# Welcome to the C-more Micro Programming Software Version 4.31 (March 21, 2018)

This document describes some of what's new in this release of the C-more Micro Programming Software. It also includes known issues as well as updated information for the documentation provided with this software. The information in this file and in the Help system is more up-to-date than that in the manual.

#### **Contents**

- 1. Welcome
- 2. Getting Started
- 3. What's New?
- 4. Known Issues
- 5. Technical Support Procedures.
- 6. Documentation Changes.
- 7. Help File Changes.
- 8. Known Problems and Conditions.
- 9. Uninstalling the C-more Micro Programming Software.
- 10. Contact Technical Support

#### Part 1: Welcome

AutomationDirect.com would thank you for using the C-more Micro Programming Software. We have loaded many powerful and exciting features to the New C-more Micro software; however we know that our customers sometimes have great ideas for features. Please feel free to give us input on the C-more Micro product line and you may even request features that you feel would add more value to the software for your application

# Part 2: Getting Started

See the C-more Micro Programming Software Installation Guide for help on installing the software on your PC. Also, see the Hardware Quick Start guide that comes with every panel. You can find the same information in the C-more Micro help files by selecting the Getting Started item under the Help menu of the C-more Micro Programming Software window.

#### Part 3: What's New?

## 3/21/2018 Version 4.31

# **Bug Fixes**

- 1. Dynamic Text not showing text when triggered
- 2. IP Address entered in system screen does not display correctly
- 3. Cannot open Panel Manager with some projects software crashes
- 4. Simulator crashes when closing in Windows 10

## 11/15/2017 Version 4.30

#### **New Features**

- 1. Support for EA3-S3ML-R and ES3-S3ML-RN
- 2. Support for new protocols (for Ethernet models)
  - i. Allen-Bradley EtherNet/IP Client (MicroLogix 1100/1400)
  - ii. Allen-Bradley EtherNet/IP Client (SLC5/05/ENI Adapter)

# Improvements

1. Converting from EA1-S6ML to EA1/EA3-T6CL makes text blurry with greenish tint

# **Bug Fixes**

- 1. DESG 14 CLASS Font with 3" Micro Numeric Display causes Simulator to crash and panel to lockup
- 2. Numeric Display and Entry do not show decimal place with DESG 14 CLASS Font

# 10/3/2017 Version 4.21.0.0

# Improvements

1. Install Shield Security Update

# 6/21/2017 Version 4.20.01.0

## **Bug Fixes**

1. Real Time Graph or Line Graph on Startup Screen causes panel to lockup (freeze).

# 6/14/2017 Version 4.20

#### **New Features**

1. Support for EA3-T4CL and EA3-S3ML

## Improvements

- 1. Import Tag Name Database improved
  - i. Added Append Text
  - ii. Added Support for Multiple Devices

# **Bug Fixes**

- 1. Using AutomationDirect EA-ECOM with Retries = 0 causes a constant PLC Time Out
- 2. Connection to GE VersaMax PLC with SNP-X protocol not working
- 3. The DPI Setting of Windows influences the font size of the numerical value of the Numeric Entry Object after transferring the project to the panel.

# 8/9/2016 Version 4.10

## **Bug Fixes**

1. Productivity Driver – Boolean data type issues wrong function code

# 7/20/2016 Version 4.00 Build 00.4

# **Bug Fixes**

1. Productivity Driver – Data may be written to the wrong PLC address

# 6/29/2016 Version 4.0

## **New Features**

- 1. Windows 10 Compatibility
- 2. Support for EA-ECOM Ethernet Module for EA3 series panels
- 3. Added Click Ethernet Driver
- 4. Added DirectLogic Ethernet Driver
- 5. Added Do-More Ethernet Driver
- 6. Added Productivity Series Ethernet Driver
- 7. Added Modbus TCP/IP Driver

# Improvements

1. Productivity Driver - support bit of word for Integer and BCD data types

## **Bug Fixes**

- 1. Simulator Crash
- 2. Warning when changing from EA3-T6CL to EA3-T8/10CL about number of functions keys doesn't display.
- 3. Bezel Menu Key Setup Screen Change will not allow screen above 255

#### 1/26/2016 Version 3.61 Build 0.1

## Bug fixes

- 1. Serial communications have slowed compared to version 3.51
- 2. For the Do-more driver, under some circumstances an object displays an incorrect value.

# 11/4/2015 Version 3.60 Build 0.0

#### **New Features**

1. Support for EA3-T6CL

# Improvements

- 1. Panel Manager Add note describing power on comms ports
- 2. Panel Manager PLC Protocol Change "AutomationDirect Productivity 3000 Serial (P3-550)" to "AutomationDirect Productivity Serial"

# **Bug fixes**

- 1. Message Database sometimes does not sort properly when the project is compiled
- 2. Productivity Serial driver: Indicators do not display correct state
- 3. DH-485 driver: Errors are not being reported back correctly
- 4. When a tag is imported many times, the tag can't be edited
- 5. Object Limit not correct in Function Object when EA3 model selected
- 6. Color 56 appears Transparent when used as background for Bitmap button

## 9/22/2014 Version 3.51 Build 0.3

# **Bug fixes**

- 1. Under some circumstances the Recipe Object may cause the software on the PC to crash
- 2. The values assigned to function keys on the EA3-T8CL and EA3-T10CL panels are incorrect
- 3. In the Panel Manager configuration window, when the Panel Type is changed to EA1-S6ML, Frame Style is Blank

# 7/22/2014 Version 3.51 Build 0.1

# **Bug fixes**

3. Under some circumstances the alarm banner doesn't display on the panel 4. Under some circumstances, R005 warning displays after firmware update

## 5/21/2014 Version 3.50 Build 0.1

# **New Features**

- 1. Support for EA3-T8CL and EA3-T10CL
- 2. Text Entry Object

## Bug fixes

- 3. P3000, PLC Enquiry Test fails without trying.
- 4. Do-more Driver: Error codes coming back from PLC are displayed incorrectly on panel 10. Opening Recipe Button Object causes application error

## 5/6/2013 Version 3.22 Build 0.0

## **New Feature**

1. This version supports Windows 8 operating system

## 2/12/2013 Version 3.21 Build 2.0

## Bug fixes

- 1. This version reapplies the fix for "Visibility option doesn't always correctly display objects when panel is initially powered" which was fixed in version 3.21 Build 0.00, but missing from 3.21 Build 1.00
- 2. Tag Names should be limited to 40 Characters by the Tag Name Add/Edit dialog
- 3. Internal 'String' Tags do not work correctly.
- 4. Simulator doesn't update embedded tags in Lookup Text object

# 12/17/2012 Version 3.21 Build 1.0

## Improvement

1. This version corrects the details of a file in the installation that cause some antivirus products to incorrectly flag the software as harmful.

## 12/7/2012 Version 3.21 Build 0.0

## New features

- 1. Support for DoMore PLC Bug Fixes
- 2. Visibility option doesn't always correctly display objects when panel is initially powered
- 3. Micro Uninstall process shows "Uninstalling USB Driver," but the USB driver does not uninstall.
- 4. Correct errors in Object Help text for Radio Button
- 5. Dynamic bitmap objects are changed when project is upgraded from ver 2.31 to 3.20.1.0 6. 6. Function Key Object moves when project is updated from version 2.31 to 3.20.1.0

- 7. GUI-100 Error is generated by exporting Message DB.
- 8. The completion Messagebox(Export Completed) is not given after the error Messagebox(GUI-100).
- 9. Library Import window minimum size is not set in the software

## 12/2/2011 Version 3.20 Build 1.0

**Bug Fixes** 

- 1. Pressing the F4 key causes the screen to dim briefly
- 2. In rare circumstances, when a protected project is read from a panel, writing that project to another panel fails.

#### 11/2/2011 Version 3.20 Build 0.0

#### New features

1. Support for component changes in 3" and 6" STN panels. The panels with the new components are identified by Hardware revision on the product and product package labels. 3" STN panels with hardware revision 4.0 and 6" STN panels with hardware revision 5.0 Bug

# Fixes

- 2. Double word data type such as Floating PT may not display correct value in simulator
- 3. Simulator is not working correctly, when using registers of FLOAT and Double Word on P3000.
- 4. Miscalculated tag memory space
- 5. If a screen identification number is large, the screen won't save to screen library
- 6. Recipe object will not write more than ten ASCII String tags. Improvements
- 7. Change version notes Readme file format from Readme.txt to Readme.pdf
- 8. On EA1-T4CL, correct the text alignment in the password dialog box.

# 2/7/2011 version 3.01 Build 0.0

**Bug Fixes** 

- 1. Simulator tag list is not created when the windows decimal separator is a comma instead of a period
- 2. Simulator changes numeric display to incorrect value after changing adjacent register value
- 3. P3000 driver does not correctly handle multiple block requests.

## 10/27/2010 Version 3.00 Build 0.0

New features

- 1. Support for EA1-T4CL.
- 2. New system fonts: 4x6, 8x32, 8x64, 16x32, 16x64 and 32x64
- 3. Add of 'Range' option for 'Increment/Decrement Value' object.
- 4. Add 'Auto Increment or Decrement' feature for 'Increment/Decrement Value' object.

## 9/20/2010 Version 2.63 Build 0.0

## **Bug Fixes**

- 1. Using momentary push button to cause PLC to Panel screen change with CLICK sometimes causes the panel to hang up until power cycled
- 2. DirectNet 330/340: Writing to control bits is off by 1 word

# 7/8/2010 Version 2.62 Build 0.3

**Bug Fixes** 

1. Corrected a timing error in the DH-485 driver

#### 6/15/2010 Version 2.62 Build 0.2

New features

1. Add folder for sample projects that will install with the software.

## **Bug Fixes**

- 1. Momentary pushbuttons do not work
- 2. Smaller fonts do not work for numeric objects
- 3. Alarm does not clear from panel even though associated PLC bit is off
- 4. When saving project to USB pin drive and remove pin drive while project is open the tags and message database disappear.
- 5. Bar Graph Object divisions do not appear properly when the data is Floating Point and the range is very large
- 6. When certain screens are copied and pasted into a project a very large number of times, an error may occur.
- 7. When many screens are deleted, the Screen Preview does not update properly
- 8. Message Database default attributes sometimes do not appear correctly in the Message Database table.
- 9. Function Object on portrait mode screens so not import properly into a Landscape mode project.
- 10. Recipe Object does not deal properly with source data that does not match the type of destination data.
- 11. Panel does not properly react to Panel to PLC address that does not exist in the PLC.
- 12. the Tab Index dialog box sometimes does not display correctly
- 13. Import Project Data does not import object font information correctly.
- 14. The software does not display the correct error message for filenames that exceed 255 characters.
- 15. Modbus inter-character timing for EA1-T6Cl exceeds Modbus spec
- 16. Select RS485 = YES causes Modbus and other protocols to not work.
- 17. After changing panel type from color to mono, some objects are not shown properly.
- 18. In some cases Panel Manager does not show the com. port # correctly

19. In some cases Increment/Decrement Value object 'Text Color' can not be changed .

## 4/14/2010 Version 2.60 Build 00.00

#### New features

- 1. New Tri-State Switch Object
- 2. New Radio Button Object
- 3. Visibility option has been added to all objects
- 4. Transparent option has been added to bitmap objects, for EA1-T6CL only
- 5. Driver for Productivity3000
- 6. Driver for GS Drives
- 7. Driver for SOLO temperature controllers
- 8. Panel setup screen includes Panel Model Number

#### **Improvements**

- 1. Path is pre-populated for the Firmware Upgrade utility
- 2. Recently accessed projects are listed at the bottom of the File Dropdown Menu
- 3. Modbus function codes 05/15 and 06/16 are selectable
- 4. Operating systems supported include Windows 7 (32 and 64 bit) and support for Windows Vista now includes 64 bit
- 5. Allen Bradley DF1 Addressing is expanded to accept I1:0.0 to I1:30.255 and O0:0.0 to O0:30.255
- 6. GE SNPX driver allows %I and %Q data types to be read/write
- 7. For projects created in version 2.60 and later: When the software saves a backup version of a project that was last saved in a previous version, the version number that is appended to the new file name will match the version number of the software where the project was last saved.

# **Bug Fixes**

- 1. Screen sorter in screen library dragging and dropping does not work in Windows Vista
- 2. Bar Graph object does not display properly when the fill is Dot Pattern
- 3. Bar graph object does not behave as expected when overlapping the display area boundary

## 2/16/2010 Version 2.51 Build 00.00

## **Bug Fixes**

- 1. Simulator does not simulate recipe object tags
- 2. Numeric Display object with floating point data does not display properly
- 3. Negative floating point values are not treated properly.

4. Project Data from projects created in version 2.50 cannot be Imported into other projects 5. Software will not save projects fro EA1-T6CL larger than about 1800 KB

## 12/9/2009 Version 2.50 Build 00.00

New features

- 1. Support for new 6" TFT 32K color panel, EA1-T6CL.
- Addition of 'Multi-State Bitmap' object.
- 3. Addition of advanced 'Numeric Entry' and 'Numeric Display' options for using Windows Fonts.
- 4. Updates to the simulator including simulate function keys and numeric keypad bezels.

## Improvements:

- 1. Modbus RTU driver: allow Registers per Message and Coils per Message to be unique settings per devices
- 2. Modbus RTU driver: add "2" as an option in the "Registers Per Message" field for the Panel Manager settings
- 3. COM port selection add "Detail" button to all COM port selections

#### **Bug Fixes**

- 1. Panel beep does not work after password screen (when using PLC to Panel option)
- 2. Entivity Modbus RTU, Discrete Objects are not updated on the screen.
- 3. Bar Graph Object using "Target Line" option does not work.
- 4. 3 inch panel system screen displays incorrect memory information
- 5. Message Database Export Problem

# 6/2/2009 Version 2.31 Build 00.00

Bug Fix

1. Panel Locks up when using the CLICK PLC Driver and pressing the F1+F5 keys to access System Screen

## 5/27/2009 Version 2.30 Build 00.00

Improvements

- 1. Improvement for beep sound behavior.
- 2. Numeric Entry Add "Clear Entry" selection that clears the entry field when keypad opens. Default = deselected
- 3. AB Enhancements (Add Long data type, String data type and Allen Bradley CSV import)
- 4. Function Key LED Eliminate or reduce the blink time when changing screen 5. Limit C-more Tag data type selection for Allen-Bradley data type combinations

# **Bugs Fixed**

- 1. Siemens PPI, Problem with Recipe using 32 bit tags.
- 2. csv files created when the Windows Regional setting is somewhere other than USA use semicolon to separate fields
- 3. CSV import differences between C-more and C-more Micro
- 4. Dynamic Bitmap object does not display 1-pixel-wide bitmap properly
- 5. Simulation problem: AB drivers (DH485 and DF1), Timer/Counter .ACC/.PRE does not work in Simulation on PC
- 6. Numeric Display object appears to allow font to be larger than 32x32 but panel displays as 32x32 7. Windows font smoothing option is cleared by Micro software
- 8. Message Database allows too many embedded tags.

# 12/16/2008 Version 2.20 Build 00.00

**New Driver Support:** 

- Mitsubishi FX-1N(c)/2N(C)/3U(C) (CPU)

# Bugs Fixed:

- 1) Read Only Project File Will not transfer to panel
- 2) Protected Project can not be Transferred if objects are overlapping
- 3) C-more Micro Import Tag Database is less capable than C-more 4) Regional Language Settings Dutch Causing Error '5000.'?????????

## 10/22/2008 Version 2.1 Build 00.01

Bugs Fixed:

- 1) PTC-015 error associated with Vista error "KERegServer.exe not found"
- 2) Indicator Light Inverse for ON and Normal for OFF Text is not visible

#### 10/15/2008 - Version 2.1 Build 0.0

**New Driver Support:** 

- AutomationDirect CLICK -

Mitsubishi Q/QnA series

#### Bugs Fixed:

1. Sharing violation EA\_.mdb when saving project file

# 7/2/2008 - Version 2.0 Build 0.0

New Hardware:

- 1) C-more 6" Micro Panels
- EA1-S6ML EA1-S6MLW
- 2) C-more 6" Micro Bezels
- EA-MG6-BZ2 -

EA-MG6-BZ2P

## **New Features:**

- 1) Support for up to 16 alarms
- 2) Line Graph Object
- 3) Real Time Graph Object
- 4) Analog Meter Object

# Improvements:

- New Numeric Entry Object Style 3 Style 3 requires an optional keypad bezel.
- Enhanced labeling of the function key object for 6" panels.
- Microsoft® Vista compatibility.

## Bugs Fixed:

- Panel to PLC tags do not map correctly in the simulator.

Tag Name Export to XLS creates an extra quote character on tags beginning with a number.

- EA-MG-SP1 RXD status LED does not light.
- Export Screen Image with Object Name does not include object name.
- Bar Graph Object does not display actual value.
- Numeric Display Object and Numeric Entry Object do not make Fractional number of Digits selection unavailable when "Use Tag for Decimal Point" is selected.
- 'Loop Back Test' and 'PLC Enquiry Test' are not displayed correctly. GE SNPX driver: Please allow the I, Q, AI, AQ data types to be Read/Write

## 3/12/2008 - Version 1.50 Build 8.11

## New Hardware:

- 1) C-more Micro High Contrast White Screen Models
- EA1-S3MLW EA1-S3MLW-N

# New Features:

- 1) New Driver Support:
  - Allen-Bradley DH485

- Siemens S7-200 PPI
- 2) Additional Fonts

- 32x16
- 32x32

#### Improvements:

- Bar Graph - Target Line Added

# Bugs Fixed:

- Screen Password Entry While entering a screen password, the password characters are visible. Floating Point floating value in C-more Micro is different from Floating Point value in the PLC.
- Import Tagname Database Tags will not import into C-more Micro if comma is missing at end of line
- Graphic Library Add Graphic to Graphic Library DialogBox Broke
- Frames different between C-more Micro Panel and Programming Software.
- Bar Graph Floating Point setting always changes back to 1 when closing the configuration dialog box and reopening
- Project Memory Size calculation error
- Function Object Function Labels displaying text that was defined for other screens

# 10/17/2007 - Version 1.2 Build 7.40

New Features: 1) New Driver Support:

- GEFanuc SNPX supports VersaMAx, VersaMax Micro, Micro 90

## Improvements:

- Increase available SRAM for increased number of tags by 4 times

## Bugs Fixed:

- Numeric Entry Simulator and Panel act differently when entering numbers
- Blank Green Screen Required F2-F4 Reset factory defaults to clear
- Numeric Display SW does not display the position of values properly

# 8/15/2007 - Version 1.2 Build 7.24

New Features:

1) New Driver Support:

- GEFanuc 90/30 SNPX
- OMRON Host Link Adapter
- OMRON FINS Serial
- Mitsubishi FX
- Think & Do Modbus
- Touch Panel Test 2) Touch Panel Test on SETUP MENU

# Improvements:

- File format and Check sum enhancement for EEPROM Failures; To Prevent Green Blank Screen
- Changed Protocol Name Text in panel to 2 lines to make more readable

# Bugs Fixed:

- Screen change pushbuttons are getting cut off in panel but look normal in software

#### New Error Codes:

Error Code Error Message

R005 Panel Check Sum Error.

R006 SW Ver. Mismatch Use software Ver.xx.xx

# 5/3/2007 - Version 1.12 Build 7.15A

**Bugs Fixed** 

- Shape Objects not displaying on panel

## 4/16/2007 - Version 1.12 Build 7.15

**New Features** 

- Add New Object Scroll Text (128 Char)
- Add New feature Dynamic Text has Scroll Text Option (40 char) Add New feature Lookup Text has Scroll Text Option (128 char)
- Add New feature All PLC drivers support Multiple PLC Node connection on EA-MG-SP1 Port 2

# Improvements

- Support Internal Tags on the panel (PLC Address Not Required)
- Improved Touch / Key response
- Improved performance when communication error occurs

- Built-in Serial Port 1 becomes a dedicated programming port when EA-MG-SP1 Port 2 is configured. (Project can be downloaded with pressing F1 and F5 in this mode)
- Error PTC-019: No project File in Panel added (when trying to read project from panel with only the runtime loaded)
  - Display Hourglass instead of message "Loading Screen" and delay time is adjustable with Setup Screen

## **Bugs Fixed**

- Momentary Pushbutton Delaying Shutting Off
- Indicator Button and Bitmap Button do not work properly if "Indicator Tag Name" and "Push Button Tag Name" has the same address number, i.e.X0 and Y0 respectively.

# 2/14/2007 - Version 1.11 Build 6.51B Full Release -

Firmware change only:

- "Sticky" Momentary Pushbutton
- When using Koyo Modbus and Panel<-> PLC, "Send Current Key Status", Panel can lockup when a function key is pressed.

## 1/11/2007 - Version 1.11 Build 6.51A Firmware release only:

- Corrected a periodic PLC Timeout associated with DL 06 and 260 PLC's.
- Corrected Problem using Momentary Pushbutton with PLC <-> Panel functions such as screen change.
- Fixed Panel lockup associated with pressing the function keys and bezel buttons too quickly.

## 12/18/2006 - Version 1.11 Build 6.51

- 1) Support Allen Bradley DF1 for Micrologix, SLC500, PLC5
- 2) Increment and Decrement Added to Function Key Options
- 3) Various Bug Fixes

## General

- 1) Lookup Text Justification Issue Corrected
- 2) Corrected Screen Selector allows Non-existing screens to be added to the list, locks up panel
- 3) Corrected Panel Freezing while using Tab Index Function
- 4) Corrected BCD Data Type Display Issue
- 5) Corrected Panel switching to User Screen on it own while in System Screen.

# **Touch Screen**

1) Fixed Panel Missing Touches to screen or Key Strokes on Function and Bezel Keys

## 09/18/2006 - Original Release C-more Micro Programming Software

# Version 1.1 Build 6.39

# Part 4: Known Issues

Screen DPI settings: It is recommended that when using C-more Micro Programming software, the DPI setting should be one of the following settings:

72dpi (75%) 96dpi (100%) 120dpi (125%) 144dpi (150%) 192dpi (200%)

Failure to do so will cause text in a project to display incorrectly.

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

We request that you contact us with any Issues that you might find via fax (1-770-886-3199) or inquiry at http://support.automationdirect.com/techinquiry.html.

# **Part 5: Technical Support Procedures**

If you need technical assistance, you may find the information you need on our web site at www.automationdirect.com/support. If you prefer, you can send us your inquiry at http://support.automationdirect.com/techinquiry.html. Or you may call Automationdirect at 1-770-844-4200 -- our technical support team is available to answer your questions weekdays from 9 AM - 6 PM EST. Or you can fax the information to us at 1-770-886-3199 any time of day.

Please provide the Version information when requesting technical support. You'll find it under the Help/About C-more Micro Programming Software Version.

#### **Part 6: Documentation Changes**

We request that you contact us with any corrections, enhancements, changes that you would like to see in the documentation via fax (1-770-886-3199) or inquiry at http://support.automationdirect.com/techinquiry.html.

Please always check the On-Line Help files and our web site at www.automationdirect.com/support for updated and new information.

# Part 7: Help File Changes

Refer to the "What's New" Topic in the Help File for a list of changes and additions to the help file.

We request that you contact us with any corrections, enhancements, changes that you would like to see in the documentation via fax (1-770-886-3199) or inquiry at http://support.automationdirect.com/techinquiry.html

Please always check the On-Line Help files and our web site at www.automationdirect.com/support for updated and new information.

#### Part 8: Known Problems and Conditions

Find a Problem?

Please check the version of your Windows once again.

C-more Micro Programming Software runs under the following Windows Operating systems:

Windows XP Pro/XP Home with SP2, Windows 2000 with SP4, Windows Vista (32 and 64 bit) and Windows 7, 8, 8.1, 10 (32 and 64 bit)

Please report any problems to Automationdirect via http://support.automationdirect.com/techinquiry.html or by calling 1-770-844-4200.

# Part 9: Uninstalling C-more Micro Programming Software

Before Starting: Data Backup

If you have saved projects that you feel are important to you, then you will need to make a backup of these files. Please backup your files such as Project files and Library files before uninstalling.

Before Starting: Remove USB Cable

If the C-more Micro Panel is connected to the PC USB port via the USB-Serial Converter (EA-MG-PGM-CBL), then the USB driver will be active. Please Remove USB Cable between PC and C-more Micro panel before Uninstalling. It is also recommended to disconnect any USB devices except mouse and keyboard. Some USB devices can interfere with the installation and uninstallation of the Koyo USB to serial driver.

## Part 10: Contact Technical Support

Our technical support hours are from 9am to 6pm Eastern Standard Time Monday through Friday.

Telephone: 1-770-844-4200

FAX: 1-770-886-3199

Technical Support Inquiry http://support.automationdirect.com/techinquiry.html

Discussion Forum: AutomationDirect Customer Forum http://forum1.automationdirect.com/

-----

Copyright (C) AutomationDirect and KOYO ELECTRONICS INDUSTRIES CO., LTD. and WinSystem Co., Ltd. All Rights Reserved.