added ASCII Code option.

Oct 3, 2018 - Version 2.30

- 1) Ethernet CPU models with DC Inputs now support High Speed Counting and Timing.
- 2) Number of Interrupt Programs increased from 12 to 32.
- 3) Ethernet CPU models now allow Pulse Catch on all Built in Inputs.
- 4) Connect to Ethernet PLC, remember last Network Adapter choice.
- 5) Spelling correction in the CPU Built-in I/O Setup, "Pulse" to "Pulse".
- 6) Write Project into PLC, text change to better explain the download option.
- 7) New toolbar icons for "High Speed Input" and "Software Setup"
- 8) System Configuration, Select a CPU Module, corrected text descriptions of some CPUs.
- 9) Ethernet CPU models' communication timers operate differently than Non-Ethernet CPU's.
- 10) Ethernet CPU models with serial port in ASCII mode will not receive less than 2 characters.
- 11) Ethernet CPU models don't recognize the ON status of discrete inputs during the first scan.
- 12) Math error when using complex order of operations.
- 13) Added Error 108 to catch Interrupt Watchdog Timer Error.

- 14) While offline the software might not identify the CPU model correctly from a CLICK project.
- 15) Ethernet CPU models Ethernet interface might stop due to high network traffic.

Nov 1,2017 - Version 2.20

- Supported the new Ethernet Analog CPU modules. (12-part numbers in total)

Sep 29,2017 - Version 2.11

- Made improvements to overall application security.

Apr 21,2017 - Version 2.10

- Supported Windows 10.
- Supported the re-designed Analog CPU modules (Part #: C0-02*). The Analog CPU modules with the following serial numbers must use firmware V2.10 or higher.

C0-02DD1-D: 171208001 or later

C0-02DD2-D: 174018001 or later

C0-02DR-D: 173158001 or later

- Improved the firmware update in the Ethernet CPU module. The Ethernet CPU module will keep the IP addresses after completing the firmware update.
- Changed the TXT Addresses to be retentive with all of the CPU modules. An Initial Value can be assigned to each TXT address also.
- Fixed a Math instruction problem. If a constant was assigned to a Math instruction instead of a formula, the Math instruction might write a wrong value into the memory address assigned to store the Result.
- Fixed the problem that the CLICK software displayed 'Error (-6): Memory erase error' during the project download in some cases.
- Fixed the problem that the CLICK PLC didn't execute interrupt programs at all after editing the interrupt setup in some cases.

Dec 3, 2015 - Version 2.00

- Supported the new Ethernet Basic and Standard CPU modules. (8-part numbers in total) - Supported the bumpless RUN time edit with the new Ethernet CPU modules.
- Supported the date and time change without using the CLICK software. (See the help topic CL194 'How to Change Date and Time without using CLICK Programming Software' for details.)
- Added the View I/O MODBUS Addresses button to the System Configuration window. By clicking this button, the new I/O MODBUS Addresses window is opened, and you can check the MODBUS addresses assigned to the discrete and analog I/O.

- Modified the Connect to PLC window to support the Ethernet connection.
- Modified the Receive and Send instructions to support the built-in Ethernet port (Port 1) on the new Ethernet CPU modules.
- Modified the CLICK Project Loader to support the new Ethernet CPU modules.
- From Ver. 2.00, each version of the CLICK Programming Software will be installed in a new folder. This means you can keep different versions of the CLICK Programming Software on a PC.

Jun 12, 2013 - Version 1.40

- Supported new analog I/O modules.
- Supported new discrete combo I/O modules.
- Supported new System Monitor window.
- Improved the System Configuration window to display the DF addresses assigned to analog I/O points.
- Fixed the problem that only 6 paper sizes were available in the Print window.

Nov/02/2011 - Version 1.33

- This version includes new CPU firmware V1.33. It fixed a bug that Analog CPU modules read a wrong analog input value occasionally. The CPU firmware V1.30 and V1.31 had this bug.

Aug 23, 2011 - Version 1.32

- Fixed the problem that the CLICK Programming Software tried to include old firmware V1.30 into the CLICK Loader file instead of the correct firmware V1.31 when the CLICK Loader file was exported.

Jul 6, 2011 - Version 1.31

- This version includes new CPU firmware V1.31 that fixed some major bugs found in firmware V1.30.

May 6, 2011 - Version 1.30

- Improved the Send instruction (ASCII) by supporting the NULL code as an embedded ASCII character.
- Modified the Receive/Send instructions and their setup windows no longer display the setup parameters that are not supported by the selected protocol.
- Fixed the problem that unnecessary warning messages were displayed even if the analog I/O setup was correct.

Dec 16, 2010 - Version 1.21

- Improved Find, now supports searching by Instruction type.
- Improved Address Picker, now opens at address used in the current instruction.
- Improved Error flag (Port2=SC101, Port3=SC103) now shown in Receive instruction of ASCII mode.
- Fixed the problem that Cross Reference only shows start and end addresses used in Math instruction (SUM operation).
- Fixed the problem that Cross Reference does not show DF addresses assigned to Analog I/O.
- Fixed the problem that Math instruction sometimes does not work correctly with constant values.
- Fixed the problem that CPU Built-in I/O Setup shows unclear error message when deselecting "Continuous Address".

Nov 17, 2010 - Version 1.20

- Supported new Standard CPU modules.
- Supported new 24VAC/DC input modules.
- Improved the Rung Comment feature to support Arabic.
- Fixed the problem that the Print dialog output the PDF file without allowing the user to rename the file and select the save location.

May 13, 2010 - Version 1.12

- When there are three branches in a rung, Coil and/or Box instructions could be energized unexpectedly.
- When two OR circuits were connected to the same vertical line (master line), there was a syntax error. (OR circuit = Two or more Contact instructions are connected in parallel.)
- The syntax error check algorithm was improved to prevent any incorrect ladder programs from downloading into the CLICK PLC.
- The Drum instruction no longer consumes a TD address in the Event Base mode.

Nov 23, 2009 - Version 1.11

- Added the CLICK Project Loader tool. This tool is available from the Start menu. See the CLICK Project Loader User Guide for details. (This is also available from the Start menu.) - Added the Override View.
- Added the Exact Match option to the Address Picker, Cross Reference View and Find windows.
- Included the CLICK Hardware user Manual.
- Improved the communication between the CLICK Programming Software and the CLICK PLC. This improvement would reduce the risk of the software crash that some customers had experienced. - Changed the icons for the interrupt programs.

- Fixed the problem that the CLICK Programming software opened on the Windows with a European language setup didn't accept the comma as the decimal point.
- Fixed the problem that the Timer instruction was set to retain the current timer value and there were 2 contacts in parallel (OR connection) connected to the enable input of the Timer instruction, the Timer was enabled from the beginning even though the both contacts were off.

May 29,2009 - Version 1.10

- Supported new Analog CPU modules.
- Added the Battery Backup Setup dialog for the Analog CPU modules. - Added the Calendar/Clock Setup dialog for the Analog CPU modules.
- Added the Com Port 3 Setup dialog for the Analog CPU modules.
- Improved the CPU Built-in I/O Setup dialog to support the Analog CPU modules.
- Added the Text View.
- Added the ASCII data type.
- Supported 2400 and 4800 bps on Com Port 2 and 3.
- Added the new System Data Registers to store the no communication time period on the Com Ports. (SD41, SD51 and SD61).
- Added the two Fill Down buttons to the Drum instruction.
- Improved the Copy instruction (Single Copy mode) to support the Pointer addressing as the Destination parameter.
- Improved the Receive instruction (ASCII mode) to store the length of the received text message.
- Improved the Send instruction (ASCII mode) to embed the ASCII codes and Memory Addresses in the text message.

Oct 15, 2008 - Original Release CLICK PLC Programming Software Version 1.00

Part 4: Known Issues

Issue #1. Screen DPI settings: It is recommended that when using CLICK PLC Programming Software, the DPI setting should be one of the followings:

- 72 dpi (75%)
- 96 dpi (100%)
- 120 dpi (125%)
- 144 dpi (150%)

192 dpi (200%)

Failure to use the correct DPI setting will cause text in a project to display incorrectly.

Issue #2. USB-to-Serial Drivers: It is recommended that you disconnect any USB devices except the mouse and keyboard during installation. Some USB devices can interfere with the installation and uninstallation of the Koyo USB-to-serial driver.

Please contact us with any other issues that you might find via fax at 1-770-886-3199 or e-mail inquiry at <http://support.automationdirect.com/techinquiry.html>

Part 5: Documentation and Help File Changes

Please contact us with any corrections, enhancements, or changes that you would like to see in the documentation or help file via fax at 1-770-886-3199 or e-mail inquiry at <http://support.automationdirect.com/techinquiry.html>

Part 6: Known Problems and Conditions

If you cannot install the software on your PC, check to make sure that your computer is running a compatible operating system: CLICK PLC Programming Software runs on the following Windows operating systems: Windows 8, 8.1 and 10.

Please report any other problems to AutomationDirect via <http://support.automationdirect.com/techinquiry.html> or by calling technical support at 1-770-844-200.

Part 7: Uninstalling of CLICK PLC Programming Software

It is very important that before uninstalling the software that you make a backup of any important project or library files.

Part 8: Technical Support Procedures and Contact Information Here are some options if you need technical assistance:

1. You may find the information you need on our web site at <http://support.automationdirect.com/>
2. You can send us an e-mail inquiry at <http://support.automationdirect.com/techinquiry.html>
3. You can fax the information to us at 1-770-886-3199 any time of day.
4. You can access our AutomationDirect Customer Forum at <http://forum.automationdirect.com/>
5. You may also call our Technical Support Team from 9 AM to 6 PM EST Monday through Friday.

Please provide your software version when requesting technical support. The software title bar displays the software version number.

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