



Programmable Controller



Up-to-date price list:
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Just CLICK! for simple, affordable control

CLICK Simply CLICK to get started

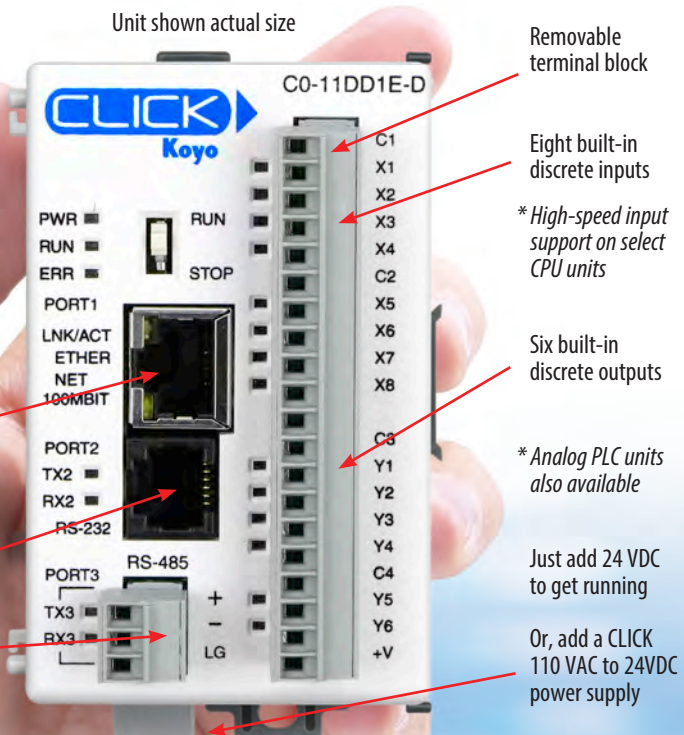


CLICK PLC UNITS
Starting at
\$69
C0-00DD1-D
C0-00DD2-D

10/100 Mbps Ethernet port (on select models) for Modbus TCP (client/server) and EtherNet/IP Implicit and Explicit (adapter server) communication

Up to two serial communication ports (RS-232 and RS-485) for operator interfaces, PC programmers or any Modbus RTU/ASCII device

* CLICK Basic PLC units starting at \$69.00, Ethernet PLC unit (shown) starting at \$160.00



Removable terminal block

Eight built-in discrete inputs

* High-speed input support on select CPU units

Six built-in discrete outputs

* Analog PLC units also available

Just add 24 VDC to get running

Or, add a CLICK 110 VAC to 24VDC power supply



What is it?

CLICK micro-brick PLCs, starting at \$69.00, offer stackable I/O modules and free programming software for a low-cost and easy-to-use high-quality machine controller. It is designed for first-time PLC customers as well as experienced users.

What's it got?

• Thirty-one stand-alone DIN-rail mount DC-powered PLC combinations, including:

- 8 DC In / 6 DC Out (sinking)
- 8 DC In / 6 DC Out (sourcing)
- 8 DC In / 6 Relay Out
- 8 AC In / 6 Relay Out
- 4 DC In / 4 DC Out (sinking), 2 analog in, 2 analog out (current / voltage selectable)
- 4 DC In / 4 DC Out (sourcing), 2 analog in, 2 analog out (current / voltage selectable)
- 4 DC In / 4 Relay Out, 2 analog in, 2 analog out (current / voltage selectable)
- 4 AC In / 4 Relay Out, 2 analog in, 2 analog out (current / voltage selectable)
- 4 DC In / 4 DC Out (sinking), 4 analog in, 2 analog out (current only or voltage only)
- 4 DC In / 4 DC Out (sourcing), 4 analog in, 2 analog out (current only or voltage only)
- 4 DC In / 4 Relay Out, 4 analog in, 2 analog out (current only or voltage only)
- 4 AC In / 4 Relay Out, 4 analog in, 2 analog out (current only or voltage only)

- Built-in communication ports (both Ethernet and serial communication options are available)
- High-speed input support on select CPU units
- Real-time clock and battery back-up in standard, analog and Ethernet PLCs
- Removable terminal blocks
- 27 stackable, I/O option modules
- Program AND documentation stored in PLC
- FREE, high-feature programming software

What can it do?

Replace even just a few relays cost-effectively and gain a world of flexibility. Interface to any Modbus RTU enabled device with the RS-232 port (on all PLCs) and/or RS-485 port (on standard, analog, Ethernet standard and Ethernet analog PLCs) or use the Ethernet port for Modbus TCP (client/server) or EtherNet/IP Implicit and Explicit (adapter server) connections (on all Ethernet PLCs)

What does it take to get started?

- 1: Click on our Web site at www.clickplcs.com to view all the latest detailed product information.
- 2: Click <http://support.automationdirect.com/demos.html> to download free software and take a test drive.
- 3: Click on our store www.automationdirect.com and get a CLICK shipped fast!



Just CLICK for quality

Koyo Electronics, our parent company, is part of the multibillion dollar JTEKT group of companies that primarily provides components to automotive manufacturers such as Toyota.

With their extensive engineering and manufacturing background, we expected nothing but the best, and Koyo delivered! While development focused on building a reliable product, they were also able to deliver a product that offers the best combination of price, ease of use, and features.

The price is almost free while the quality and ease of use is almost priceless.

Mighty as a stand-alone unit, or expand to 142 total I/O!

Just CLICK to get started

The CLICK™ family is an easy-to-use controller that is cost-effective even in applications that would require just a few relays, and more flexible to boot.

With a starting price of \$69.00 for a basic discrete controller offering eight built-in digital inputs and six built-in digital outputs, this stand alone micro brick PLC is by far the most practical choice for the money.

Just CLICK to get FREE Software

The CLICK PLC programming software is available as a FREE download from our Web site.

Unlike many "FREE" programming packages you may be familiar with, this software is packed with features that simplify your learning curve and shorten your programming time.

CPU and I/O Comparison	AutomationDirect CLICK	VS.	Schneider Electric Modicon
Power Supply	\$31.00 C0-00AC		\$0.00 No external power supply required
CPU	\$203.00 C0-12DRE-2-D • 4) Discrete Inputs • 4) Relay Outputs • 4) Analog (0-10V) Inputs • 2) Analog (0-10V) Outputs		\$467.48 TM221CE16R • 9) Discrete Inputs • 7) Relay Outputs • 2) Analog Inputs (0-10V)
(8) 24VDC Discrete Inputs	\$53.00 C0-08CDR (with the CPU's built-in I/O, this module provides the needed 4 discrete inputs and 3 relay outputs)		\$0.00 Included with CPU
(7) Relay Outputs	\$0.00 Included with CPU		\$293.99 TMSA12H (with CPU's built-in I/O, this module adds the needed 2 analog inputs)
(4) Analog Input Channels (0-10V)	\$0.00 Included with CPU		\$309.41 TMSA02
(2) Analog Output Channels (0-10V)	\$0.00 Included with CPU		\$413.13 TMS314
(4) Thermocouple Inputs	\$165.00 C0-04THM		
Ethernet	✓ 1) 10/100 Mbps port		✓ 1) 10/100 Mbps port
Serial	✓ 1) RS-232 port and 1) RS-485 port		✓ 1) RS-232 port and 1) RS-232/RS-485 port
Local Expansion I/O	✓ Up to 8 modules with up to 16 pts per module		✓ Up to 7 modules with up to 32 pts per module
SD Card Support	✗		✓
USB Programming	✗		✓
Programming Software	FREE C0-PGMSW		FREE EcoStruxure Machine Expert Basic
Total Cost	\$452.00		\$1,484.01

BASIC PLC UNITS

- Two RS-232 comm ports
- Super Capacitor

C0-00DD1-D
\$69.00

8 DC sink/source inputs, 6 DC sinking outputs

C0-01DD1-D
\$105.00

8 DC sink/source inputs, 6 DC sinking outputs

C0-00DD2-D
\$69.00

8 DC sink/source inputs, 6 DC sourcing outputs

C0-01DD2-D
\$105.00

8 DC sink/source inputs, 6 DC sourcing outputs

ANALOG PLC UNITS

- Two RS-232 comm ports
- One RS-485 comm port
- Super Capacitor plus battery
- Real-time clock

C0-02DD1-D
\$138.00

4 DC inputs, 4 DC sinking outputs, 2 Analog inputs, 2 Analog outputs

C0-00DR-D
\$86.00

8 DC sink/source inputs, 6 Relay outputs

C0-01DR-D
\$117.00

8 DC sink/source inputs, 6 Relay outputs

C0-02DD2-D
\$138.00

4 DC inputs, 4 DC sourcing outputs, 2 Analog inputs, 2 Analog outputs

C0-00AR-D
\$86.00

8 AC inputs, 6 relay outputs

C0-01AR-D
\$117.00

8 AC inputs, 6 relay outputs

C0-02DR-D
\$148.00

4 DC inputs, 4 Relay outputs, 2 Analog inputs, 2 Analog outputs

Get connected fast with just a simple **CLICK**

Low-cost Ethernet!

CLICK Ethernet PLC units come with a 10/100 Mbps multi-purpose Ethernet port for faster networking and control. Use the built-in Ethernet port to program your system, network your CLICK, or control Ethernet-enabled end devices. Using Modbus TCP or EtherNet/IP protocols, the CLICK Ethernet PLCs will easily integrate into existing networks and provide a simple, cost effective solution for your application.

Check out how easy EtherNet/IP is with CLICK, in this quick how-to video.

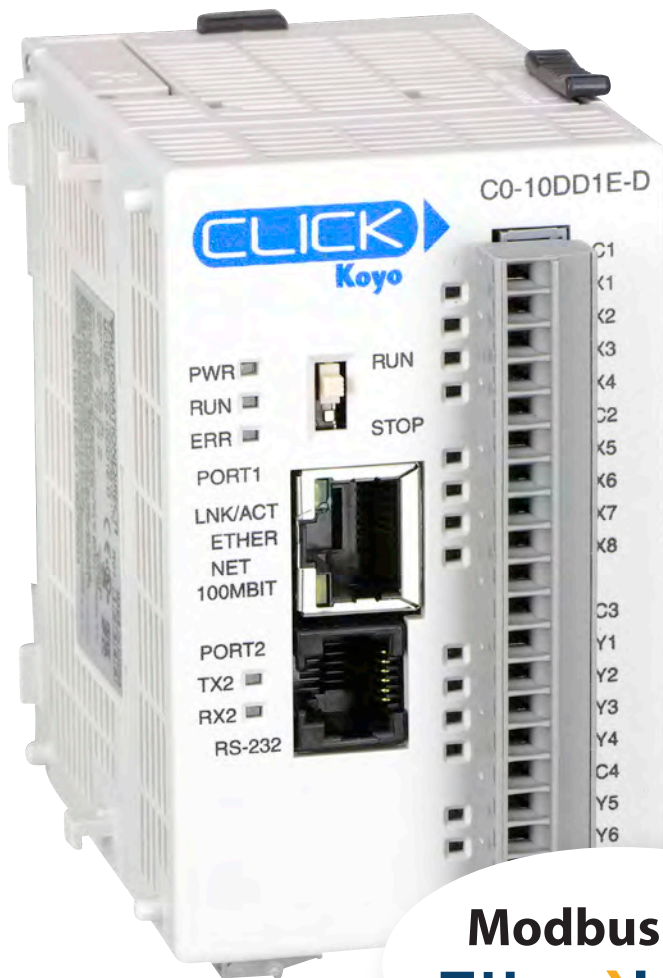


Run Time Edits

The CLICK Ethernet PLCs not only allow for faster connections but they also come with more memory. The added memory size gives CLICK the ability to perform run-time edits on live machinery and/or processes. This feature can greatly reduce unnecessary downtime and is an important addition to an already extremely practical PLC.

Faster Execution

Along with improved communication speed, CLICK Ethernet PLCs are capable of executing logic 3 to 10 times faster than before. Nowhere else will you find this level of performance at this low of a price!



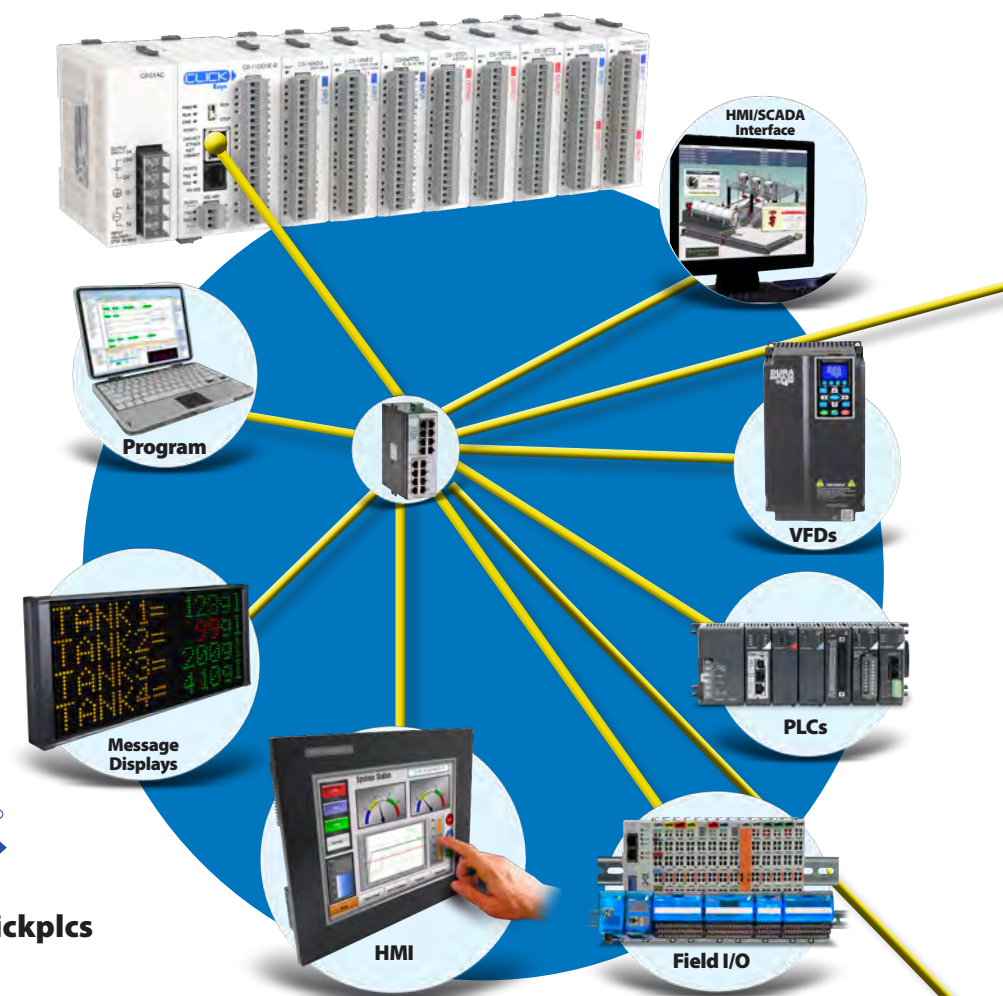
**Modbus[®] TCP
EtherNet/IP[™]**

CLICK with Ethernet

The added Ethernet capability gives this mighty micro the versatility needed in today's industrial environment. Connect multiple Modbus TCP servers/clients as well as up to two EtherNet/IP connections to the CLICK Ethernet PLC models. These models also offer a serial port that can be used for Modbus RTU connections. Making this a perfect unit for a low-cost, highly capable control system.

High-speed Counter/Timer Inputs

CLICK Ethernet PLC units with DC inputs also offer high-speed functionality capable of handling input pulse frequencies up to 100kHz. Easily count and/or calculate pulse rates from dedicated inputs or encoder signals that are used in many applications including package tracking and picking systems.



www.automationdirect.com/clickplcs

ETHERNET ANALOG PLC UNITS

- One 10/100 Mbps Ethernet comm port
- One RS-232 comm port
- One RS-485 comm port
- High-speed counter/timer support (DC inputs only)
- Super Capacitor plus battery
- Real-time clock

ETHERNET BASIC PLC UNITS

- One 10/100 Mbps Ethernet comm port
- One RS-232 comm port
- High-speed counter/timer support (DC inputs only)
- Super Capacitor plus battery
- Real-time clock

ETHERNET STANDARD PLC UNITS

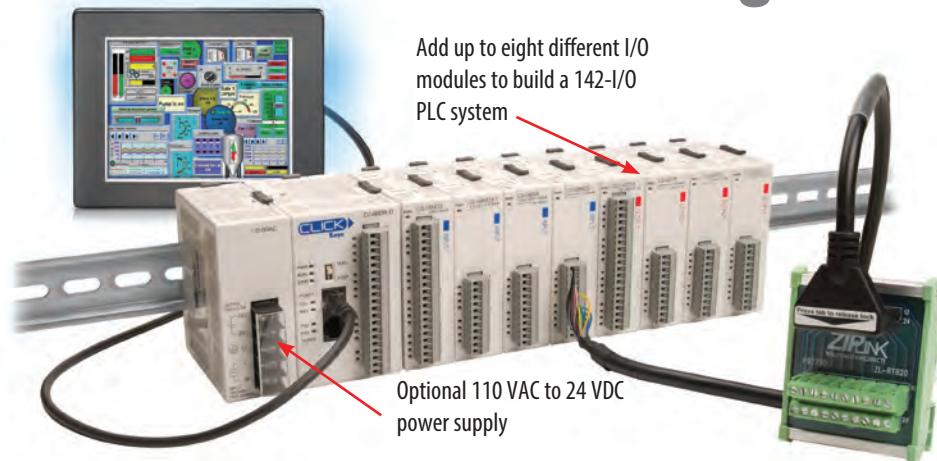
- One 10/100 Mbps Ethernet comm port
- One RS-232 comm port
- One RS-485 comm port
- High-speed counter/timer support (DC inputs only)
- Super Capacitor plus battery
- Real-time clock

<p>C0-10DD1E-D \$138.00 8 DC sink/source inputs, 6 DC sinking outputs</p>	<p>C0-10DD2E-D \$138.00 8 DC sink/source inputs, 6 DC sourcing outputs</p>
<p>C0-10DRE-D \$148.00 8 DC sink/source inputs, 6 relay outputs</p>	<p>C0-10ARE-D \$148.00 8 AC inputs, 6 relay outputs</p>

<p>C0-11DD1E-D \$160.00 8 DC sink/source inputs, 6 DC sinking outputs</p>	<p>C0-11DD2E-D \$160.00 8 DC sink/source inputs, 6 DC sourcing outputs</p>
<p>C0-11DRE-D \$170.00 8 DC sink/source inputs, 6 relay outputs</p>	<p>C0-11ARE-D \$170.00 8 AC inputs, 6 relay outputs</p>

<p>C0-12DD1E-D \$191.00 4 DC inputs, 4 DC sinking outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)</p>	<p>C0-12DD2E-D \$191.00 4 DC inputs, 4 DC sourcing outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)</p>	<p>C0-12DRE-D \$203.00 4 DC inputs, 4 relay outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)</p>	<p>C0-12ARE-D \$203.00 4 AC inputs, 4 relay outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)</p>
<p>C0-12DD1E-1-D \$191.00 4 DC inputs, 4 DC sinking outputs, 4 Analog inputs, 2 Analog outputs (current)</p>	<p>C0-12DD2E-1-D \$191.00 4 DC inputs, 4 DC sourcing outputs, 4 Analog inputs, 2 Analog outputs (current)</p>	<p>C0-12DRE-1-D \$203.00 4 DC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (current)</p>	<p>C0-12ARE-1-D \$203.00 4 AC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (current)</p>
<p>C0-12DD1E-2-D \$191.00 4 DC inputs, 4 DC sinking outputs, 4 Analog inputs, 2 Analog outputs (voltage)</p>	<p>C0-12DD2E-2-D \$191.00 4 DC inputs, 4 DC sourcing outputs, 4 Analog inputs, 2 Analog outputs (voltage)</p>	<p>C0-12DRE-2-D \$203.00 4 DC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (voltage)</p>	<p>C0-12ARE-2-D \$203.00 4 AC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (voltage)</p>

Just CLICK to make a larger PLC



Add up to eight different I/O modules to build a 142-I/O PLC system

Optional 110 VAC to 24 VDC power supply

Expandable to 142 I/O

At \$69.00, you get a ton of application control for your automation buck. The CLICK™ PLC offers you many options for your discrete and simple analog control applications.

The basic, standard, Ethernet basic and Ethernet standard PLCs offer, built in, eight discrete inputs and six discrete outputs; the analog and Ethernet analog PLCs include four discrete inputs, four discrete outputs, two or four analog inputs and two analog outputs. These DC-powered PLCs are a mighty controller as a stand alone unit, or expand your I/O with up to eight of the 27 available option modules for up to 142 total discrete I/O. The I/O lineup offers you 24 VAC input, both sinking and sourcing 24 VDC input and output options, 120 VAC input and output modules, and relay modules up to 10 amps for your discrete applications; analog modules support 4-20 mA or 0-10 VDC input and output options for simple process measurement and control. An 8-point input simulator module is also available.

With multiple options for main input power, you decide what best fits into your control panel. Use your existing 24 VDC power supply (if applicable), select one of our low-cost CLICK PLC power supplies (based on your system power budget requirements) or select one of AutomationDirect's

rugged Rhino power supplies. RS-232 communications ports supporting industry standard Modbus RTU protocol are included on all units. These ports are suitable for connection to a PC for programming, networking PLCs, C-more/C-more Micro operator interface panels, variable frequency drives, servos, steppers, and other Modbus RTU enabled devices. The standard, analog, Ethernet standard and Ethernet analog PLCs also include one RS-485 port.

The Ethernet versions incorporate a 10/100 Mbps multipurpose Ethernet port to communicate with Modbus TCP and EtherNet/IP enabled devices, in addition to the RS-232 and optional RS-485 ports. Ethernet PLC Units with DC inputs are also capable of tracking high-speed inputs up to 100kHz.

Simple to learn ... easy to use

The CLICK PLC programming software is based on the C-more and C-more Micro programming environments. We leveraged these two great programming packages developed by Koyo to create CLICK's intuitive programming tool, and then made it a FREE download from our Web site. So you now have free software for your practically free PLC! But don't let the \$0 price tag fool you - you'll find this software loaded with options that you would normally expect to pay extra for!

DISCRETE OUTPUT MODULES

CO-08TD1 \$38.00 8 DC Outputs (Sinking) 3.3-27 VDC 0.3A/pt	CO-04TRS \$47.00 4 Relay Outputs 6-240 VAC or 6-27 VDC 7A/pt
CO-08TD2 \$38.00 8 DC Outputs (Sourcing) 12-24 VDC 0.3A/pt	CO-04TRS-10 \$54.00 4 Relay Outputs 6-240 VAC or 6-24 VDC 10A/pt
CO-16TD1 \$48.00 16 DC Outputs (Sinking) 5-27 VDC 0.1A/pt	CO-08TR \$43.50 8 Relay Outputs 6-240 VAC or 6-27 VDC 1A/pt
CO-16TD2 \$48.00 16 DC Outputs (Sourcing) 12-24 VDC 0.1A/pt	CO-08TR-3 \$49.00 8 Relay Outputs 6-240 VAC or 6-27 VDC 3A/pt
CO-08TA \$54.00 8 AC Outputs 17-240 VAC triac 0.3A/pt	

CLICK to add Analog I/O



Add up to eight Analog I/O modules and interface with over 50 analog channels!

Prices start at \$22.75 per channel (4-channel module). Thermocouple (or RTD) channels are \$38.25 each. Can your current PLC match that?

Add analog I/O modules

If the CLICK analog or Ethernet analog PLCs don't provide enough analog channels, you can add channels with our 4-channel input and/or 4-channel output modules, OR check out the combo modules with 4-channels IN and 2 channels OUT. Each style is available in either current or voltage flavors.

Connect to all your analog devices: pressure and level transmitters, current transducers, proportional valves, AC drives, panel meters, etc.

These high-resolution modules offer fast setup (no DIP switches) with software scaling to make your life (and your ladder code) easier.

Measure Temperature (with RTDs or Thermocouples)...



...Measure Current Usage (with Current Transducers)...



...detect tank levels (with Level Sensors)...



...Provide Speed Control for AC Drives...

...Connect to any Analog Device that You Need to Control!

ANALOG INPUT MODULES

CO-04AD-1 \$97.00 4 Channel Current Inputs 0-20mA 13 Bit Resolution	CO-04AD-2 \$98.00 4 Channel Voltage Inputs 0-10VDC 13 Bit Resolution
CO-04RTD \$165.00 4 Channel RTD Inputs (0.1 degree) or Resistive Inputs	CO-04THM \$165.00 4 Channel Thermocouple Inputs (0.1 degree) or Voltage Inputs

ANALOG OUTPUT MODULES

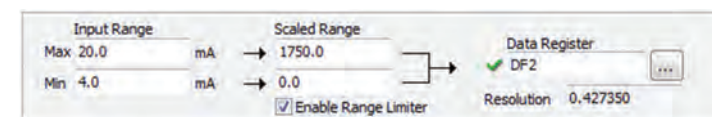
CO-04DA-1 \$132.00 4 Channel Current Outputs 4-20mA Source 12 Bit Resolution	CO-04DA-2 \$132.00 4 Channel Voltage Outputs 0-10 VDC 12 Bit Resolution
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ANALOG COMBO MODULES

CO-4AD2DA-1 \$172.00 4 CH Current Inputs 0-20mA (13 bit) 2 CH Current Outputs 4-20mA (12 bit)	CO-4AD2DA-2 \$165.00 4 CH Voltage Inputs 0-10 VDC (13 bit) 2 CH Voltage Outputs 0-10 VDC (12 bit)
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Setup couldn't be any easier

Using the programming software, set your preferred scaling range, and assign a data register address to store the scaled analog value. The 'real world' resolution is calculated automatically.



DISCRETE INPUT MODULES

CO-08ND3 \$35.50 8 DC Inputs (Sink/Source) 12-24 VDC	CO-08ND3-1 \$35.50 8 DC Inputs (Sink/Source) 3.3-5 VDC	CO-16ND3 \$48.00 16 DC Inputs (Sink/Source) 24 VDC	CO-08NA \$43.00 8 AC Inputs 100-120 VAC	CO-08NE3 \$37.50 8 AC/DC Inputs (Sink/Source) 24 VAC/VDC	CO-16NE3 \$52.00 16 AC/DC Inputs (Sink/Source) 24 VAC/VDC
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SPECIALTY MODULE

CO-08SIM
\$40.00
8 point simulator input module



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Double CLICK to add Discrete COMBO Modules

DISCRETE COMBO MODULES

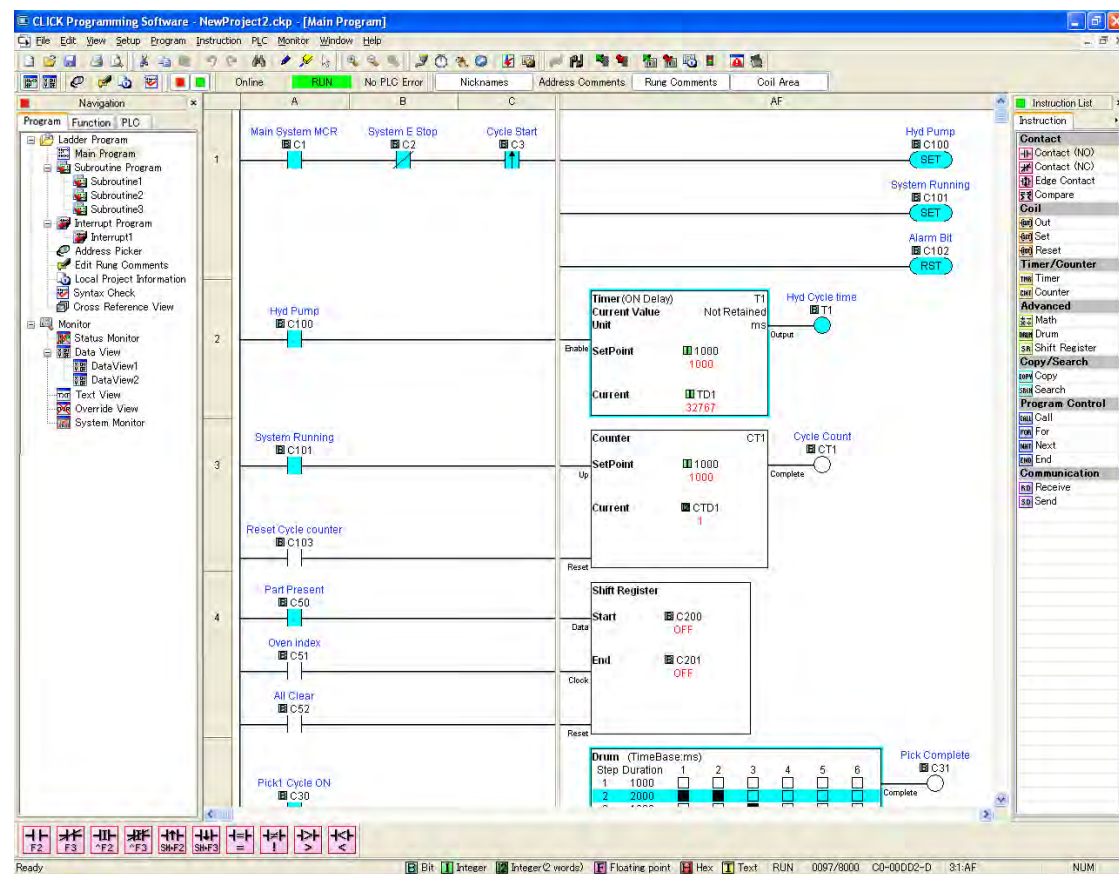
CO-16CDD1 \$62.00 8 Inputs (24V) (Sink/Source) PLUS 8 Outputs 5-27VDC (Sink)	CO-16CDD2 \$62.00 8 Inputs (24V) (Sink/Source) PLUS 8 Outputs 12-24VDC (Source)	CO-08CDR \$53.00 4 Inputs (12-24VDC) (Sink/Source) PLUS 4 Relay Outputs 1.0A AC/DC
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Double up and save...

Need a few extra Inputs and outputs? Use these combo modules to expand your CLICK system AND save money.

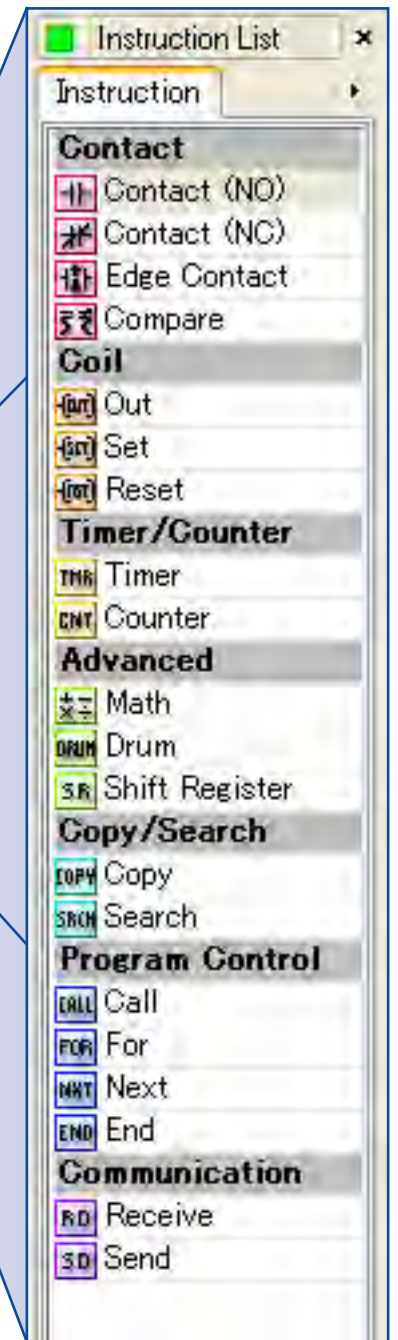
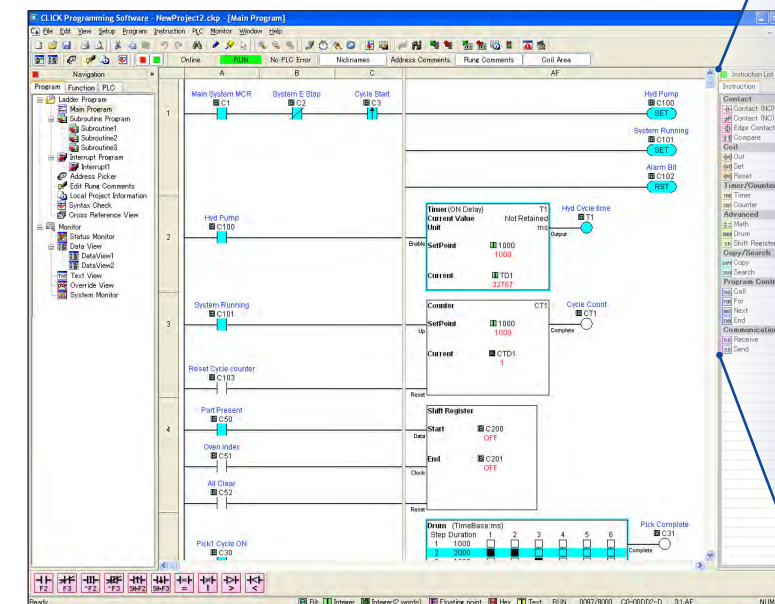
CLICK to get FREE Programming Software!

Simplified instruction set reduces your programming time



Instruction List

The CLICK PLC programming software offers 21 extremely easy-to-use instructions! This instruction set offers the same flexible control you might expect from over 150 instructions in a traditional controller. Simply drag and drop these instructions onto the ladder view (the center section of the screen), and a helpful dialog box will guide you through each instruction's configuration.



Simple to learn

The CLICK PLC programming tool was designed with the user in mind. We have simplified the programming process to make it easier to learn, faster to program, and capable of completing most of your application needs with only 21 instructions!

This combination of RLL (Relay Ladder Logic) and Function block programming offers you a comprehensive programming environment with easy navigation and a familiar Windows look and feel.

Simply download your free software at:
www.clickplcs.com

Easy to use

We listened to our customers and tried to address what they felt were the inhibitors to a simplistic programming environment. This includes more intuitive instructions that are not only easier to use but also offer more functionality at the same time. We worked to create one of the best help files of any software in the industry. We offer you enough options to easily address the majority of your needs during all phases of programming (learning, coding, commissioning, troubleshooting), while keeping it structured enough to make the basic operations obvious.

Action-packed

The CLICK PLC Programming tool allows each individual to set up their programming environment to suit their needs. Beginners may choose to program almost exclusively via the mouse by clicking on icons, instructions, drop-down menus, and selecting PLC addresses from the "Address Picker". As programmers become more experienced, the time-saving keyboard shortcuts can greatly enhance productivity, and speed development/debug times. Many of the instruction entry shortcuts are even the same as those used in our DirectLOGIC PLC software.

Either way, you can select the option that suits your style of programming.

What's included?

The 21 CLICK PLC instructions include everything you would typically expect:

- Contacts*
- Coils
- Set/Reset
- Timer
- Counter
- Math**

Then there are some advanced instructions you might not expect:

- Drum
- Receive/Send
- Shift Register
- Call/Return(Subroutine)
- Search
- For/Next

* Contacts include Normally Open, Normally Closed, Edge-triggered and Compare
** Math includes Decimal, Floating Point and HEX math. Supports free-form formula entry.

Note: The RETURN instruction is not included in this list because it is used in the Subroutine and Interrupt programs only.

Free Online PLC Training

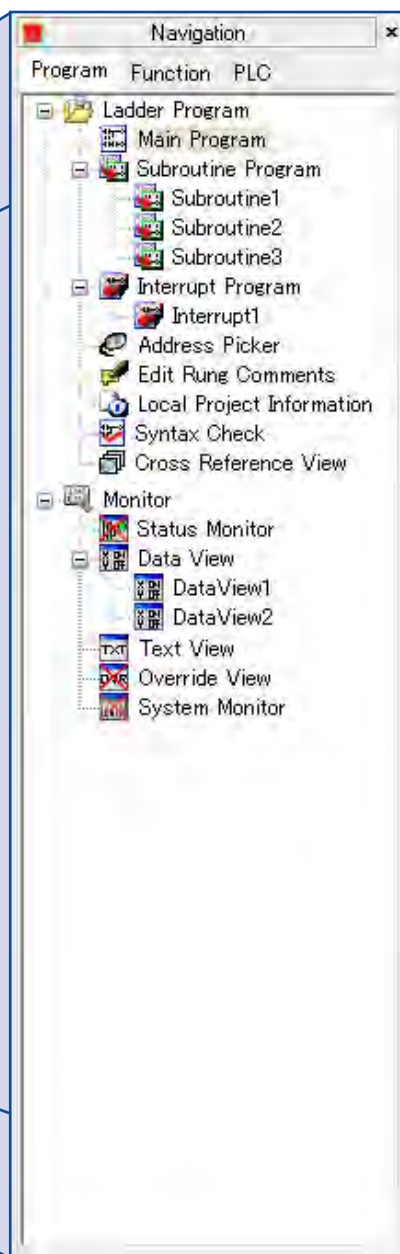
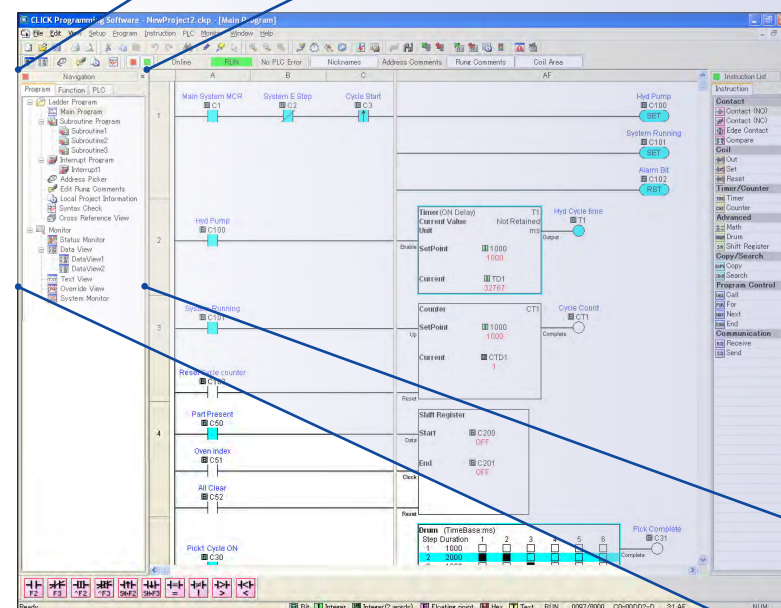
As the world around us becomes more and more automated, an understanding of electrical control systems becomes more and more vital. To better serve our customers and the industry we rely on, we offer absolutely free online training to anyone looking to learn PLCs. No purchase necessary! Check out this free training [here](http://www.clickplcs.com).



CLICK offers intuitive navigation

Navigation Pane

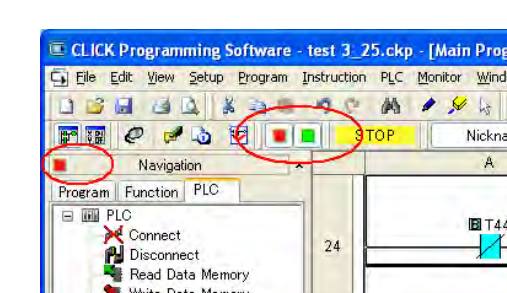
The CLICK PLC programming software offers an easy-to-view Navigation Pane which places program controls at your fingertips. Quickly toggle between your main program, Subroutines, Interrupts, Data Views, Rung Comments Editor and more.



At your fingertips

The Navigation Pane puts many practical and frequently used functions within one CLICK of your mouse during configuration, commissioning and troubleshooting. Quickly move between your Main Ladder Program and Subroutines and Interrupt routines within your project. Access frequently used system functions such as System Setup, Password utility, Comm Port Configuration, PLC Connection, Data and Project Transfer, Firmware Update and many more. Many of these functions are also available via drop-down menus. It's your choice!

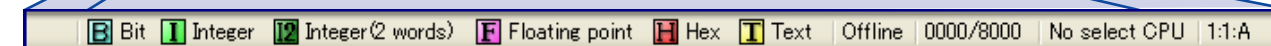
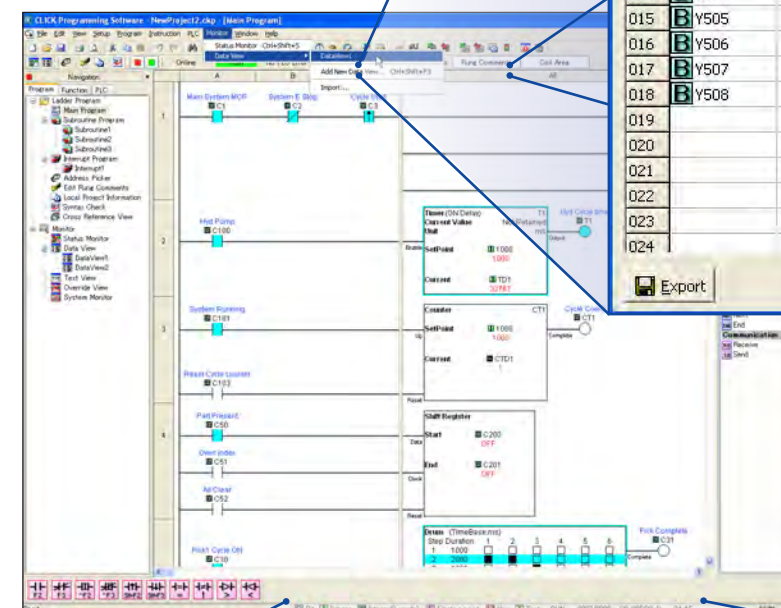
Use the color-coded Window Control Toolbar to quickly and easily hide the navigation (and/or instruction) pane to maximize your ladder programming work space.



Monitor your program with a CLICK

Data View Window

The Data View allows you to monitor real time values in your process directly from the PLC while monitoring the system with the programming software. You can view up-to-date data, write new variable data, and even force overrides in the processor from this one window.



What is included?

The Data View allows you to monitor data as you would expect ... but what else can you do?

- Auto Fill Down feature allows you to quickly populate your addresses.
- View data types as either Integer, Real (floating point), Exponential or Hex.
- Force values with the Override feature.
- Import/Export your Data View to exchange the setup.
- Save and create multiple Data View files for separate process applications.
- Data types are easily identified by the Data Type icons on the Status Bar.

Check I/O status with a CLICK

The System Monitor window displays the LED indicator status and analog I/O values in real time. You can use this to check if the CLICK PLC is functioning correctly.

Displays the current LED indicator status for all I/O points

Select the display type for each analog module separately.

View the Physical Values or the Scaled Values for all analog channels

Physical Value / Scaled Value

Physical Value/Scaled Value:

You can select the display of the analog I/O values between the Physical Values that the analog I/Os receive/output actually and the Scaled Values stored in the DF memory addresses.

CLICK on a practical instruction

For example ...

Timer Instruction

The Timer Instructions are typically some of the more basic instructions in a control environment, so how could we possibly make them any better? We listened to you ...

Instead of having multiple timer instructions with different functions and features, we created a single timer instruction with simple selections to allow programming of the precise timer function needed for your application. Select from On-delay or Off-delay timing and retentive or non-retentive current values.

Just CLICK ... It's that easy.

Timer Number: T12

Set Point: DS320 Unit: ms

Current Value: TD12 ms

Delay Setting:

- ON Delay timer: Enable (Set Point, T*)
- OFF Delay timer: Enable (Set Point, T*)

Current Value Option:

- Current value will not be retained while this timer is disabled.
- Current value will be retained while this timer is disabled. (Use the reset input to reset the current value)

Result: DS30

Formula: $2 * PI / (3 - DS109) + 100$

Type: Decimal

Option: One Shot (Execute one time)

About Error Flags:

- SC40 : Division Error
- SC43 : Out of Range
- SC46 : Math Error

Math Instruction

Performing mathematical calculations in a PLC typically requires a complicated set of instructions and programming gymnastics. From mixing process variable data with constants in multiple formats, to calculating complex logarithmic formulas, math computations in ladder logic can be complex, so how could we possibly make it any better? We listened to you...

Instead of having a full set of various math instructions you string together to perform complex mathematical equations, we created a single instruction that allows you to enter formulas directly or select from the familiar calculator style layout to create your formula.

Just CLICK ... It's that easy.



Visit www.automationdirect.com/click-plc for all the latest information, including FREE software downloads, how-to videos and much more

CLICK for great help!

Detailed Help Files

We wanted your programming experience to be the easiest and most productive of any PLC you have ever programmed. So we spent a lot of time creating the content for the help file that gives you clear and concise definitions of the features and functionality for each instruction and the operation of the software.

Just CLICK Help ... It's that easy.

The screenshot shows the 'CLICK Help Ver. 0.90' window. The main content area displays the 'Math (Decimal)' help page, which includes a description of the Math instruction and a 'Decimal Setup' section. Overlaid on this is the 'Math' configuration dialog box. The dialog box has a 'Result' field with 'DF1 1' and a 'Formula' field with a complex mathematical expression. It also has 'Type' (Decimal selected), 'Option' (One Shot checked), and 'About Error Flags' (SC30, SC33, SC36). A numeric keypad is visible at the bottom of the dialog box. Red numbers 1 through 7 are placed on the dialog box to highlight specific features.

- 1 Result:** Assign a Memory Address where the Result will be stored. The Result value will be adjusted to the data type of the Memory Address. Click the Browse Button to open Address Picker.
- 2 Type:** Selecting Decimal or Hex determines the mathematical operations that are available on the Math instruction dialog. Most of the operators are unique to either Decimal or Hex math.
Note: Changing this selection after beginning to develop the Formula will erase the Formula.
- 3 One Shot:** Select One Shot to solve the formula only once after each OFF-to-ON transition of the enabling rung.
- 4 Error Flags:** These System Bits turn ON when the specified condition has occurred.
- 5 Address or Nickname:** Data Registers can be identified in the Formula by the Memory Address or the Nickname.

CLICK to configure the hardware

System Configuration

The CLICK software includes a configuration tool that helps you configure a CLICK PLC quickly and easily. Select the CPU, power supply, and modules you need - the software calculates your I/O count, address list, and Power Budget automatically.

High-speed Input Configuration

High-speed input functions including pulse counting and frequency measurements are made simple with the user-friendly graphical user interface (GUI). Simply choose the desired high-speed function and the interface will guide you through the available features and options.

The screenshot shows two windows from the CLICK software. The 'System Configuration' window displays a rack of PLC modules (CPU, I/O modules) and a table of system parameters. The 'High-Speed Input Configuration' window shows a 'Select a Input Mode' dialog with options for High Speed Count, External Interrupt, Interval Measurement, Pulse Catch, Duration Measurement, and Filter. Each option includes a graphical representation of the input signal and a 'Use This Mode' button.

CLICK to configure the PLC tags

The screenshot shows the 'Address Picker : Edit Mode' dialog box. It features a search bar at the top and a table of PLC tags. The table has columns for Address, Data Type, MODBUS Address (Function code), Nickname, Used, Initial Value, Retentive, and Address Comment. The tags listed include C2 through C31, X, Y, C, T, CT, SC, DS, DD, DH, DF, XD, YD, TD, CTD, SD, and TXT. At the bottom, there are checkboxes for 'Data Type Filter' (Integer, Hex, Bit) and 'Used/Unused Address' (Display both used and unused, Display only used, Display only unused).

Address Picker

- Assign nicknames (use autofill for sequential names)
- Create address comments
- Powerful search, sort, filter, and categorize options
- Modbus addresses (HEX or 984 style)
- Establish initial values for specific memory locations
- Make memory locations retentive (during power outages)

CLICK for a simpler PID!

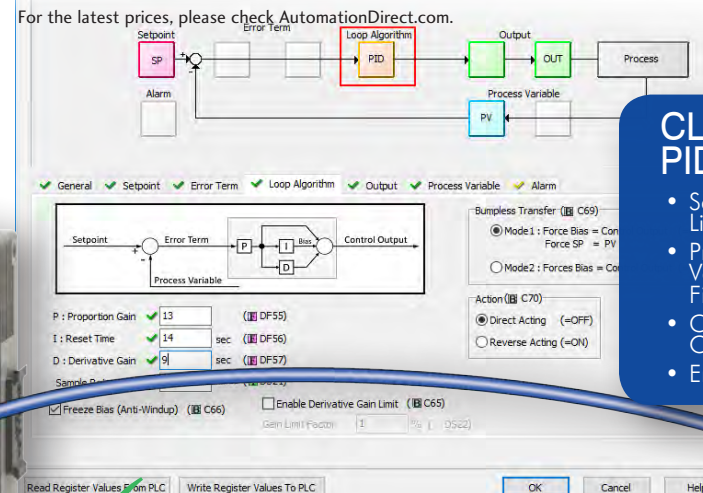
Process control built with ease

The CLICK PLC family is the lowest cost, easiest to use PLC in the market today and now we've added to it the most user-friendly PID process control. We streamlined CLICK's PID control and included only the features that most users need. We also made the PID configuration more visual with easy to follow steps to help guide you and get your parameters set quickly.

Not only is the CLICK PID simple, but with the ability to configure up to 8 PID control loops executing every 100ms, CLICK provides the most affordable PID available - starting at only \$191.00 for a standalone Ethernet analog PLC unit (PID available on Ethernet-capable PLC units only).



PLC



- CLICK PID comes with all the basic PID functions plus these advanced options:
- Setpoint Limits
 - Process Variable Filter
 - Control Output Limits
 - Error Squared
 - Error Deadband
 - Anti-windup
 - Derivative Gain Limit
 - Bumpless Transfer
 - Autotuning
 - Direct or Reverse Acting
 - Pulse width modulated Control Output
 - Process Variable Alarms
 - PID Monitor

PID CONTROL ALGORITHM SETUP

PID Loop Name: PID001 (Max 6 Characters)

Assign Nicknames Automatically (You can edit them later.) e.g. PID001_SP_Setpoint

PID Loop Parameter Area

- C Memory Area (Need 40 consec) C1
- DS Memory Area (Need 1) DS1
- DF Memory Area (Need 7) DF7

Find Available Addr

PID LOOP SETUP

LIQUID NITROGEN N₂

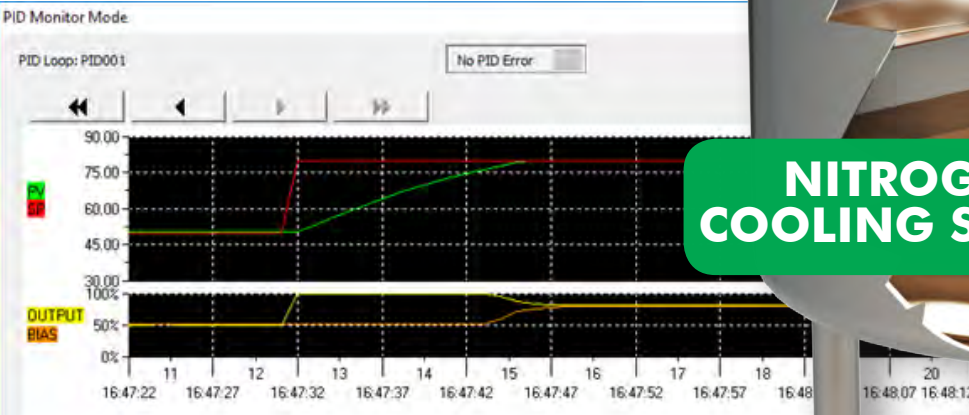
We do most of the work for you

From the first (General) tab we make it easy by giving you the option to automatically reserve the addresses needed for the configuration and operation of the PID loop. Intuitive Nicknames are also created automatically for you so that selecting the address you need in your code is quick and simple.

Throughout the configuration, we guide you to the parameters that need to be set using red checkmarks, green checkmarks are ready to go, and yellow are optional parameters.

Address	Data Type	Nickname	Used	Initial Value	Retentive	Address Comment
C1	RW BIT	PID001_EN_SP_LimitLower	Yes	Disable	Yes	SP Lower Limit Enable
C2	RW BIT	PID001_EN_SP_LimitUpper	Yes	Disable	Yes	SP Upper Limit Enable
C3	RW BIT	PID001_SEL_ErrorSquared	Yes	Disable	Yes	Error Term Selection (Linear / Squared)
C4	RW BIT	PID001_EN_ErrorDeadband	Yes	Disable	Yes	Error Deadband Enable
C5	RW BIT	PID001_EN_DerivativeLmt	Yes	Disable	Yes	Derivative Gain Limit Enable
C6	RW BIT	PID001_EN_AntiWindup	Yes	Disable	Yes	Anti-Windup Enable (Bias Freeze)
C7	RW BIT	PID001_C_Reserved_01	Yes	Disable	Yes	Reserved
C8	RW BIT	PID001_SEL_AutoTunePIDPI	Yes	Disable	Yes	Autotune Algorithm Selection (PID or PI)
DS	RW BIT	PID001_SEL_BumplessMode	Yes	Disable	Yes	Bumpless Transfer (Mode 1/Mode 2)
C10	RW BIT	PID001_SEL_DirectReverse	Yes	Disable	Yes	Loop Action Selection (Forward or Reverse)

NITROGEN COOLING SYSTEM



Operation Mode: Auto

New PID Mode: Manual (C116) / Auto (C117)

Autotune: Start Tuning (C118)

Autotune complete, check PID parameters

Control (C108): PI / PID

PID Parameters:

- Proportional Gain (DF106): 17.0159
- Integral Gain (DF107): 2.34999
- Derivative Gain (DF108): 0
- Sample Rate (DS106): 300 msec

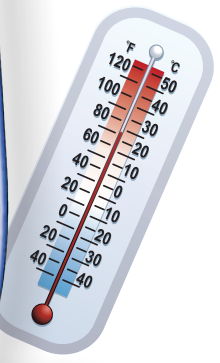
Variables:

- SP: 80
- PV: 79.9999
- RawPV: 80.0000
- Output: 80.0000

PID monitoring and auto-tuning

The CLICK PID Monitor is a very useful tool which can be used to help test and tune your PID loops. The PID Monitor gives access to all the PID parameters necessary for tuning a PID Loop. There is a PID chart that displays the SP, PV's, CO and Bias. There is also an auto-tune interface that allows you to set up and initiate auto-tuning.

PID PV SETUP



CLICK has practical accessories



The ZIPLink wiring system eliminates the normally tedious process of wiring PLC I/O to terminal blocks. Simply plug one end of a ZIPLink pre-wired terminal block cable into your I/O module and the other end into a ZIPLink connector module. It's that easy. ZIPLinks use half the space, at a fraction of the total cost of terminal blocks.

Use the convenient ZIPLink selector tool to help you find the right ZIPLink modules and cables for your I/O connections.

ZIPLink

Other accessories include a hardware manual, programming cables, spare terminal blocks, and replacement batteries.

I/O Module



ZIPLink Cable



ZIPLink Connector Module



ZIPLink Sensor Input Module



ZIPLink Fuse Module



Programming Cables



EA-MG-PGM-CBL
\$46.50

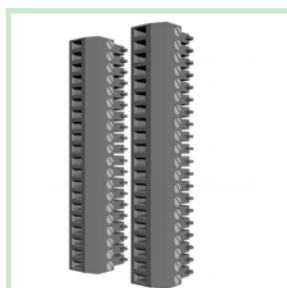


D2-DSCBL
\$23.50

Hardware User Manual



Spare Terminal Blocks



Replacement Battery



CLICK PLC Overview

PLC System

The CLICK PLC family of components is designed to offer practical PLC features in a compact and expandable design as well as best ease-of-use.

System Configuration

A powered CLICK PLC by itself can be used as a complete PLC system with 8 input points and 6 output points built-in (Basic, Standard, Ethernet Basic, and Ethernet Standard PLCs). CLICK Analog and Ethernet Analog PLC units have either 2 or 4 analog input points and 2 analog output points, as well as 4 discrete input points and 4 discrete output points. The system can also be expanded with the addition of up to 8 I/O modules. CLICK PLCs also feature high-speed capability in Ethernet Basic, Ethernet Standard and Ethernet Analog PLCs.

Communications

Basic, Standard and Analog PLCs have two built-in RS-232 communications ports. Standard and Analog PLCs also have one built-in RS-485 communications port. One RS-232 port supports the Modbus RTU (slave only) protocol only and can be used as the programming port. The other ports support either Modbus RTU (master/slave) or ASCII (in/out) protocol. Both RS-232 ports supply 5VDC, so you can connect a monochrome C-more Micro HMI panel without an additional power supply.

CLICK Ethernet Basic, Standard and Analog PLC units have one built-in 10/100 Mbps Ethernet communication port for both programming and Modbus TCP (client/server) and Ethernet/IP (adapter/server) Networking and one standard RS-232 serial communications port. Additionally, Ethernet Standard and Analog PLC units have an RS-485 port.

Analog I/O

Analog PLC Units have built-in analog I/O (2- or 4-channel analog input and 2-channel analog output). Analog input, output and combo I/O modules are also available.

Calendar / Clock & Battery Backup

All PLC units except Basic PLC units, include a real time clock and battery backup for the internal SRAM. The battery allows data to be retained for 3 years (Battery sold separately).

FREE Programming Software

The CLICK programming software can be downloaded free from our Web site: Automationdirect.com.

Easy-to-Use Instructions

The CLICK PLC supports a very simple but practical instruction set. The easy-to-use instructions including PID, cover most applications that are suitable for this class of PLC.

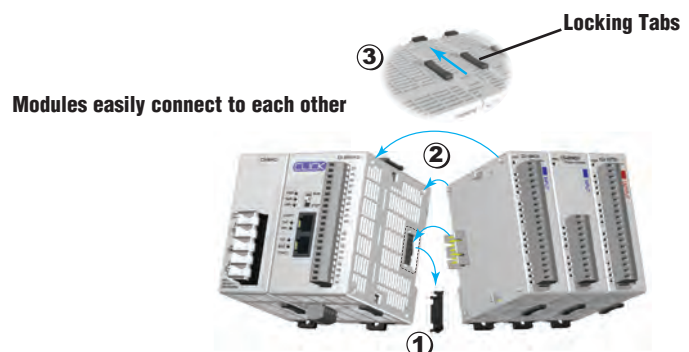
8,000 Steps Program Memory

The CLICK PLC can store up to 8,000 steps of ladder program in its flash EEPROM memory.

Use a CLICK PLC as a stand-alone controller...



or, expand the system by installing up to eight additional I/O modules.



FREE programming software!



2 Year Warranty

All CLICK PLC units are covered under a 2 year warranty.



CLICK PLC Overview

PLC Units

The thirty one CLICK PLC units are available with different combinations of built-in I/O types.



Basic PLC

CLICK Basic PLC Units			
Part Number	Inputs (8 points)	Outputs (6 points)	Price
<i>CO-00DD1-D</i>	DC (24VDC, sink/source)	DC (0.1 A, 5-27 VDC, Sink)	\$69.00
<i>CO-00DD2-D</i>		DC (0.1 A, 24VDC, Source)	\$69.00
<i>CO-00DR-D</i>		Relay (1 A @ 6-27 VDC/6-240 VAC)	\$86.00
<i>CO-00AR-D</i>	AC (100-120 VAC)		\$86.00

Basic PLC Unit Features:

- Eight discrete input points
- Six discrete output points
- Two RS-232 communications ports



Standard PLC

CLICK Standard PLC Units			
Part Number	Inputs (8 points)	Outputs (6 points)	Price
<i>CO-01DD1-D</i>	DC (24VDC, sink/source)	DC (0.1 A, 5-24VDC, Sink)	\$105.00
<i>CO-01DD2-D</i>		DC (0.1 A, 24VDC, Source)	\$105.00
<i>CO-01DR-D</i>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)	\$117.00
<i>CO-01AR-D</i>	AC (100-120 VAC)		\$117.00

Standard PLC Unit Features:

- Eight discrete input points
- Six discrete output points
- Two RS-232 communications ports
- One RS-485 communications port
- Calendar / clock
- Battery backup (Battery, p/n D2-BAT-1, sold separately)



Analog PLC

CLICK Analog PLC Units				
Part Number	Inputs (4 points)	Outputs (4 points)	Analog Inputs, Outputs	Price
<i>CO-02DD1-D</i>	DC (24VDC, sink/source)	DC (0.1 A, 5-24VDC, Sink)	2 channels in / 2 channels out; voltage (0-5 VDC) and current (4-20 mA) selectable, 12-bit resolution for both inputs and outputs	\$138.00
<i>CO-02DD2-D</i>		DC (0.1 A, 24VDC, Source)		\$138.00
<i>CO-02DR-D</i>		Relay (1 A @ 6-27 VDC/6-240 VAC)		\$148.00

Analog PLC Unit Features:

- Four discrete input points and four discrete output points
- Two analog input points and two analog output points (not isolated)
- Two RS-232 communications ports
- One RS-485 communications port
- Calendar / clock
- Battery backup (Battery, p/n D2-BAT-1, sold separately)

CLICK PLC Overview

PLC Units (continued)



Ethernet Basic PLC

CLICK Ethernet Basic PLC Units			
Part Number	Inputs (8 points)	Outputs (6 points)	Price
<i>CO-10DD1E-D</i>	DC (24VDC, sink/source) 4 points High-Speed	DC (0.1 A, 5-27 VDC, Sink)	\$138.00
<i>CO-10DD2E-D</i>		DC (0.1 A, 24VDC, Source)	\$138.00
<i>CO-10DRE-D</i>		Relay (1A @ 6-27 VDC/6-240 VAC)	\$148.00
<i>CO-10ARE-D</i>	AC (100-120 VAC)		\$148.00

Ethernet Basic PLC Unit Features:

- Eight discrete input points
- Six discrete output points
- One Ethernet communications port
- One RS-232 communications port
- Calendar / clock
- Battery backup (Battery, p/n D2-BAT-1, sold separately)



Ethernet Standard PLC

CLICK Ethernet Standard PLC Units			
Part Number	Inputs (8 points)	Outputs (6 points)	Price
<i>CO-11DD1E-D</i>	DC (24VDC, sink/source) 8 points High-Speed	DC (0.1 A, 5-27 VDC, Sink)	\$160.00
<i>CO-11DD2E-D</i>		DC (0.1 A, 24VDC, Source)	\$160.00
<i>CO-11DRE-D</i>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)	\$170.00
<i>CO-11ARE-D</i>	AC (100-120 VAC)		\$170.00

Ethernet Standard PLC Unit Features:

- Eight discrete input points
- Six discrete output points
- One Ethernet communications port
- One RS-232 communications port
- One RS-485 communications port
- Calendar / clock
- Battery backup (Battery, p/n D2-BAT-1, sold separately)

CLICK PLC Overview

Power Supplies

Two power supplies are offered.



CO-00AC



CO-01AC

DC-DC Converter

This DC-to-DC converter can be used to power the CLICK PLC from 12VDC input power.



PSP24-DC12-1

Discrete Input Modules

There are six discrete input modules available.



CO-08ND3



CO-08ND3-1



CO-16ND3



CO-08NE3



CO-16NE3



CO-08NA

Discrete Output Modules

There are nine discrete output modules available.



CO-08TD1



CO-08TD2



CO-16TD1



CO-16TD2



CO-08TA



CO-04TRS



CO-04TRS-10



CO-08TR



CO-08TR-3

CLICK Power Supplies			
Part Number	Input Voltage	Output Current	Price
CO-00AC	85-264 VAC	0.5 A @ 24VDC	\$31.00
CO-01AC	85-264 VAC	1.3 A @ 24VDC	\$42.50

12VDC-to-24VDC Converter			
Part Number	Input Voltage	Output Current	Price
PSP24-DC12-1	9.5-18 VDC	1.0 A @ 24VDC	\$81.00

CLICK Discrete Input Modules		
Part Number	Inputs	Price
CO-08ND3	DC (8 pts, 12-27 VDC)	\$35.50
CO-08ND3-1	DC (8 pts, 3.3-5 VDC)	\$35.50
CO-16ND3	DC (16 pts, 24VDC)	\$48.00
CO-08NE3	AC/DC (8 pts, 24 VAC/VDC)	\$37.50
CO-16NE3	AC/DC (16 pts, 24 VAC/VDC)	\$52.00
CO-08NA	AC (8 pts, 100-120 VAC)	\$43.00

CLICK Discrete Output Modules		
Part Number	Outputs	Price
CO-08TD1	DC (8 pts, 0.3 A @ 3.3-27 VDC, Sink)	\$38.00
CO-08TD2	DC (8 pts, 0.3 A @ 12-24 VDC, Source)	\$38.00
CO-16TD1	DC (16 pts, 0.1 A @ 5-27 VDC, Sink)	\$48.00
CO-16TD2	DC (16 pts, 0.1 A @ 12-24 VDC, Source)	\$48.00
CO-08TA	AC (8 pts, 0.3A @ 17-240 VAC)	\$54.00
CO-04TRS*	Relay (4 pts, 7A @ 6-27 VDC/6-240 VAC)	\$47.00
CO-04TRS-10	Relay (4 pts, 10A @ 6-24 VDC/6-240 VAC)	\$54.00
CO-08TR	Relay (8 pts, 1A @ 6-27 VDC/6-240 VAC)	\$43.50
CO-08TR-3	Relay (8 pts, 3A @ 6-27 VDC/6-240 VAC)	\$49.00

* To drive more than a 7A load or to use replaceable relays, consider using a CO-16TD1 output module with a ZL-RRL16-24-1 ZIPLink relay module and the correct ZIPLink cable (see Wiring System for CLICK PLCs later in this section).

CLICK PLC Overview

Discrete Combo I/O Modules

There are three discrete combo modules available.



CO-16CDD1

CO-16CDD2

CO-08CDR

CLICK Discrete Combo I/O Modules			
Part Number	Input Type	Output Type	Price
CO-16CDD1	DC (8 pts, 24VDC)	DC (8 pts, 0.1 A @ 5–27 VDC, Sink)	\$62.00
CO-16CDD2	DC (8 pts, 24VDC)	DC (8 pts, 0.1 A @ 12–24 VDC, Source)	\$62.00
CO-08CDR	DC (4 pts, 12–24 VDC)	Relay (4 pts, 1A @ 6.25–24 VDC / 6-240 VAC)	\$53.00

Specialty I/O Modules

There is one specialty discrete I/O module available.



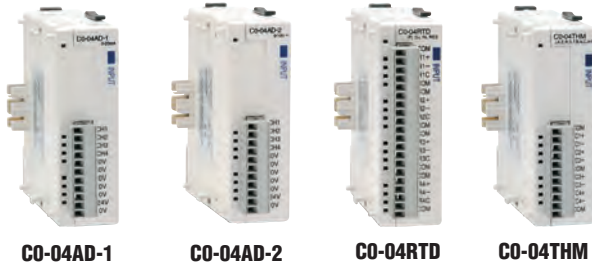
CO-08SIM

CLICK Specialty Module		
Part Number	Inputs	Price
CO-08SIM	8-pt, Toggle Switch	\$49.00

CLICK PLC Overview

Analog Input Modules

There are four analog input modules available.



CO-04AD-1

CO-04AD-2

CO-04RTD

CO-04THM

CLICK Analog Input Modules		
Part Number	Analog Input Types	Price
CO-04AD-1	4 channel, current (0-20 mA), 13 bit	\$97.00
CO-04AD-2	4 channel, voltage (0-10 V), 13 bit	\$98.00
CO-04RTD	4 channel RTD input (0.1 degree °C/°F resolution), or resistive input (0 - 3125Ω, 0.1Ω or 0.01Ω resolution)	\$165.00
CO-04THM	4 channel thermocouple input (0.1 degree °C/°F resolution), or voltage input (-156.25 mV to 1.25 V, 16 bit)	\$165.00

Analog Output Modules

There are two analog output modules available.



CO-04DA-1

CO-04DA-2

CLICK Analog Output Modules		
Part Number	Analog Output Types	Price
CO-04DA-1	4 channel, current sourcing (4-20 mA), 12-bit	\$132.00
CO-04DA-2	4 channel, voltage (0-10 V), 12-bit	\$132.00

Analog Combo I/O Modules

There are two analog combo modules available.



CO-4AD2DA-1

CO-4AD2DA-2

CLICK Analog Combo I/O Modules			
Part Number	Analog Input Type	Analog Output Type	Price
CO-4AD2DA-1	4 channel, current (0-20 mA), 13-bit	2 channel, current sourcing (4-20 mA), 12-bit	\$172.00
CO-4AD2DA-2	4 channel, voltage (0-10 V), 13-bit	2 channel, voltage (0-10 V), 12-bit	\$165.00

CLICK PLC Overview

What you'll need

Of course, what you'll need for your system depends on your particular application, but this overview shows you what you'll need for a simple system.

1. Select your CLICK PLC unit.



2. If you need additional I/O, select from 24 different types of I/O modules.



or



3. Select a 24VDC power supply.

4. Download the FREE CLICK programming software.

support.automationdirect.com/products/clickplcs.html



5. Select your PC-to-PLC programming cable.

If your PC has a USB port, use cable EA-MG-PGM-CBL to connect to the CLICK PLC port. If your PC has a 9-pin serial communications port, use programming cable D2-DSCBL. If your PC has an Ethernet port, use C5E-STPYL-C3 (crossover) or C5E-STPYL-S3 (straight through) Ethernet cable.

C5E-STPYL-C3 (crossover)
C5E-STPYL-S3 (straight through)



For Ethernet PLC Unit

D2-DSCBL



(PC requires RS-232 port to use this cable)

or

EA-MG-PGM-CBL



Connects to PC USB Port

6. Select tools, wire, and provide power.

Screwdriver
TW-SD-MSL-2



Wire Strippers
DN-WS



Hookup Wire



CLICK Programming Software

FREE Software!

CLICK programming software can be downloaded at no charge.

The CLICK programming software is designed to be a user-friendly application, and the tools, layout, and software interaction provide ease-of-use and quick learning.

The simple operation of this software allows users to quickly develop a ladder logic program. The online help file provides information that will help you get acquainted with the software quickly.

CO-PGMSW

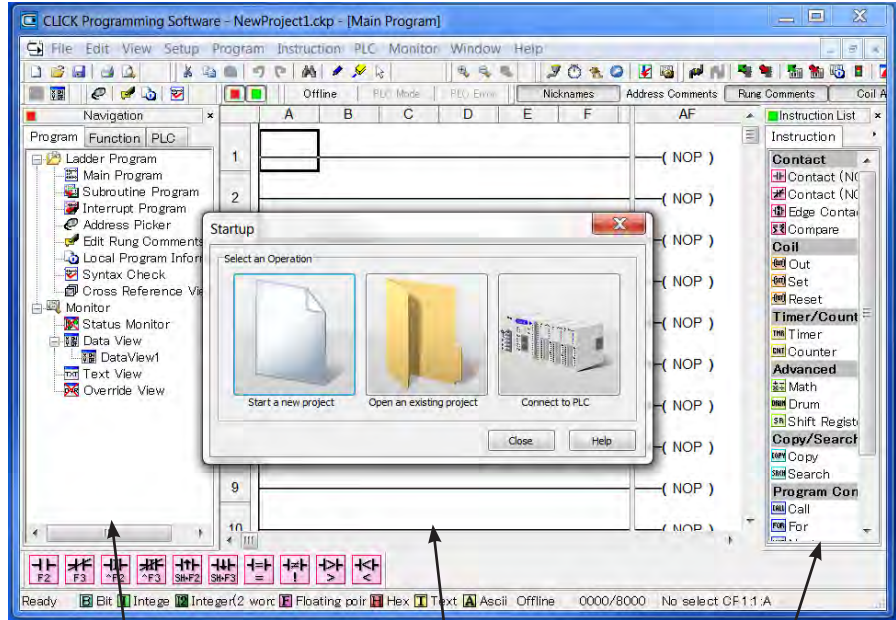
Free Download

The programming software is also available for purchase on a CD-ROM for \$10.00



Main window

The Main Window is displayed when the program opens. It is divided into Menu, Toolbars, and Windows that work together to make project development as simple as possible.



Navigation Window

Ladder Edit Window

Instruction List Window

CLICK Programming Software

Instructions

The easy-to-use instructions are described in the CLICK programming software online help file.

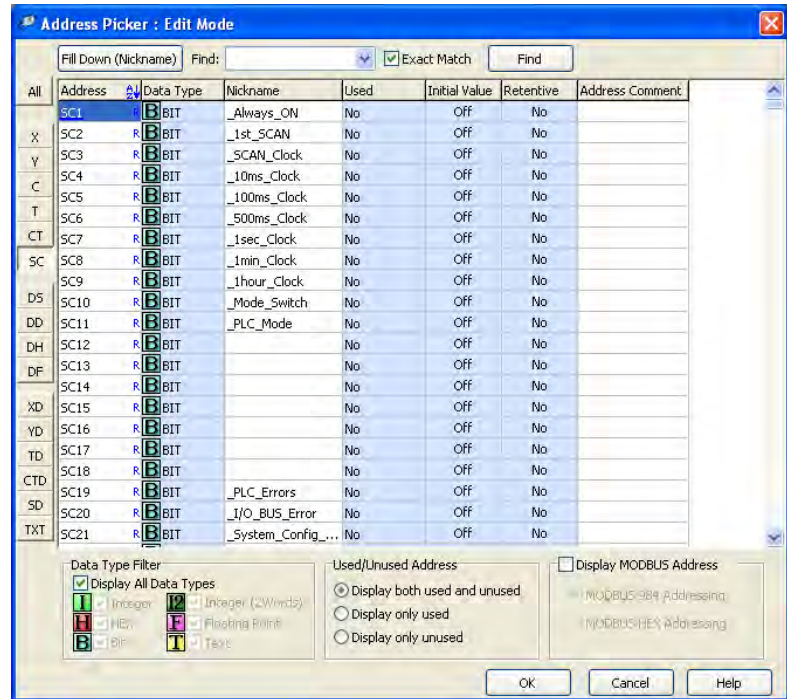
Powerful Features!

CLICK programming software has amazingly powerful features for a free software product, such as

- Address picker
- Separate subroutine programs
- Separate interrupt programs
- Color rung comment feature
- Project loader
- Documentation is stored within the PLC Memory

Address Picker

The Address Picker is a powerful multi-function memory table which can be used to assign nicknames, create address comments, and establish initial values for specific memory locations. It can assign specific memory locations to be retentive during power outages. The Address Picker also has powerful tools for sorting the memory table and making it easier to use.

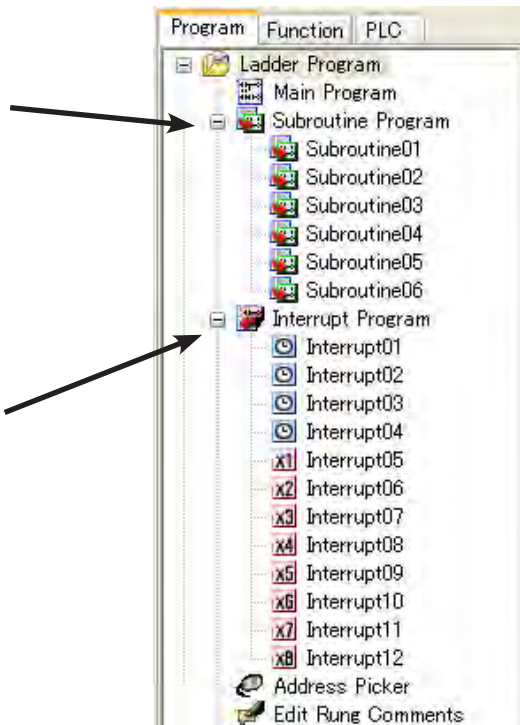


Subroutine Programs

Subroutine programs can be created and named to isolate a body of program code that is run selectively. You can run up to 986 subroutine programs.

Interrupt Programs

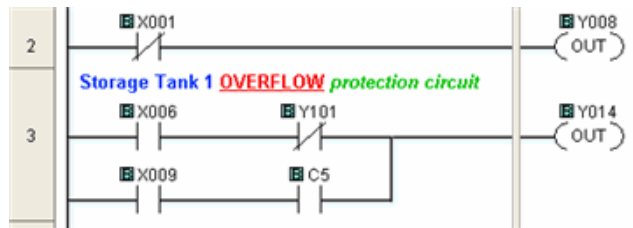
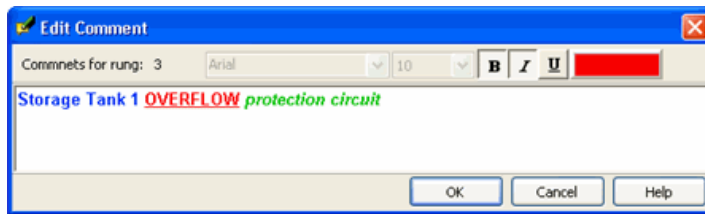
Interrupt programs are created and named. Interrupt Programs are used for: External Interrupts, Software Interrupts, High Speed Input features.



CLICK Programming Software

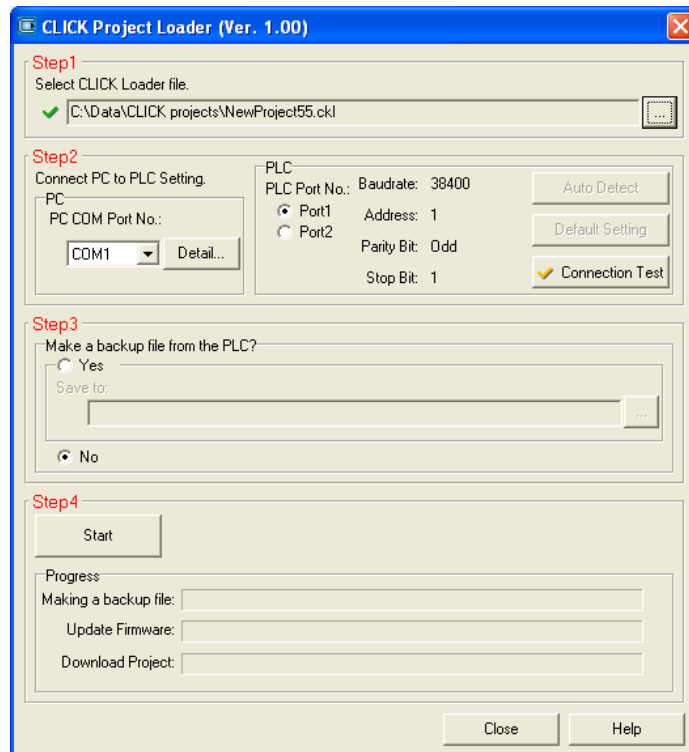
Color Rung Comment

Easily create and edit rung comments with colors and three text styles. Comments are stored in the PLC memory for future reference.



Project Loader

The CLICK programming software can export the CLICK project in an encrypted format. The exported file can be sent to the end user. Then the end user can download the file into the CLICK PLC with the tool called Project Loader.



NOTE: Project Loader is a separate program from the CLICK programming software, but it is installed on the PC when the CLICK programming software is installed.

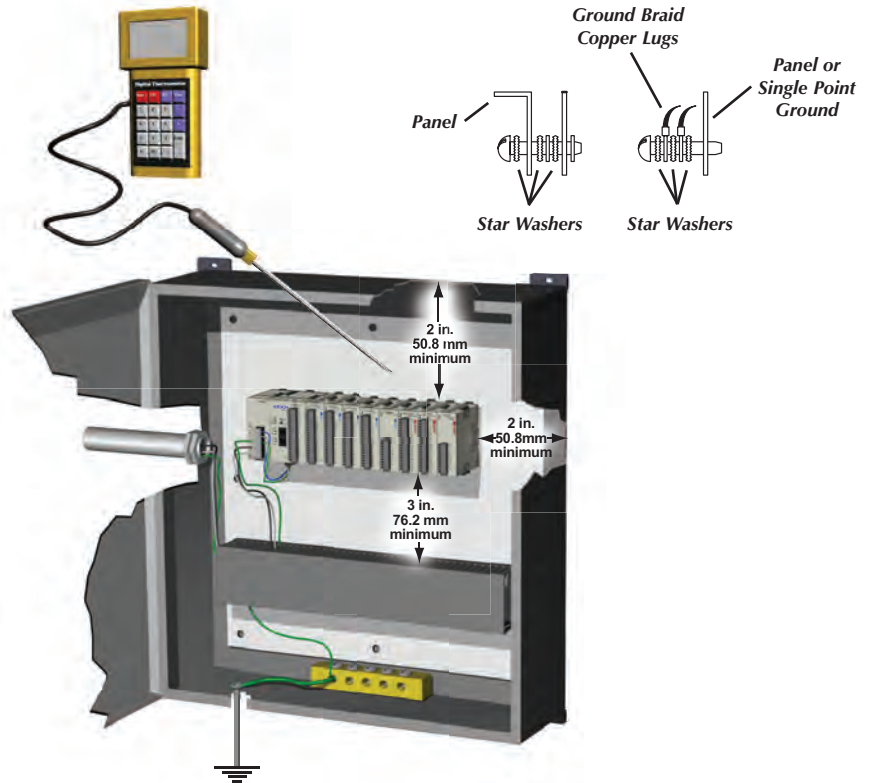
Product Dimensions and Installation

It is important to understand the installation requirements for your CLICK system. Your knowledge of these requirements will help ensure that your system operates within its environmental and electrical limits.

Plan for Safety

This catalog should never be used as a replacement for the user manual.

You can purchase, download free, or view online the user manuals for these products. Manual CO-USER-M is the user manual for the CLICK PLC. The user manual contains important safety information that must be followed. The system installation should comply with all appropriate electrical codes and standards.

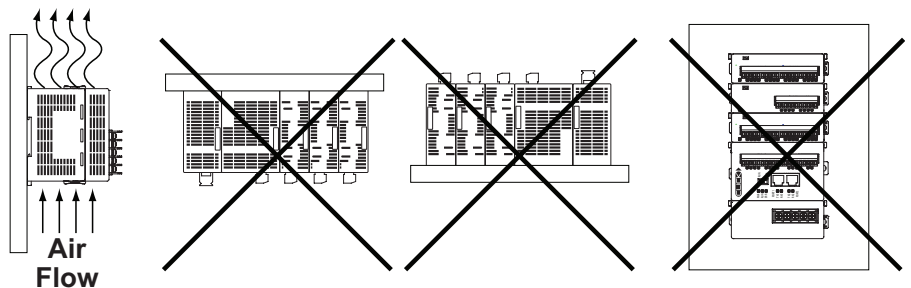


NOTE: THERE IS A MINIMUM CLEARANCE REQUIREMENT OF 2 INCHES (51MM) BETWEEN THE CLICK PLC AND THE PANEL DOOR OR ANY DEVICES MOUNTED IN THE PANEL DOOR. THE SAME CLEARANCE IS REQUIRED BETWEEN THE PLC AND ANY SIDE OF THE ENCLOSURE. A MINIMUM CLEARANCE OF 3 INCHES (76MM) IS REQUIRED BETWEEN THE PLC AND A WIREWAY OR ANY HEAT PRODUCING DEVICE.



Mounting Orientation

CLICK PLCs must be mounted properly to ensure ample airflow for cooling purposes. It is important to follow the unit orientation requirements and to verify that the PLC's dimensions are compatible with your application. Notice particularly the grounding requirements and the recommended cabinet clearances.

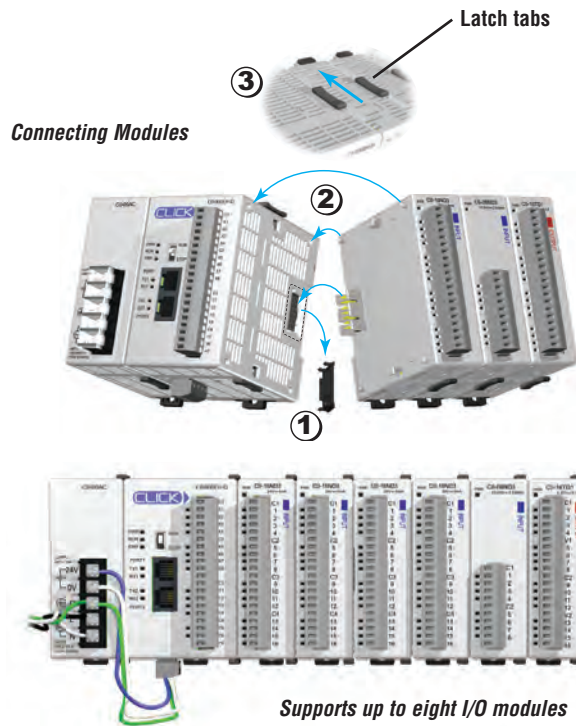


Product Dimensions and Installation

Connecting the Modules Together

CLICK PLCs, I/O modules and power supplies connect together using the extension ports that are located on the side panels of the modules (no PLC back-plane/base required).

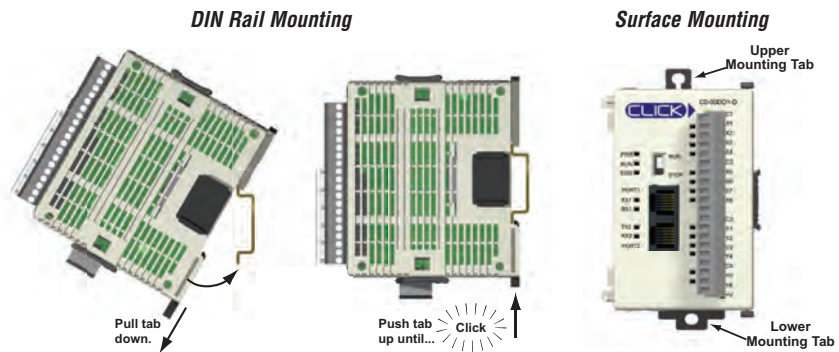
1. Remove extension port covers and slide the latch tabs forward.
2. Align the module pins and connection plug, and press the I/O module onto the right side of the PLC.
3. Slide the latch tabs backward to lock the modules together.



Mounting

The CLICK PLC system, which includes the CLICK power supplies, PLC units, and I/O modules, can be mounted in one of two ways.

1. DIN rail mounted
2. Surface mounted using the built-in upper and lower mounting tabs.



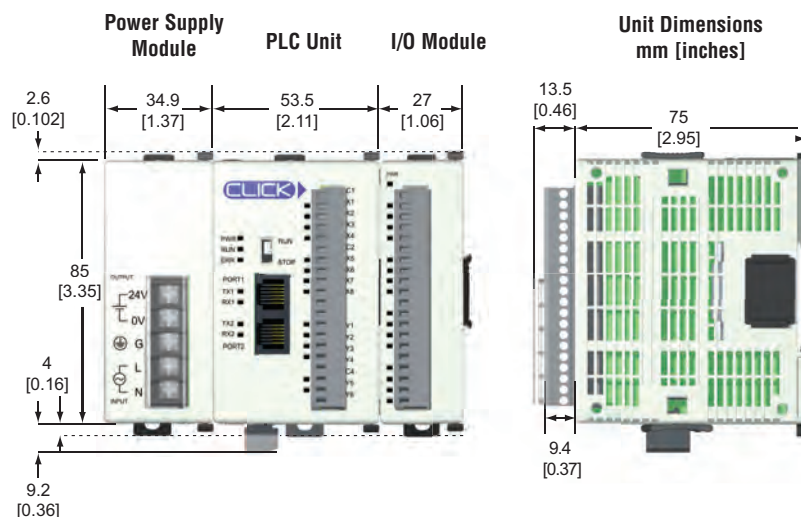
Unit Dimensions

The dimensional drawings here and on the next page show the outside dimensions of the CLICK power supply, PLC, and I/O modules. The CLICK PLC system is designed to be mounted on standard 35mm DIN rail, or it can be surface mounted.

Allow proper spacing from other components within an enclosure.

Maximum system:

Power Supply + PLC + 8 I/O modules.

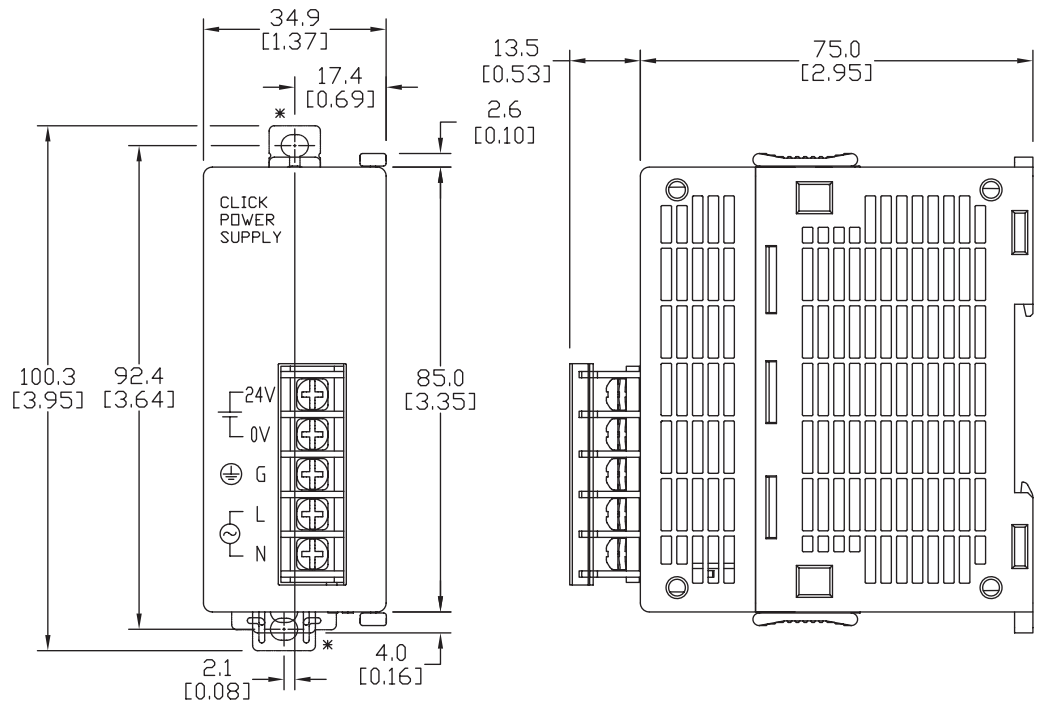


Product Dimensions and Installation

Unit Dimensions

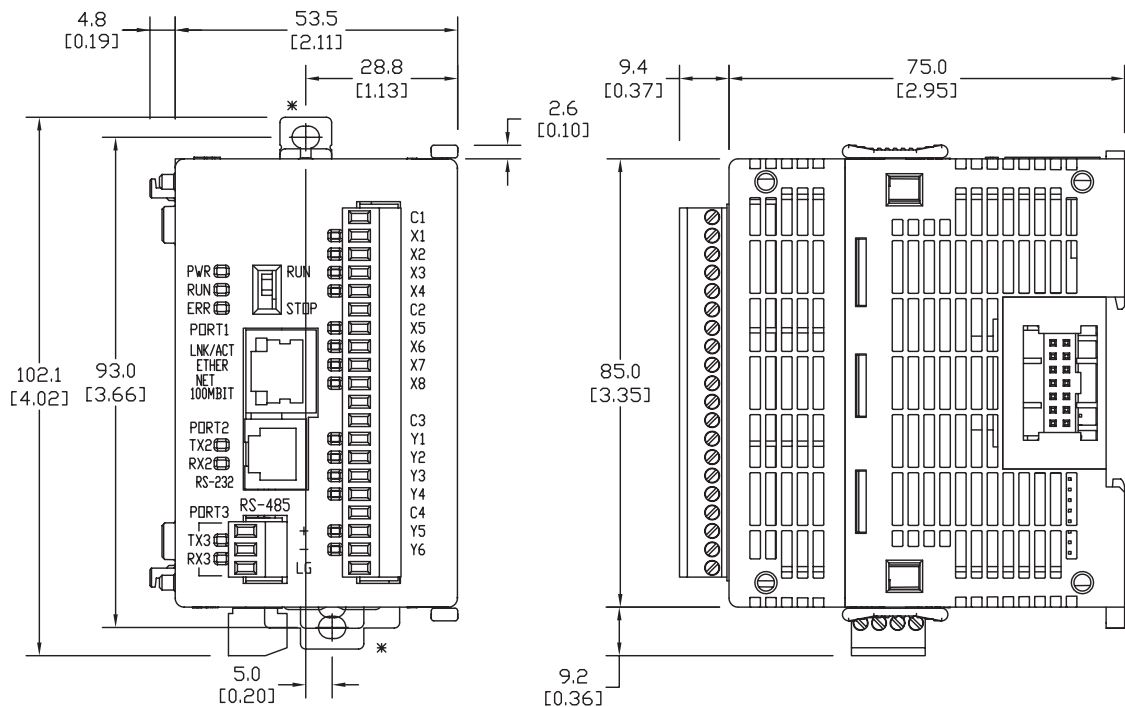
mm [inches]

Power Supply



*Use size M4 screws for tab mounting.

PLC Units



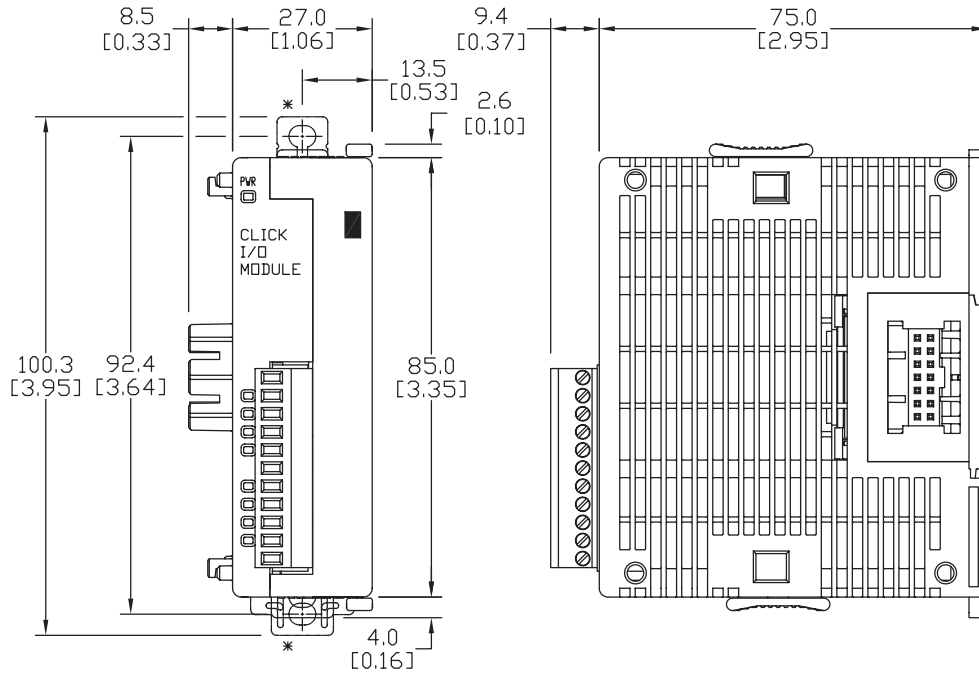
*Use size M4 screws for tab mounting.

Product Dimensions and Installation

Unit Dimensions

mm [inches]

I/O Modules

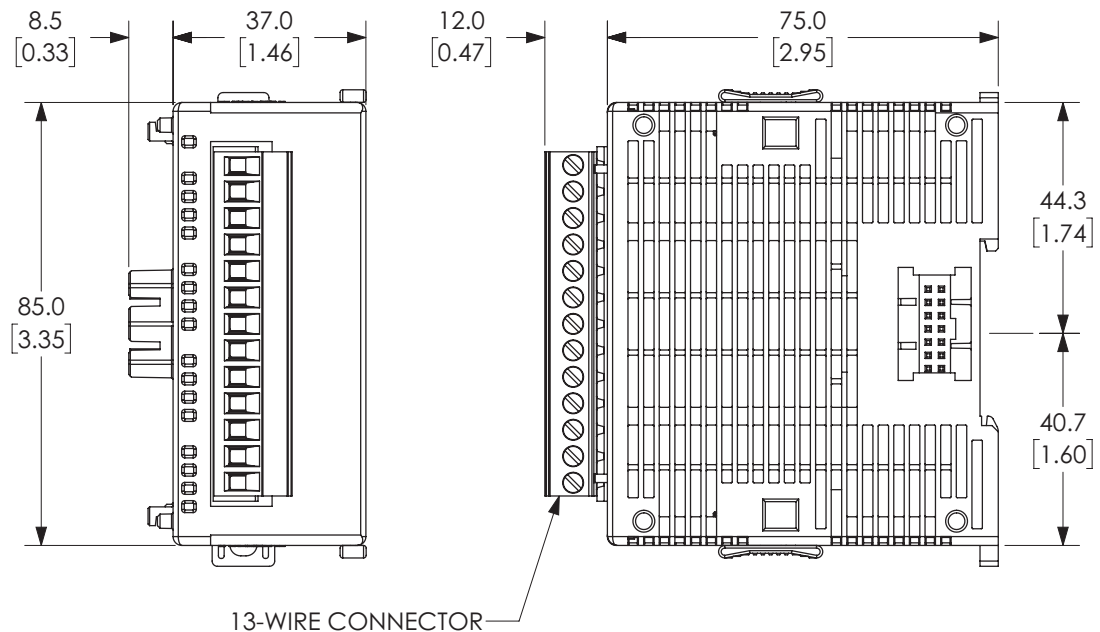


*Use size M4 screws for tab mounting.

I/O Relay Modules

CO-04TRS-10

CO-08TR-3



Networking the CLICK PLC

Built-in Communications Ports

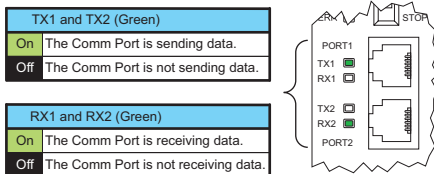
Basic, Standard and Analog PLCs have two built-in RS-232 communications ports. Standard and Analog PLCs also have one built-in RS-485 communications port. One RS-232 port supports the Modbus RTU protocol only and can be used as the programming port. The other ports support either Modbus RTU or ASCII protocol. Both RS-232 ports supply 5VDC, so you can connect a monochrome C-more Micro HMI panel without an additional power supply.

LED Status Indicators

There are LED indicators located to the left of each communications port to indicate when the port is transmitting or receiving.

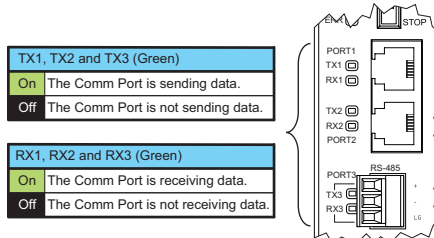
Basic PLCs

Port 1 & 2 LED Status Indicators



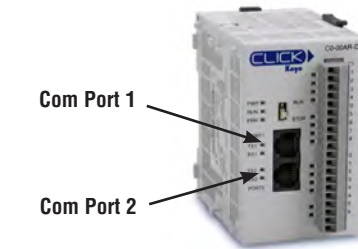
Standard and Analog PLCs

Port 1, 2, & 3 LED Status Indicators

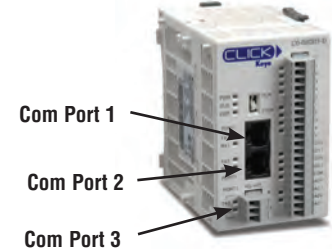


Port Setup

Use CLICK programming software to easily configure the communications ports.



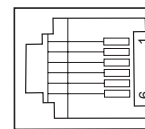
Basic PLC



Standard and Analog PLCs

Com Port 1 Specifications	
Use:	Programming Port / Serial Communications (Slave only)
Physical:	6 pin, RJ12, RS-232
Communication speed (baud):	38400 (fixed)
Parity:	Odd
Station Address:	1
Data length:	8 bits
Stop bit:	1
Protocol:	Modbus RTU (slave only)

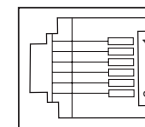
Port 1
6 pin RJ12 Phone Type Jack



Port 1 Pin Descriptions		
1	0V	Power (-) connection (GND)
2	5V	Power (+) connection
3	RXD	Receive data (RS-232)
4	TXD	Transmit data (RS-232)
5	NC	No connection
6	0V	Power (-) connection (GND)

Com Port 2 Specifications	Default
Use:	Serial Communications
Physical:	6 pin, RJ12, RS-232
Communication speed (baud):	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Parity:	odd, even, none
Station Address:	1 to 247
Data length:	8 bits (Modbus RTU) or 7, 8 bits (ASCII)
Stop bit:	1, 2
Protocol:	Modbus RTU (master/slave) or ASCII in/out

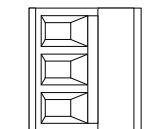
Port 2
6 pin RJ12 Phone Type Jack



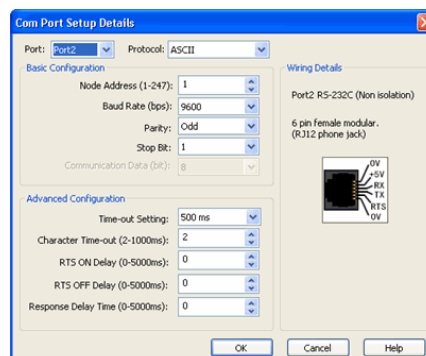
Port 2 Pin Descriptions		
1	0V	Power (-) connection (GND)
2	5V	Power (+) connection
3	RXD	Receive data (RS-232)
4	TXD	Transmit data (RS-232)
5	RTS	Request to send
6	0V	Power (-) connection (GND)

Com Port 3 Specifications	Default
Use:	Serial Communications
Physical:	3 pin, RS-485
Communication speed (baud):	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Parity:	odd, even, none
Station Address:	1 to 247
Data length:	8 bits (Modbus RTU) or 7, 8 bits (ASCII)
Stop bit:	1, 2
Protocol:	Modbus RTU (master/slave) or ASCII in/out

Port 3
RS-485



Port 3 Pin Descriptions		
1	+ (plus)	Signal A (RS-485)
2	- (minus)	Signal B (RS-485)
3	LG	Logic Ground(0 V)



Networking the CLICK PLC

For the latest prices, please check AutomationDirect.com.

Built-in Communications Ports

Ethernet Basic, Standard and Analog PLCs have one built-in Ethernet communications port and one RS-232 communications port. Ethernet Standard and Analog PLCs also have one built-in RS-485 communications port. The Ethernet port supports the Modbus TCP (client/server) and EtherNet/IP (adapter server) protocols. The RS-232 and RS-485 ports support either Modbus RTU or ASCII (in/out) protocol. The RS-232 port supplies 5VDC, so you can connect a monochrome C-more Micro HMI panel without an additional power supply.

LED Status Indicators

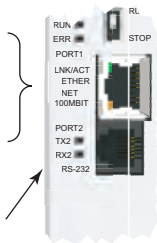
There are LED indicators located to the left of each communication port to indicate when the port is transmitting or receiving.

Ethernet Basic PLCs

- Port 1 & 2 LED Status Indicators

LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network

100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network



TX2 (Green)	
On	The Comm Port is sending data.
Off	The Comm Port is not sending data.

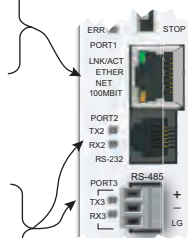
RX2 (Green)	
On	The Comm Port is receiving data.
Off	The Comm Port is not receiving data.

Ethernet Standard and Ethernet Analog PLCs

- Port 1, 2 & 3 LED Status Indicators

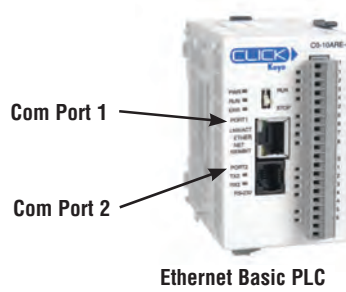
LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network

100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network

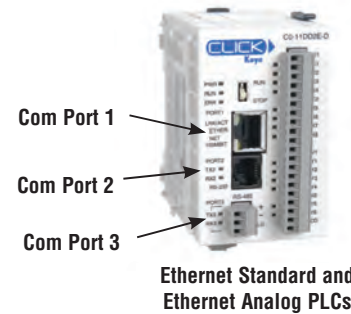


TX2 and TX3 (Green)	
On	The Comm Port is sending data.
Off	The Comm Port is not sending data.

RX2 and RX3 (Green)	
On	The Comm Port is receiving data.
Off	The Comm Port is not receiving data.



Ethernet Basic PLC

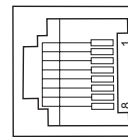


Ethernet Standard and Ethernet Analog PLCs

Com Port 1 Specifications	
Use:	Programming and Ethernet Communication
Physical:	8 pin, RJ45, Ethernet
Communication speed (Mbps):	10/100
Protocol:	Modbus TCP (client/server), EtherNet/IP Implicit and Explicit (adapter server)

Port 1

8 pin RJ45

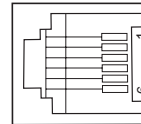


Port 1 Pin Descriptions	
1	TX+ Transmit Data (+)
2	TX- Transmit Data (-)
3	RX+ Receive data (+)
4	NC Not connected
5	NC Not connected
6	RX- Receive Data (-)
7	NC No connection
8	NC No connection

Com Port 2 Specifications	Default
Use: Serial Communication	-
Physical: 6 pin, RJ12, RS-232	-
Communication speed (baud): 2400, 4800, 9600, 19200, 38400, 57600, 115200	38400
Parity: odd, even, none	Odd
Station Address: 1 to 247	1
Data length: 8 bits (Modbus RTU) or 7, 8 bits (ASCII)	8 bits
Stop bit: 1,2	1
Protocol: Modbus RTU (master/slave) or ASCII in/out	Modbus RTU

Port 2

6 pin RJ12 Phone Type Jack

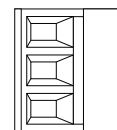


Port 2 Pin Descriptions	
1	0V Power (-) connection (GND)
2	5V Power (+) connection
3	RXD Receive data (RS-232)
4	TXD Transmit data (RS-232)
5	RTS Request to send
6	0V Power (-) connection (GND)

Com Port 3 Specifications	Default
Use: Serial Communication	-
Physical: 3 pin, RS-485	-
Communication speed (baud): 2400, 4800, 9600, 19200, 38400, 57600, 115200	38400
Parity: odd, even, none	Odd
Station Address: 1 to 247	1
Data length: 8 bits (Modbus RTU) or 7, 8 bits (ASCII)	8 bits
Stop bit: 1,2	1
Protocol: Modbus RTU (master/slave) or ASCII in/out	Modbus RTU

Port 3

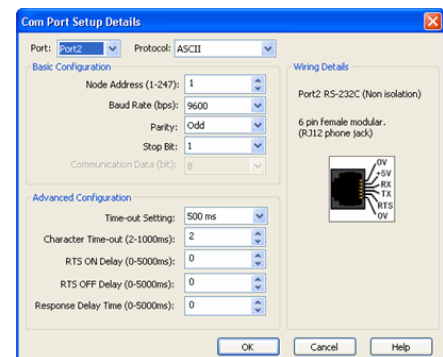
RS-485



Port 3 Pin Descriptions	
1	+ (plus) Signal A (RS-485)
2	- (minus) Signal B (RS-485)
3	LG Logic Ground(0V)

Port Setup

Use CLICK programming software to easily configure the communication ports.



Networking the CLICK PLC

Typical Communication Applications

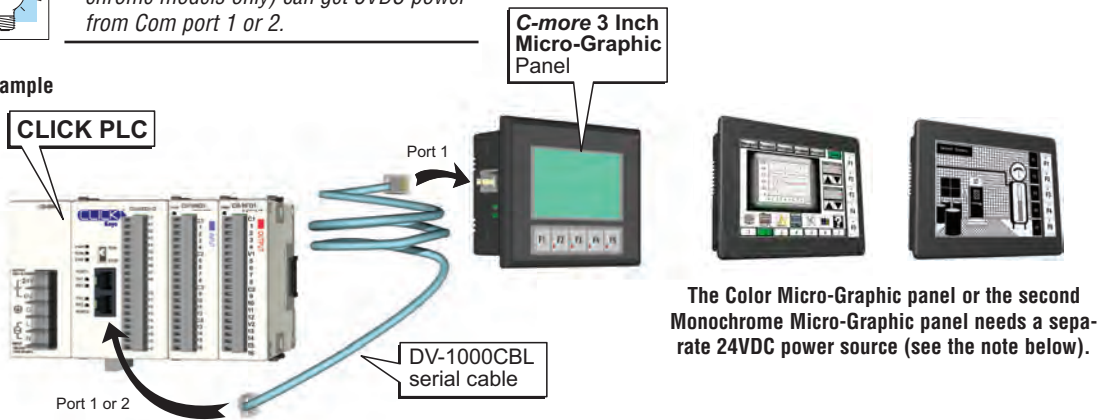
The diagrams on these three pages illustrate the typical uses for the CLICK PLC's communication ports.

Port 1 (RS-232) – Modbus RTU Slave Mode Only



C-more Micro-Graphic panels (monochrome models only) can get 5VDC power from Com port 1 or 2.

Example



NOTE: CLICK's (RS-232) Port 1 and Port 2 can provide 5VDC power to the panel, but not at the same time. If a C-more Micro-Graphic panel is connected to both ports, then at least one of the panels must be powered by a C-more Micro DC power adapter, EA-MG-P1 or EA-MG-SP1, or another 24VDC power source. Color C-more Micro-Graphic panels must also be powered from a separate 24VDC source.

Do not use the following DirectLOGIC devices with CLICK's Port 1 or 2:



WARNING: The following DirectLOGIC PLC devices cannot be used with a CLICK PLC's Port 1 or Port 2:
 Handheld Programmer (p/n D2-HPP) for DL05, DL06, DL105, DL205 & D3-350 CPUs,
 Handheld Programmer (p/n D4-HPP-1) for DL405 CPUs,



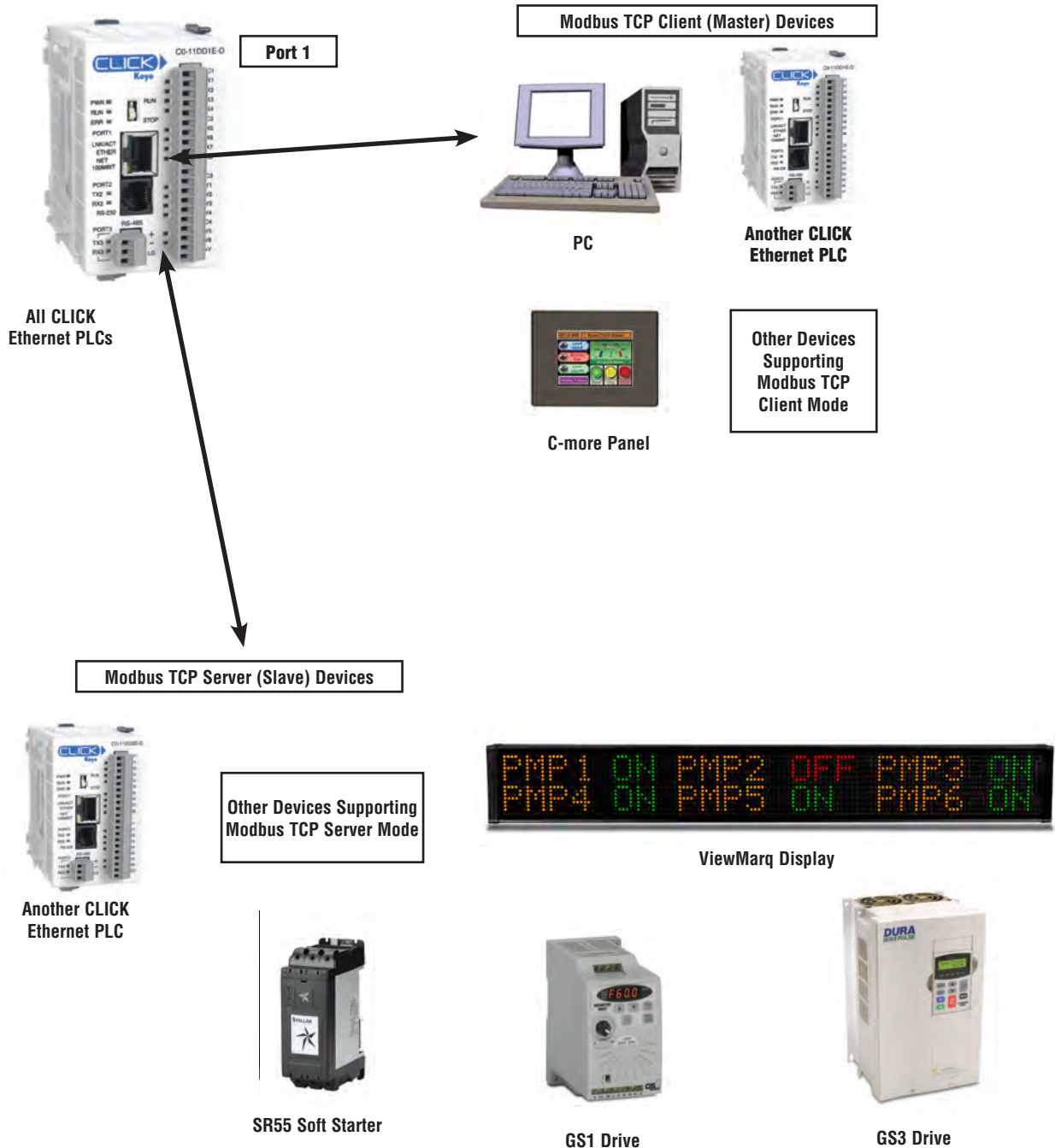
D2-HPP



D4-HPP-1

Networking the CLICK PLC

Port 1 (Ethernet) – Modbus TCP



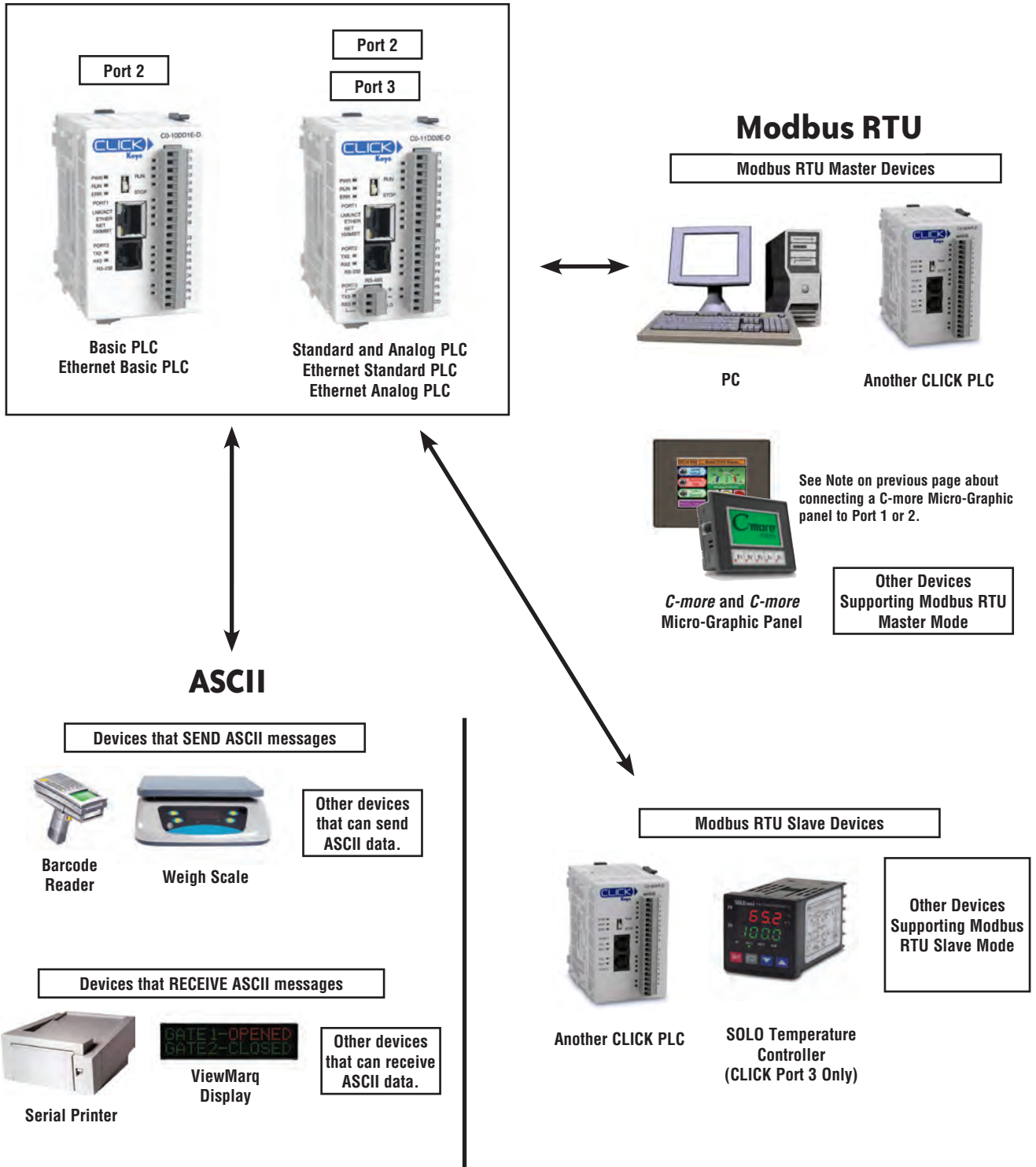
Networking the CLICK PLC

Port 2 (RS-232) – Modbus RTU or ASCII

Port 3 (RS-485; Standard, Analog, Ethernet Standard and Ethernet Analog PLCs) – Modbus RTU or ASCII

All PLCs have RS-232 port 2, but only Standard, Analog, Ethernet Standard and Ethernet Analog PLCs have RS-485 port 3.

Ports 2 and 3 allow networking to similar devices.



Power Supplies

Power Supplies

The CLICK PLC family offers two 24VDC power supplies. They are identical except for the output current.

It is not mandatory to use one of these CLICK power supplies for the CLICK PLC system. You can use any other 24VDC power supply that Automationdirect.com offers, including the PSP24-DC12-1 12 to 24 VDC converter shown below.

C0-00AC Power Supply

Limited auxiliary AC power supply allows you to power the 24VDC CLICK C0 series PLCs with 100-240 VAC supply power. The 0.5 A DC power supply is capable of controlling the PLC plus a limited configuration based on the power budget of each I/O module. The C0-00AC is a low-cost solution for applications requiring only minimal I/O and power consumption. This power supply will not support a fully-populated CLICK PLC system with all possible I/O module combinations.

C0-01AC Power Supply

Expanded auxiliary AC power supply allows you to power the 24VDC CLICK C0 series PLCs with 100-240 VAC supply power. The 1.3 A DC power supply is capable of supporting a fully-populated CLICK PLC system with all possible I/O module combinations, with no concerns for exceeding the power budget.

PSP24-DC12-1 DC-DC Converter

With this DC-DC converter you can operate the CLICK PLC with 12VDC input power.



PSP24-DC12-1

CLICK 24VDC Power Supply Ratings		
Part Number	Output Current	Price
C0-00AC	0.5 A	\$30.00
C0-01AC	1.3 A	\$40.50

C0-00AC Power Supply Specifications	
Input Voltage Range	85-264 VAC
Input Frequency	47-63 Hz
Input Current (typical)	0.3 A @ 100VAC, 0.2 A @ 200 VAC
Inrush Current	30A
Output Voltage Range	23-25 VDC
Output Current	0.5 A
Over Current Protection	@ 0.65 A (automatic recovery)
Weight	5.3 oz (150g)

C0-01AC Power Supply Specifications	
Input Voltage Range	85-264 VAC
Input Frequency	47-63 Hz
Input Current (typical)	0.9 A @ 100VAC, 0.6 A @ 200 VAC
Inrush Current	30 A
Output Voltage Range	23-25 VDC
Output Current	1.3 A
Over Current Protection	@ 1.6 A (automatic recovery)
Weight	6.0 oz (170g)

PSP24-DC12-1 DC-DC Converter Specifications	
Input Voltage Range	9.5-18 VDC
Input Power (no load)	1.0 W max.
Startup Voltage	8.4 VDC
Undervoltage Shutdown	7.6 VDC
Output Voltage Range	24-28 VDC (adjustable)
Output Current	1.0 A
Short Circuit Protection	Current limited at 110% typical
Weight	7.5 oz (213g)



C0-00AC

24VDC Output Power Terminals (for CLICK PLC, I/O or field device, etc.)

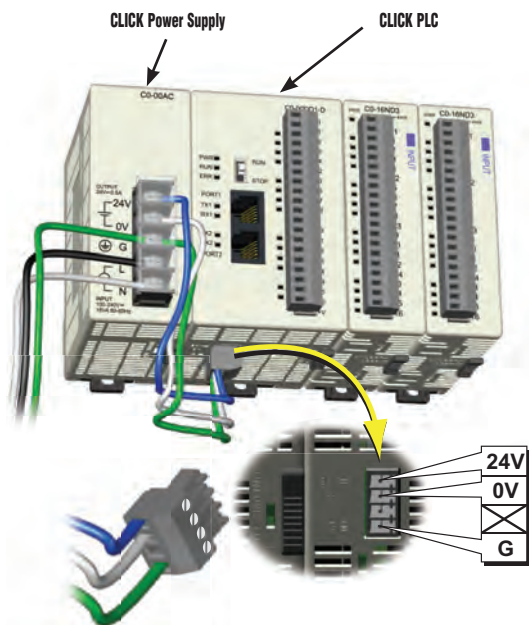
85-264 VAC Power Source Input Terminals



C0-01AC

24VDC Output Power Terminals (for CLICK PLC, I/O or field device, etc.)

85-264 VAC Power Source Input Terminals



24VDC power is supplied to the PLC unit through wiring connected from the power supply output to the 4-pin 24VDC input connector located on the bottom of the PLC unit.

Power Budgeting

Power Budgeting

There are two areas to be considered when determining the power required to operate a CLICK PLC system. The first area is the power required by the CLICK PLC, along with the internal logic side power that the CPU provides to its own I/O and any connected I/O modules that are powered through the PLC expansion port; plus any device, such as a C-more Micro-Graphic panel, that is powered through one of the communications ports. The second area is the power required by all externally connected I/O devices. This should be viewed as the field side power required. The field side power is dependent on the voltage used for a particular input or output device as it relates to the wired I/O point, and the calculated load rating of the connected device.

It is strongly recommended that the power source for the logic side be separate from the power source for the field side to help eliminate possible electrical noise.

Power budgeting requires the calculation of the total current the 24VDC power source needs to provide to CLICK's logic side, and also a separate calculation of the total current required for all devices operating from the field side of the PLC system.

Refer to the Power Budgeting example shown on the following page. The table shows required current for a CLICK PLC, two I/O modules, and a C-more Micro. Use the total amperage values to select the properly sized power supply.



CLICK 24VDC Power Supply
CO-00AC or CO-01AC



Other 24VDC Power Supply
Example: PSP24-60S

Power Consumption for CLICK PLC Units

PLC Current Consumption (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
Basic PLC Units		
CO-00DD1-D	120	60
CO-00DD2-D	120	0
CO-00DR-D		
CO-00AR-D		
Standard PLC Units		
CO-01DD1-D	140	60
CO-01DD2-D	140	0
CO-01DR-D		
CO-01AR-D		
Analog PLC Units		
CO-02DD1-D	140	60
CO-02DD2-D	140	0
CO-02DR-D		
Ethernet Basic PLC Units		
CO-10DD1E-D	120	60
CO-10DD2E-D	120	0
CO-10DRE-D		
CO-10ARE-D		
Ethernet Standard PLC Units		
CO-11DD1E-D	140	60
CO-11DD2E-D	140	0
CO-11DRE-D		
CO-11ARE-D		

PLC Current Consumption (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
Ethernet Analog PLC Units		
CO-12DD1E-D	140	60
CO-12DD2E-D		
CO-12DRE-D	160	0
CO-12ARE-D		
CO-12DD1E-1-D	140	60
CO-12DD2E-1-D		
CO-12DRE-1-D	160	0
CO-12ARE-1-D		
CO-12DD1E-2-D	140	60
CO-12DD2E-2-D		
CO-12DRE-2-D	160	0
CO-12ARE-2-D		

Power Budgeting

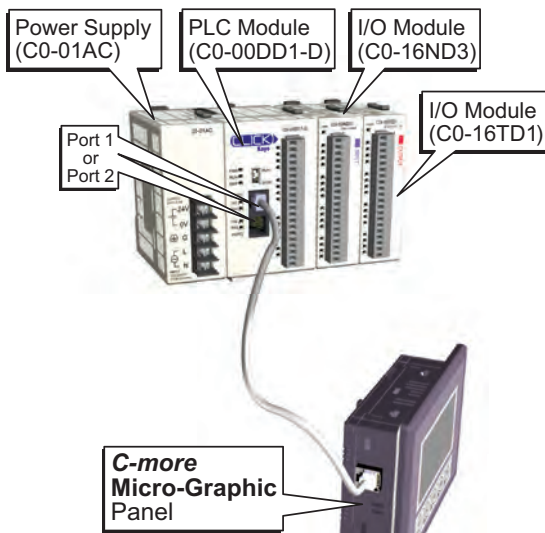
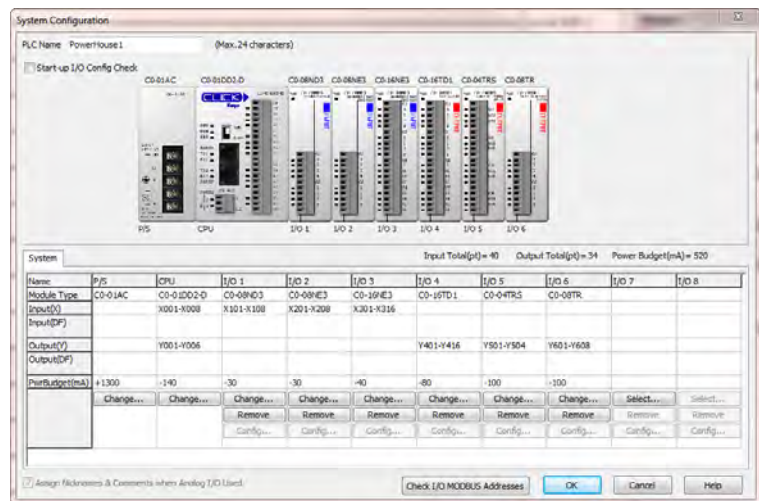
Power Consumption for CLICK I/O Expansion Modules

I/O Module Current Consumption (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
Discrete Input Modules		
CO-08SIM	50	0
CO-08ND3	30	0
CO-08ND3-1	30	0
CO-16ND3	40	0
CO-08NE3	30	0
CO-16NE3	40	0
CO-08NA	30	0
Discrete Output Modules		
CO-08TD1	50	15
CO-08TD2	50	0
CO-16TD1	80	100
CO-16TD2	80	0
CO-08TA	80	0
CO-04TRS	100	0
CO-04TRS-10	120	0
CO-08TR	100	0
CO-08TR-3	90	0

I/O Module Current Consumption (continued) (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
Discrete Combo I/O Modules		
CO-16CDD1	80	50
CO-16CDD2	80	0
CO-08CDR	80	0
Analog Input Modules		
CO-04AD-1	20	65
CO-04AD-2	23	65
CO-04RTD	25	0
CO-04THM	25	0
Analog Output Modules		
CO-04DA-1	20	145
CO-04DA-2	20	85
Analog Combo I/O Modules		
CO-4AD2DA-1	25	75
CO-4AD2DA-2	20	65
C-more Micro-Graphic Panel		
Monochrome only	90	0

Power Budgeting Using the CLICK Programming Software

The CLICK Programming software can also be used for power budgeting. Based on the amperage rating of the power supply selected in the first column, your power budget is calculated by subtracting each consecutive module's power consumption from the total available power budget. If you exceed the maximum allowable power consumption the power budget row is highlighted in red.



Only monochrome models can be powered from port 1 or 2.

Power Budgeting Example

Current Consumption (mA) Example		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
CO-00DD1-D	120	60
CO-16ND3	40	0
CO-16TD1	80	100
C-more Micro	90	0
Total:	330	160*

* Add in calculated load of connected I/O devices.

Choosing a PLC Unit

Six types of CLICK PLC units are available:

- Basic PLCs with discrete-only inputs and outputs.
- Standard PLCs with discrete-only inputs and outputs, plus an extra communications port and battery backup.
- Analog PLCs with both discrete and analog inputs and outputs, plus an extra communications port and battery backup.
- Ethernet Basic PLCs with discrete, high-speed inputs and discrete outputs.
- Ethernet Standard PLCs with discrete, high-speed inputs and discrete outputs, plus an extra communications port and battery backup.
- Ethernet Analog PLCs with discrete, high-speed inputs and discrete outputs, analog inputs and outputs, plus an extra communications port and battery backup.

All CLICK PLC units use the same instruction set, and support all optional I/O modules.

Basic and Standard PLC Units

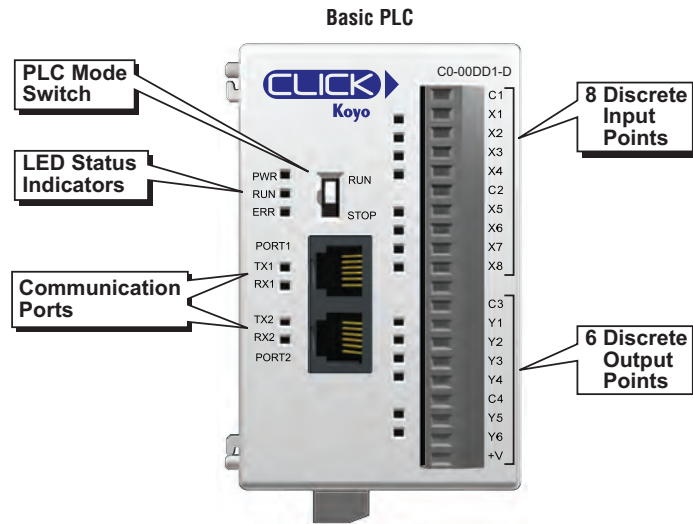
The Basic and Standard CLICK PLC units are available with different combinations of built-in I/O types (i.e. DC input/DC output, DC input/relay output, and AC input/relay output). With the 14 built-in I/O points (8 inputs/6 outputs), the PLC can be used as a ready-to-go PLC control system without any additional I/O modules. The PLC unit only requires a 24VDC power supply.

The tables on the right list the part numbers and the various I/O type combinations.

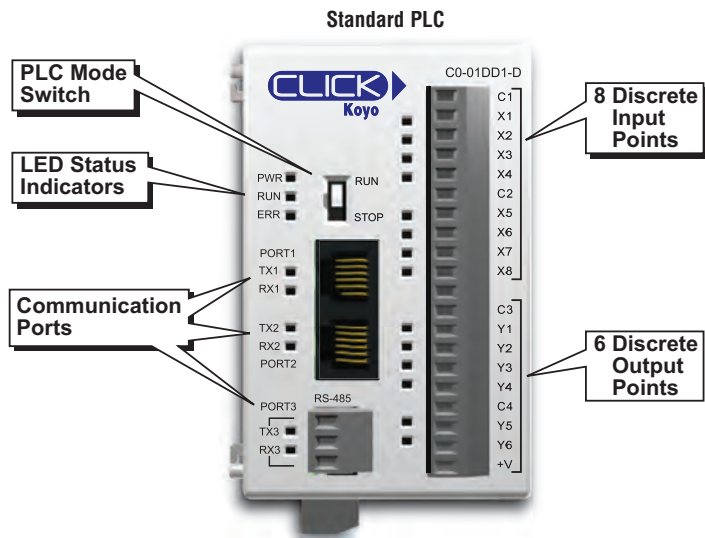
Each PLC unit I/O can easily be extended with the addition of optional I/O expansion modules as the need arises.

Standard PLC Units

Standard PLC modules also have an RS-485 port for Modbus RTU and ASCII communications, and the battery backup feature which will retain the data in SRAM for 3 years (battery sold separately; part no. D2-BAT-1).



Basic PLCs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
<i>CO-00DD1-D</i>	8 DC (sink/source)	6 DC (sink)	24VDC (required for all PLCs)
<i>CO-00DD2-D</i>		6 DC (source)	
<i>CO-00DR-D</i>		6 Relay	
<i>CO-00AR-D</i>	8 AC		



Standard PLCs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
<i>CO-01DD1-D</i>	8 DC (sink/source)	6 DC (sink)	24VDC (required for all PLCs)
<i>CO-01DD2-D</i>		6 DC (source)	
<i>CO-01DR-D</i>		6 Relay	
<i>CO-01AR-D</i>	8 AC		

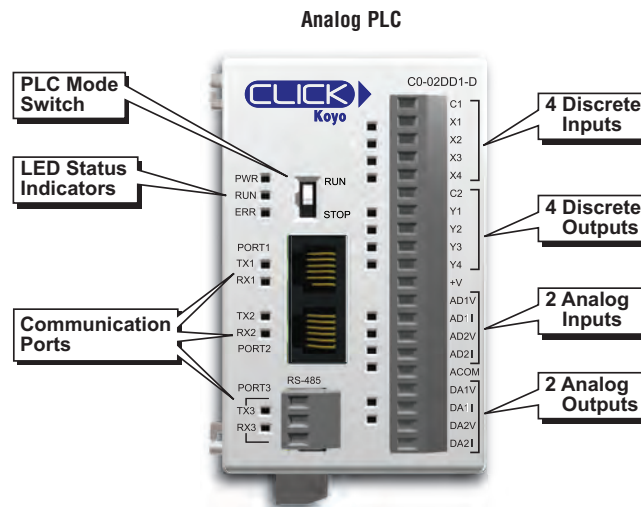
Choosing a PLC Unit

Analog PLC Units

The Analog CLICK PLC units are available with different combinations of DC in, DC sinking, sourcing or relay out, and analog in and out.

They also have an RS-485 port for Modbus and ASCII communications, and the battery backup feature which will retain the data in SRAM for 3 years (battery sold separately; part no. D2-BAT-1).

The table lists the part numbers showing the various I/O type combinations.



Analog PLCs					
Part Number	Discrete Input Types	Discrete Output Types	Analog Input Types	Analog Output Types	External Power
CO-02DD1-D	4 DC (sink/source)	4 DC (sink)	2 channel; voltage (0-5 VDC) / current (4-20 mA); selectable separately per channel; 12-bit	2 channel; voltage (0-5 VDC) / current sinking (4-20 mA); selectable separately per channel; 12-bit	24VDC (required for all PLCs)
CO-02DD2-D		4 DC (source)			
CO-02DR-D		4 relay			

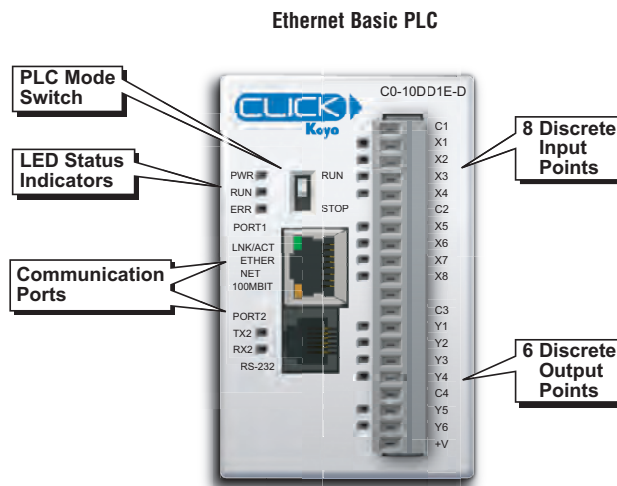
Ethernet Basic and Standard PLC Units

CLICK Ethernet Basic and Standard PLC units have one built-in Ethernet communications port and one standard RS-232 serial communications port. Additionally, Ethernet Standard PLC Units have an RS-485 port for Modbus RTU and ASCII communication.

The Ethernet Basic and Standard CLICK PLC units are available with different combinations of built-in I/O types (i.e. DC input/DC output, DC input/relay output, and AC input/relay output) and have high-speed input capability. With the 14 built-in I/O points (8 inputs/6 outputs), the PLC Units can be used as a ready-to-go PLC control system without any additional I/O modules. The PLC Unit only requires a 24VDC power supply.

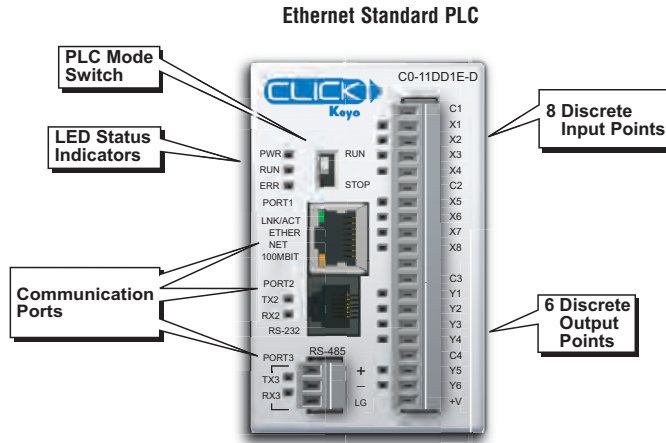
The table on the right lists the PLC unit part numbers and the various I/O type combinations.

All Ethernet PLC Units have a battery backup feature which will retain the data in SRAM for 3 years (battery sold separately; part no. D2-BAT-1).



Ethernet Basic PLCs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
CO-10DD1E-D	8 DC (sink/source) 4 points High-Speed	6 DC (sink)	24VDC (required for all PLCs)
CO-10DD2E-D		6 DC (source)	
CO-10DRE-D		6 Relay	
CO-10ARE-D	8 AC		

Choosing a PLC Unit



Ethernet Standard PLCs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
C0-11DD1E-D	8 DC (sink/source) All 8 points high-speed capable	6 DC (sink)	24VDC (required for all PLCs)
C0-11DD2E-D		6 DC (source)	
C0-11DRE-D		6 Relay	
C0-11ARE-D	8 AC		

Ethernet Analog PLC Units

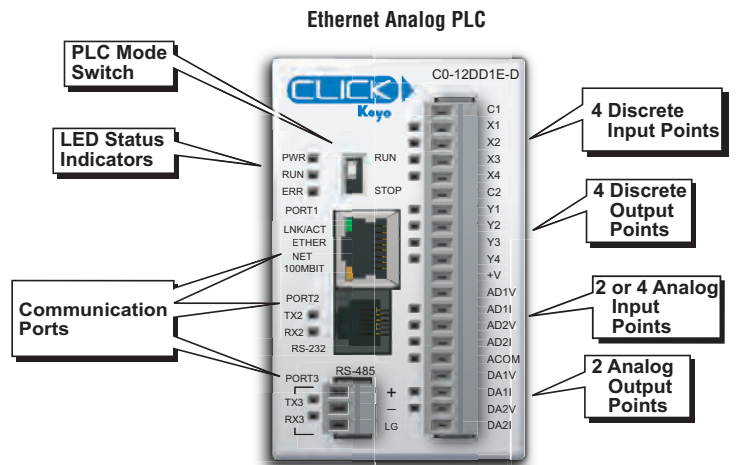
CLICK Ethernet Analog PLC units have one built-in Ethernet communications port, one standard RS-232 serial communications port and an RS-485 port for Modbus RTU and ASCII communication.

The Ethernet Analog CLICK PLC units are available with different combinations of built-in discrete and analog I/O types i.e. DC input/DC output, DC input/relay output, and AC input/relay output, as well as built-in

analog inputs/outputs for both current and voltage. With the built-in I/O points, the PLC Units can be used as a ready-to-go PLC control system without any additional I/O modules. The PLC Unit only requires a 24VDC power supply.

The table below lists the PLC Unit part numbers and the various I/O type combinations.

All Ethernet PLC Units have a battery backup feature which will retain the data in SRAM for 3 years (battery sold separately; part no. D2-BAT-1).



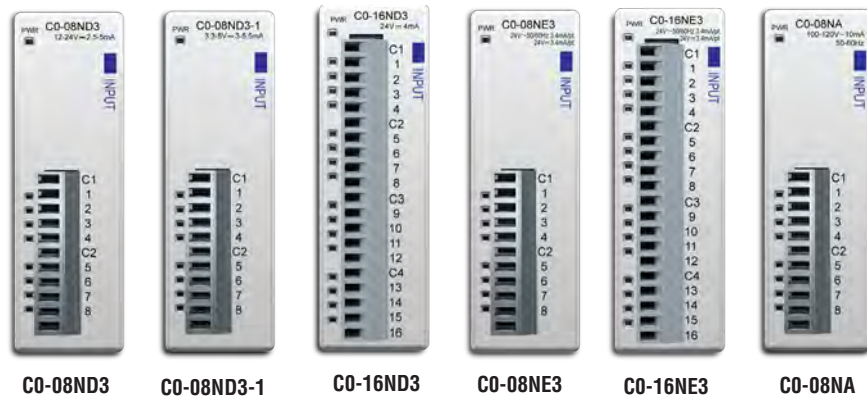
Ethernet Analog PLCs					
Part Number	Discrete Input Type	Discrete Output Type	Analog Input Types	Analog Output Types	External Power
C0-12DD1E-D	4 DC (sink/source) All 4 points high-speed capable	4 DC (sink)	2 channel; voltage (0-5 VDC) / current (4-20 mA); selectable separately per channel, 12-bit	2 channel; voltage (0-5 VDC) / current sinking (4-20 mA); selectable separately per channel, 12-bit	24VDC (required for all PLCs)
C0-12DD2E-D		4 DC (source)			
C0-12DRE-D		4 Relay			
C0-12ARE-D	4 AC				
C0-12DD1E-1-D	4 DC (sink/source) All 4 points high-speed capable	4 DC (sink)	4 channel; current (0-20 mA), 12-bit	2 channel; current sourcing (4-20 mA), 12-bit	
C0-12DD2E-1-D		4 DC (source)			
C0-12DRE-1-D		4 Relay			
C0-12ARE-1-D	4 AC				
C0-12DD1E-2-D	4 DC (sink/source) All 4 points high-speed capable	4 DC (sink)	4 channel; voltage (0-10 VDC), 12-bit	2 channel; voltage (0-10 VDC), 12-bit	
C0-12DD2E-2-D		4 DC (source)			
C0-12DRE-2-D		4 Relay			
C0-12ARE-2-D	4 AC				

Choosing Expansion I/O Modules

I/O Modules

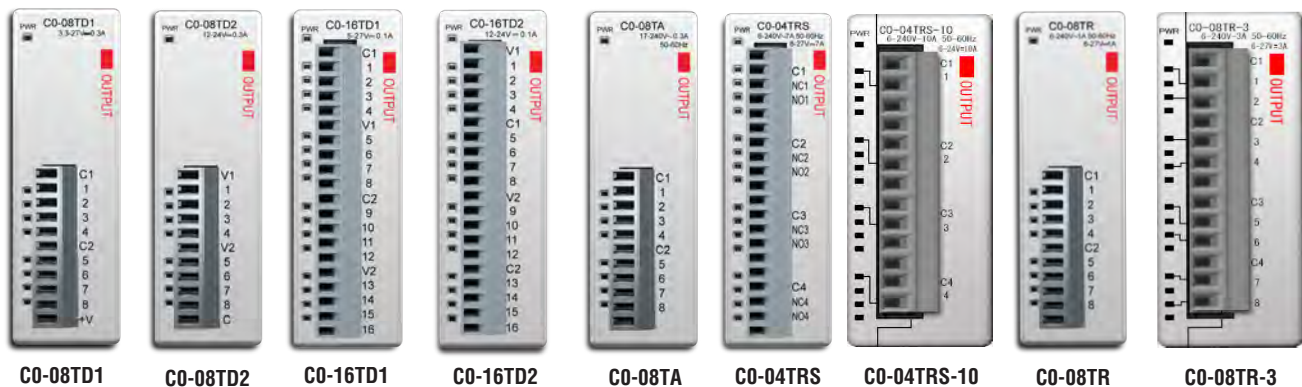
A variety of discrete, combo, and analog I/O modules are available for the CLICK PLC system. Up to eight I/O modules can be connected to a CLICK PLC unit to expand the system I/O count and meet the needs of a specific application. Complete I/O module specifications and wiring diagrams can be found later in this section.

Discrete Input Modules



Discrete Input Modules			
Part Number	I/O Type/ Number/Commons	Sink or Source	Voltage Ratings
CO-08ND3	DC / 8/2	Sink or Source	12–24 VDC
CO-08ND3-1	DC / 8/2	Sink or Source	3.3–5 VDC
CO-16ND3	DC / 16/4	Sink or Source	24VDC
CO-08NE3	AC/DC / 8/2	Sink or Source	24 VAC/VDC
CO-16NE3	AC/DC / 16/4	Sink or Source	24 VAC/VDC
CO-08NA	AC / 8/2	N/A	100–120 VAC

Discrete Output Modules

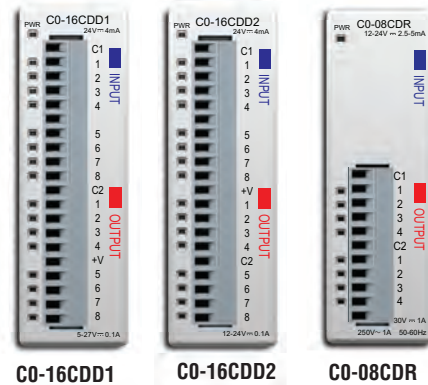


Discrete Output Modules			
Part Number	I/O Type/ Number/ Commons	Sink or Source	Voltage/Current Ratings
CO-08TD1	DC/8/2	Sink	3.3–27 VDC, 0.3 A
CO-08TD2	DC/8/1	Source	12–24 VDC, 0.3 A
CO-16TD1	DC/16/2	Sink	5–27 VDC, 0.1 A
CO-16TD2	DC/16/2	Source	12–24 VDC, 0.1 A
CO-08TA	AC/8/2	N/A	17–240 VAC, 0.3 A
CO-04TRS	Relay/4/4	N/A	6–27 VDC, 7A 6–240 VAC, 7A
CO-04TRS-10	Relay/4/4	N/A	6–24 VDC, 10A 6–240 VAC, 10A
CO-08TR	Relay/8/2	N/A	6–27 VDC, 1A 6–240 VAC, 1A
CO-08TR-3	Relay/8/4	N/A	6–27 VDC, 3A 6–240 VAC, 3A

Choosing Expansion I/O Modules

Discrete I/O Modules (continued)

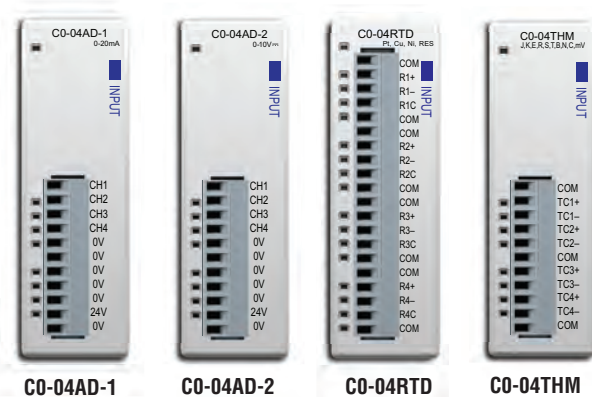
Discrete Combo I/O Modules



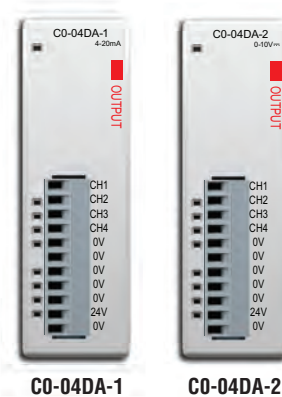
Discrete Combo I/O Modules				
Part Number	Input Type	Input Voltage	Output Type	Output Voltage / Current Ratings
CO-16CDD1	8 DC (source/sink)	24VDC	8 DC (sink)	5-27 VDC / 0.1 A
CO-16CDD2	8 DC (source/sink)	24VDC	8 DC (source)	12-24 VDC / 0.1 A
CO-08CDR	4 DC (source/sink)	12-24 VDC	4 (relay)	6.25-24 VDC, 1A 6-240 VAC, 1A

Analog I/O Modules

Analog Input Modules



Analog Output Modules



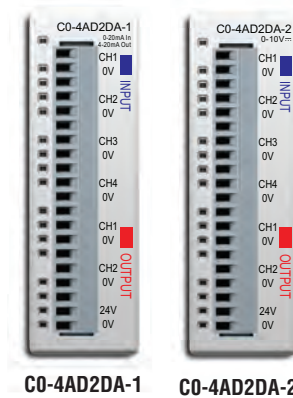
Analog Input Modules		
Part Number	Analog Input Types	External Power Required
CO-04AD-1	4 channel, current (0-20 mA), 13 bit	24VDC
CO-04AD-2	4 channel, voltage (0-10 V), 13 bit	24VDC
CO-04RTD	4 channel RTD input (0.1 degree °C/°F resolution), or resistive input (0 to 3125 ohms)	None
CO-04THM	4 channel thermocouple input (0.1 degree °C/°F resolution), or voltage input (-156.25 mV to 1.25 V), 16 bit	None

Analog Output Modules		
Part Number	Analog Output Types	External Power Required
CO-04DA-1	4 channel, current sourcing (4-20 mA), 12-bit	24VDC
CO-04DA-2	4 channel, voltage (0-10 V), 12-bit	24VDC

Choosing Expansion I/O Modules

Analog I/O Modules (continued)

Analog Combo I/O Modules



Analog Combo I/O Modules			
Part Number	Analog Input Type	Analog Output Type	External Power Required
<i>CO-4AD2DA-1</i>	4 channel, current (0-20 mA), 13-bit	2 channel, current sourcing (4-20 mA), 12-bit	24VDC
<i>CO-4AD2DA-2</i>	4 channel, voltage (0-10 V), 13-bit	4 channel, voltage (0-10 V), 12-bit	24VDC

Specialty Module



CO-08SIM

Specialty Module			
Part Number	I/O Type/ Number/Commons	Sink or Source	Voltage Ratings
<i>CO-08SIM</i>	Toggle Switch, 8	N/A	N/A

CLICK Specifications

General Specifications For All CLICK PLC Products

These general specifications apply to all CLICK PLCs, optional I/O modules, and optional power supply products. Please refer to the appropriate I/O temperature derating charts under both the PLC and I/O module specifications to determine best operating conditions based on the ambient temperature of your particular application.

General Specifications	
Operating Temperature	Analog, analog combo I/O modules only: 32°F to 140°F (0°C to 60°C); All other modules: 32°F to 131°F (0°C to 55°C), IEC 60068-2-14 (Test Nb, Thermal Shock)
Storage Temperature	-4°F to 158°F (-20°C to 70°C) IEC 60068-2-1 (Test Ab, Cold) IEC 60068-2-2 (Test Bb, Dry Heat) IEC 60068-2-14 (Test Na, Thermal Shock)
Ambient Humidity	30% to 95% relative humidity (non-condensing)
Environmental Air	No corrosive gases. Environmental pollution level is 2 (UL840)
Vibration	MIL STD 810C, Method 514.2, EC60068-2-27, Category [f], Procedure[VIII] JIS C60068-2-27 (Sine wave vibration test)
Shock	MIL STD 810C, Method 516.2, IEC60068-2-27, JIS C60068-2-27, Category [f], Procedure[VIII]
Noise Immunity	<EN61131-2> EN61000-4-2 (ESD) EN61000-4-3 (RFI) EN61000-4-4 (FTB) EN61000-4-5 (Surge) EN61000-4-6 (Conducted) EN61000-4-8 (Power frequency magnetic field immunity) <Local Test> Impulse noise 1µs, 1000V RFI: No interference measured at 150 and 450 MHz (5w/15cm)
Emissions	EN55011:1998 Class A; EN61000-6-4:2007+A1:2011
Agency Approvals	UL508, UL61010-2-201 (File No. E157382, E316037); CE (EN61131-2); CUL Canadian C22.2
Other	RoHS 2011/65/EU Amendment (EU)2015/863

CLICK Specifications

PLC Unit Specifications

Basic, Standard and Analog PLC Unit Specifications			
	Basic PLC	Standard PLC	Analog PLC
Control Method	Stored Program/Cyclic execution method	Stored Program/Cyclic execution method	Stored Program/Cyclic execution method
I/O Numbering System	Fixed in Decimal	Fixed in Decimal	Fixed in Decimal
Ladder Memory (steps)	8000	8000	8000
Total Data Memory (words)	8000	8000	8000
Contact Execution (Boolean)	< 0.6 us	< 0.6 us	< 0.6 us
Typical Scan (1K Boolean)	1-2 ms	1-2 ms	1-2 ms
RLL Ladder Style Programming	Yes	Yes	Yes
Run Time Edits	No	No	No
Scan	Variable / fixed	Variable / fixed	Variable / fixed
CLICK Programming Software for Windows	Yes	Yes	Yes
Built-in Communication Ports	Yes (two RS-232 ports)	Yes (two RS-232 ports and one RS-485 port)	Yes (two RS-232 ports and one RS-485 port)
Protocols	Protocols: Modbus RTU (master/slave) and ASCII (in/out)		
FLASH Memory	Standard on PLC	Standard on PLC	Standard on PLC
Built-in Discrete I/O points	8 inputs, 6 outputs	8 inputs, 6 outputs	4 inputs, 4 outputs
Built-in Analog I/O Channels	No	No	2 inputs, 2 outputs
Number of Instructions Available	21	21	21
Control Relays	2000	2000	2000
System Control Relays	1000	1000	1000
Timers	500	500	500
Counters	250	250	250
Interrupts	Yes (external: 8 / timed: 4)	Yes (external: 8 / timed: 4)	Yes (external: 4 / timed: 4)
Subroutines	Yes	Yes	Yes
For/Next Loops	Yes	Yes	Yes
Math (Integer and Hex)	Yes	Yes	Yes
Drum Sequencer Instruction	Yes	Yes	Yes
Internal Diagnostics	Yes	Yes	Yes
Password Security	Yes	Yes	Yes
System Error Log	Yes	Yes	Yes
User Error Log	No	No	No
Memory Backup	Super Capacitor	Super Capacitor + Battery	Super Capacitor + Battery
Battery Backup	No	Yes (battery sold separately; part # D2-BAT-1)	Yes (battery sold separately; part # D2-BAT-1)
Calendar/Clock	No	Yes	Yes
I/O Terminal Block Replacement	AutomationDirect p/n C0-16TB	AutomationDirect p/n C0-16TB	AutomationDirect p/n C0-16TB
Communication Port & Terminal Block Replacement	N/A	AutomationDirect p/n C0-3TB	AutomationDirect p/n C0-3TB
24VDC Power Terminal Block Replacement	AutomationDirect p/n C0-4TB	AutomationDirect p/n C0-4TB	AutomationDirect p/n C0-4TB

CLICK Specifications

PLC Unit Specifications (continued)

Ethernet Basic, Standard and Analog PLC Unit Specifications			
	Ethernet Basic PLC	Ethernet Standard PLC	Ethernet Analog PLC
Control Method	Stored Program/Cyclic execution method	Stored Program/Cyclic execution method	Stored Program/Cyclic execution method
I/O Numbering System	Fixed in Decimal	Fixed in Decimal	Fixed in Decimal
Ladder Memory (steps)	8000	8000	8000
Total Data Memory (words)	8000	8000	8000
Contact Execution (Boolean)	< 0.2 μ s	< 0.2 μ s	< 0.2 μ s
Typical Scan (1K Boolean)	< 1ms	< 1ms	< 1ms
RLL Ladder Style Programming	Yes	Yes	Yes
Run Time Edits	Yes	Yes	Yes
Scan	Variable / fixed	Variable / fixed	Variable / fixed
CLICK Programming Software for Windows	Yes	Yes	Yes
Built-in Communication Ports	Yes (one Ethernet port and one RS-232 port)	Yes (one Ethernet port, one RS-232 port and one RS-485 port)	Yes (one Ethernet port, one RS-232 port and one RS-485 port)
Protocols	Modbus RTU (master/slave) and ASCII (in/out), Modbus TCP (client/server), EtherNet/IP Implicit and Explicit (adapter server)		
FLASH Memory	Standard on PLC	Standard on PLC	Standard on PLC
Built-in Discrete I/O points	8 inputs, 6 outputs	8 inputs, 6 outputs	4 inputs, 4 outputs
Built-in Analog I/O Channels	No	No	2 or 4 inputs; 2 outputs
Number of High-Speed Input Points	4	8	4
Number of High-Speed Counters	4	6	4
PID Control Loops	8	8	8
Number of Instructions Available	21	21	21
Control Relays	2000	2000	2000
System Control Relays	1000	1000	1000
Timers	500	500	500
Counters	250	250	250
Interrupts	Yes (external: 8 / timed: 4)	Yes (external: 8 / timed: 4)	Yes (external: 4 / timed: 4)
Subroutines	Yes	Yes	Yes
For/Next Loops	Yes	Yes	Yes
Math (Integer and Hex)	Yes	Yes	Yes
Drum Sequencer Instruction	Yes	Yes	Yes
Internal Diagnostics	Yes	Yes	Yes
Password Security	Yes	Yes	Yes
System Error Log	Yes	Yes	Yes
User Error Log	No	No	No
Memory Backup	Super Capacitor + Battery	Super Capacitor + Battery	Super Capacitor + Battery
Battery Backup	Yes (battery part # D2-BAT-1)	Yes (battery part # D2-BAT-1)	Yes (battery part # D2-BAT-1)
Calendar/Clock	Yes	Yes	Yes
I/O Terminal Block Replacement	AutomationDirect p/n C0-16TB	AutomationDirect p/n C0-16TB	AutomationDirect p/n C0-16TB
Communication Port & Terminal Block Replacement	N/A	AutomationDirect p/n C0-3TB	AutomationDirect p/n C0-3TB
24VDC Power Terminal Block Replacement	AutomationDirect p/n C0-4TB	AutomationDirect p/n C0-4TB	AutomationDirect p/n C0-4TB

CLICK Specifications

CLICK PLC Hardware/Software Compatibility

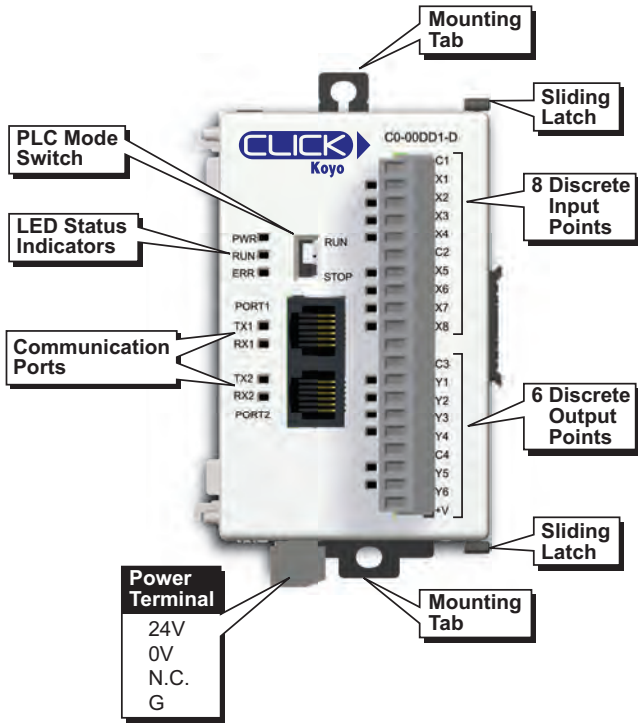
CLICK PLCs require a minimum software version of v2.50 for the PID function. The table below shows the most recent software and hardware versions required for the High-Speed input operation capability to be accessible.

CLICK PLC Features Software Compatibility						
CPU Type	Part Number	Minimum CLICK Software Version				
		Hardware	High-Speed Inputs	EtherNet/IP	PID	
Basic	CO-00DD1-D	v1.00	N/A	N/A	N/A	
	CO-00DD2-D					
	CO-00DR-D					
	CO-00AR-D					
Standard	CO-01DD1-D	v1.20	N/A	N/A	N/A	
	CO-01DD2-D					
	CO-01DR-D					
	CO-01AR-D					
Analog	CO-02DD1-D (before SN 171208001)	v1.12	N/A	N/A	N/A	
	CO-02DD1-D (after SN 171208001)	v2.10				
	CO-02DD2-D (before SN 174018001)	v1.12				
	CO-02DD2-D (after SN 174018001)	v2.10				
	CO-02DR-D (before SN 173158001)	v1.12				
	CO-02DR-D (after SN 173158001)	v2.10				
Ethernet CPUs	Ethernet CPUs require v2.40 for EtherNet/IP communications					
Ethernet Basic	CO-10DD1E-D	v2.00	v2.30	v2.40	v2.50	
	CO-10DD2E-D					
	CO-10DRE-D		N/A			
	CO-10ARE-D					
Ethernet Standard	CO-11DD1E-D	v2.00	v2.30	v2.40	v2.50	
	CO-11DD2E-D					
	CO-11DRE-D		N/A			
	CO-11ARE-D					
Ethernet Analog	CO-12DD1E-D	v2.20	v2.30	v2.40	v2.50	
	CO-12DD2E-D					
	CO-12DRE-D		N/A			
	CO-12ARE-D					
	CO-12DD1E-1-D		v2.30			
	CO-12DD2E-1-D					
	CO-12DRE-1-D		N/A			
	CO-12ARE-1-D					
	CO-12DD1E-2-D		v2.30			
	CO-12DD2E-2-D					
	CO-12DRE-2-D		N/A			
	CO-12ARE-2-D					
I/O Modules	CO-08NE3	v1.20	N/A	N/A	N/A	
	CO-16NE3					
	CO-04AD-1	v1.40				
	CO-04AD-2					
	CO-04DA-1					
	CO-04DA-2					
	CO-4AD2DA-1					
	CO-4AD2DA-2					
	CO-04RTD					
	CO-04THM					
	CO-05CDR					
	CO-16CDD1					
	CO-16CDD2					
	Other modules					v1.00

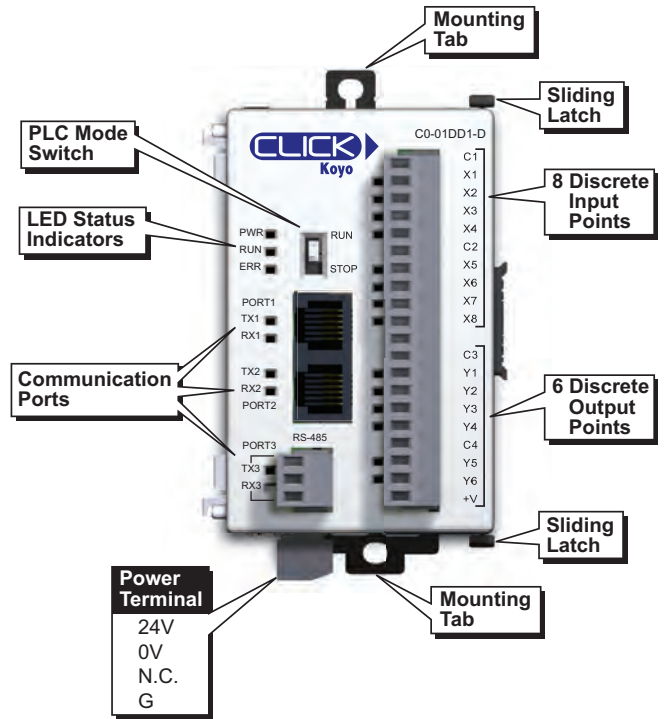
CLICK Specifications

PLC Features

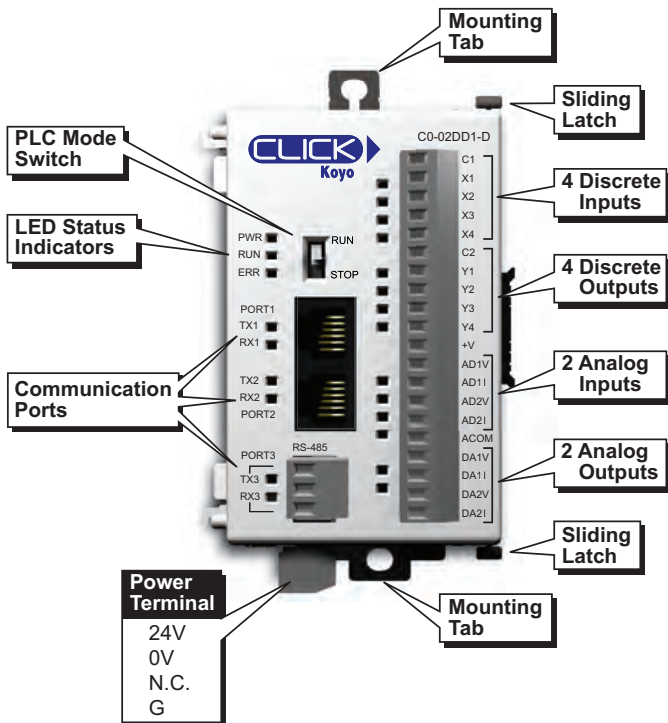
Basic PLCs



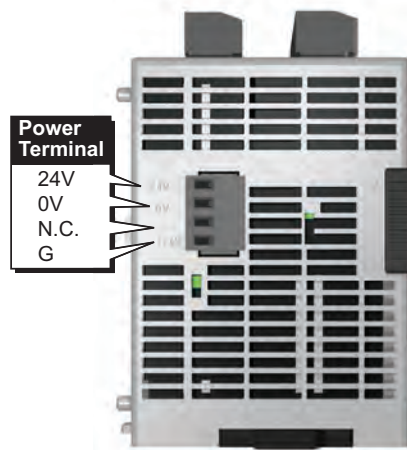
Standard PLCs



Analog PLCs



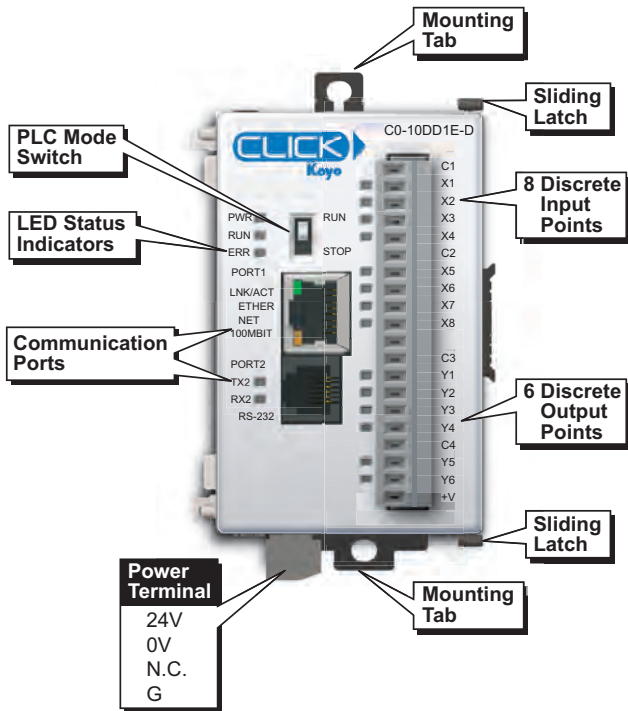
**Bottom of PLC
(Same on all models)**



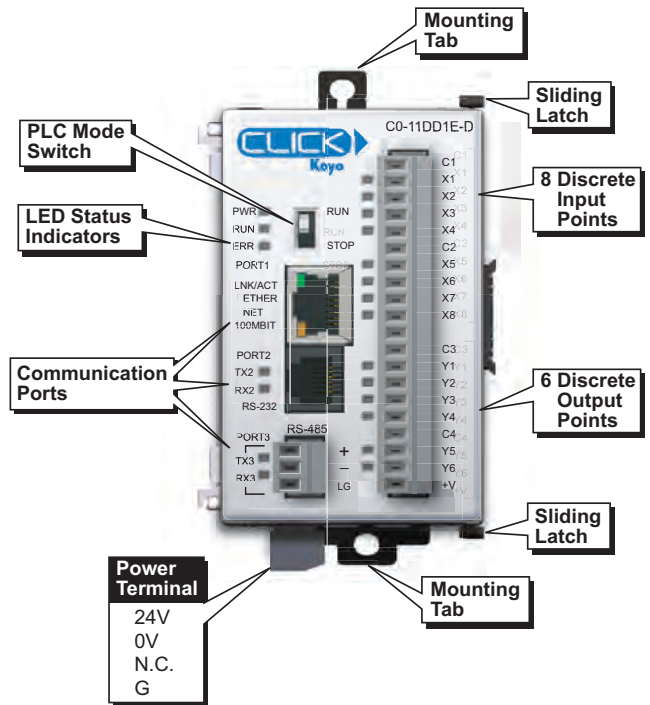
CLICK Specifications

PLC Features (continued)

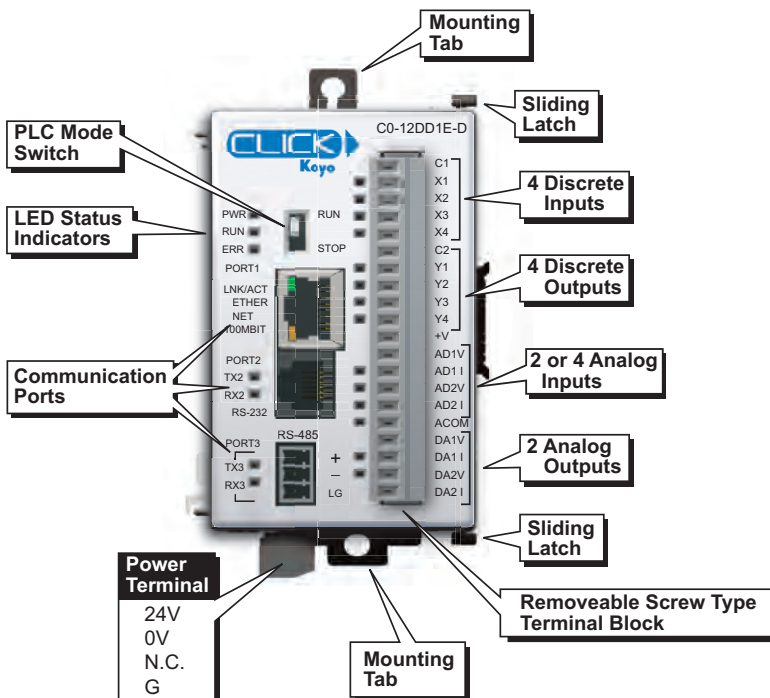
Ethernet Basic PLCs



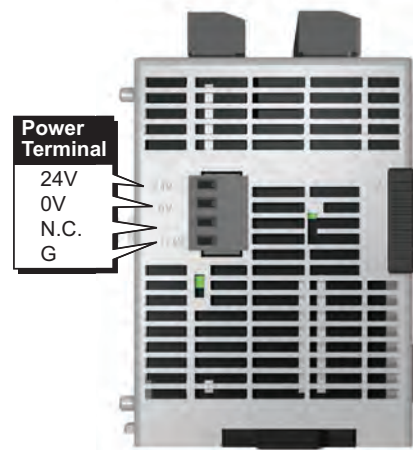
Ethernet Standard PLCs



Ethernet Analog PLCs

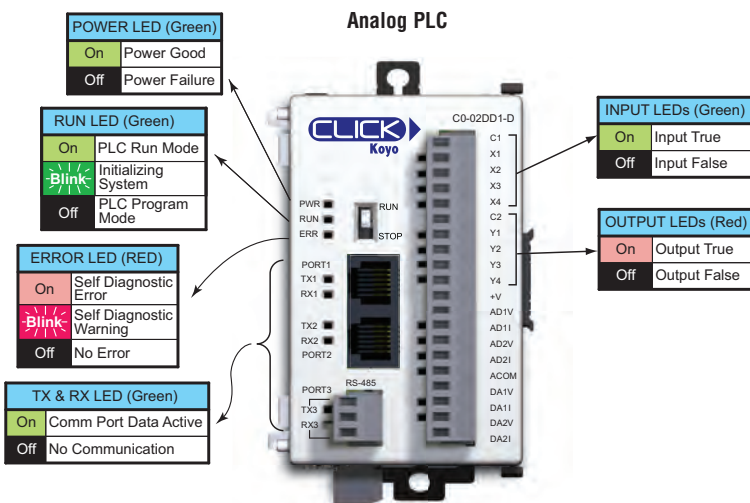
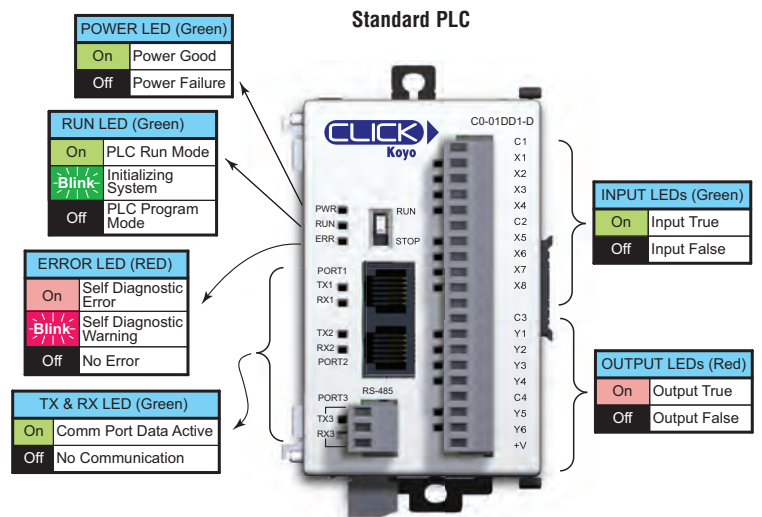
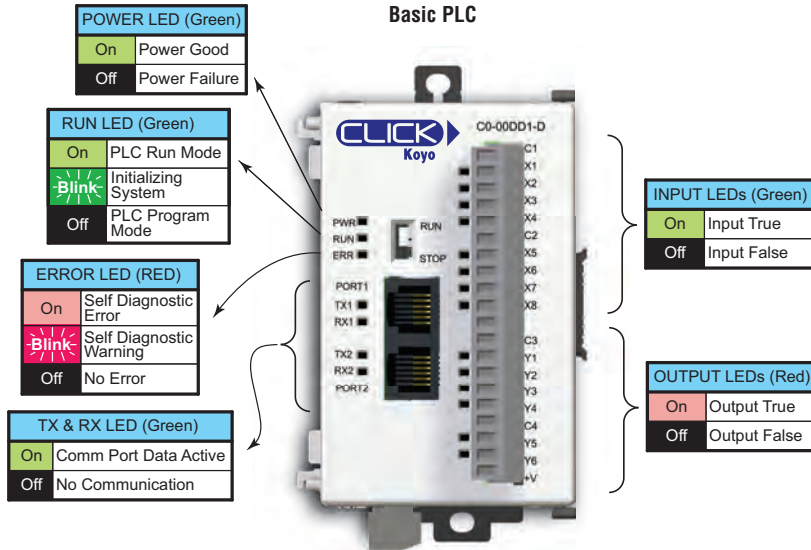


**Bottom of Ethernet PLC
(Same on all models)**



CLICK Specifications

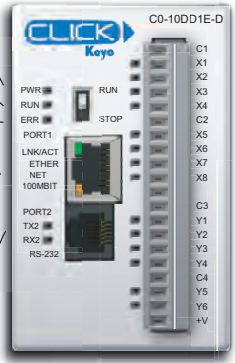
PLC LED Status Indicators



CLICK Specifications

PLC LED Status Indicators

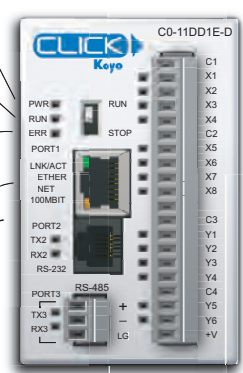
Ethernet Basic PLC



POWER LED (Green)	
On	Power Good
Off	Power Failure
RUN LED (Green)	
On	PLC Run Mode
Blink	Initializing System
Off	PLC Program Mode
ERROR LED (RED)	
On	Self Diagnostic Error
Blink	Self Diagnostic Warning
Off	No Error
LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network
100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network
TX & RX LED (Green)	
On	Comm Port Data Active
Off	No Communication

INPUT LEDs (Green)	
On	Input True
Off	Input False
OUTPUT LEDs (Red)	
On	Output True
Off	Output False

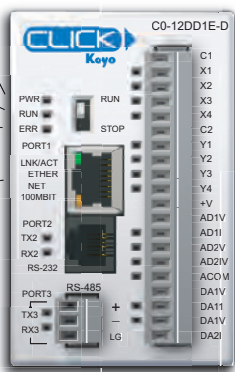
Ethernet Standard PLC



POWER LED (Green)	
On	Power Good
Off	Power Failure
RUN LED (Green)	
On	PLC Run Mode
Blink	Initializing System
Off	PLC Program Mode
ERROR LED (RED)	
On	Self Diagnostic Error
Blink	Self Diagnostic Warning
Off	No Error
LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network
100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network
TX & RX LED (Green)	
On	Com Port Data Active
Off	No Communication

INPUT LEDs (Green)	
On	Input True
Off	Input False
OUTPUT LEDs (Red)	
On	Output True
Off	Output False

Ethernet Analog PLC



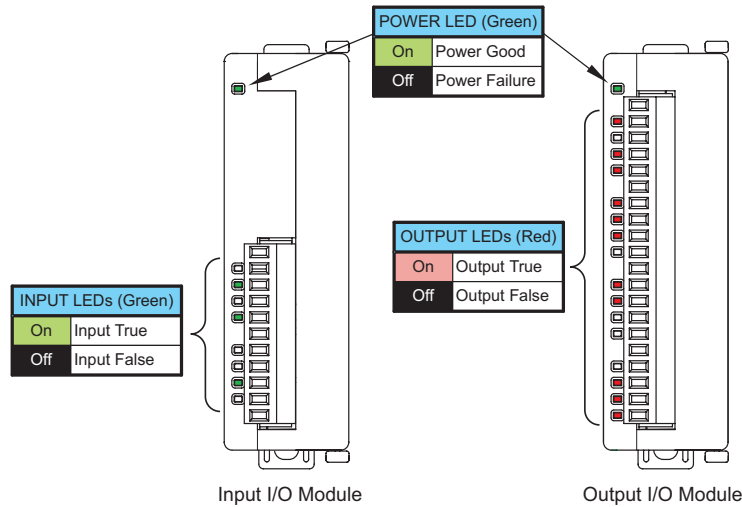
POWER LED (Green)	
On	Power Good
Off	Power Failure
RUN LED (Green)	
On	PLC Run Mode
Blink	Initializing System
Off	PLC Program Mode
ERROR LED (RED)	
On	Self Diagnostic Error
Blink	Self Diagnostic Warning
Off	No Error
LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network
100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network
TX & RX LED (Green)	
On	Com Port Data Active
Off	No Communication

INPUT LEDs (Green)	
On	Input True
Off	Input False
OUTPUT LEDs (Red)	
On	Output True
Off	Output False

CLICK Specifications

I/O Module LED Status Indicators

I/O Module LED Status Indicators



Note: There are no LED indications on the Analog I/O modules.

I/O Terminal Block Specifications for PLCs and I/O Modules



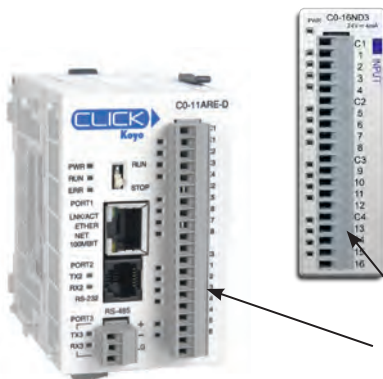
11-Pin Terminal Block, CO-8TB

11-pin Terminal Block Specifications	
Connector Type	Pluggable Terminal Block
Number of Pins	11
Pitch	3.50 mm
Wire Range	28–16 AWG
Wire Strip Length	7mm
Screw Size	M2.0
Screw Torque	Analog, analog combo I/O modules only: 1.7 lb-in; All other modules: 2.0 to 2.2 lb-in
AutomationDirect Part Number	CO-8TB



13-Pin Terminal Block, CO-8TB-1

13-pin Terminal Block Specifications	
Connector Type	Pluggable Terminal Block
Number of Pins	13
Pitch	5.08 mm
Wire Range	12–20 AWG
Wire Strip Length	7.0–8.0 mm
Screw Size	M2.5
Screw Torque	4.51 lb-in;
AutomationDirect Part Number	CO-8TB-1



20-Pin Terminal Block, CO-16TB

20-pin Terminal Block Specifications	
Connector Type	Pluggable Terminal Block
Number of Pins	20
Pitch	5.05 mm
Wire Range	28–16 AWG
Wire Strip Length	7mm
Screw Size	M2.0
Screw Torque	Analog, analog combo I/O modules only: 1.7 lb-in; All other modules: 2.0 to 2.2 lb-in
AutomationDirect Part Number	CO-16TB



Wiring System for CLICK PLCs

Wiring Solutions using the ZIPLink Wiring System

ZIPLinks eliminate the normally tedious process of wiring between devices by utilizing prewired cables and DIN rail mount connector modules. It's as simple as plugging in a cable connector at either end or terminating wires at only one end. Prewired cables keep installation clean and efficient, using half the space at a fraction of the cost of standard terminal blocks.

ZIPLinks are available in a variety of styles to suit your needs, including feedthrough connector module. ZIPLinks are available for all Basic, Standard and Ethernet CLICK PLC units and most discrete and analog I/O modules. Pre-printed I/O-specific adhesive label strips for quick marking of ZIPLink modules are provided with ZIPLink cables.



Solution 1: CLICK PLC and I/O Modules to ZIPLink Connector Modules

When looking for quick and easy I/O-to-field termination, a ZIPLink connector module used in conjunction with a prewired ZIPLink cable, consisting of an I/O terminal block at one end and a multi-pin connector at the other end, is the best solution.

Use the "CLICK PLC Unit ZIPLink Selector" table and CLICK I/O ZIPLink selector tables located in this section:

1. Locate your PLC or I/O module.
2. Select a ZIPLink Module.
3. Select a corresponding ZIPLink Cable.

Solution 2: CLICK PLC and I/O Modules to 3rd Party Devices

When wanting to connect I/O to another device within close proximity of the I/O modules, no extra terminal blocks are necessary when using the ZIPLink Pigtail Cables. ZIPLink Pigtail Cables are prewired to an I/O terminal block with color-coded pigtail with soldered-tip wires on the other end.

Use the I/O Modules to 3rd Party Devices selector tables located in the ZIPLink section:

1. Locate your PLC or I/O module.
2. Select a ZIPLink Pigtail Cable that is compatible with your 3rd party device.



Solution 3: GS Series and DuraPulse Drives Communication Cables

Need to communicate via Modbus RTU to a drive or a network of drives?

ZIPLink cables are available in a wide range of configurations for connecting to PLCs and SureServo, SureStep, Stellar Soft Starter and AC drives. Add a ZIPLink communications module to quickly and easily set up a multi-device network.

Use the Drives Communication selector tables located in the ZIPLink section:

1. Locate your Drive and type of communications.
2. Select a ZIPLink cable and other associated hardware.



Solution 4: Serial Communications Cables

ZIPLink offers communications cables for use with CLICK PLCs that can also be used with other communications devices. Connections include a 6-pin RJ12 connector which can be used in conjunction with the RJ12 Feedthrough module.

Use the Serial Communications Cables selector table located in the ZIPLink section:

1. Locate your connector type
2. Select a cable.





Wiring System for CLICK PLCs

CLICK PLC ZIPLink Selector				
PLC		ZIPLink		
PLC Unit	# of Terms	Component	Module Part No.	Cable Part No.
CO-00DD1-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
CO-00DD2-D				
CO-00DR-D				
CO-00AR-D				
CO-01DD1-D				
CO-01DD2-D				
CO-01DR-D				
CO-01AR-D				
CO-02DD1-D	No ZIPLinks are available for Analog PLC units.			
CO-02DD2-D				
CO-02DR-D				
CO-10DD1E-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
CO-10DD2E-D				
CO-10DRE-D				
CO-10ARE-D				
CO-11DD1E-D				
CO-11DD2E-D				
CO-11DRE-D				
CO-11ARE-D				
CO-12DD1E-D	No ZIPLinks are available for Ethernet Analog PLC units.			
CO-12DD2E-D				
CO-12DRE-D				
CO-12ARE-D				
CO-12DD1E-1-D				
CO-12DD2E-1-D				
CO-12DRE-1-D				
CO-12ARE-1-D				
CO-12DD1E-2-D				
CO-12DD2E-2-D				
CO-12DRE-2-D				
CO-12ARE-2-D				

Table Notes:

* Select the cable length by replacing the * with: Blank = 0.5 m, -1 = 1.0 m, or -2 = 2.0 m.

¹ Note: The CO-04TRS relay output is derated not to exceed 2A per point maximum when used with the ZIPLink wiring system.

² Note: Fuses (5 x 20 mm) are not included. See Edison Electronic Fuse section for (5 x 20 mm) fuse. S500 and GMA electronic circuit protection for fast-acting maximum protection. S506 and GMC electronic circuit protection for time-delay performance. Ideal for inductive circuits.

To ensure proper operation, do not exceed the voltage and current rating of ZIPLink module. ZL-RFU20 = 2A per circuit.

CLICK PLC Discrete Input Module ZIPLink Selector				
I/O Module		ZIPLink		
Input Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-08SIM	Not supported by ZIPLink			
CO-08ND3	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-08ND3-1				
CO-08NE3				
CO-08NA				
CO-16ND3	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
		Sensor	ZL-LTB16-24-1	
CO-16NE3	20	Feedthrough	ZL-RTB20	
		Sensor	ZL-LTB16-24-1	

CLICK PLC Discrete Output Module ZIPLink Selector				
I/O Module		ZIPLink		
Output Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-08TD1	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-08TD2				
CO-08TR				
CO-08TR-3	Not supported by ZIPLink			
CO-08TA				
CO-16TD1	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
		Fuse	ZL-RFU20 ²	
		Relay (sinking)	ZL-RRL16-24-1	
CO-16TD2	20	Feedthrough	ZL-RTB20	
		Fuse	ZL-RFU20 ²	
		Relay (sourcing)	ZL-RRL16-24-2	
CO-04TRS ¹	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
CO-04TRS-10	Not supported by ZIPLink			

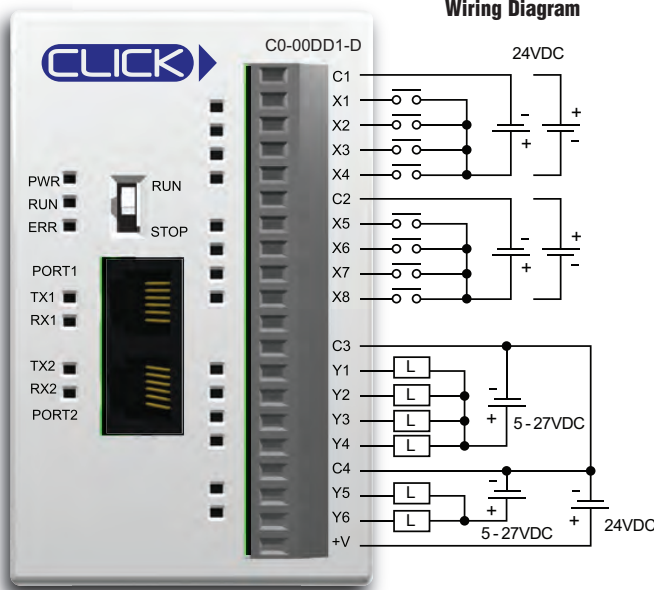
CLICK PLC Combo I/O Module ZIPLink Selector				
I/O Module		ZIPLink		
Combo Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-16CDD1	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
CO-16CDD2				
CO-08CDR	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *

CLICK PLC Analog I/O Module ZIPLink Selector				
I/O Module		ZIPLink		
Analog Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-04AD-1	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-04AD-2	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-04RTD	20	No ZIPLinks are available for RTD and thermocouple modules.		
CO-04THM	11			
CO-04DA-1	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-04DA-2	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-4AD2DA-1	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
CO-4AD2DA-2	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *

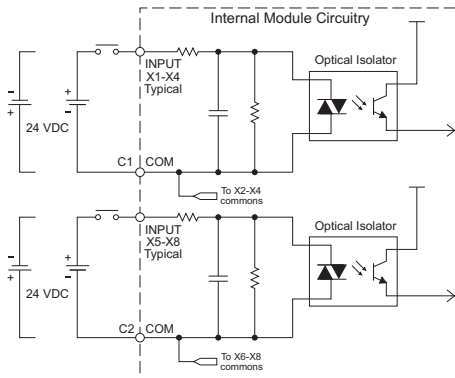
Basic PLC

CO-00DD1-D \$69.00

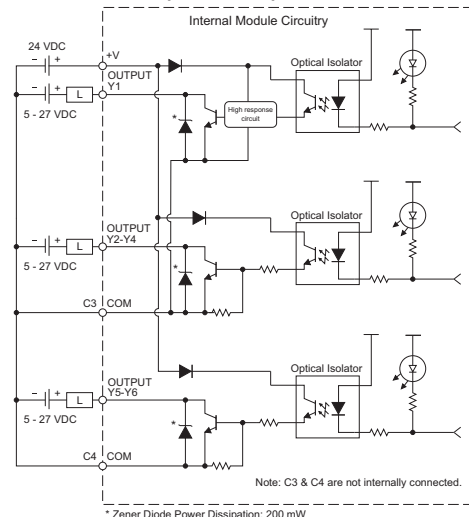
8 DC Input/6 Sinking DC Output Micro PLC



Equivalent Input Circuit



Equivalent Output Circuit



* Zener Diode Power Dissipation: 200 mW

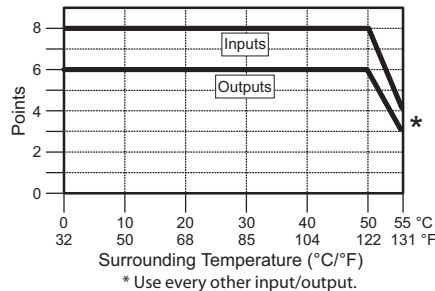
Wiring Diagram

Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-8: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-8: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-8: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-8: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-8: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6 (Sink)
Operating Voltage Range	5-27 VDC
Output Voltage Range	4-30VDC
Maximum Output Current	0.1 A/point; C3: 0.4 A/common, C4: 0.2 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Y1: typ 5 μs; max 20 μs Y2-6: < 0.5 ms
ON to OFF Response	Y1: typ 5 μs; max 20 μs Y2-6: < 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated
External DC Power Required	20-28 VDC Maximum @ 60mA (All Points On)

General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	CO-16TB
Weight	5.0 oz (140g)

CO-00DD1-D Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules



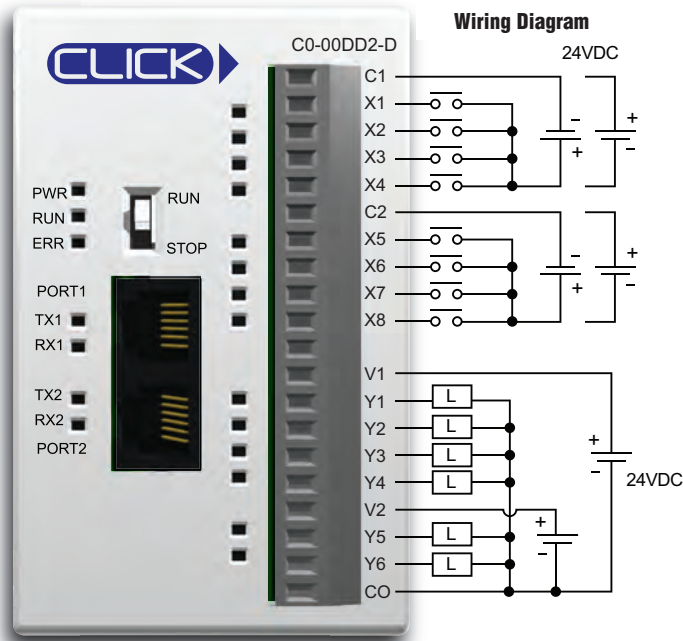
ZL-RTB20 20-pin feed-through connector module

20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

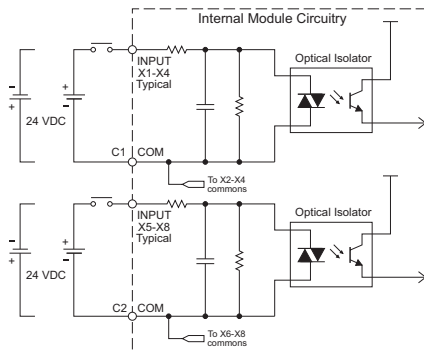
Basic PLC

CO-00DD2-D **\$69.00**

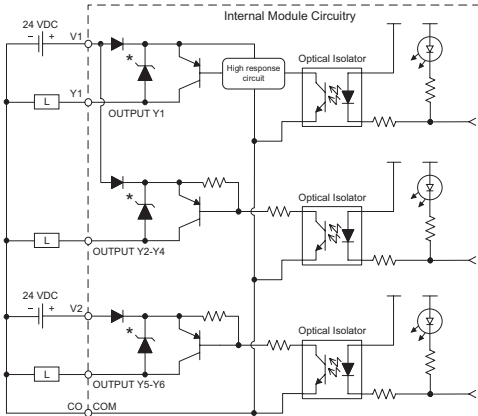
8 DC Input/6 Sourcing DC Output Micro PLC



Equivalent Input Circuit



Equivalent Output Circuit



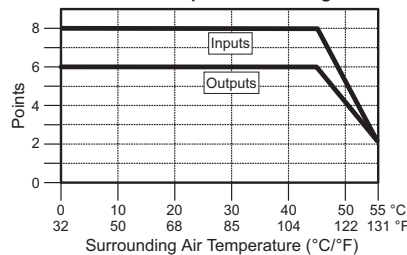
*Zener Diode Power Dissipation: 200 mW

Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-8: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-8: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-8: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-8: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-8: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs X3-8: typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs X3-8: typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	1 (6 points/common)

Built-in I/O Specifications - Outputs	
Outputs per Module	6 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2- 30VDC
Maximum Output Current	0.1 A/point, 0.6 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	Y1: 1.0 VDC @ 0.1 A Y2-6: 0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Y1: typ 5μs; max 20μs Y2-6: < 0.5 ms
ON to OFF Response	Y1: typ 5μs; max 20μs Y2-6: < 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	1 (6 points/common)

General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	CO-16TB
Weight	5.0 oz (140g)

CO-00DD2-D Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module

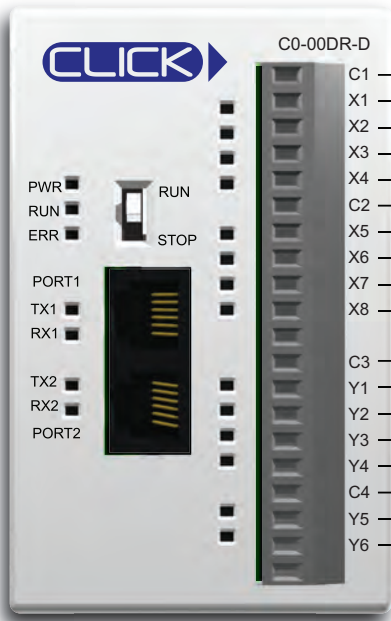


20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

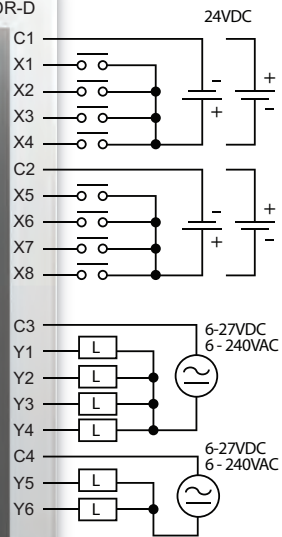
Basic PLC

CO-00DR-D \$86.00

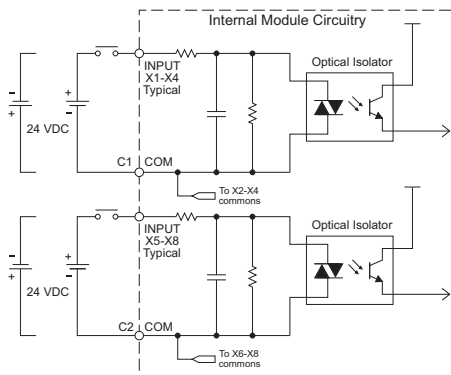
8 DC Input/6 Relay Output Micro PLC



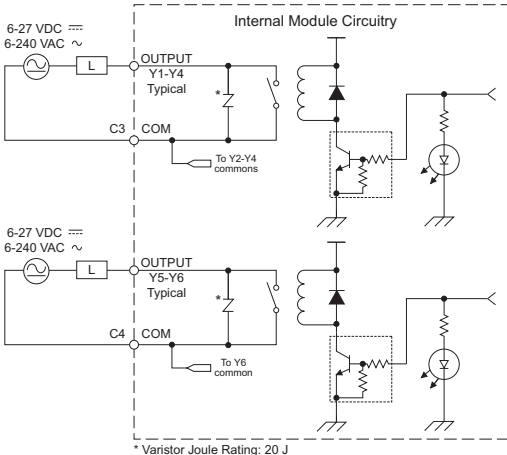
Wiring Diagram



Equivalent Input Circuit



Equivalent Output Circuit



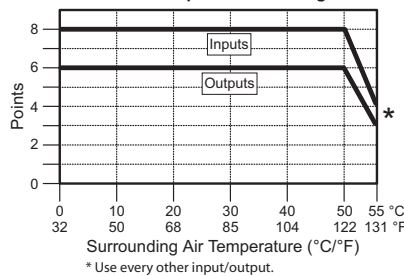
* Varistor Joule Rating: 20 J

Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-8: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-8: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-8: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-8: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-8: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz), 5-30VDC
Output Type	Relay, form A (SPST)
Maximum Current	1A/point; C3: 4A/common, C4: 2 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	CO-16TB
Weight	5.6 oz (160g)

CO-00DR-D Temperature Derating Chart



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1 A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
250VAC Resistive	500,000 cycles
250VAC Solenoid	200,000 cycles

ON to OFF = 1 cycle

ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module

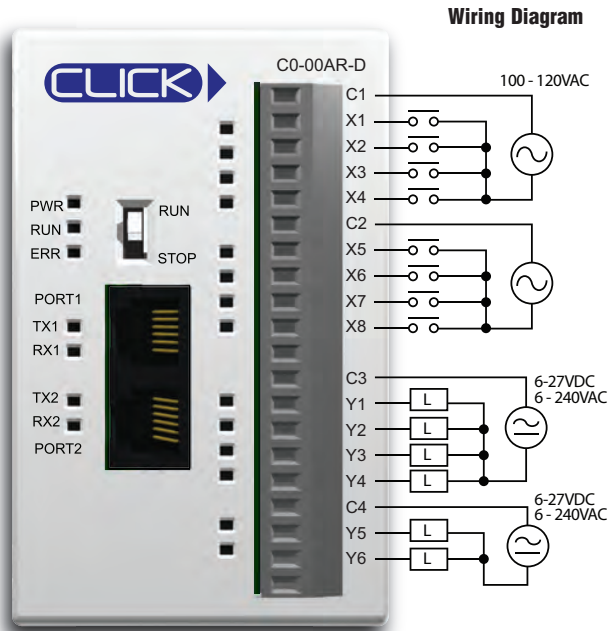


20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

Basic PLC

C0-00AR-D **\$86.00**

8 AC Input/6 Relay Output Micro PLC

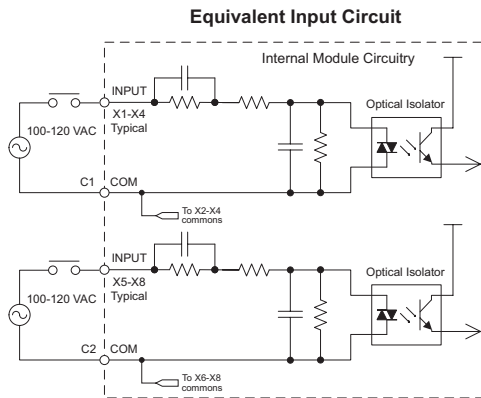


Wiring Diagram

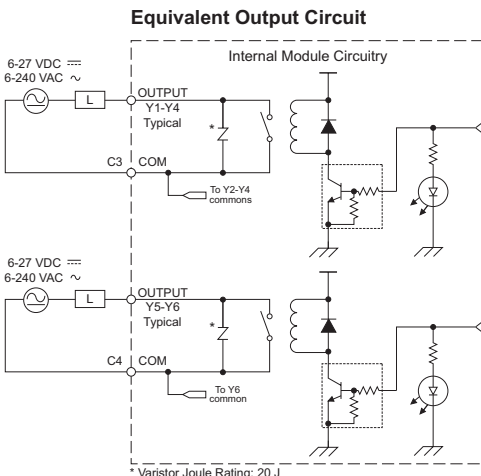
Built-in I/O Specifications - Inputs	
Inputs per Module	8
Operating Voltage Range	100-120 VAC
Input Voltage Range	80-144 VAC
AC Frequency	47-63 Hz
Input Current	8.5 mA @ 100VAC at 50Hz 10mA @ 100VAC at 60Hz
Maximum Input Current	16mA @ 144VAC at 55°C or 131°F
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	Max 40ms
ON to OFF Response	Max 40ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz) 5-30 VDC
Output Type	Relay, form A (SPDT)
Maximum Current	1 A/point; C3: 4 A/common, C4: 2 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

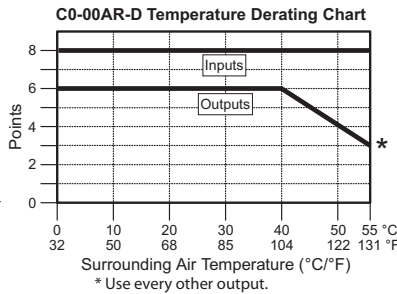
General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)



Equivalent Input Circuit



Equivalent Output Circuit



Typical Relay Life (Operations) at Room Temperature		
Voltage & Load Type	Load Current: 1 A	
30VDC Resistive	300,000 cycles	
30VDC Solenoid	50,000 cycles	
250VAC Resistive	500,000 cycles	
250VAC Solenoid	200,000 cycles	
ON to OFF = 1 cycle		

ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module

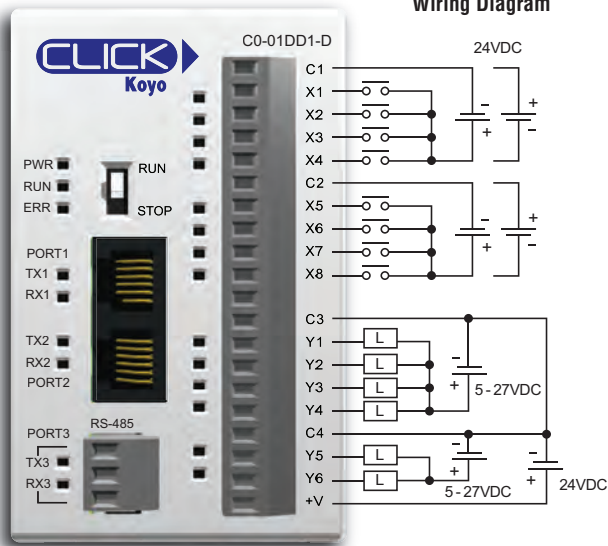


20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

Standard PLC

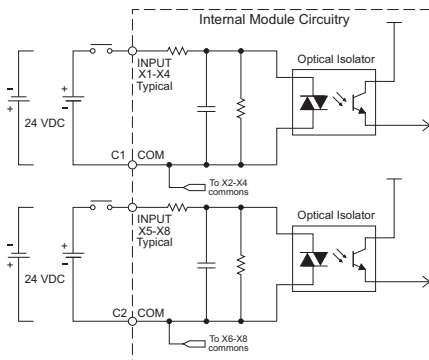
C0-01DD1-D \$105.00

8 DC Input/6 Sinking DC Output Micro PLC

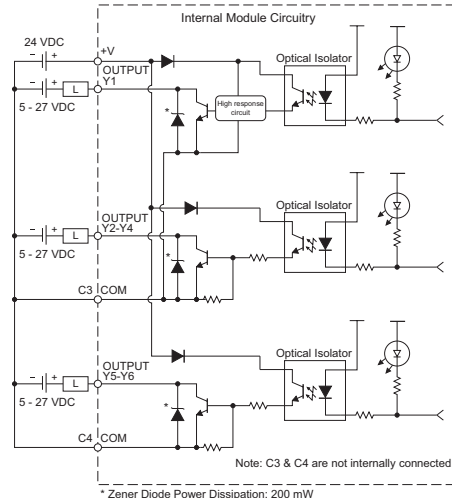


NOTE: When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

Equivalent Input Circuit



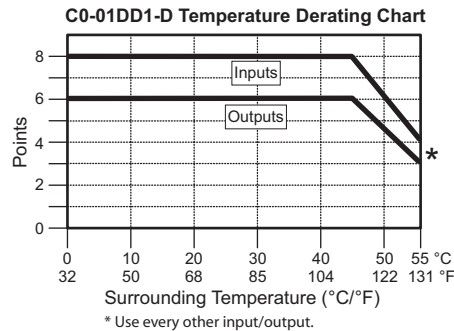
Equivalent Output Circuit



Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-8: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-8: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-8: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-8: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-8: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6 (Sink)
Operating Voltage Range	5–27 VDC
Output Voltage Range	4–30 VDC
Maximum Output Current	0.1 A/point; C3: 0.4 A/common, C4: 0.2 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Y1: typ 5μs; max 20μs Y2-6: < 0.5 ms
ON to OFF Response	Y1: typ 5μs; max 20μs Y2-6: < 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com)
External DC Power Required	20–28 VDC Maximum @ 60mA (All Points On)

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.0 oz (140g)



ZIPLink Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



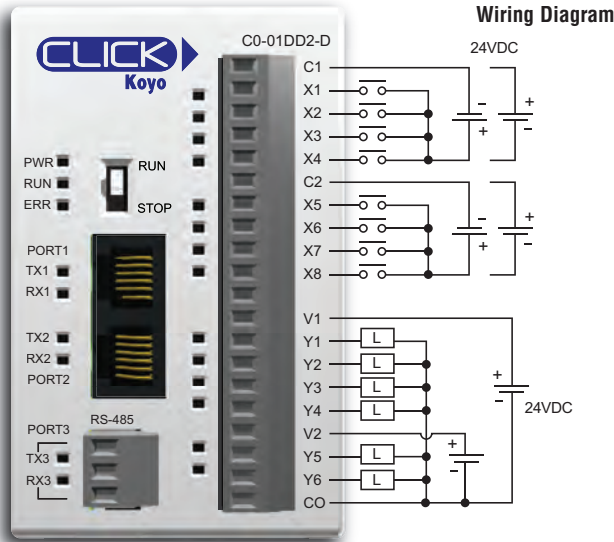
20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)



Standard PLC

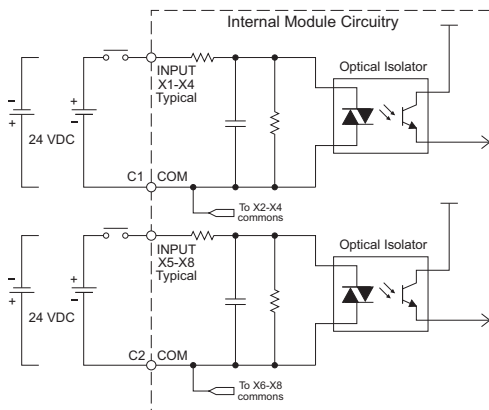
C0-01DD2-D \$105.00

8 DC Input/6 Sourcing DC Output Micro PLC

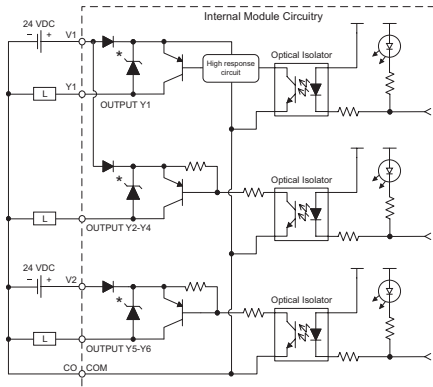


NOTE: When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

Equivalent Input Circuit



Equivalent Output Circuit



Built-in I/O Specifications - Inputs

Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-8: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-8: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-8: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-8: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-8: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

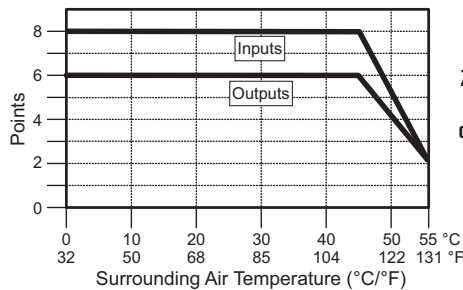
Built-in I/O Specifications - Outputs

Outputs per Module	6 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2-30 VDC
Maximum Output Current	0.1 A/point , 0.6 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	Y1: 1.0 VDC @ 0.1 A Y2-6: 0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Y1: typ 5μs; max 20μs Y2-6: < 0.5 ms
ON to OFF Response	Y1: typ 5μs; max 20μs Y2-6: < 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	1 (6 points/common)

General Specifications

Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.0 oz (140g)

C0-01DD2-D Temperature Derating Chart



Z/PLink Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



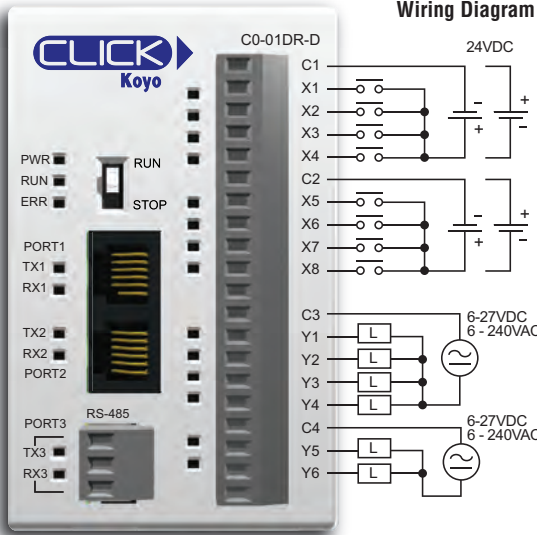
20-pin connector cable
 ZL-C0-CBL20 (0.5 m length)
 ZL-C0-CBL20-1 (1.0 m length)
 ZL-C0-CBL20-2 (2.0 m length)



Standard PLC

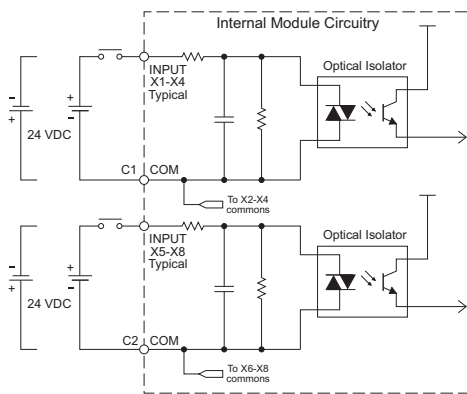
C0-01DR-D **\$117.00**

8 DC Input/6 Relay Output Micro PLC

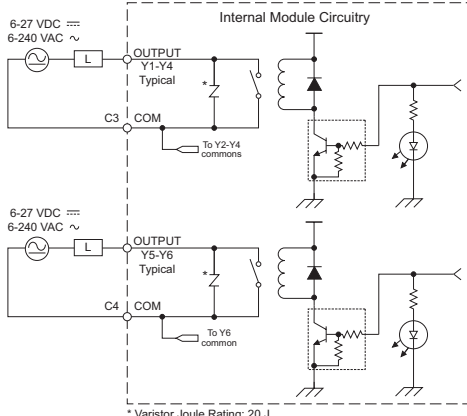


NOTE: When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

Equivalent Input Circuit

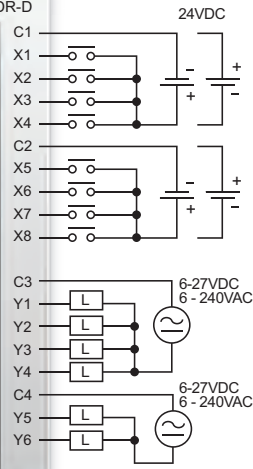


Equivalent Output Circuit



* Varistor Joule Rating: 20 J

Wiring Diagram



Built-in I/O Specifications - Inputs

Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-8: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-8: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-8: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-8: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-8: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs X3-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs

Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz), 5-30 VDC
Output Type	Relay, form A (SPST)
Maximum Current	1 A/point; C3: 4 A/common, C4: 2 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

General Specifications

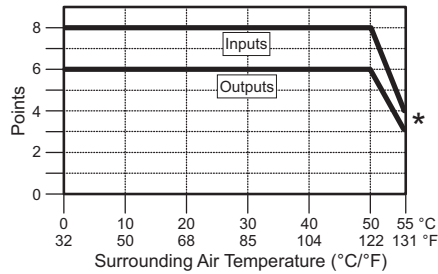
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)

Typical Relay Life (Operations) at Room Temperature

Voltage & Load Type	Relay Life
30VDC, 1A Resistive	300,000 cycles
30VDC, 1A Solenoid	50,000 cycles
250VAC, 1A Resistive	500,000 cycles
250VAC, 1A Solenoid	200,000 cycles

ON to OFF = 1 cycle

C0-01DR-D Temperature Derating Chart



* Use every other input/output.

ZL-RTB20
20-pin feed-through connector module



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

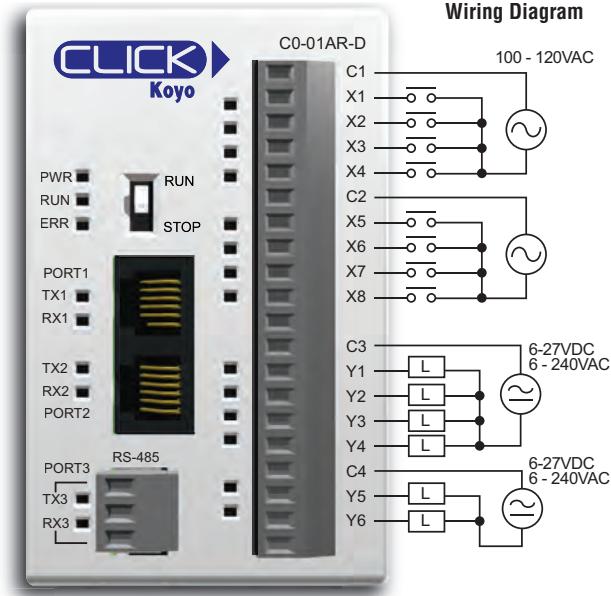
20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)



Standard PLC

C0-01AR-D \$117.00

8 AC Input/6 Relay Output Micro PLC

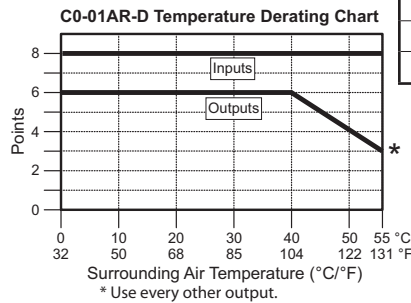
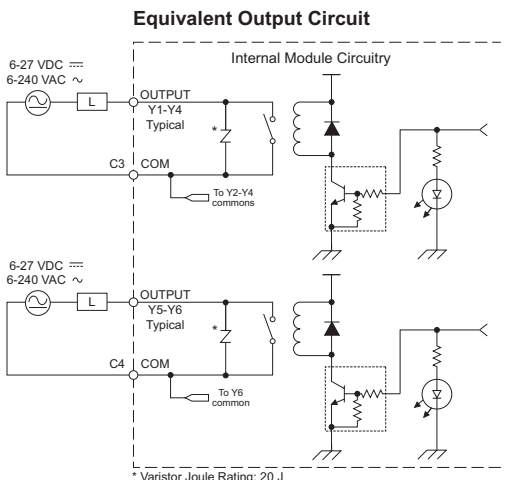
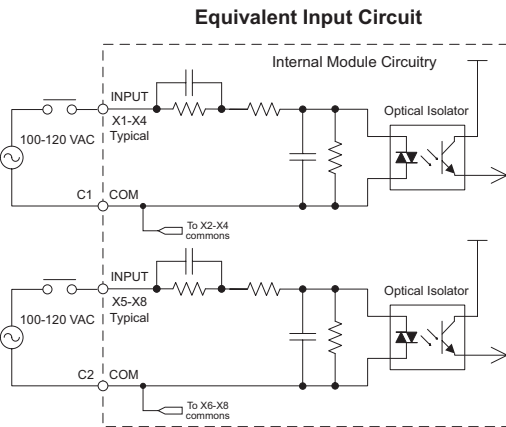


NOTE: When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

Built-in I/O Specifications - Inputs	
Inputs per Module	8
Operating Voltage Range	100-120 VAC
Input Voltage Range	80-144 VAC
AC Frequency	47-63 Hz
Input Current	8.5 mA @ 100VAC at 50Hz 10mA @ 100VAC at 60Hz
Maximum Input Current	16mA @ 144VAC
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	Max 40ms
ON to OFF Response	Max 40ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz), 5-30VDC
Output Type	Relay, form A (SPST)
Maximum Current	1 A/point; C3: 4A/common, C4: 2A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)



Typical Relay Life (Operations) at Room Temperature		
Voltage & Load Type	Relay Life	
30VDC, 1A Resistive	300,000 cycles	
30VDC, 1A Solenoid	50,000 cycles	
250VAC, 1A Resistive	500,000 cycles	
250VAC, 1A Solenoid	200,000 cycles	
ON to OFF = 1 cycle		

ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

ZL-RTB20
20-pin feed-through connector module



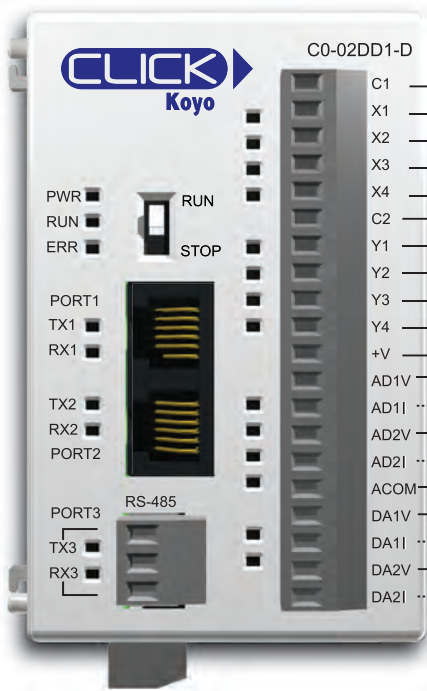
20-pin connector cable
ZL-CO-CBL20 (0.5 m length)
ZL-CO-CBL20-1 (1.0 m length)
ZL-CO-CBL20-2 (2.0 m length)



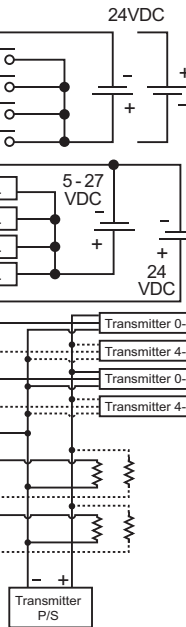
Analog PLC

C0-02DD1-D \$138.00

4 DC Input/4 Sinking DC Output; 2 Analog In/2 Analog Out Micro PLC



Wiring Diagram



See Discrete I/O Specifications - Inputs (X1 through X4)

See Discrete I/O Specifications - Outputs (Y1 through Y4)

See Analog I/O Specifications - Voltage & Current Input (AD1V through AD2I)

See Analog I/O Specifications - Voltage & Current Output (DA1V through DA2I)

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.3 oz (150g)



WARNING: You must use proper software and firmware for this PLC unit.

Serial Number	Software	Firmware
Before 171208001	V1.12 or later	V1.10 or later
171208001 or later	V2.10 or later	V2.10 or later

You can find the serial number on the bottom of the product label.

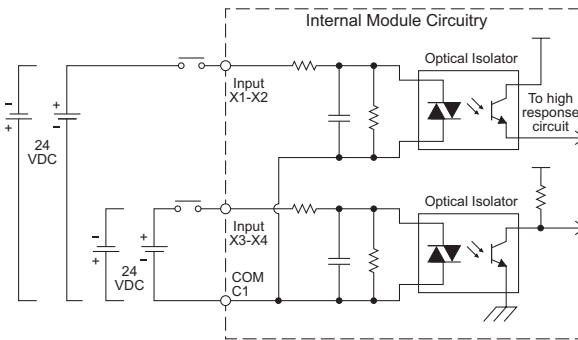
IMPORTANT: You can use only one terminal (voltage or current) per channel. You must also select the analog type (voltage or current) in the CPU built-in I/O setup in the CLICK programming software (pull-down menu Setup > CPU Built-in I/O Setup).

X1 - X4

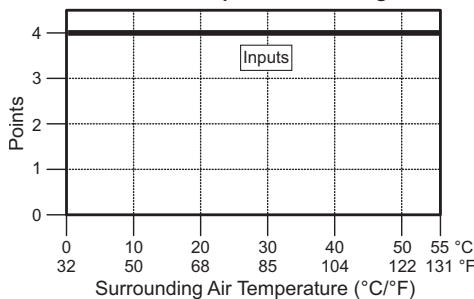
Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-4: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-4: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-4: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-4: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-4: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-4: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs* X3-4: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs* X3-4: Typ 3ms Max 10ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)

* Threshold level is 70% amplitude.

Equivalent Discrete Input Circuit



C0-02DD1-D Temperature Derating Chart



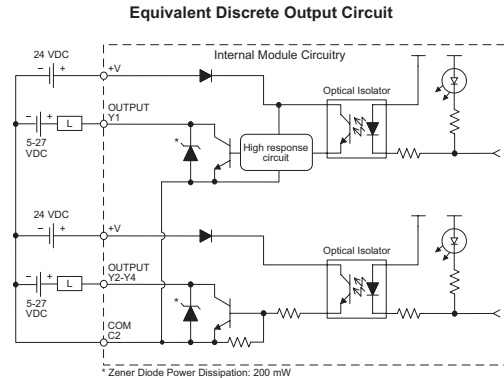
NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (Discrete I/O and analog I/O signals cannot be in the same ZIPLink cable).

Analog PLC

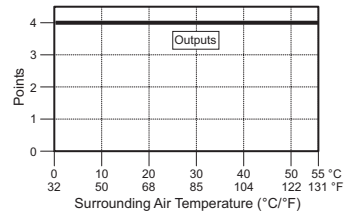
C0-02DD1-D (cont'd)

Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Sink)
Operating Voltage Range	5-27 VDC
Output Voltage Range	4-30 VDC
Maximum Output Current	0.1 A/point; 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Y1: typ 5µs; max 20µs; Y2-4: < 0.5 ms
ON to OFF Response	Y1: typ 5µs; max 20µs; Y2-4: < 0.5 ms
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)
External DC Power Required	20-28 VDC Maximum @ 60mA (all points on)



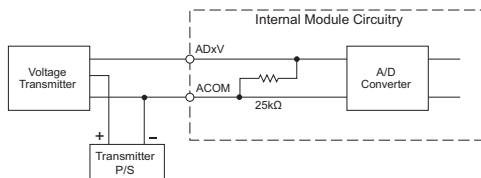
C0-02DD1-D Temperature Derating Chart



AD1V - AD2I

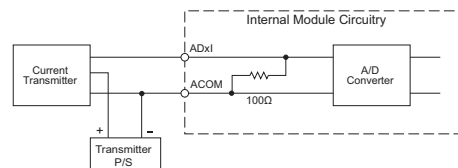
Analog Specifications - Voltage Input	
Number of Channels	2 (voltage/current selectable)
Input Range	0-5 VDC (6VDC Max.)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	25kΩ 150kΩ (Serial numbers prior to 171208001)
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±1.2% maximum
Offset Calibration Error	±5mV maximum
Accuracy vs Temperature Error	±100ppm / °C maximum

Analog Voltage Input Circuit



Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4-20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	100Ω 200Ω (Serial numbers prior to 171208001)
Input Stability	±2 LSB
Full-Scale Calibration Error	±1% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs Temperature Error	±100ppm / °C maximum

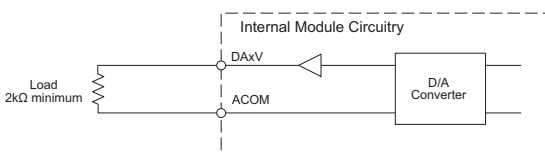
Analog Current Input Circuit



DA1V - DA2I

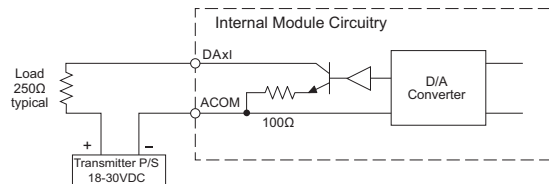
Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0-5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2kΩ minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	±0.8% maximum
Offset Calibration Error	±5mV maximum
Accuracy vs Temperature Error	±100ppm / °C maximum

Analog Voltage Output Circuit



Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4-20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18-30 V
Load Impedance	250 ohms Load Power Supply: DC 18V: 600Ω maximum DC 24V: 900Ω maximum DC 30V: 1200Ω maximum
Full-Scale Calibration Error	±1% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs Temperature Error	±100ppm / °C maximum

Analog Current Output Circuit

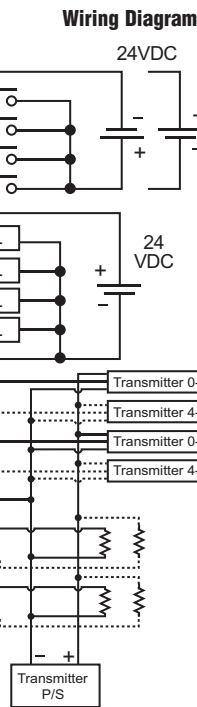
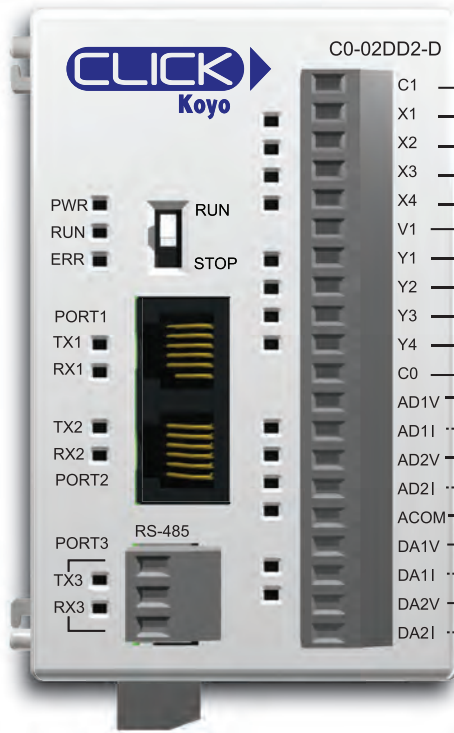


Analog PLC

C0-02DD2-D \$138.00

4 DC Input/4 Sourcing DC Output; 2 Analog In/2 Analog Out Micro PLC

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.3 oz (150g)



See Discrete I/O Specifications - Inputs (X1 through X4)

See Discrete I/O Specifications - Outputs (Y1 through Y4)

See Analog I/O Specifications - Voltage & Current Input (AD1V through AD2I)

See Analog I/O Specifications - Voltage & Current Output (DA1V through DA2I)



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (Discrete I/O and analog I/O signals cannot be in the same ZIPLink cable).



IMPORTANT: You can use only one terminal (voltage or current) per channel. You must also select the analog type (voltage or current) in the CPU built-in I/O setup in the CLICK programming software (pull-down menu Setup > CPU Built-in I/O Setup).



WARNING: You must use proper software and firmware for this PLC unit.

Serial Number	Software	Firmware
Before 174018001	V1.12 or later	V1.10 or later
174018001 or later	V2.10 or later	V2.10 or later

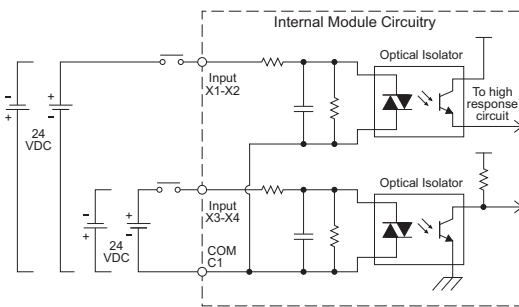
You can find the serial number on the bottom of the product label.

X1 - X4

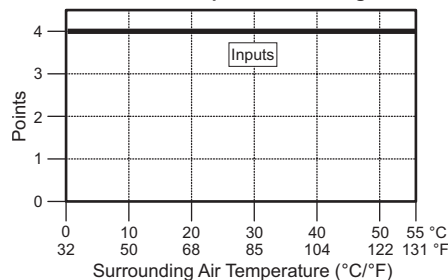
Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-4: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-4: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-4: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-4: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-4: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-4: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs* X3-4: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs* X3-4: Typ 3ms Max 10ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)

* Threshold level is 70% amplitude.

Equivalent Discrete Input Circuit



C0-02DD2-D Temperature Derating Chart



Analog PLC

C0-02DD2-D (cont'd)

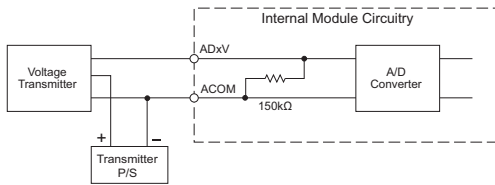
Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2–30 VDC
Maximum Output Current	0.1 A/point , 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	Y1 : 0.1 mA @ 30VDC; Y2-4 : 0.1 mA @ 30VDC
On Voltage Drop	Y1: 1VDC @ 0.1 A; Y2-4 : 0.5 VDC@ 0.1 mA
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Y1: typ 5µs; max 20µs; Y2-4: < 0.5 ms
ON to OFF Response	Y1: typ 5µs; max 20µs; Y2-4: < 0.5 ms
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)

AD1V - AD2I

Analog Specifications - Voltage Input	
Number of Channels	2 (voltage/current selectable)
Input Range	0–5 VDC (6 VDC Max.)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	25kΩ 150kΩ (Serial numbers prior to 174018001)
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±1.2% maximum
Offset Calibration Error	±5mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

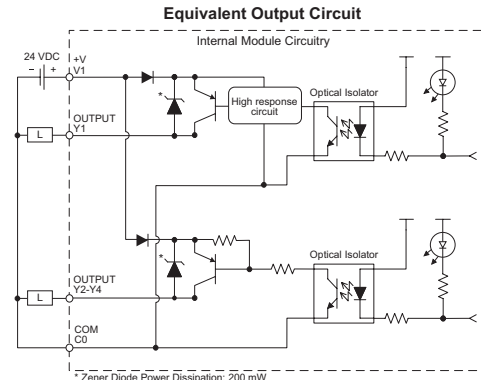
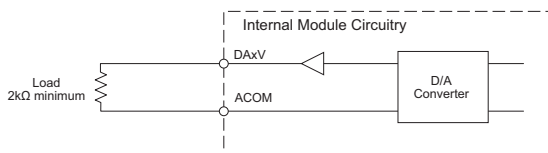
Analog Voltage Input Circuit



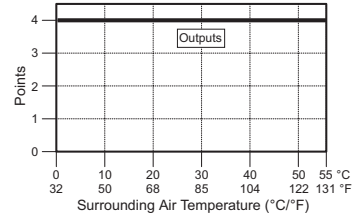
DA1V - DA2I

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0–5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2kΩ minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	±0.8% maximum
Offset Calibration Error	±5mV maximum
Accuracy vs Temperature Error	±100ppm / °C maximum

Analog Voltage Output Circuit

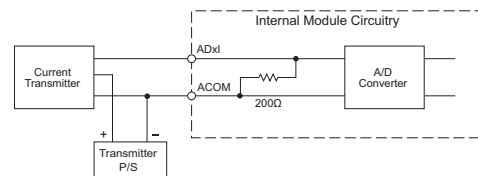


C0-02DD2-D Temperature Derating Chart



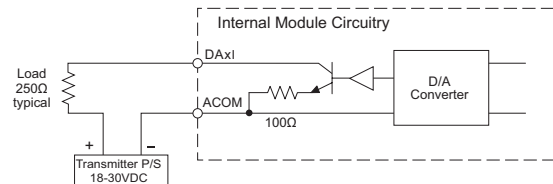
C0-02DD2-D Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	100kΩ 200kΩ (Serial numbers prior to 174018001)
Input Stability	±2 LSB
Full-Scale Calibration Error	±1% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs Temperature Error	±100 ppm / °C maximum

Analog Current Input Circuit



C0-02DD2-D Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18–30 V
Load Impedance	250Ω Load Power Supply: DC 18V: 600Ω maximum DC 24V: 900Ω maximum DC 30V: 1200Ω maximum
Full-Scale Calibration Error	±1% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs Temperature Error	±100ppm / °C maximum

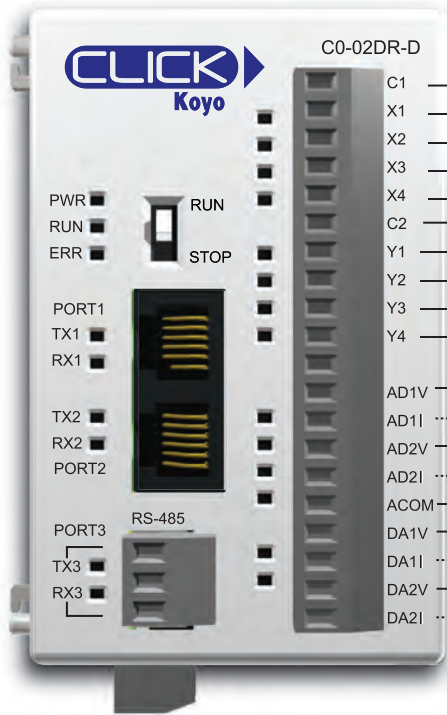
Analog Current Output Circuit



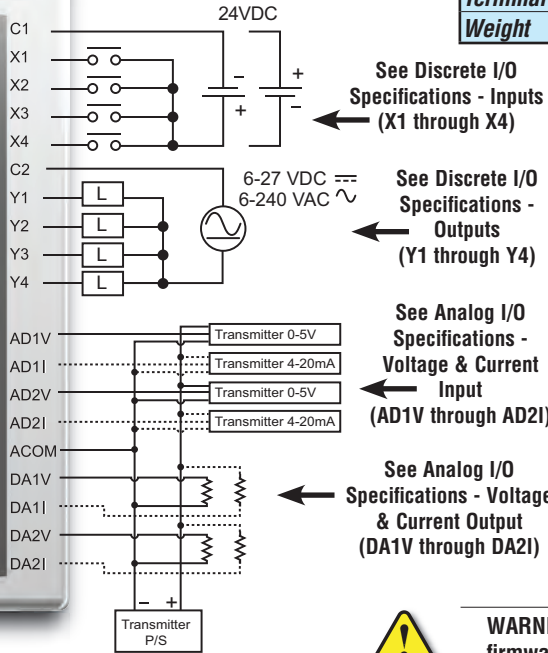
Analog PLC

C0-02DR-D \$148.00

4 DC Input/4 Relay Output; 2 Analog In/2 Analog Out Micro PLC



Wiring Diagram



See Discrete I/O Specifications - Inputs (X1 through X4)

See Discrete I/O Specifications - Outputs (Y1 through Y4)

See Analog I/O Specifications - Voltage & Current Input (AD1V through AD2I)

See Analog I/O Specifications - Voltage & Current Output (DA1V through DA2I)



WARNING: You must use proper software and firmware for this PLC unit.

General Specifications

Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)

Typical Relay Life (Operations) at Room Temperature

Voltage & Load Type	Load Current: 1A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (Discrete I/O and analog I/O signals cannot be in the same ZIPLink cable).

IMPORTANT: You can use only one terminal (voltage or current) per channel. You must also select the analog type (voltage or current) in the CPU built-in I/O setup in the CLICK programming software (pull-down menu Setup > CPU Built-in I/O Setup).

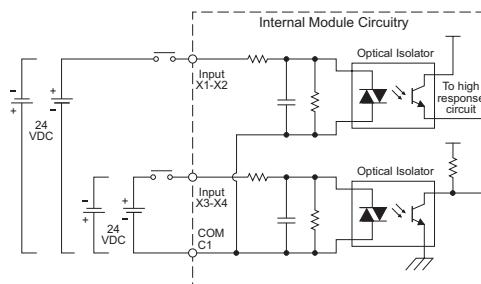
Serial Number	Software	Firmware
Before 173158001	V1.12 or later	V1.10 or later
173158001 or later	V2.10 or later	V2.10 or later
You can find the serial number on the bottom of the product label.		

X1 - X4

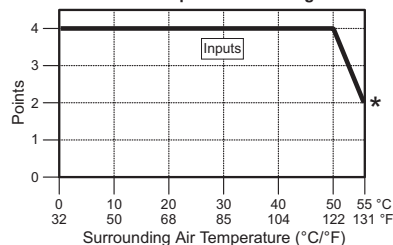
Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Source/Sink)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-4: Typ 4mA @ 24VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-4: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-4: > 19VDC
OFF Voltage Level	X1-2: < 4VDC X3-4: < 7VDC
Minimum ON Current	X1-2: 4.5 mA X3-4: 3.5 mA
Maximum OFF Current	X1-2: 0.1 mA X3-4: 0.5 mA
OFF to ON Response	X1-2: Typ 5μs Max 20μs* X3-4: Typ 2ms Max 10ms
ON to OFF Response	X1-2: Typ 5μs Max 20μs* X3-4: Typ 3ms Max 10ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)

* Threshold level is 70% amplitude.

Equivalent Discrete Input Circuit



C0-02DR-D Temperature Derating Chart



Analog PLC

C0-02DR-D (cont'd)

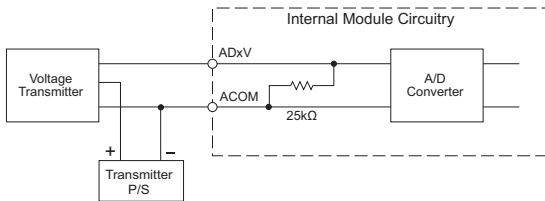
Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6-27 VDC6 (-15%/+10%)/ 6-240 VAC (-10%/+10%)
Output Type	Relay, form A (SPST)
AC Frequency	47-63 Hz
Maximum Current	1A/point
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/common)
Fuse	None

AD1V - AD2I

Analog Specifications - Voltage Input	
Number of Channels	2 (voltage/current selectable)
Input Range	0-5 VDC (6VDC Max.)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	25kΩ 150kΩ (Serial numbers prior to 173158001)
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	± 1.2% maximum
Offset Calibration Error	± 5mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

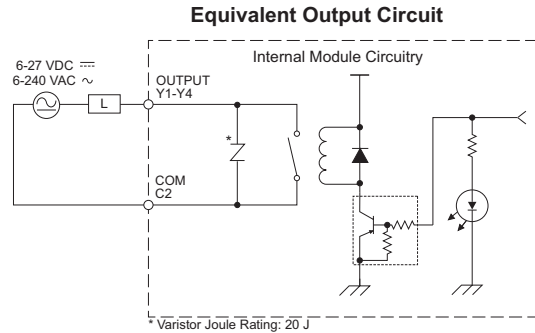
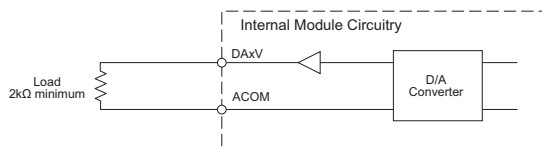
Analog Voltage Input Circuit



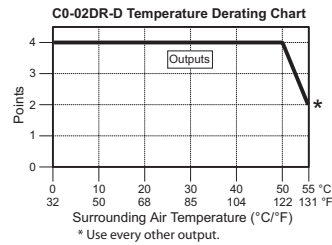
DA1V - DA2I

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0-5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2kΩ minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	±0.8% maximum
Offset Calibration Error	±5mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

Analog Voltage Output Circuit

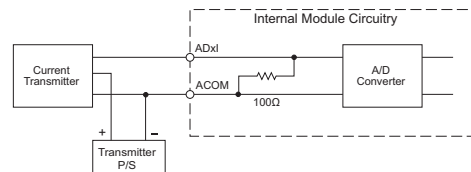


This circuit does not contain built-in protection. Install protection elements such as a fuse outside the module if necessary.



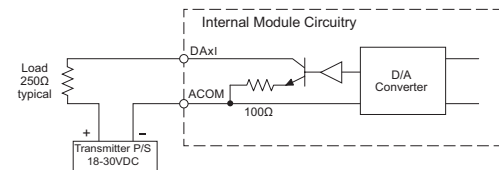
Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4-20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	100Ω 200Ω (Serial numbers prior to 173158001)
Input Stability	± 2 LSB
Full-Scale Calibration Error	± 1% maximum
Offset Calibration Error	± 0.1 mA maximum
Accuracy vs. Temperature Error	± 100ppm / °C maximum

Analog Current Input Circuit



Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4-20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18-30 V
Load Impedance	250Ω Load Power Supply: DC 18V: 600Ω maximum DC 24V: 900Ω maximum DC 30V: 1200Ω maximum
Full-Scale Calibration Error	±1% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

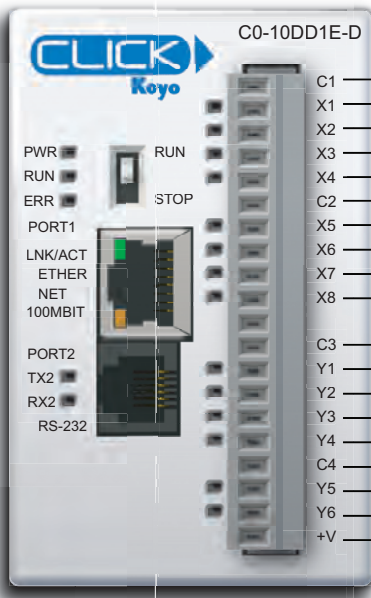
Analog Current Output Circuit



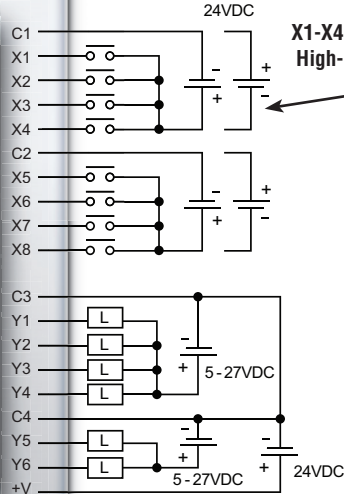
Ethernet Basic PLC

C0-10DD1E-D \$138.00

8 DC Input/6 Sinking DC Output Micro PLC



Wiring Diagram



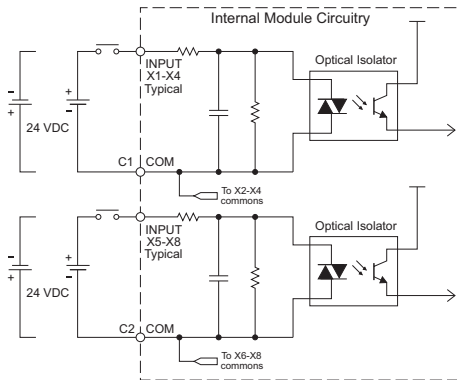
Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	X1-4: Typ 6.5 mA @ 24VDC X5-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-4: 7.0 mA @ 26.4 VDC X5-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-4: 3.9 kΩ @ 24VDC X5-8: 6.8 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	X1-4: < 2VDC X5-8: < 7VDC
Minimum ON Current	X1-4: 4.5 mA X5-8: 3.5 mA
Maximum OFF Current	X1-4: 0.5 mA X5-8: 1.5 mA
OFF to ON Response	X1-4: Typ 3μs Max 5μs X5-8: Typ 2ms Max 10ms
ON to OFF Response	X1-4: Typ 1μs Max 3μs X5-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6 (Sink)
Operating Voltage Range	5–27 VDC
Output Voltage Range	4–30 VDC
Maximum Output Current	0.1 A/point; C3: 0.4 A/common, C4: 0.2 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.5 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Max. 0.5 ms
ON to OFF Response	Max. 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com)
External DC Power Required	20–28 VDC Maximum @ 60mA (All Points On)

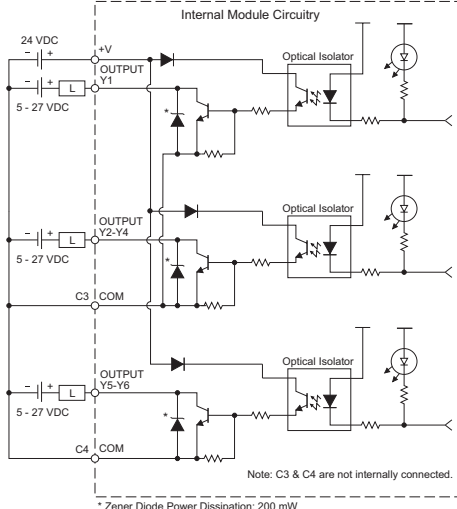
General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.0 oz (140g)

NOTE: When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

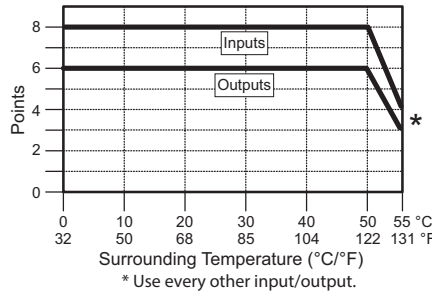
Equivalent Input Circuit



Equivalent Output Circuit



C0-10DD1E-D Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules



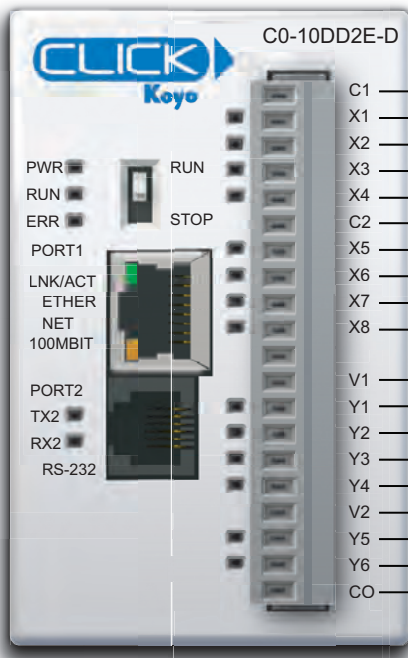
ZL-RTB20 20-pin feed-through connector module

20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

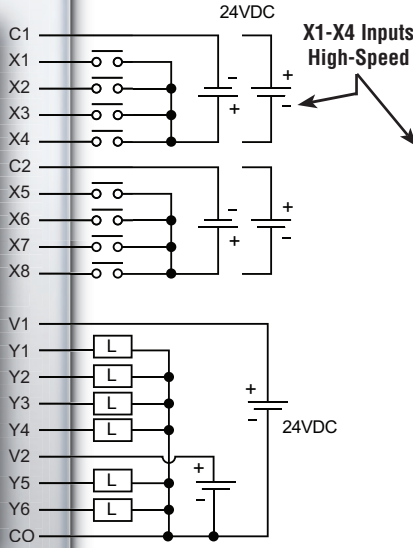
Ethernet Basic PLC

C0-10DD2E-D \$138.00

8 DC Input/6 Sourcing DC Output Micro PLC



Wiring Diagram



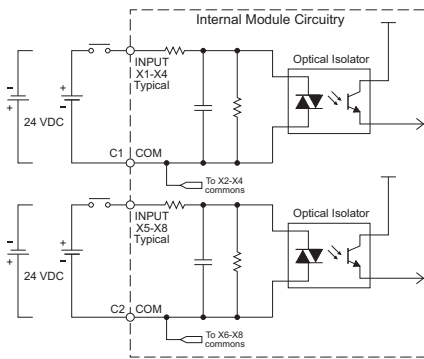
Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	X1-4: Typ 6.5 mA @ 24VDC X5-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-4: 7.0 mA @ 26.4 VDC X5-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-4: 3.9 kΩ @ 24VDC X5-8: 6.8 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	X1-4: < 2VDC X5-8: < 7VDC
Minimum ON Current	X1-4: 4.5 mA X5-8: 3.5 mA
Maximum OFF Current	X1-4: 0.5 mA X5-8: 1.5 mA
OFF to ON Response	X1-4: Typ 3μs Max 5μs X5-8: Typ 2ms Max 10ms
ON to OFF Response	X1-4: Typ 1μs Max 3μs X5-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2–30 VDC
Maximum Output Current	0.1 A/point , 0.6 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Max. 0.5 ms
ON to OFF Response	Max 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	1 (6 points/common)

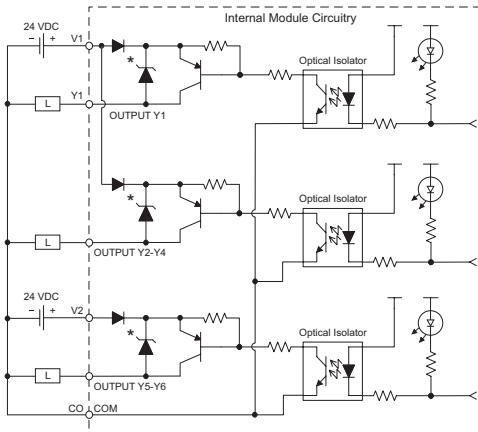
General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.0 oz (140g)

NOTE: When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

Equivalent Input Circuit

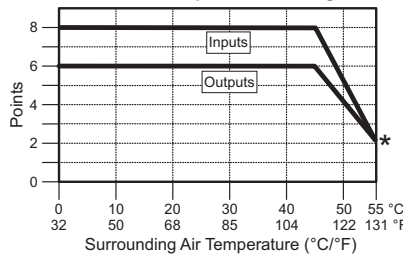


Equivalent Output Circuit



*Zener Diode Power Dissipation: 200 mW

C0-10DD2E-D Temperature Derating Chart



* Use every other input/output.

ZiLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module

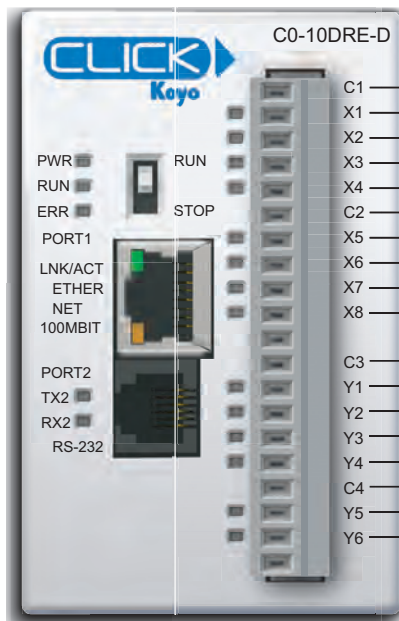


20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

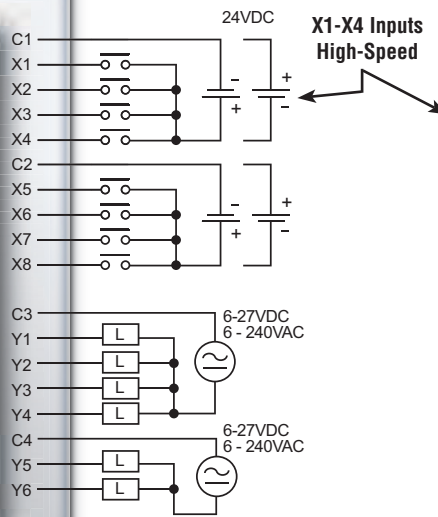
Ethernet Basic PLC

C0-10DRE-D \$148.00

8 DC Input/6 Relay Output Micro PLC



Wiring Diagram



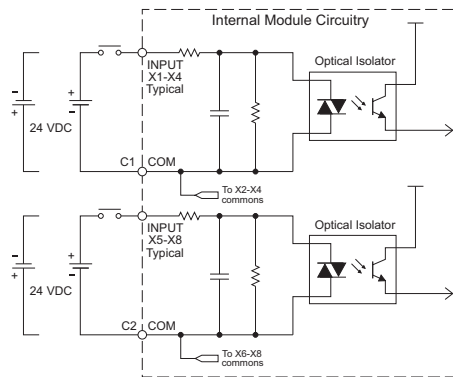
Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-4: Typ 6.5 mA @ 24VDC X5-8: Typ 4mA @ 24VDC
Maximum Input Current	X1-4: 7.0 mA @ 26.4 VDC X5-8: 5.0 mA @ 26.4 VDC
Input Impedance	X1-4: 3.9 kΩ @ 24VDC X5-8: 6.8 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	X1-4: < 2VDC X5-8: < 7VDC
Minimum ON Current	X1-4: 4.5 mA X5-8: 3.5 mA
Maximum OFF Current	X1-4: 0.5 mA X5-8: 1.5 mA
OFF to ON Response	X1-4: Typ 3µs Max 5µs X5-8: Typ 2ms Max 10ms
ON to OFF Response	X1-4: Typ 1µs Max 3µs X5-8: Typ 3ms Max 10ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz), 5-30VDC
Output Type	Relay, form A (SPST)
Maximum Current	1 A/point; C3: 4 A/common, C4: 2 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

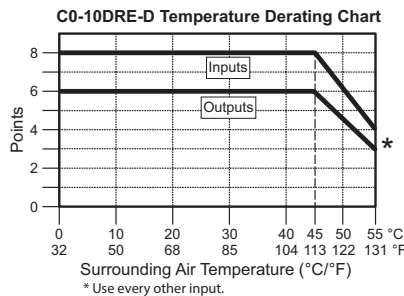
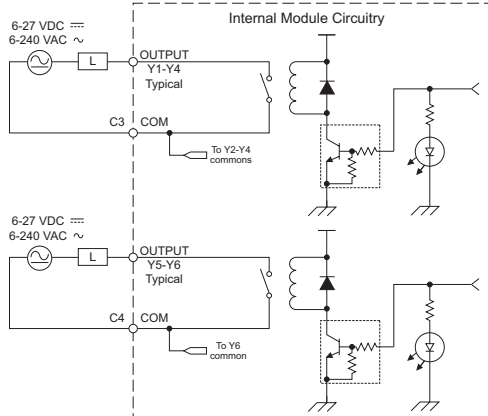
General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)

NOTE: When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

Equivalent Input Circuit



Equivalent Output Circuit



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
30VDC 1A Resistive	300,000 cycles
30VDC 1A Solenoid	50,000 cycles
250VAC 1A Resistive	500,000 cycles
250VAC 1A Solenoid	200,000 cycles

ON to OFF = 1 cycle

ZIPLink Pre-Wired PLC Connection Cables and Modules



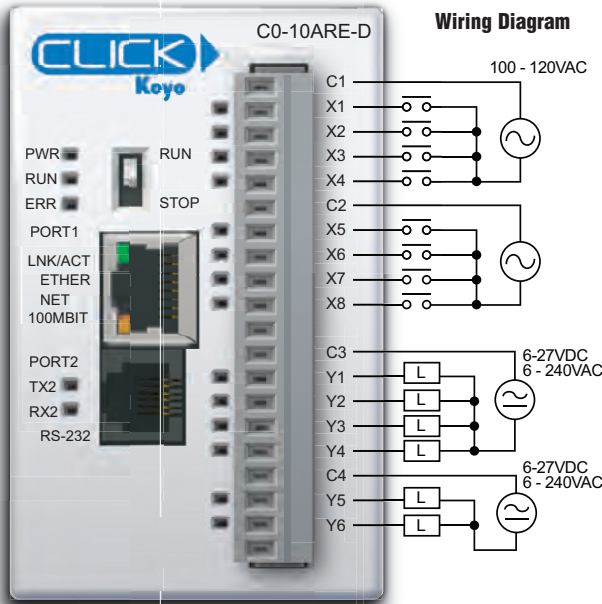
ZL-RTB20 20-pin feed-through connector module

20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

Ethernet Basic PLC

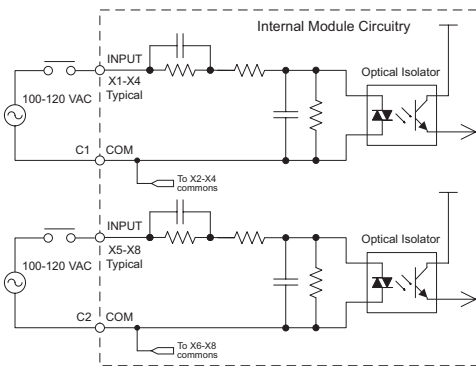
C0-10ARE-D **\$148.00**

8 AC Input/6 Relay Output Micro PLC

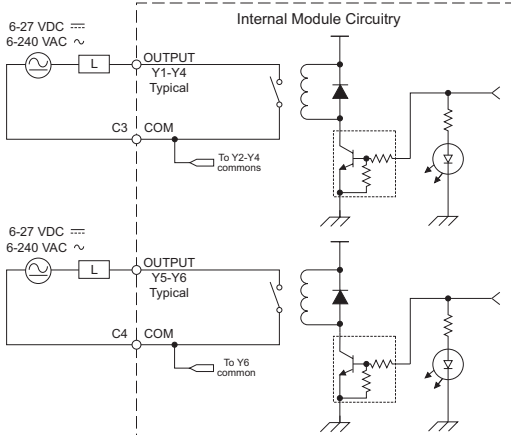


NOTE: When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

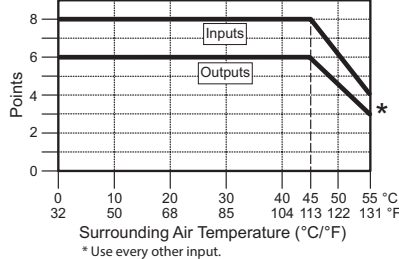
Equivalent Input Circuit



Equivalent Output Circuit



C0-10ARE-D Temperature Derating Chart



Built-in I/O Specifications - Inputs	
Inputs per Module	8
Operating Voltage Range	100-120 VAC
Input Voltage Range	80-144 VAC
AC Frequency	47-63 Hz
Input Current	8.5 mA @ 100VAC at 50Hz 10mA @ 100VAC at 60Hz
Maximum Input Current	16mA @ 144VAC at 55°C or 131°F
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	< 40ms
ON to OFF Response	< 40ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz) 5-30 VDC
Output Type	Relay, form A (SPDT)
Maximum Current	1 A/point; C3: 4 A/common, C4: 2 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)

Typical Relay Life (Operations) at Room Temperature		
Voltage & Load Type	Relay Life	
30VDC, 1A Resistive	300,000 cycles	
30VDC, 1A Solenoid	50,000 cycles	
250VAC, 1A Resistive	500,000 cycles	
250VAC, 1A Solenoid	200,000 cycles	
ON to OFF = 1 cycle		

ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module

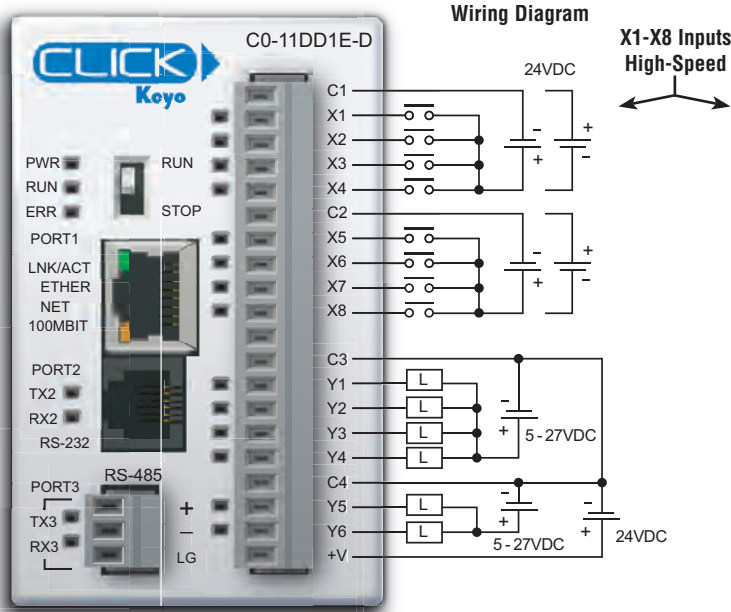


20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

Ethernet Standard PLC

C0-11DD1E-D \$160.00

8 DC Input/6 Sinking DC Output Micro PLC



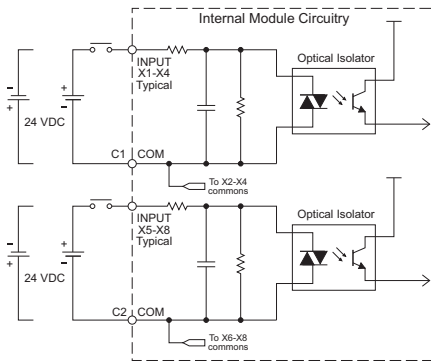
Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X8: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs Max 5μs
ON to OFF Response	Typ 1μs Max 3μs
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	5-27 VDC
Output Voltage Range	4-30 VDC
Maximum Output Current	0.1 A/point; C3: 0.4 A/common, C4: 0.2 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Max. 0.5 ms
ON to OFF Response	Max. 0.5 ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com)
External DC Power Required	20-28 VDC Maximum @ 60mA (All Points On)

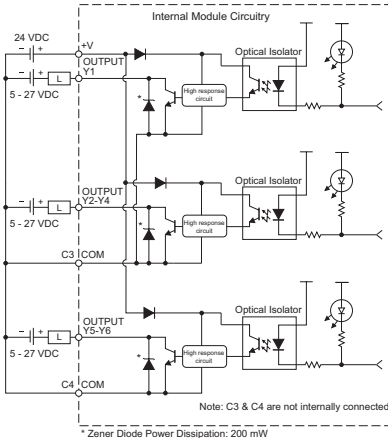


NOTE: When using Ethernet Standard PLCs, you must use CLICK programming software version V2.00 or later.

Equivalent Input Circuit



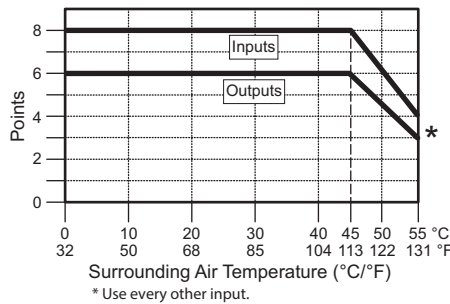
Equivalent Output Circuit



Note: C3 & C4 are not internally connected.
* Zener Diode Power Dissipation: 200 mW

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.0 oz (140g)

C0-11DD1E-D Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



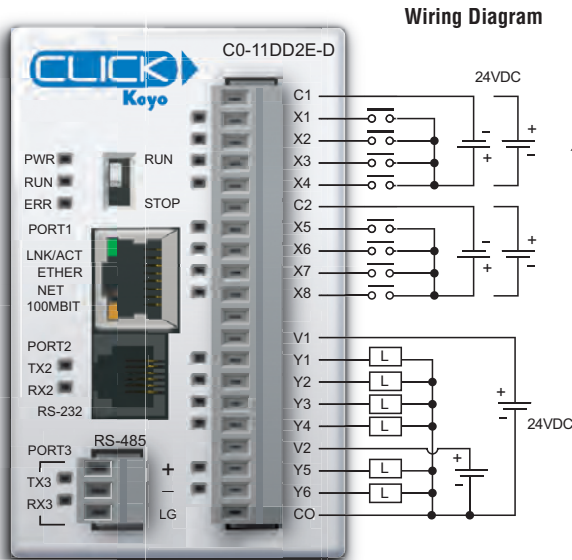
20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)



Ethernet Standard PLC

C0-11DD2E-D \$160.00

8 DC Input/6 Sourcing DC Output Micro PLC



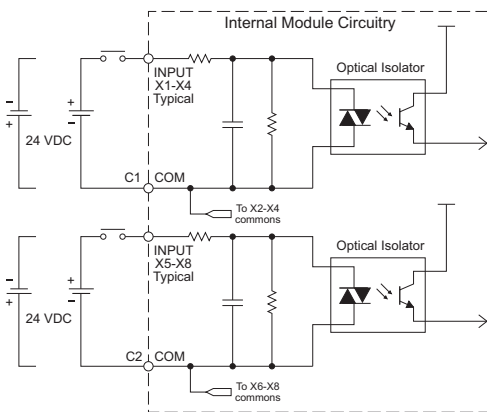
X1-X8 Inputs High-Speed

Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X8: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs Max 5μs
ON to OFF Response	Typ 1μs Max 3μs
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

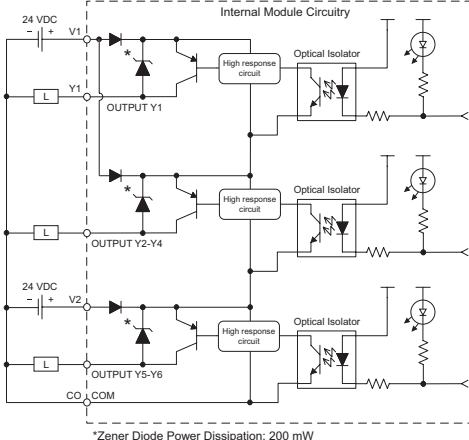
Built-in I/O Specifications - Outputs	
Outputs per Module	6 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2–30 VDC
Maximum Output Current	0.1 A/point, 0.6 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	Max. 0.5 μs
ON to OFF Response	Max. 0.5 μs
Status Indicators	Logic Side (6 points, red LED)
Commons	1 (6 points/common)

NOTE: When using Ethernet Standard PLCs, you must use CLICK programming software version V2.00 or later.

Equivalent Input Circuit



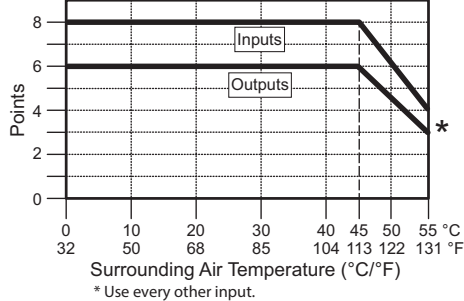
Equivalent Output Circuit



*Zener Diode Power Dissipation: 200 mW

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	CO-16TB
Weight	5.0 oz (140g)

C0-11DD2E-D Temperature Derating Chart



Z/Link Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



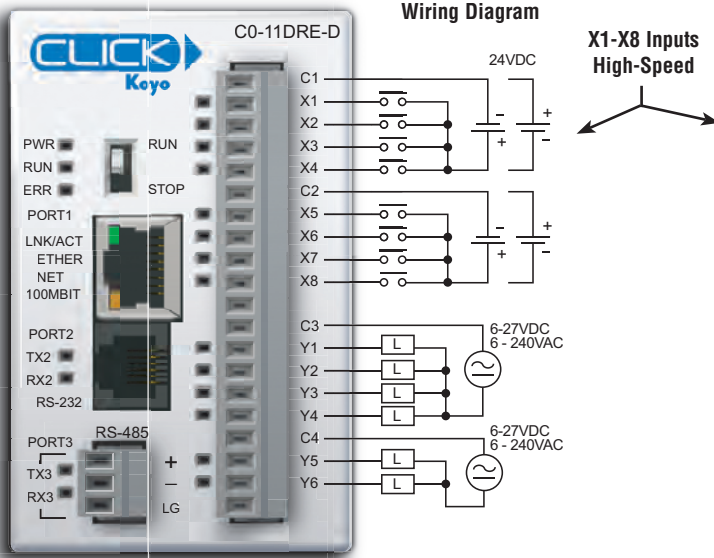
20-pin connector cable
 ZL-C0-CBL20 (0.5 m length)
 ZL-C0-CBL20-1 (1.0 m length)
 ZL-C0-CBL20-2 (2.0 m length)



Ethernet Standard PLC

C0-11DRE-D **\$170.00**

8 DC Input/6 Relay Output Micro PLC



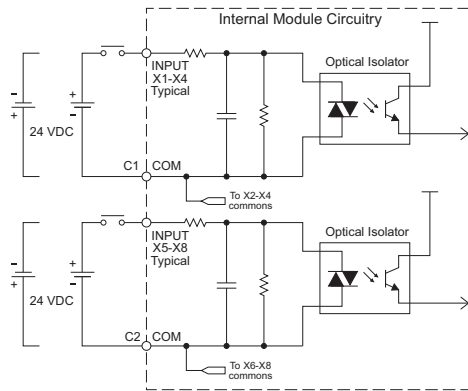
NOTE: When using Ethernet Standard PLCs, you must use CLICK programming software version V2.00 or later.

Built-in I/O Specifications - Inputs	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X8: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs Max 5μs
ON to OFF Response	Typ 1μs Max 3μs
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

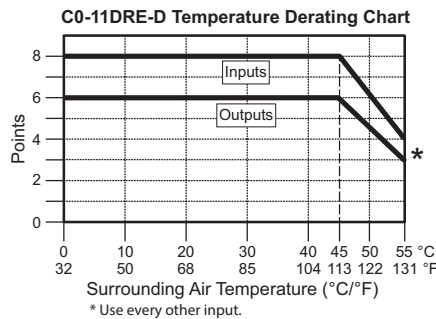
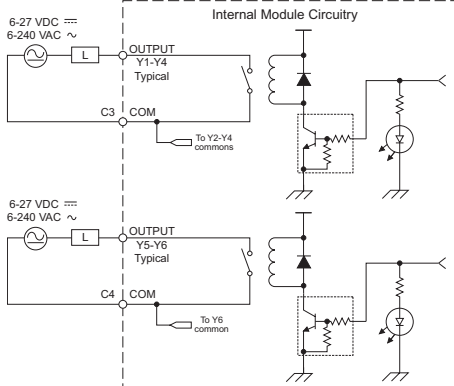
Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz), 5-30 VDC
Output Type	Relay, form A (SPST)
Maximum Current	1 A/point; C3: 4 A/common, C4: 2 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)

Equivalent Input Circuit



Equivalent Output Circuit



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
30VDC, 1A Resistive	300,000 cycles
30VDC, 1A Solenoid	50,000 cycles
250VAC, 1A Resistive	500,000 cycles
250VAC, 1A Solenoid	200,000 cycles

ON to OFF = 1 cycle

ZL-RTB20
20-pin feed-through connector module



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

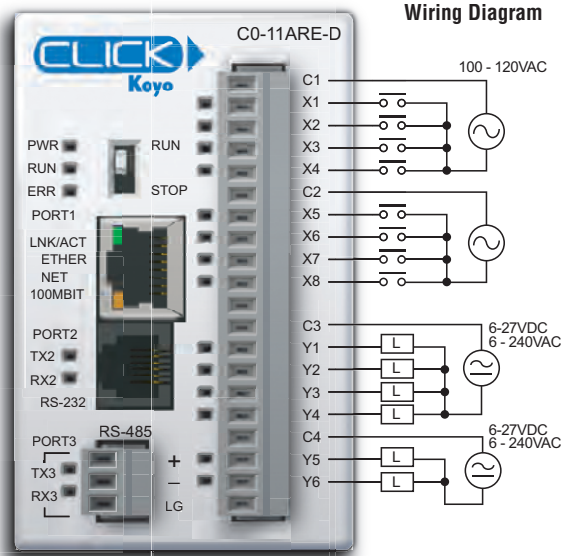
20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)



Ethernet Standard PLC

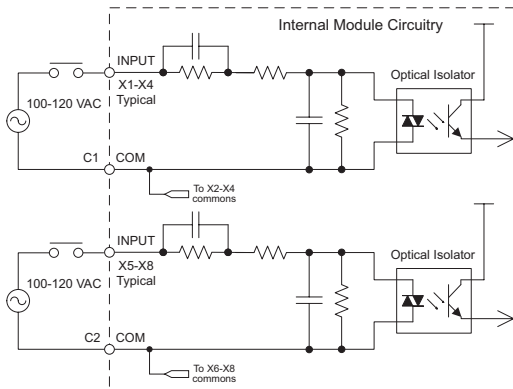
C0-11ARE-D \$170.00

8 AC Input/6 Relay Output Micro PLC

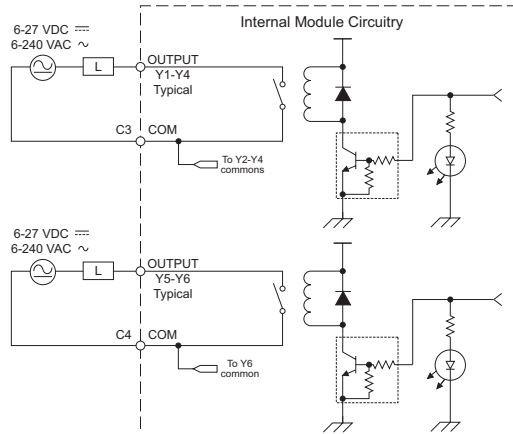


NOTE: When using Ethernet Standard PLCs, you must use CLICK programming software version V2.00 or later.

Equivalent Input Circuit



Equivalent Output Circuit



Built-in I/O Specifications - Inputs	
Inputs per Module	8
Operating Voltage Range	100-120 VAC
Input Voltage Range	80-144 VAC
AC Frequency	47-63 Hz
Input Current	8.5 mA @ 100VAC at 50Hz 10mA @ 100VAC at 60Hz
Maximum Input Current	16mA @ 144VAC
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	< 40ms
ON to OFF Response	< 40ms
Status Indicators	Logic Side (8 points, green LED)
Commons	2 (4 points/common) Isolated

Built-in I/O Specifications - Outputs	
Outputs per Module	6
Operating Voltage Range	6-240 VAC (47-63 Hz), 6-27 VDC
Output Voltage Range	5-264 VAC (47-63 Hz), 5-30 VDC
Output Type	Relay, form A (SPST)
Maximum Current	1 A/point; C3: 4A/common, C4: 2A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (6 points, red LED)
Commons	2 (4 points/com & 2 points/com) Isolated

General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)

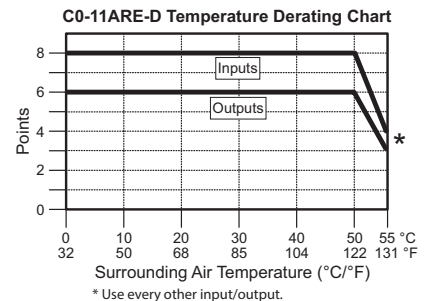
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
30VDC, 1A Resistive	300,000 cycles
30VDC, 1A Solenoid	50,000 cycles
250VAC, 1A Resistive	500,000 cycles
250VAC, 1A Solenoid	200,000 cycles
ON to OFF = 1 cycle	

Z/Link Pre-Wired PLC Connection Cables and Modules for CLICK PLC

- 20-pin connector cable
- ZL-C0-CBL20 (0.5 m length)
- ZL-C0-CBL20-1 (1.0 m length)
- ZL-C0-CBL20-2 (2.0 m length)



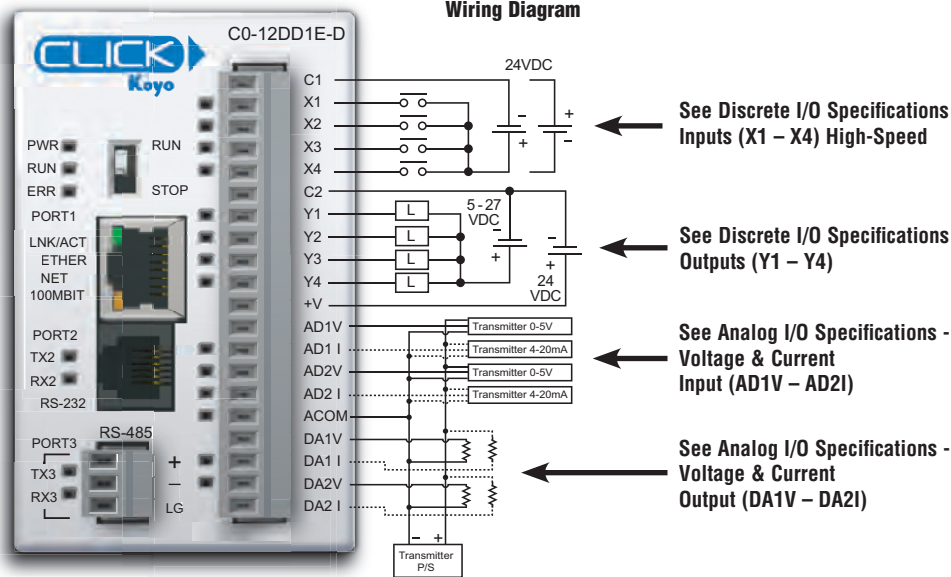
ZL-RTB20
20-pin feed-through connector module



Ethernet Analog PLC

C0-12DD1E-D \$191.00

**4 DC Input (Sink/Source)/4 Sinking DC Output;
2 Analog Voltage/Current Input
2 Analog Voltage/Current Output Micro PLC**



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.

IMPORTANT: USE ONLY ONE TERMINAL (VOLTAGE OR CURRENT) PER CHANNEL. YOU MUST ALSO SELECT THE ANALOG TYPE (VOLTAGE OR CURRENT) IN THE CPU BUILT-IN I/O SETUP IN THE CLICK PROGRAMMING SOFTWARE (PULL-DOWN MENU SETUP > CPU BUILT-IN I/O SETUP).

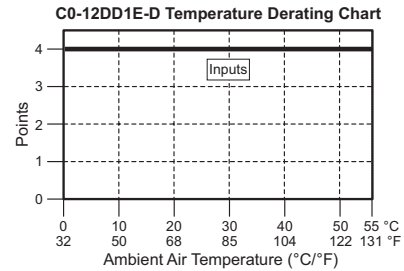
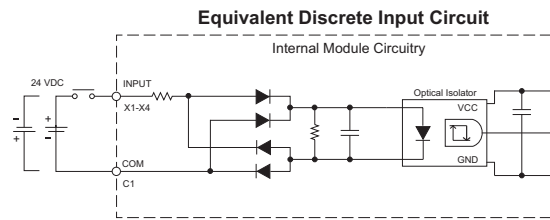
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.1 oz (145g)

Ethernet Analog PLC

C0-12DD1E-D (cont'd)

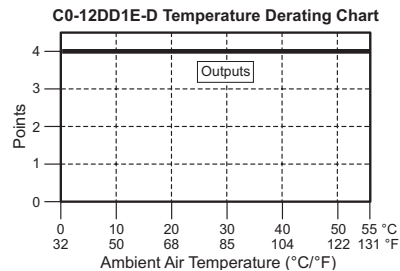
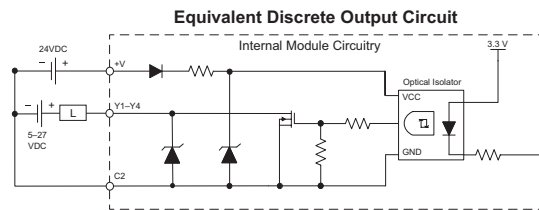
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs Max 5μs
ON to OFF Response	Typ 1μs Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Sink)
Operating Voltage Range	5–27 VDC
Maximum Output Current	0.1 A/point; 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 5μs
ON to OFF Response	< 5μs
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)
External DC Power Required	20–28 VDC Maximum @ 60mA (all points on)



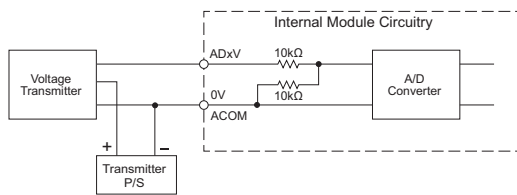
Ethernet Analog PLC

C0-12DD1E-D (cont'd)

AD1V - AD2V

Analog Specifications - Voltage Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	0–5 VDC (6VDC Max.)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	20k Ω
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

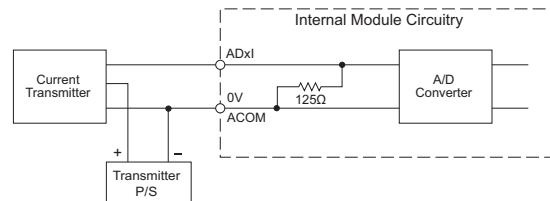
Analog Voltage Input Circuit



AD1I - AD2I

Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125 Ω
Input Stability	± 2 LSB
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 0.1 mA maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

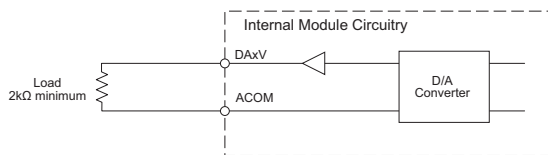
Analog Current Input Circuit



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0–5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2k Ω minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs Temperature Error	± 100 ppm / $^{\circ}$ C maximum

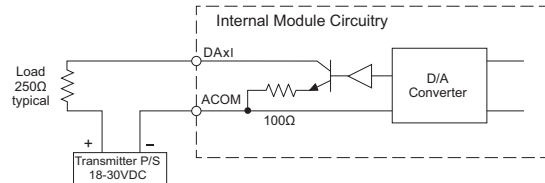
Analog Voltage Output Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18–30 V
Load Impedance	250 ohms Load Power Supply: DC 18V: 600 Ω maximum DC 24V: 900 Ω maximum DC 30V: 1200 Ω maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mA maximum
Accuracy vs Temperature Error	± 100 ppm / $^{\circ}$ C maximum

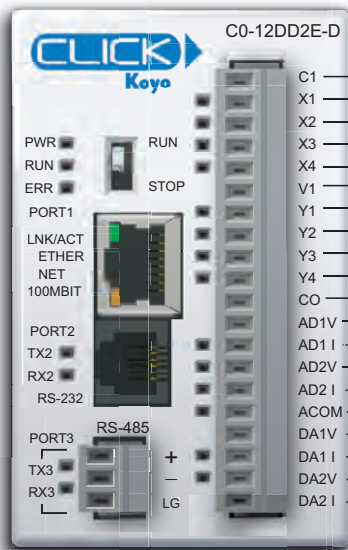
Analog Current Output Circuit



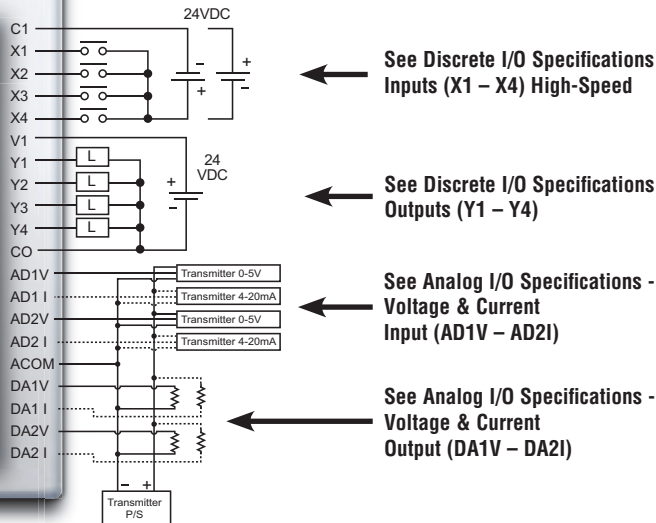
Ethernet Analog PLC

C0-12DD2E-D \$191.00

- 4 DC Input (Sink/Source)/ 4 Sourcing DC Output**
- 2 Analog Voltage/Current Input**
- 2 Analog Voltage/Current Output Micro PLC**



Wiring Diagram



See Discrete I/O Specifications
Inputs (X1 – X4) High-Speed

See Discrete I/O Specifications
Outputs (Y1 – Y4)

See Analog I/O Specifications -
Voltage & Current
Input (AD1V – AD2I)

See Analog I/O Specifications -
Voltage & Current
Output (DA1V – DA2I)



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.



IMPORTANT: USE ONLY ONE TERMINAL (VOLTAGE OR CURRENT) PER CHANNEL. YOU MUST ALSO SELECT THE ANALOG TYPE (VOLTAGE OR CURRENT) IN THE CPU BUILT-IN I/O SETUP IN THE CLICK PROGRAMMING SOFTWARE (PULL-DOWN MENU SETUP > CPU BUILT-IN I/O SETUP).

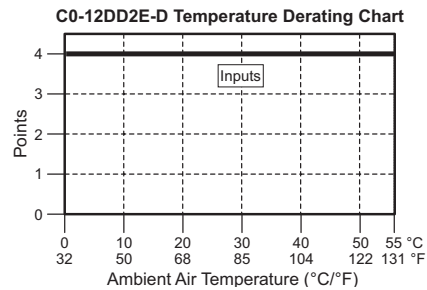
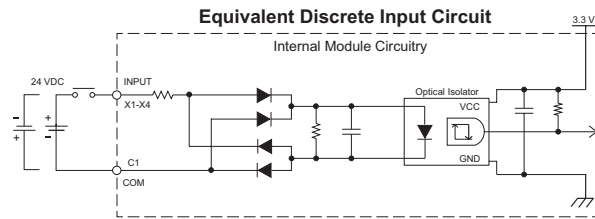
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

Ethernet Analog PLC

C0-12DD2E-D (cont'd)

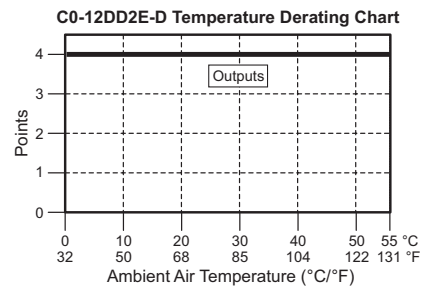
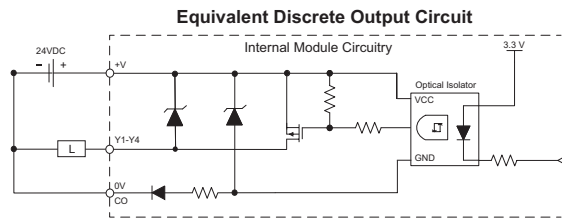
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs, Max 5μs
ON to OFF Response	Typ 1μs, Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2-30 VDC
Maximum Output Current	0.1 A/point , 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.5 VDC@ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 5μs
ON to OFF Response	< 5μs
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 pts or 1 pt/common)



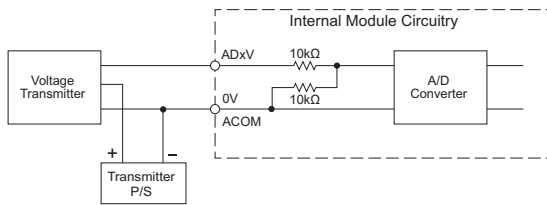
Ethernet Analog PLC

C0-12DD2E-D (cont'd)

AD1V - AD2V

Analog Specifications - Voltage Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	0-5 VDC
Resolution	12-bit
Conversion Time	50ms
Input Impedance	20k Ω
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

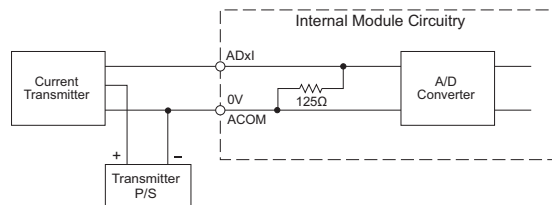
Analog Voltage Input Circuit



AD1I - AD2I

Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4-20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125 Ω
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 0.1 mA maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

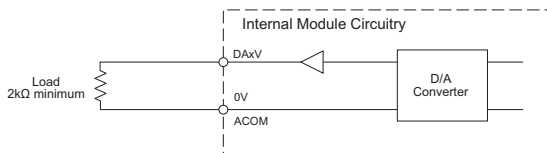
Analog Current Input Circuit



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0-5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2k Ω minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

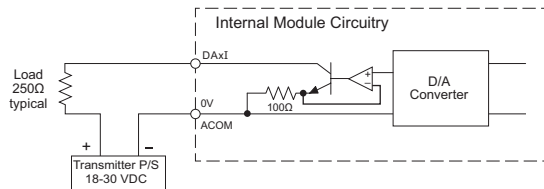
Analog Voltage Output Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4-20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18-30 V
Load Impedance	250 Ω Load Power Supply: DC 18V: 600 Ω maximum DC 24V: 900 Ω maximum DC 30V: 1200 Ω maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mA maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

Analog Current Output Circuit

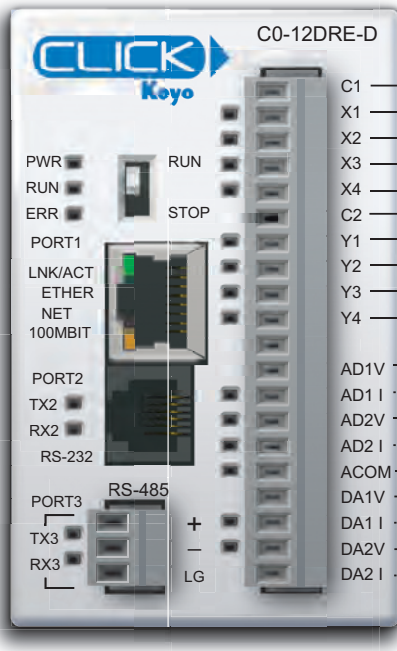


Ethernet Analog PLC

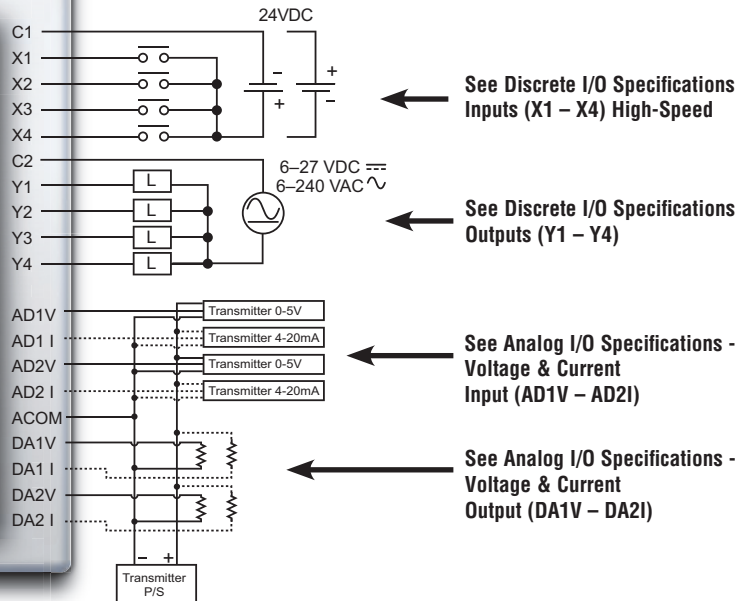
CO-12DRE-D

\$203.00

**4 DC Input (Sink/Source)/4 Relay Output;
2 Analog Voltage/Current Input
2 Analog Voltage/Current Output Micro PLC**



Wiring Diagram



See Discrete I/O Specifications
Inputs (X1 – X4) High-Speed

See Discrete I/O Specifications
Outputs (Y1 – Y4)

See Analog I/O Specifications -
Voltage & Current
Input (AD1V – AD2I)

See Analog I/O Specifications -
Voltage & Current
Output (DA1V – DA2I)

NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (You cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.

IMPORTANT: You can use only one terminal (voltage or current) per channel. You must also select the analog type (voltage or current) in the CPU built-in I/O setup in the CLICK programming software (pull-down menu setup > CPU built-in I/O setup).

General Specifications

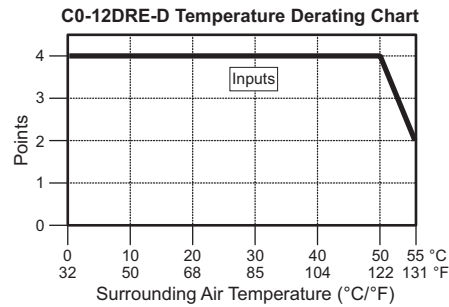
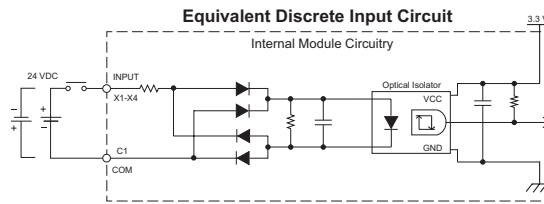
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	CO-16TB
Weight	5.4 oz (155g)

Ethernet Analog PLC

C0-12DRE-D (cont'd)

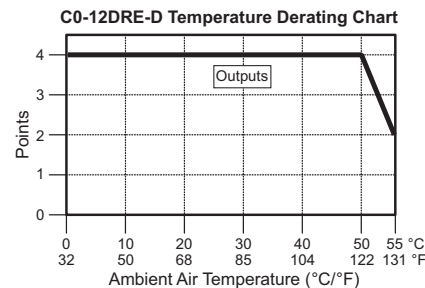
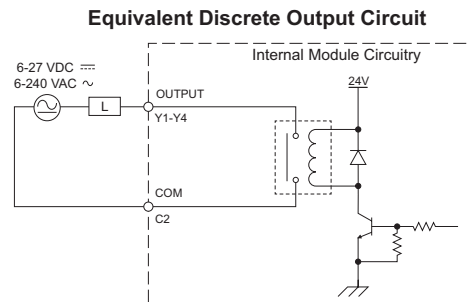
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Source/Sink)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs, Max 5μs
ON to OFF Response	Typ 1μs, Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6–27 VDC / 6–240 VAC
Output Type	Relay, form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1A/point (resistive)
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/ common)



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1 A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

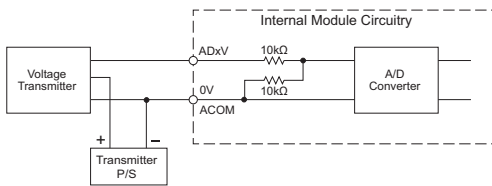
Ethernet Analog PLC

C0-12DRE-D (cont'd)

AD1V - AD2V

Analog Specifications - Voltage Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	0–5 VDC (6VDC Max.)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	20kΩ
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

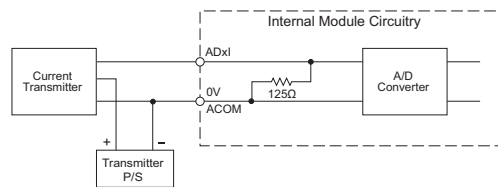
Analog Voltage Input Circuit



AD1I - AD2I

Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125Ω
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

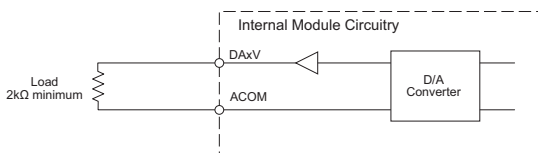
Analog Current Input Circuit



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0–5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2kΩ minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

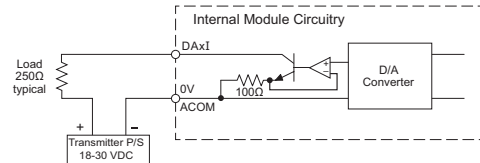
Analog Voltage Output Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18–30 V
Load Impedance	250Ω Load Power Supply: DC 18V: 600Ω maximum DC 24V: 900Ω maximum DC 30V: 1200Ω maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

Analog Current Output Circuit

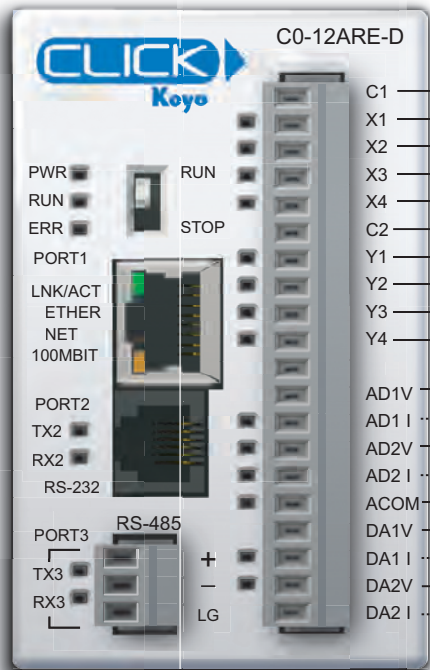


Ethernet Analog PLC

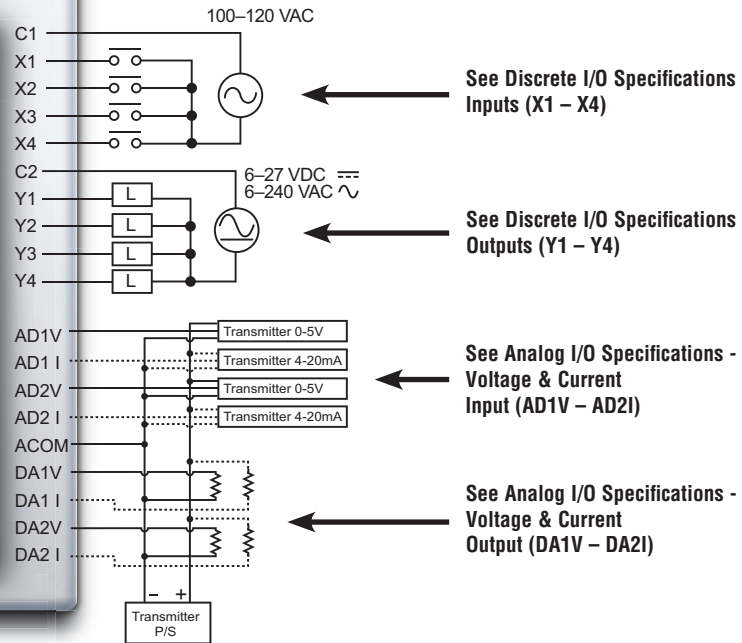
C0-12ARE-D

\$203.00

**4 AC Input (Sink/Source)/4 Relay Output;
2 Analog Voltage/Current Input
2 Analog Voltage/Current Output Micro PLC**



Wiring Diagram



See Discrete I/O Specifications Inputs (X1 – X4)

See Discrete I/O Specifications Outputs (Y1 – Y4)

See Analog I/O Specifications - Voltage & Current Input (AD1V – AD2I)

See Analog I/O Specifications - Voltage & Current Output (DA1V – DA2I)



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (You cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.



IMPORTANT: You can use only one terminal (voltage or current) per channel. You must also select the analog type (voltage or current) in the CPU built-in I/O setup in the CLICK programming software (pull-down menu setup > CPU built-in I/O setup).

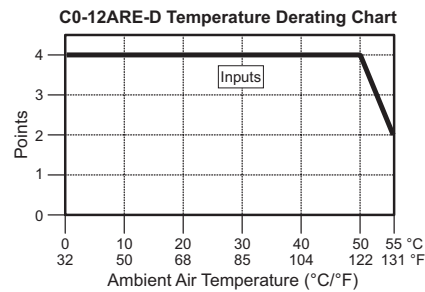
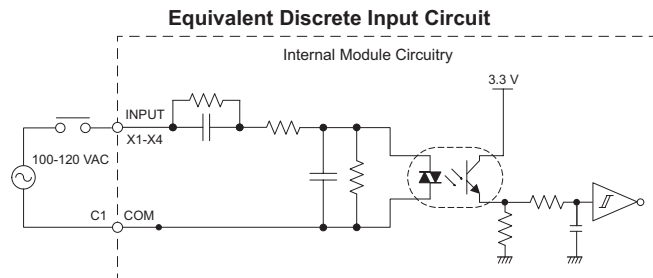
General Specifications	
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (154g)

Ethernet Analog PLC

C0-12ARE-D (cont'd)

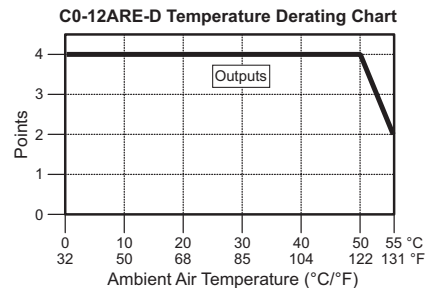
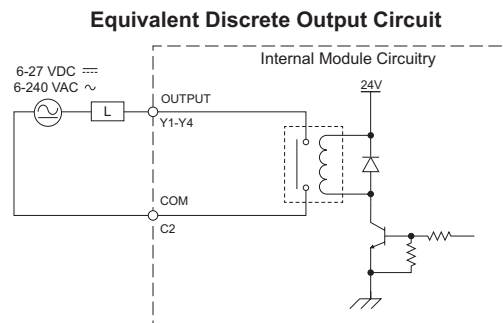
X1 - X4

Discrete I/O Specifications - Inputs	
Inputs per Module	4
Operating Voltage Range	100–120 VAC
AC Frequency	47–63 Hz
Input Current	Typ 8.5 mA @ 100VAC (50Hz) Typ 10mA @100VAC (60Hz)
Max. Input Current	16mA @ 144VAC
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	< 40ms
ON to OFF Response	< 40ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6–27 VDC, 6–240 VAC
Output Type	Relay, form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1A/point (resistive)
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/common)



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1 A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles

ON to OFF = 1 cycle

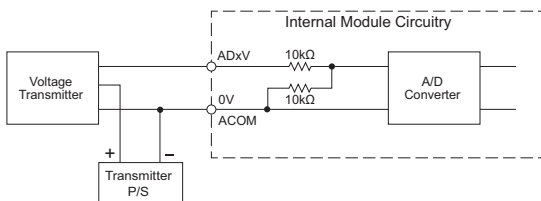
Ethernet Analog PLC

C0-12ARE-D (cont'd)

AD1V - AD2V

Analog Specifications - Voltage Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	0–5 VDC (6VDC Max.)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	20kΩ
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

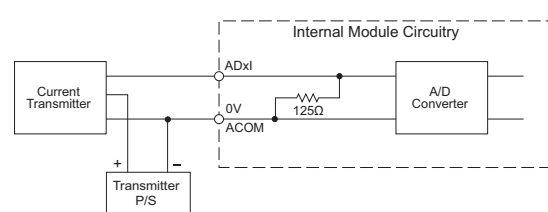
Analog Voltage Input Circuit



AD1I - AD2I

Analog Specifications - Current Input	
Inputs per Module	2 (voltage/current selectable)
Input Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125Ω
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

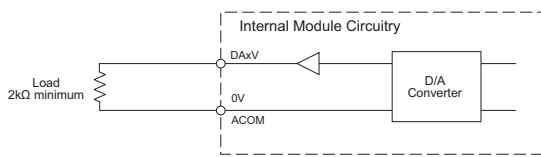
Analog Current Input Circuit



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	0–5 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	2kΩ minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

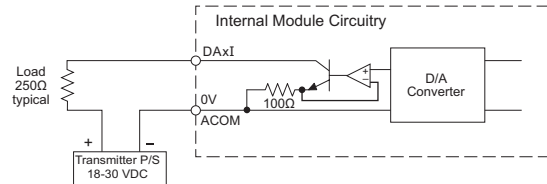
Analog Voltage Output Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (voltage/current selectable)
Output Range	4–20 mA (sink)
Resolution	12-bit
Conversion Time	1ms
Loop Supply Voltage	DC 18–30 V
Load Impedance	250Ω Load Power Supply: DC 18V: 600Ω maximum DC 24V: 900Ω maximum DC 30V: 1200Ω maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

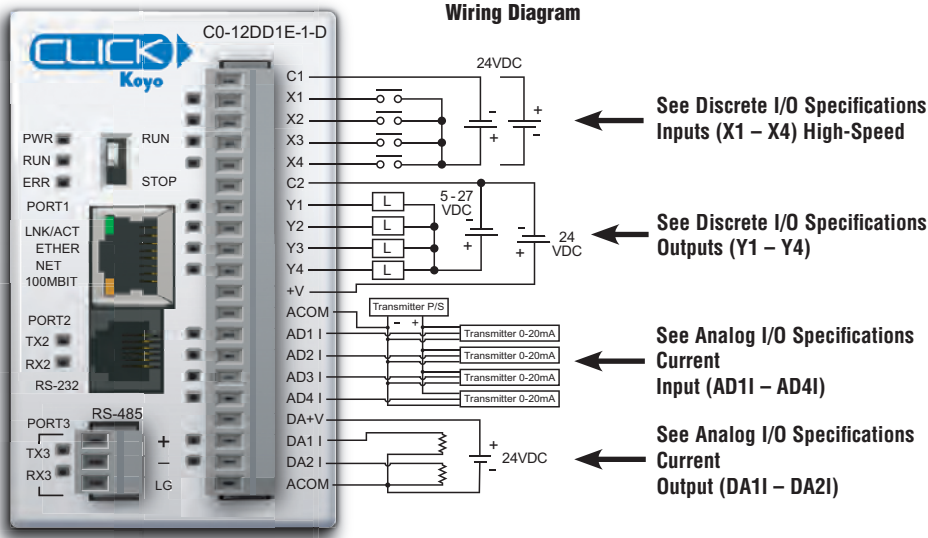
Analog Current Output Circuit



Ethernet Analog PLC

C0-12DD1E-1-D \$191.00

- 4 DC Input (Sink/Source)/4 Sinking DC Output
- 4 Analog Current Input
- 2 Analog Current Output Micro PLC



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.



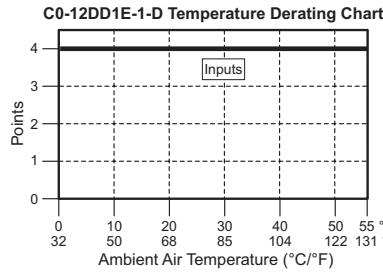
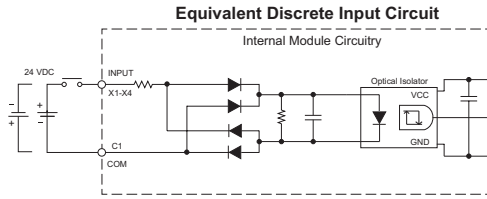
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

Ethernet Analog PLC

C0-12DD1E-1-D (cont'd)

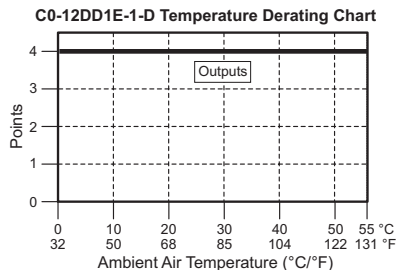
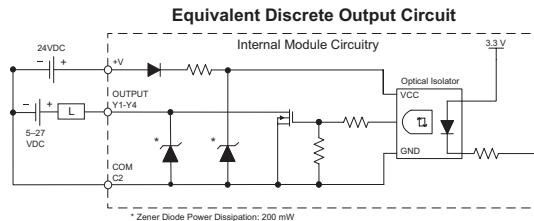
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs Max 5μs
ON to OFF Response	Typ 1μs Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

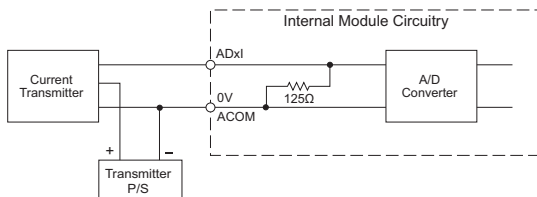
Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Sink)
Operating Voltage Range	5–27 VDC
Maximum Output Current	0.1 A/point; 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 5μs
ON to OFF Response	< 5μs
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)
External DC Power Required	20–28 VDC Maximum @ 60mA (All points on)



AD1V - AD4V

Analog Specifications - Current Input	
Inputs per Module	4 (current)
Input Range	0–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125Ω
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

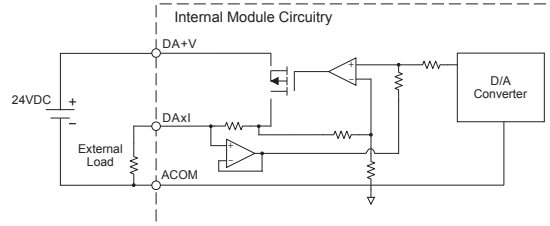
Analog Current Input Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (current)
Output Range	4–20 mA (source)
Resolution	12-bit
Conversion Time	2.5 ms
Load Impedance	250Ω TYP (200–800 Ω)
Loop Supply Voltage	DC 24V TYP (21.6–26.4 VDC)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum
External DC Power Required	21.6–26.4 VDC

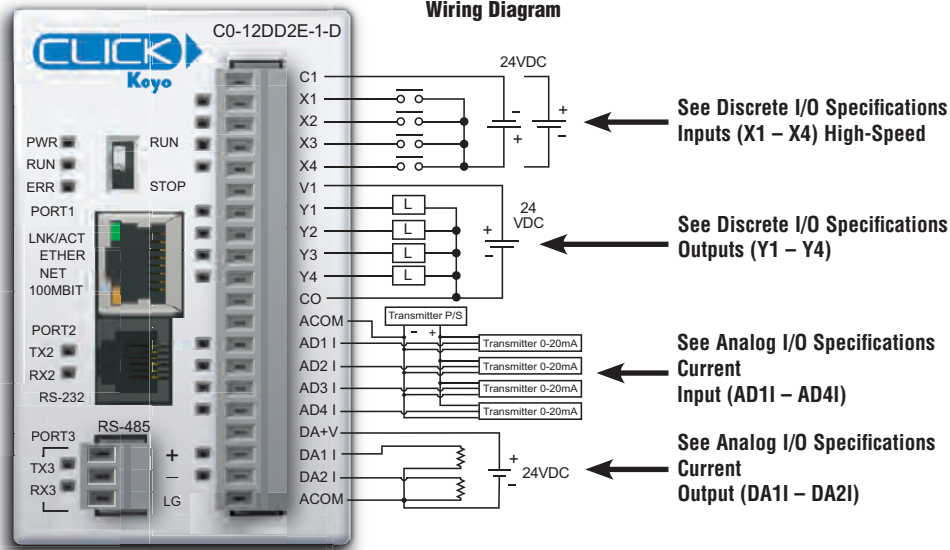
Analog Current Output Circuit



Ethernet Analog PLC

C0-12DD2E-1-D \$191.00

- 4 DC Input (Sink/Source)/ 4 Sourcing DC Output**
- 4 Analog Current Input**
- 2 Analog Current Output Micro PLC**



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.

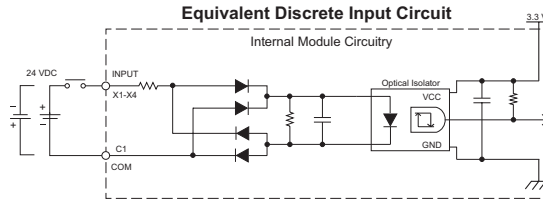
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

Ethernet Analog PLC

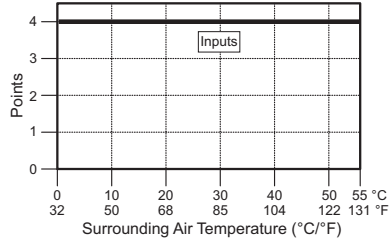
C0-12DD2E-1-D (cont'd)

X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs, Max 5μs
ON to OFF Response	Typ 1μs, Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)

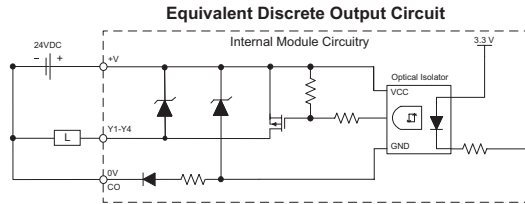


C0-12DD2E-1-D Temperature Derating Chart

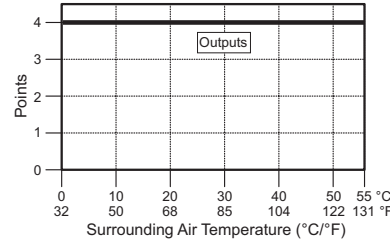


Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Source)
Output Voltage Range	19.2–30 VDC
Maximum Output Current	0.1 A/point, 0.4 A/common CO
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 5μs
ON to OFF Response	< 5μs
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)



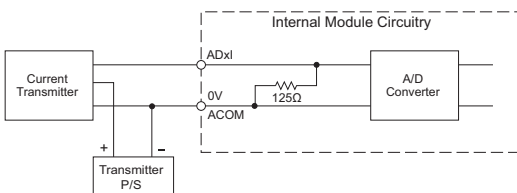
C0-12DD2E-1-D Temperature Derating Chart



AD1I - AD4I

Analog Specifications - Current Input	
Inputs per Module	4 (current)
Input Range	0–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125Ω
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

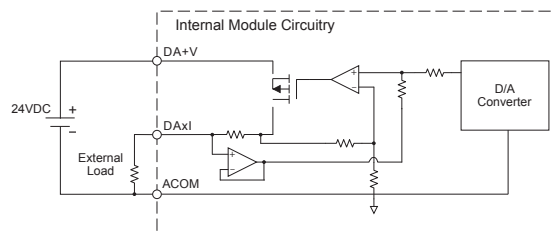
Analog Current Input Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (current)
Output Range	4–20 mA (source)
Resolution	12-bit
Conversion Time	2.5 ms
Load Impedance	250Ω Typ (200Ω to 800Ω)
Loop Supply Voltage	24VDC Typ (21.6–26.4 VDC)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mA maximum
Accuracy vs. Temperature Error	±120ppm / °C maximum
External DC Power Required	21.6–26.4 VDC

Analog Current Output Circuit

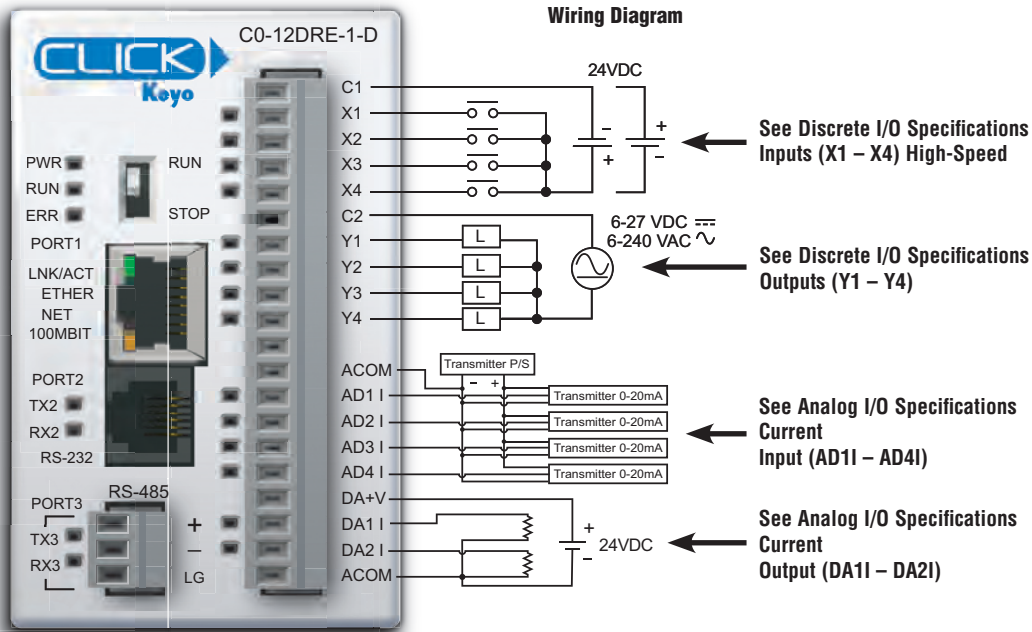


Ethernet Analog PLC

C0-12DRE-1-D

\$203.00

- 4 DC Input (Sink/Source)/4 Relay Output
- 4 Analog Current Input
- 2 Analog Current Output Micro PLC



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.

General Specifications

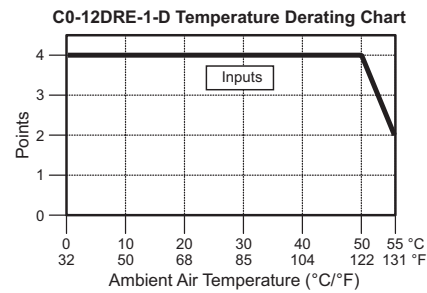
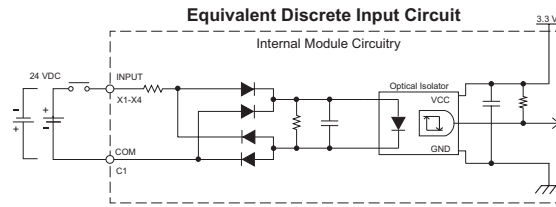
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.3 oz (151g)

Ethernet Analog PLC

C0-12DRE-1-D (cont'd)

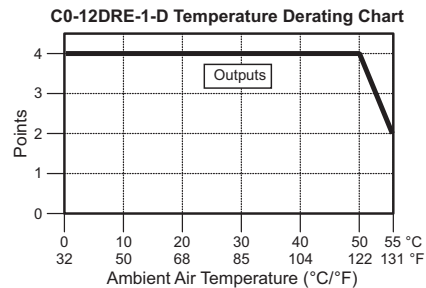
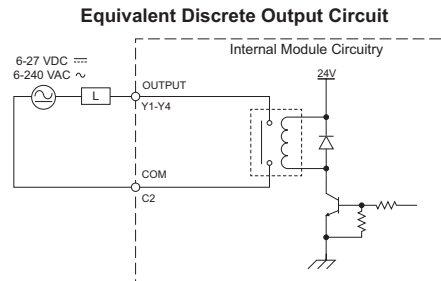
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Source/Sink)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Input Impedance	3.9 kΩ @ 24VDC
Maximum Input Frequency	X1-X4: 100kHz
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs, Max 5μs
ON to OFF Response	Typ 1μs, Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6–27 VDC / 6–240 VAC
Output Type	Relay, form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1A/point (resistive)
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/common)



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

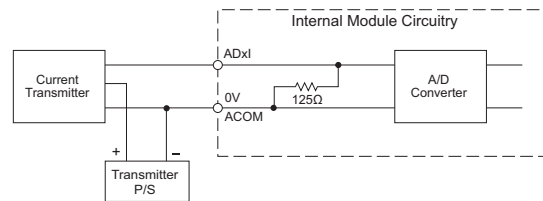
Ethernet Analog PLC

C0-12DRE-1-D (cont'd)

AD1I - AD4I

Analog Specifications - Current Input	
Inputs per Module	4 (Current)
Input Range	0–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125Ω
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

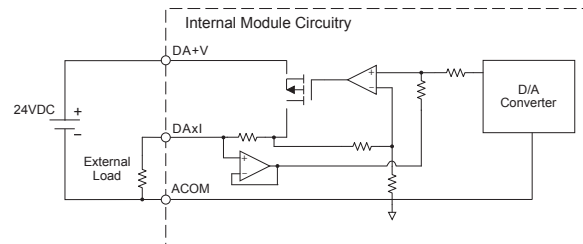
Analog Current Input Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (current)
Output Range	4–20 mA (source)
Resolution	12-bit
Conversion Time	1ms
Load Impedance	250Ω Typ (200Ω to 800Ω)
Loop Supply Voltage	24VDC Typ (21.6–26.4)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mA maximum
Accuracy vs. Temperature Error	±120ppm / °C maximum
External DC Power Required	21.6–26.4 VDC

Analog Current Output Circuit

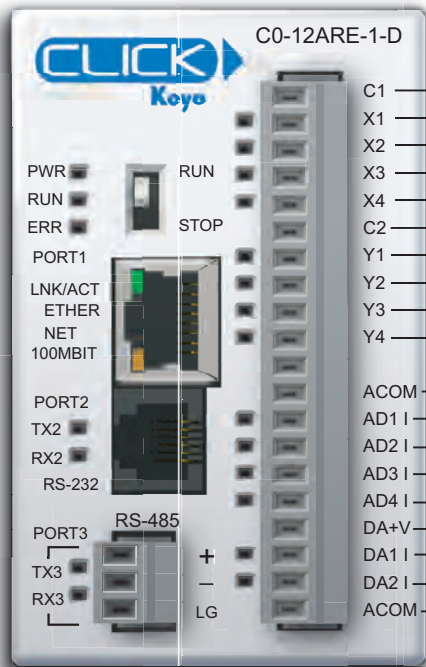


Ethernet Analog PLC

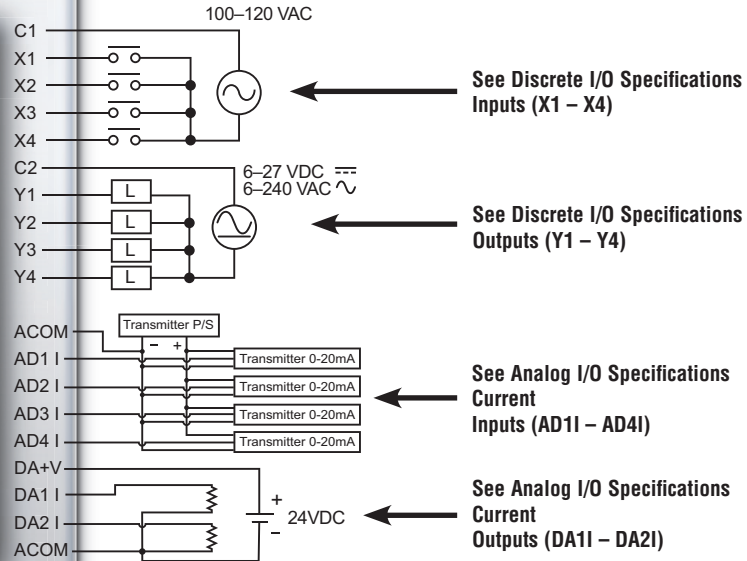
C0-12ARE-1-D

\$203.00

- 4 AC Input (Sink/Source)/4 Relay Output
- 4 Analog Current Input
- 2 Analog Current Output Micro PLC



Wiring Diagram



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.



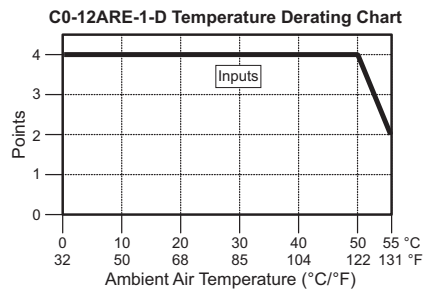
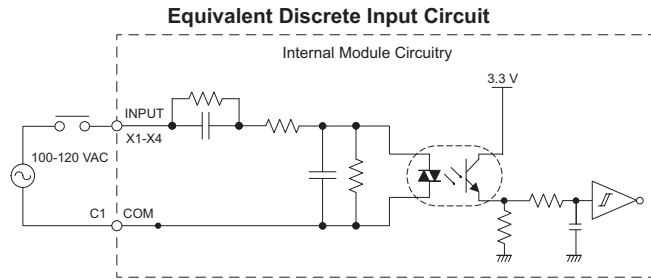
General Specifications	
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (154g)

Ethernet Analog PLC

C0-12ARE-1-D (cont'd)

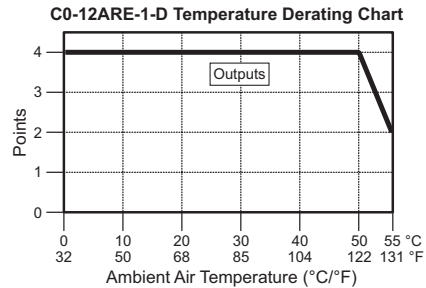
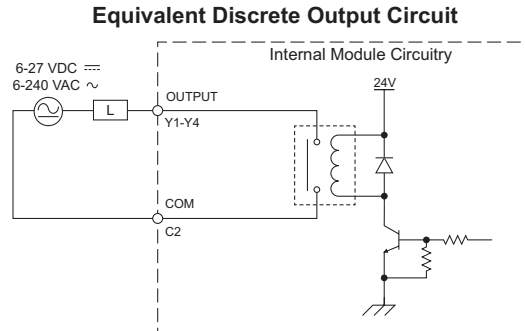
X1 - X4

Discrete I/O Specifications - Inputs	
Inputs per Module	4
Operating Voltage Range	100–120 VAC
AC Frequency	47–63 Hz
Input Current	Typ 8.5 mA @ 100VAC (50Hz) Typ 10mA @100VAC (60Hz)
Max. Input Current	16mA @ 144VAC
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	< 40ms
ON to OFF Response	< 40ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6–27 VDC, 6–240 VAC
Output Type	Relay, form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1A/point (resistive)
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/common)



Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1 A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

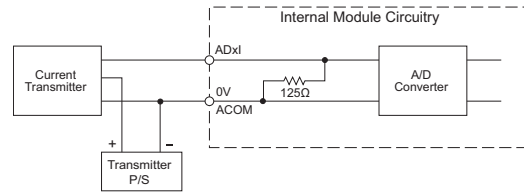
Ethernet Analog PLC

C0-12ARE-1-D (cont'd)

AD1I - AD4I

Analog Specifications - Current Input	
Inputs per Module	4 (current)
Input Range	0–20 mA (sink)
Resolution	12-bit
Conversion Time	50ms
Input Impedance	125Ω
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±0.1 mA maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

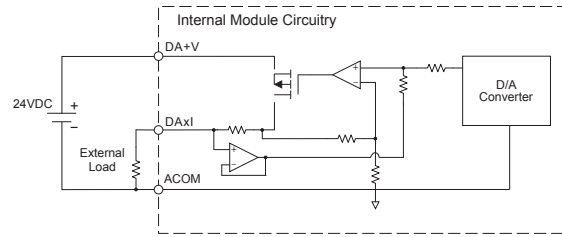
Analog Current Input Circuit



DA1I - DA2I

Analog Specifications - Current Output	
Outputs per Module	2 (current)
Output Range	4–20 mA (source)
Resolution	12-bit
Conversion Time	2.5 ms
Load Impedance	250Ω Typ (200Ω to 800Ω)
Loop Supply Voltage	DC 24V Typ (21.6–26.4 V)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mA maximum
Accuracy vs. Temperature Error	±120ppm / °C maximum
External DC Power Required	21.6–26.4 VDC

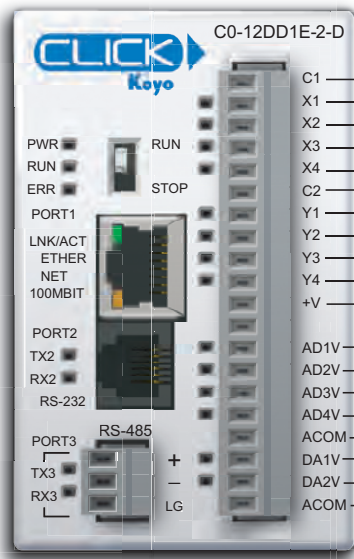
Analog Current Output Circuit



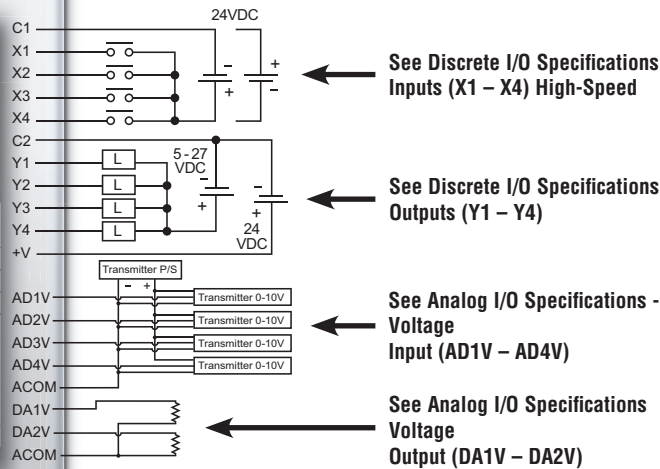
Ethernet Analog PLC

C0-12DD1E-2-D \$191.00

- 4 DC Input (Sink/Source)/4 Sinking DC Output
- 4 Analog Voltage Input
- 2 Analog Voltage Output Micro PLC



Wiring Diagram



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.

General Specifications

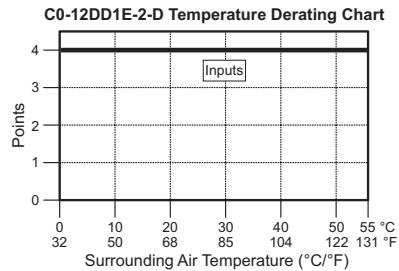
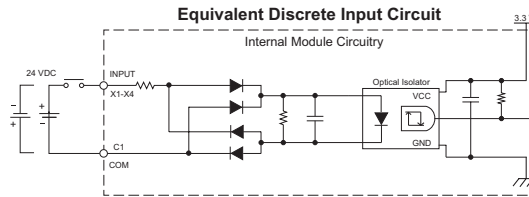
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

Ethernet Analog PLC

C0-12DD1E-2-D (cont'd)

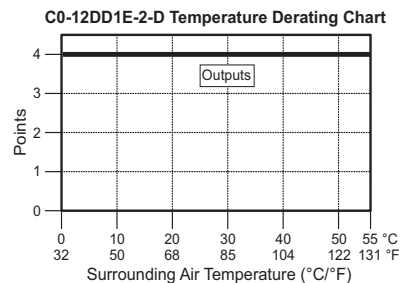
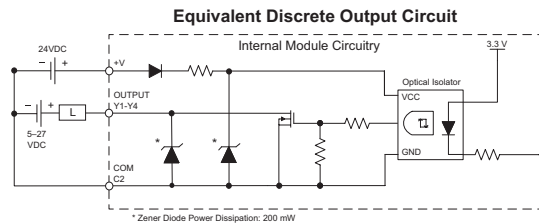
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs Max 5μs
ON to OFF Response	Typ 1μs Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Sink)
Operating Voltage Range	5–27 VDC
Maximum Output Current	0.1 A/point; 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 5μs
ON to OFF Response	< 5μs
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)
External DC Power Required	20–28 VDC Maximum @ 60mA (all points on)

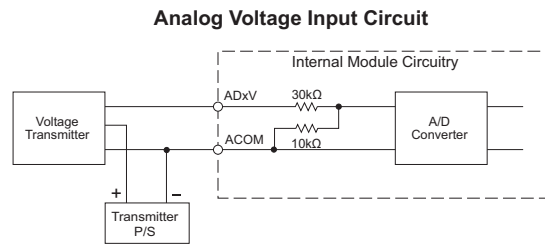


Ethernet Analog PLC

C0-12DD1E-2-D (cont'd)

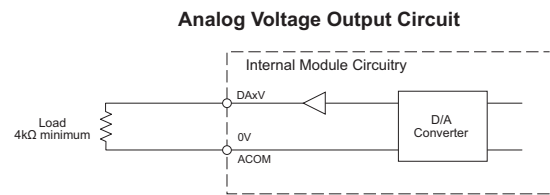
AD1V - AD4V

Analog Specifications - Voltage Input	
Inputs per Module	4 (voltage)
Input Range	0–10 VDC
Resolution	12-bit
Conversion Time	50ms
Input Impedance	40k Ω
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum



DA1V - DA2V

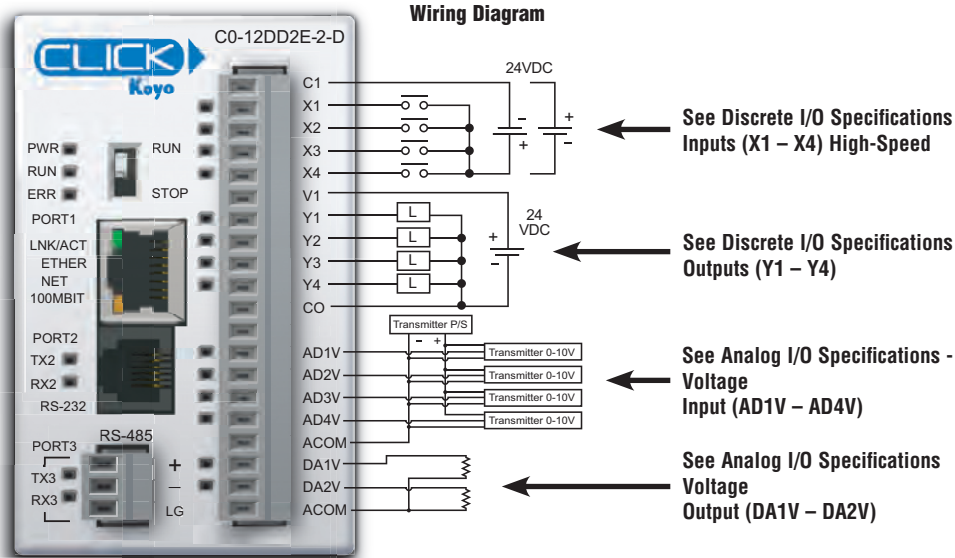
Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage)
Output Range	0–10 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	4k Ω minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum



Ethernet Analog PLC

C0-12DD2E-2-D \$191.00

**4 DC Input (Sink/Source)/ 4 Sourcing DC Output;
4 Analog Voltage Input
2 Analog Voltage Output Micro PLC**



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.



General Specifications

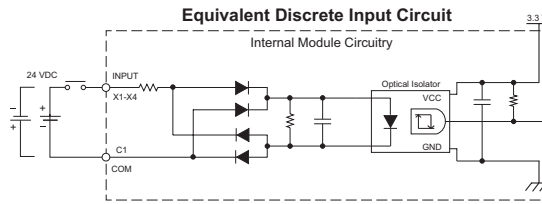
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

Ethernet Analog PLC

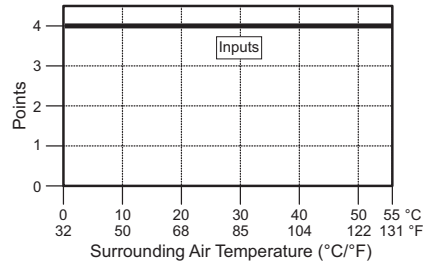
C0-12DD2E-2-D (cont'd)

X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Source/Sink)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs, Max 5μs
ON to OFF Response	Typ 1μs, Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)

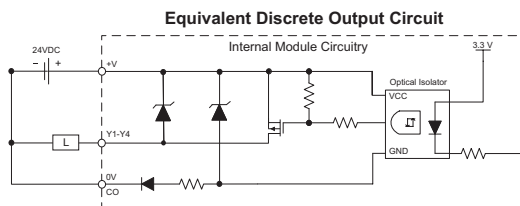


C0-12DD2E-2-D Temperature Derating Chart

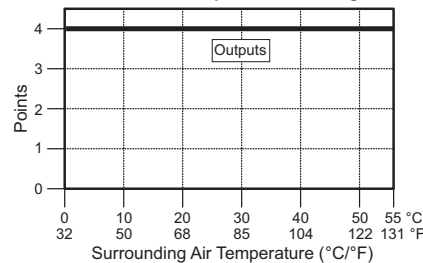


Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4 (Source)
Operating Voltage Range	24VDC
Output Voltage Range	19.2–30 VDC
Maximum Output Current	0.1 A/point, 0.4 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.5 VDC @ 0.1 mA
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 5μs
ON to OFF Response	< 5μs
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)



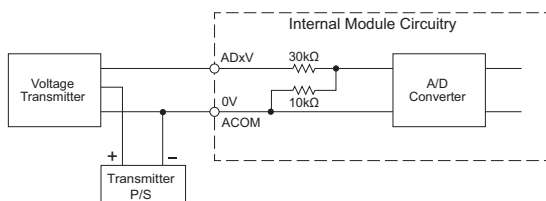
C0-12DD2E-2-D Temperature Derating Chart



AD1V - AD4V

Analog Specifications - Voltage Input	
Inputs per Module	4 (voltage)
Input Range	0–10 VDC
Resolution	12-bit
Conversion Time	50ms
Input Impedance	40kΩ
Input Stability	±2 LSB maximum
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

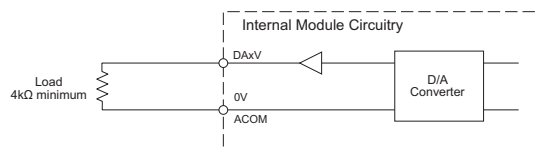
Analog Voltage Input Circuit



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage)
Output Range	0–10 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	4kΩ minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	±2% maximum
Offset Calibration Error	±25mV maximum
Accuracy vs. Temperature Error	±100ppm / °C maximum

Analog Voltage Output Circuit

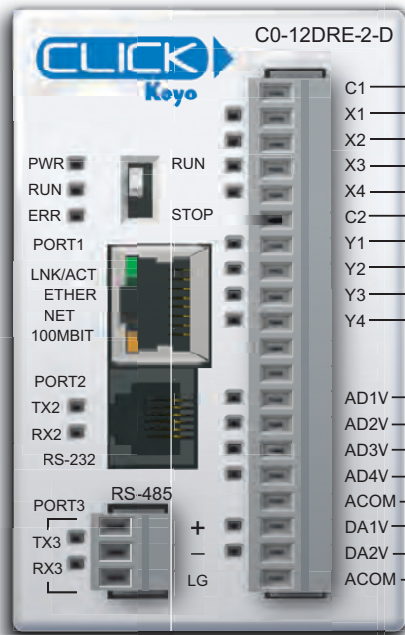


Ethernet Analog PLC

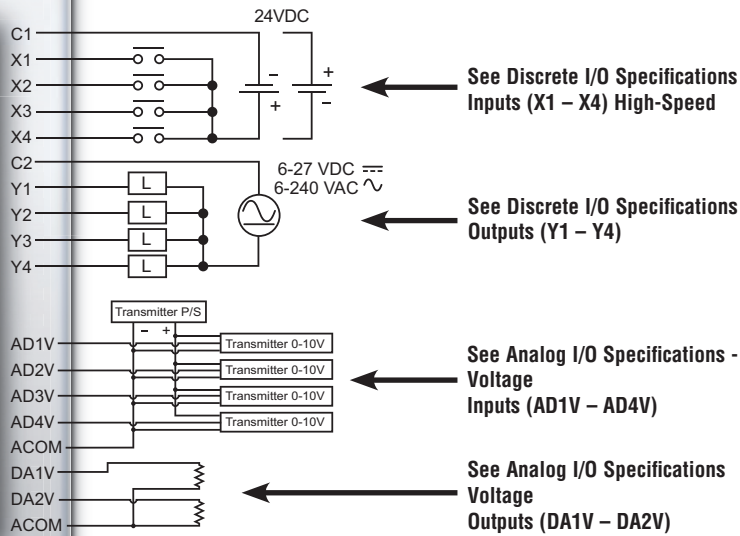
C0-12DRE-2-D

\$203.00

4 DC Input (Sink/Source)/4 Relay Output
4 Analog Voltage Input/
2 Analog Voltage Output Micro PLC



Wiring Diagram



See Discrete I/O Specifications
Inputs (X1 – X4) High-Speed

See Discrete I/O Specifications
Outputs (Y1 – Y4)

See Analog I/O Specifications -
Voltage
Inputs (AD1V – AD4V)

See Analog I/O Specifications
Voltage
Outputs (DA1V – DA2V)



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.

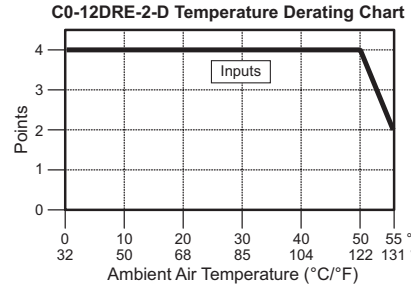
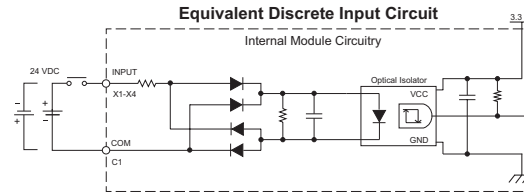
General Specifications	
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (154g)

Ethernet Analog PLC

C0-12DRE-2-D (cont'd)

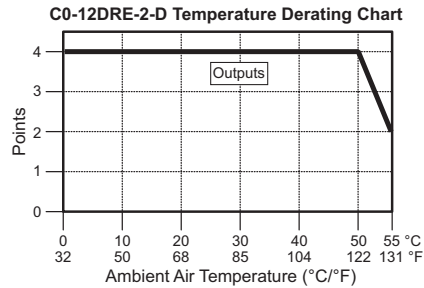
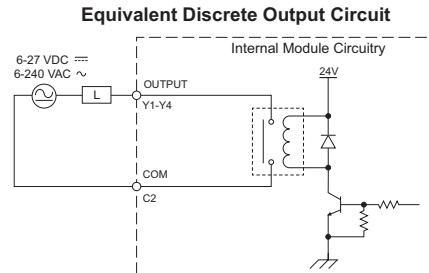
X1 - X4 (High-Speed)

Discrete I/O Specifications - Inputs	
Inputs per Module	4 (sink/source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 6.5 mA @ 24VDC
Maximum Input Current	7mA @ 26.4 VDC
Input Impedance	3.9 kΩ @ 24VDC
ON Voltage Level	> 19VDC
OFF Voltage Level	< 2VDC
Minimum ON Current	4.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Typ 3μs, Max 5μs
ON to OFF Response	Typ 1μs, Max 3μs
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6–27 VDC / 6–240 VAC
Output Type	Relay, form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1A/point (resistive)
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/common)



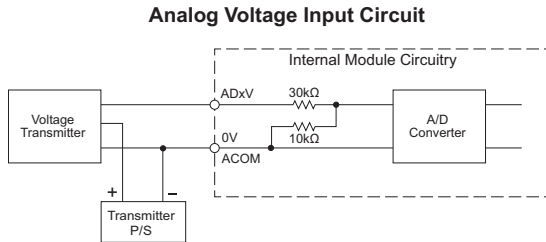
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1 A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

Ethernet Analog PLC

C0-12DRE-2-D (cont'd)

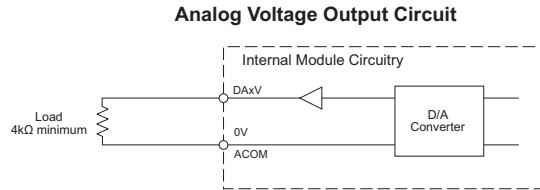
AD1V - AD4V

Analog Specifications - Voltage Input	
Inputs per Module	4 (voltage)
Input Range	0–10 VDC
Resolution	12-bit
Conversion Time	50ms
Input Impedance	40k Ω
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage)
Output Range	0–10 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	4k Ω minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum

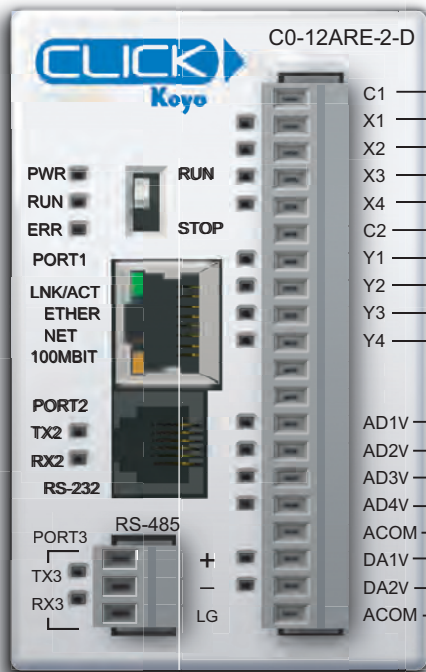


Ethernet Analog PLC

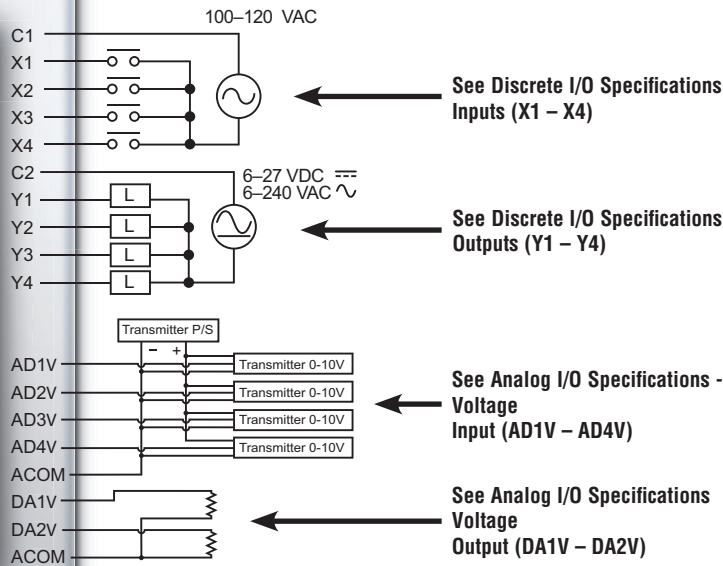
C0-12ARE-2-D

\$203.00

**4 AC Input (Sink/Source)/4 Relay Output;
4 Analog Voltage Input
2 Analog Voltage Output Micro PLC**



Wiring Diagram



NOTE: There are no ZIPLink pre-wired PLC connection cables and modules for the Analog PLCs (cannot mix discrete I/O and analog I/O signals in a ZIPLink cable).

NOTE: When using Ethernet Analog PLCs, you must use CLICK programming software version V2.20 or later.



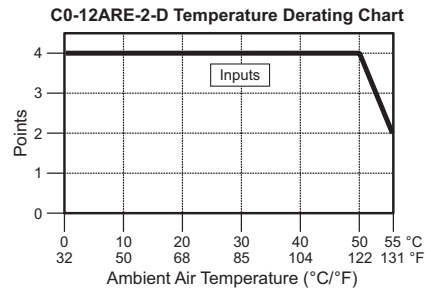
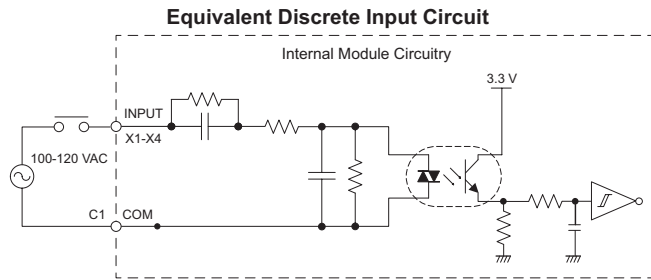
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (155g)

Ethernet Analog PLC

C0-12ARE-2-D (cont'd)

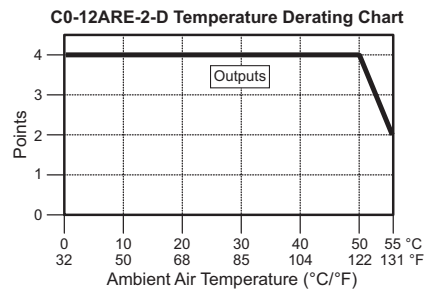
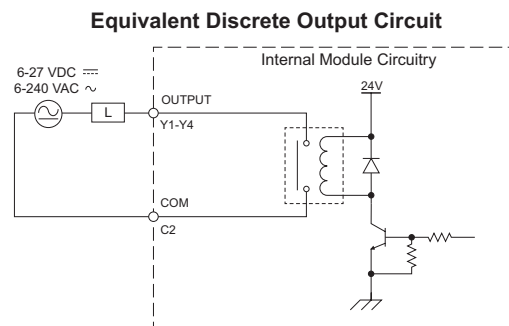
X1 - X4

Discrete I/O Specifications - Inputs	
Inputs per Module	4
Operating Voltage Range	100–120 VAC
AC Frequency	47–63 Hz
Input Current	Typ 8.5 mA @ 100VAC (50Hz) Typ 10mA @100VAC (60Hz)
Max. Input Current	16mA @ 144VAC
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON Voltage Level	> 60VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	< 40ms
ON to OFF Response	< 40ms
Status Indicators	Logic Side (4 points, green LED)
Commons	1 (4 points/common)



Y1 - Y4

Discrete I/O Specifications - Outputs	
Outputs per Module	4
Operating Voltage Range	6–27 VDC, 6–240 VAC
Output Type	Relay, form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1A/point
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED)
Commons per Module	1 (4 points/common)



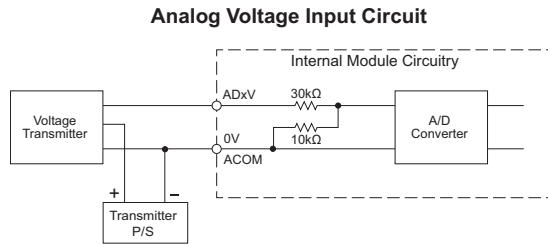
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

Ethernet Analog PLC

C0-12ARE-2-D (cont'd)

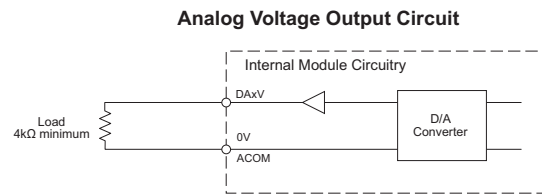
AD1V - AD4V

Analog Specifications - Voltage Input	
Inputs per Module	4 (voltage)
Input Range	0–10 VDC
Resolution	12-bit
Conversion Time	50ms
Input Impedance	40k Ω
Input Stability	± 2 LSB maximum
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs Temperature Error	± 100 ppm / $^{\circ}$ C maximum



DA1V - DA2V

Analog Specifications - Voltage Output	
Outputs per Module	2 (voltage)
Output Range	0–10 VDC
Resolution	12-bit
Conversion Time	1ms
Load Impedance	4k Ω minimum (output current 2.5 mA maximum)
Full-Scale Calibration Error	$\pm 2\%$ maximum
Offset Calibration Error	± 25 mV maximum
Accuracy vs. Temperature Error	± 100 ppm / $^{\circ}$ C maximum



CLICK I/O Module Specifications

CO-08SIM **\$40.00**

8-Point Specialty Toggle Switch Input Module

8-point toggle switch input module



Input Specifications	
Inputs per Module	8 Toggle Switches
OFF to ON Response	Max 140ms, Typ 90ms
ON to OFF Response	Max 110ms, Typ 60ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Bus Power Required	Max. 50mA (All points ON)
Weight	2.9 oz (84g)



CAUTION

The CO-08SIM unit toggle switch can get hot when mounted in hot environment. Wear heat-resistant gloves before use, as it may cause burns.

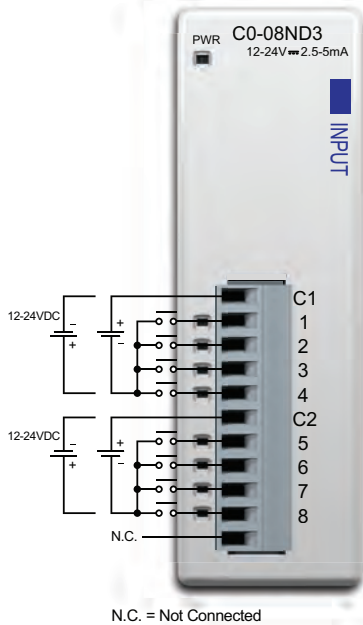
CLICK I/O Module Specifications

C0-08ND3 **\$35.50**

8-Point Sink/Source DC Input Module

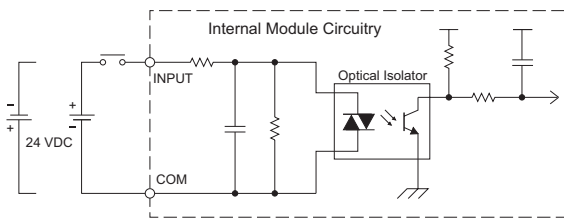
8-point 12–24 VDC current sinking or sourcing input module, 2 commons, isolated, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram

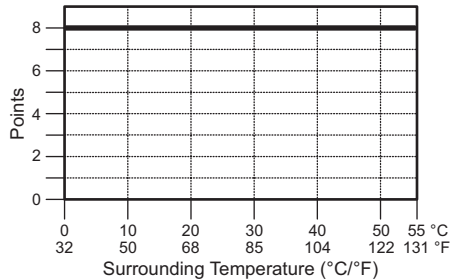


Input Specifications	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	12–24 VDC
Input Voltage Range	10.8–26.4 VDC
Input Current	Typ 5mA @ 24VDC
Maximum Input Current	7 mA @ 26.4 VDC
Input Impedance	4.7 kΩ @ 24VDC
ON Voltage Level	> 8.0 VDC
OFF Voltage Level	< 3.0 VDC
Minimum ON Current	1.4 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Max 3.5 ms, Typ 2 ms
ON to OFF Response	Max 4 ms, Typ 2.5 ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 30mA (All Inputs On)
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.8 oz (80g)

Equivalent Input Circuit



Input Module Temperature Derating Chart



ZiPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

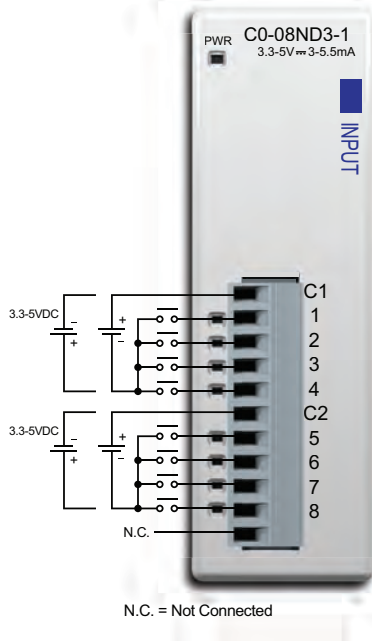
CLICK I/O Module Specifications

C0-08ND3-1 **\$35.50**

8-Point Sink/Source DC Input Module

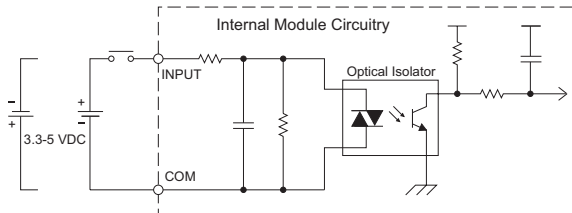
8-point 3.3-5 VDC current sinking or sourcing input module, 2 commons, isolated, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram

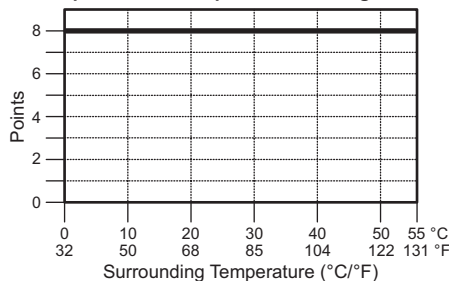


Input Specifications	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	3.3-5 VDC
Input Voltage Range	2.8-5.5 VDC
Input Current	Typ 5mA @ 5VDC
Maximum Input Current	7.5 mA @ 5.5 VDC
Input Impedance	680Ω
ON Voltage Level	> 2.2 VDC
OFF Voltage Level	< 0.8 VDC
Minimum ON Current	1.4 mA
Maximum OFF Current	0.2 mA
OFF to ON Response	Max. 3ms Typ. 1.6 ms
ON to OFF Response	Max. 4ms Typ. 2.3 ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 30mA (All Inputs On)
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.8 oz (80g)

Equivalent Input Circuit



Input Module Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
 ZL-C0-CBL11 (0.5 m length)
 ZL-C0-CBL11-1 (1.0 m length)
 ZL-C0-CBL11-2 (2.0 m length)

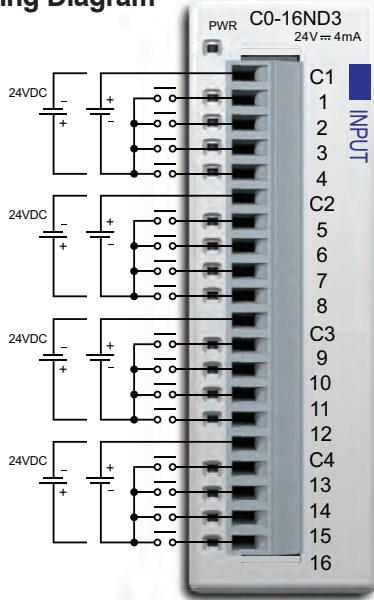
CLICK I/O Module Specifications

C0-16ND3 **\$48.00**

16-Point Sink/Source DC Input Module

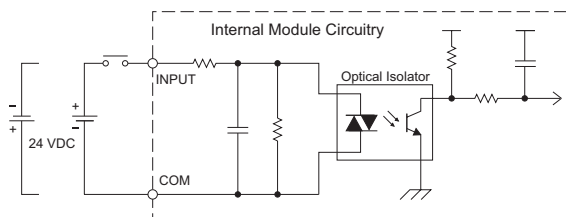
16-point 24VDC current sinking or sourcing input module, 4 commons, isolated, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

Wiring Diagram

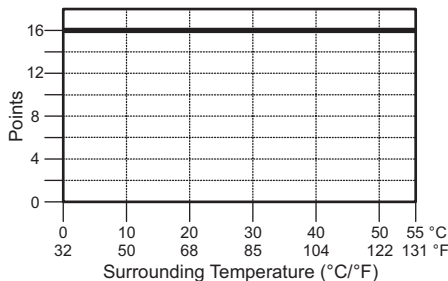


Input Specifications	
Inputs per Module	16 (Sink/Source)
Input Voltage Range	21.6–26.4 VDC
Operating Voltage Range	24VDC
Input Current	Typ 4.0 mA @ 24VDC
Maximum Input Current	5.0 mA @ 26.4 VDC
Input Impedance	6.8 kΩ @ 24VDC
ON Voltage Level	> 19VDC
OFF Voltage Level	< 7VDC
Minimum ON Current	3.5mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Max. 10ms Typ. 2ms
ON to OFF Response	Max. 10ms Typ. 3ms
Status Indicators	Logic Side (16 points, green LED) Power Indicator (green LED)
Commons	4 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 40mA (All Inputs On)
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.2 oz (90g)

Equivalent Input Circuit



Input Module Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

- 20-pin connector cable
- ZL-C0-CBL20 (0.5 m length)
- ZL-C0-CBL20-1 (1.0 m length)
- ZL-C0-CBL20-2 (2.0 m length)



ZL-RTB20 20-pin feed-through connector module



ZL-LTB16-24-1 sensor input module

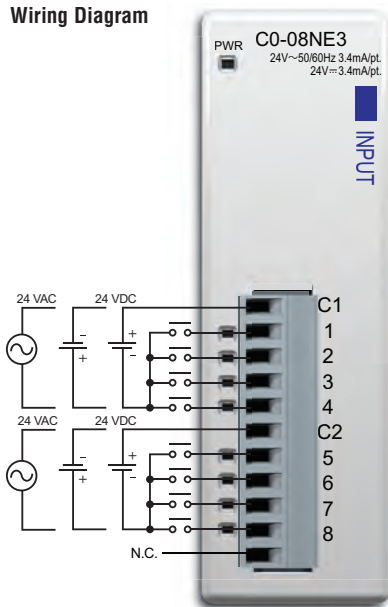
CLICK I/O Module Specifications

C0-08NE3 **\$37.50**

8-Point Sink/Source AC/DC Input Module

8-point 24VAC / 24VDC current sinking or sourcing input module, 2 commons, 4 points per common, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram



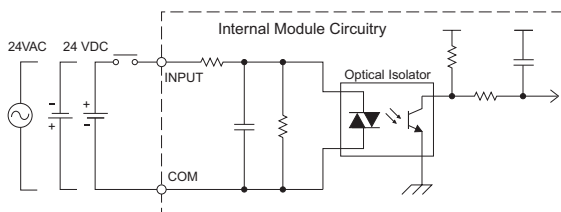
N.C. = Not Connected

Input Specifications	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	24 VAC/VDC
Input Voltage Range	20.4–27.6 VAC/VDC
Peak Voltage	27.6 VAC/VDC
AC Frequency	47–63 Hz
Input Current	Typ 3.4 mA @ 24 VAC/VDC
Maximum Input Current	5.0 mA @ 27.6 VAC/VDC
Input Impedance	6.8 kΩ @ 24 VAC/VDC
ON Voltage Level	> 18.0 VAC/VDC
OFF Voltage Level	< 4.0 VAC/VDC
Minimum ON Current	2.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	5–40 ms
ON to OFF Response	10–50 ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 30mA (All Inputs On)
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.9 oz (82g)

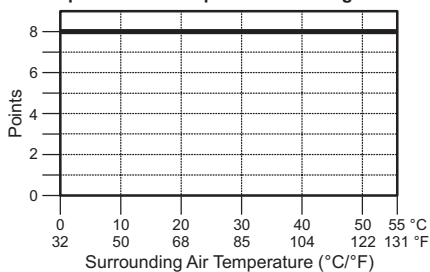


NOTE: When using this module you must also use CLICK programming software version V1.20 or later.

Equivalent Input Circuit



Input Module Temperature Derating Chart



ZiPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

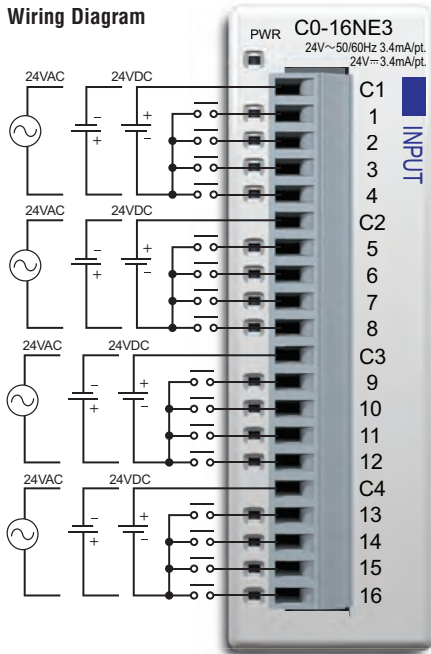
CLICK I/O Module Specifications

C0-16NE3 **\$52.00**

16-Point Sink/Source AC/DC Input Module

16-point 24VAC / 24VDC current sinking or sourcing input module, 4 commons, 4 points per common, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

Wiring Diagram



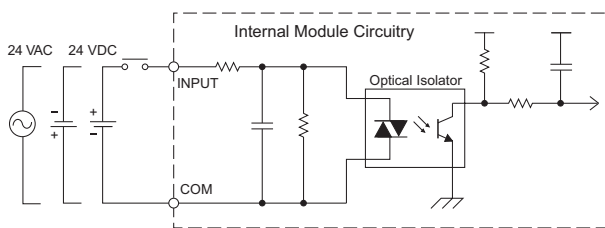
Input Specifications	
Inputs per Module	16 (Sink/Source)
Operating Voltage Range	24 VAC/VDC
Input Voltage Range	20.4–27.6 VAC/VDC
Peak Voltage	27.6 VAC/VDC
AC Frequency	47-63 Hz
Input Current	Typ 3.4 mA @ 24 VAC/VDC
Maximum Input Current	5.0 mA @ 27.6 VAC/VDC
Input Impedance	6.8 kΩ @ 24 VAC/VDC
ON Voltage Level	> 18.0 VAC/VDC
OFF Voltage Level	< 4.0 VAC/VDC
Minimum ON Current	2.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	5-40 ms
ON to OFF Response	10-50 ms
Status Indicators	Logic Side (16 points, green LED) Power Indicator (green LED)
Commons	4 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 40mA (All Inputs On)
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.2 oz (90g)



NOTE: When using this module you must also use CLICK programming software version V1.20 or later.

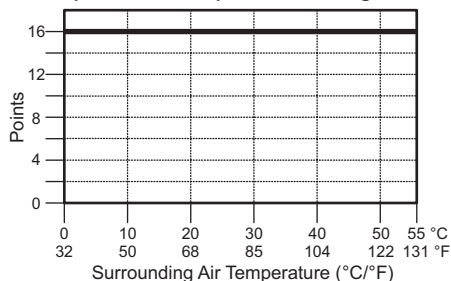
ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

Equivalent Input Circuit



20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)

Input Module Temperature Derating Chart



ZL-RTB20 20-pin feed-through connector module



ZL-LTB16-24-1 sensor input module

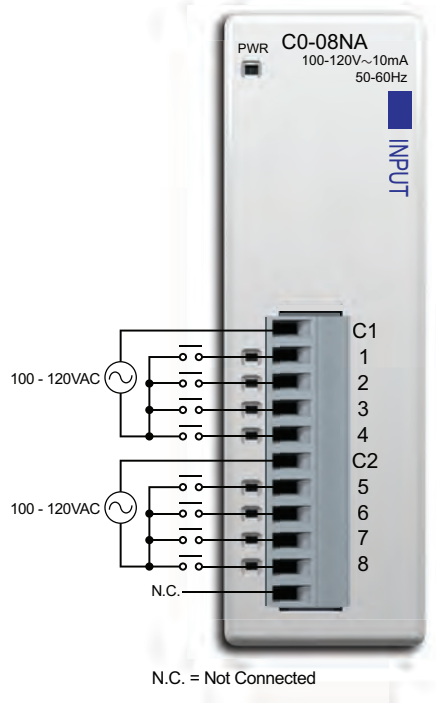
CLICK I/O Module Specifications

C0-08NA **\$43.00**

8-Point AC Input Module

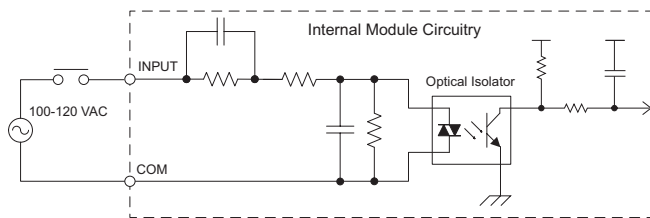
8-point 100–120 VAC input module, 2 commons, isolated, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram

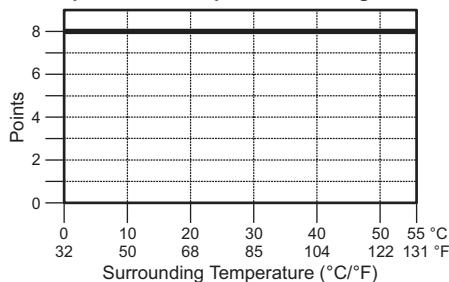


Input Specifications	
Inputs per Module	8
Operating Voltage Range	100-120 VAC
Input Voltage Range	80-144 VAC
AC Frequency	47-63 Hz
Input Current	Typ 8.5 mA @ 100VAC (50Hz) Typ 10mA @ 100VAC (60Hz)
Maximum Input Current	16mA @ 144VAC
Input Impedance	15kΩ (50Hz), 12kΩ (60Hz)
ON Voltage Level	> 70VAC
OFF Voltage Level	< 20VAC
Minimum ON Current	5mA
Maximum OFF Current	2mA
OFF to ON Response	< 40ms
ON to OFF Response	< 40ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 30mA (All Inputs On)
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.8 oz (80g)

Equivalent Input Circuit



Input Module Temperature Derating Chart



Z/PLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
 ZL-C0-CBL11 (0.5 m length)
 ZL-C0-CBL11-1 (1.0 m length)
 ZL-C0-CBL11-2 (2.0 m length)

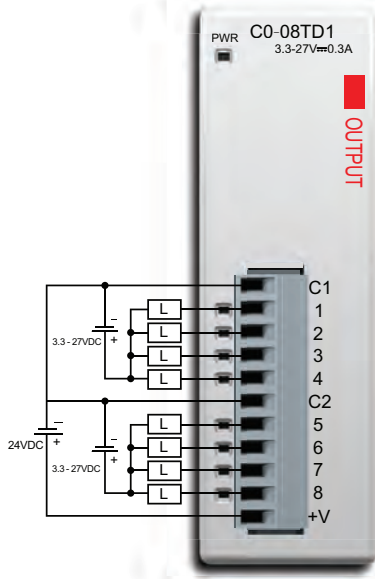
CLICK I/O Module Specifications

C0-08TD1 **\$38.00**

8-Point Sinking DC Output Module

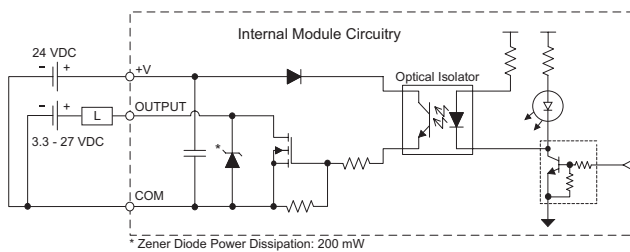
8-point 3.3-27 VDC current sinking output module, 2 commons, 0.3 A/pt, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram

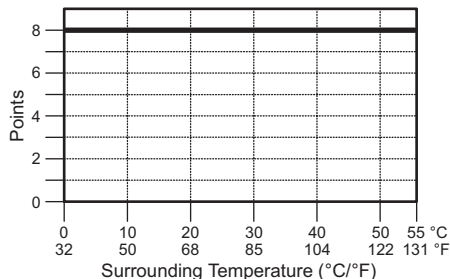


Output Specifications	
Outputs per Module	8 (Sink)
Operating Voltage Range	3.3–27 VDC
Output Voltage Range	2.8–30 VDC
Maximum Output Current	0.3 A/point , 1.2 A/common
Minimum Output Current	0.5 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	1.5 VDC @ 0.3 A
Maximum Inrush Current	1 A for 10ms
OFF to ON Response	< 0.5 ms
ON to OFF Response	< 0.5 ms
Status Indicators	Logic Side (8 points, red LED) Power Indicator (green LED)
Commons	2 (4 points/common)
External DC Power Required	21.6–26.4 VDC Max. 15mA (All Outputs ON)
Bus Power Required (24VDC)	Max. 50mA (All Outputs On)
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.8 oz (80g)

Equivalent Output Circuit



Output Module Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

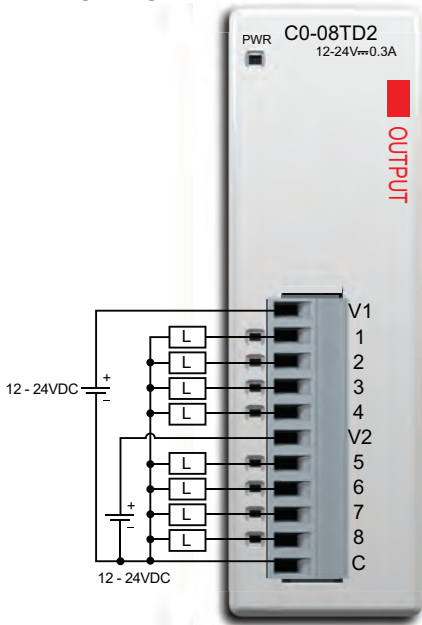
CLICK I/O Module Specifications

CO-08TD2 **\$38.00**

8-Point Sourcing DC Output Module

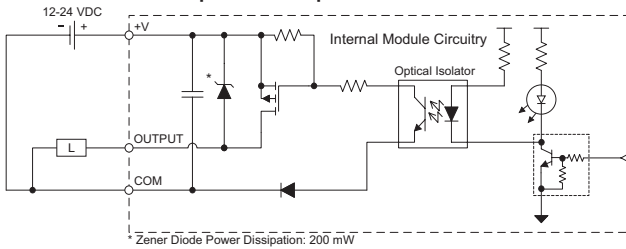
8-point 12–24 VDC current sourcing output module, 1 common, 0.3 A/pt, removable terminal block included (replacement AutomationDirect p/n CO-08TB).

Wiring Diagram

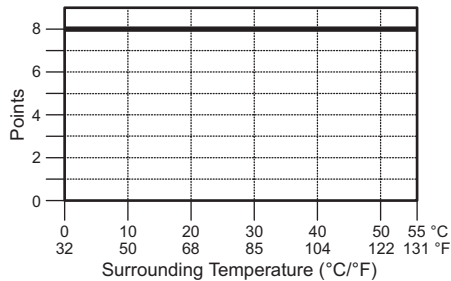


Output Specifications	
Outputs per Module	8 (Source)
Operating Voltage Range	12–24 VDC
Output Voltage Range	9.6–30 VDC
Maximum Output Current	0.3 A/point , 1.2 A/common
Minimum Output Current	0.5 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	1.5 VDC @ 0.3 A
Maximum Inrush Current	1A for 10ms
OFF to ON Response	< 1ms
ON to OFF Response	< 1ms
Status Indicators	Logic Side (8 points, red LED) Power Indicator (green LED)
Commons	1 (8 points/common)
Bus Power Required (24VDC)	Max. 50mA (All Outputs On)
Terminal Block Replacement	AutomationDirect p/n CO-8TB
Weight	2.8 oz (80g)

Equivalent Output Circuit



Output Module Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

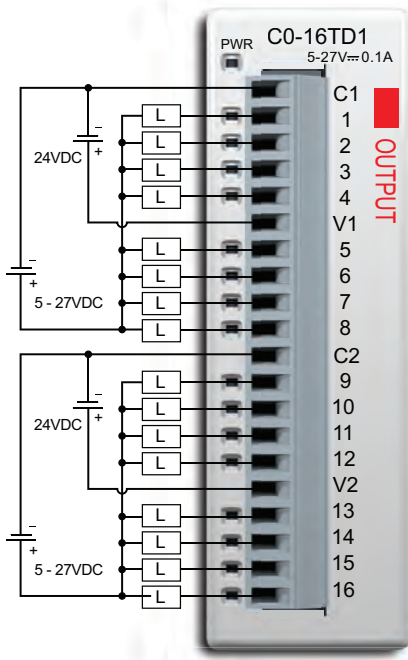
CLICK I/O Module Specifications

C0-16TD1 **\$48.00**

16-Point Sinking DC Output Module

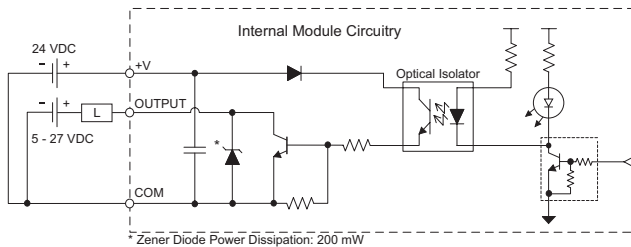
16-point 5–27 VDC current sinking output module, 2 commons, isolated, 0.1 A/pt, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

Wiring Diagram

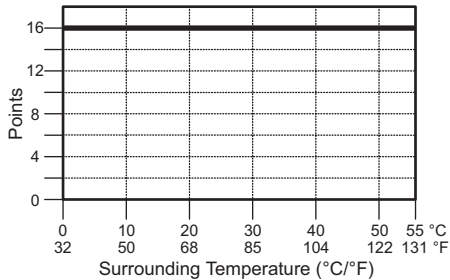


Output Specifications	
Outputs per Module	16 (Sink)
Operating Voltage Range	5–27 VDC
Output Voltage Range	4–30 VDC
Maximum Output Current	0.1 A/point , 0.8 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 0.5 ms
ON to OFF Response	< 0.5 ms
Status Indicators	Logic Side (16 points, red LED) Power Indicator (green LED)
Commons	2 (8 Points/common) Isolated
External DC Power Required	21.6–26.4 VDC Max 100mA (All Outputs On)
Bus Power Required (24VDC)	Max. 80mA (All Outputs On)
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.2 oz (90g)

Equivalent Output Circuit



Output Module Temperature Derating Chart



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)



ZL-RTB20 20-pin feed-through connector module



ZL-RFU20 fuse module



ZL-RRL16-24-1 relay module
 Note: 10A/Point (DC)
 8A/Point (AC)
 (Replaceable relays)

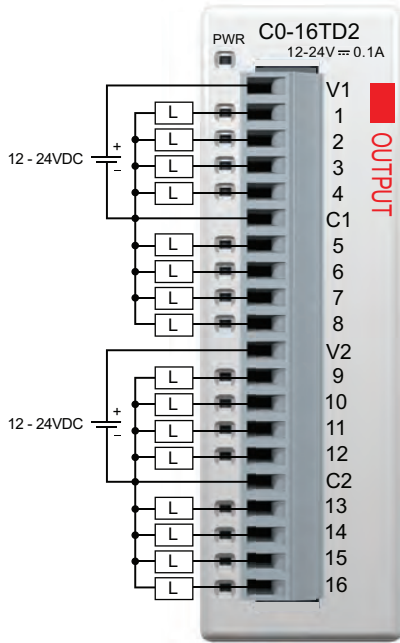
CLICK I/O Module Specifications

C0-16TD2 **\$48.00**

16-Point Sourcing DC Output Module

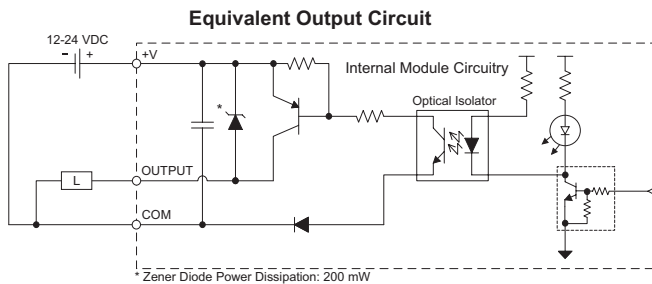
16-point 12–24 VDC current sourcing output module, 2 commons, isolated, 0.1 A/pt, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

Wiring Diagram

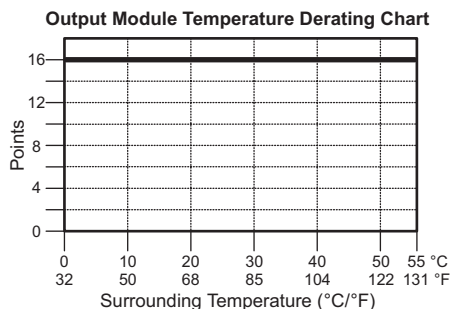


Output Specifications	
Outputs per Module	16 (Source)
Operating Voltage Range	12–24 VDC
Output Voltage Range	9.6–30.0 VDC
Maximum Output Current	0.1 A/point , 0.8 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30.0 VDC
On Voltage Drop	0.6 VDC @ 0.1 A
Maximum Inrush Current	150mA for 10ms
OFF to ON Response	< 0.5 ms
ON to OFF Response	< 0.5 ms
Status Indicators	Logic Side (16 points, red LED) Power Indicator (green LED)
Commons	2 (8 points/common) Isolated
Bus Power Required (24VDC)	Max. 80mA (All Outputs On)
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.2 oz (90g)

ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC



20-pin connector cable
 ZL-C0-CBL20 (0.5 m length)
 ZL-C0-CBL20-1 (1.0 m length)
 ZL-C0-CBL20-2 (2.0 m length)



CLICK I/O Module Specifications

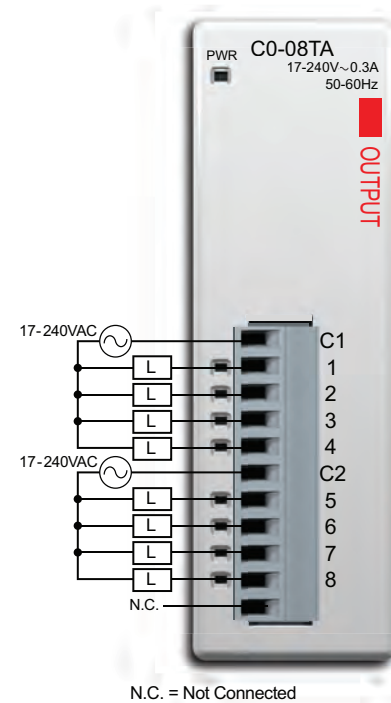
C0-08TA

\$54.00

8-Point AC Output Module

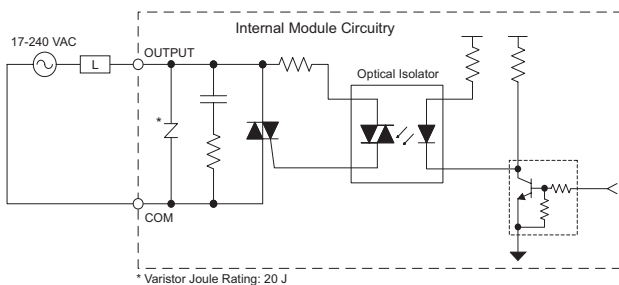
8-point 17–240 VAC triac output module, 2 commons, isolated, 0.3 A/pt, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram

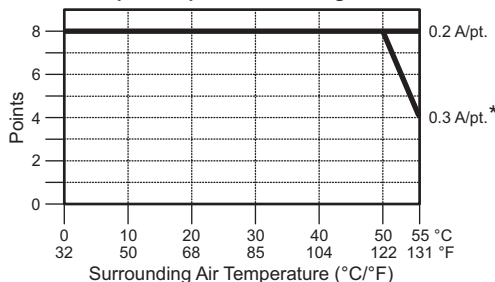


Output Specifications	
Outputs per Module	8
Operating Voltage Range	17-240 VAC
Output Voltage Range	13.5-288 VAC
AC Frequency	47–63 Hz
Maximum Output Current	0.3 A/point, 1.2 A/common
Minimum Load	10mA
Maximum Leakage Current	4mA @ 288 VAC
On Voltage Drop	1.5 VAC @ > 0.1 A 3.0 VAC @ < 0.1 A
Maximum Inrush Current	10 A for 10 ms
OFF to ON Response	1 ms
ON to OFF Response	1 ms + 1/2cycle
Status Indicators	Logic Side (8 points, red LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 80mA (All Outputs On)
Protection Circuit	Not built into the module - Install protection elements such as external fuse.
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	3.5 oz (100g)

Equivalent Output Circuit



Output Temperature Derating Chart



* Use every other output.

ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

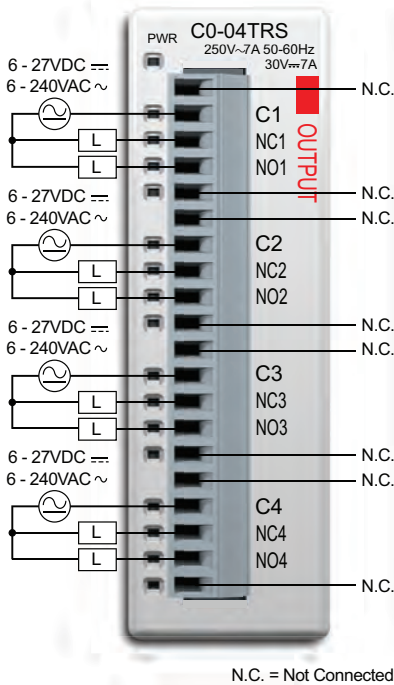
CLICK I/O Module Specifications

C0-04TRS **\$47.00**

4-Point Relay Output Module

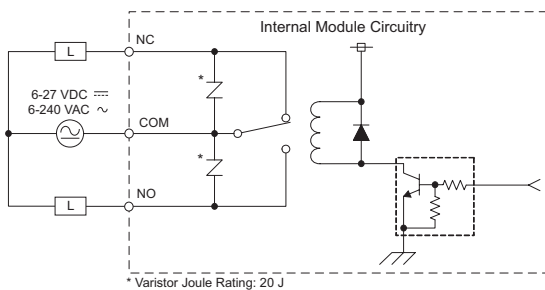
4-point 6-240 VAC/6-27 VDC Isolated relay output module, 4 Form C (SPDT) relays, 4 isolated commons, 7 A/point, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

Wiring Diagram

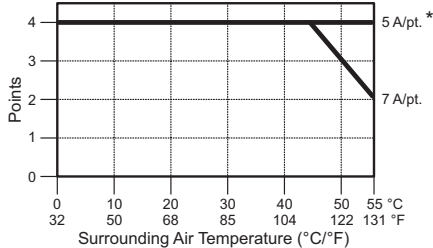


N.C. = Not Connected

Equivalent Output Circuit



Output Temperature Derating Chart



* No derating when the load current is 5A or less for each output point.

Output Specifications	
Outputs per Module	4
Operating Voltage Range	6-27 VDC / 6-240 VAC
Output Voltage Range	5-30 VDC / 5-264 VAC
Output Type	Relay, form C (SPDT)
AC Frequency	47-63 Hz
Maximum Current	7 A/point, 7 A/common
Minimum Load Current	100mA @ 5VDC
Maximum Leakage Current	0.1 mA @ 264VAC
Maximum Inrush Current	12A
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED) Power Indicator (green LED)
Commons	4 (1 point/common) Isolated
Bus Power Required (24VDC)	Max. 100mA (All Outputs On)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	4.4 oz (125g)

Typical Relay Life (Operations) at Room Temperature

Voltage & Load Type	Relay Life
30VDC, 7 A Resistive	100,000 cycles
250VAC, 7 A Resistive	100,000 cycles
250VAC, 4.9 A Solenoid	90,000 cycles
250VAC, 2.9 A Solenoid	100,000 cycles

ON to OFF = 1 cycle

ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



20-pin connector cable
ZL-C0-CBL20 (0.5 m length)
ZL-C0-CBL20-1 (1.0 m length)
ZL-C0-CBL20-2 (2.0 m length)



NOTE: The C0-04TRS relay output module is derated to 2A per point maximum when used with the ZIPLink wiring system.

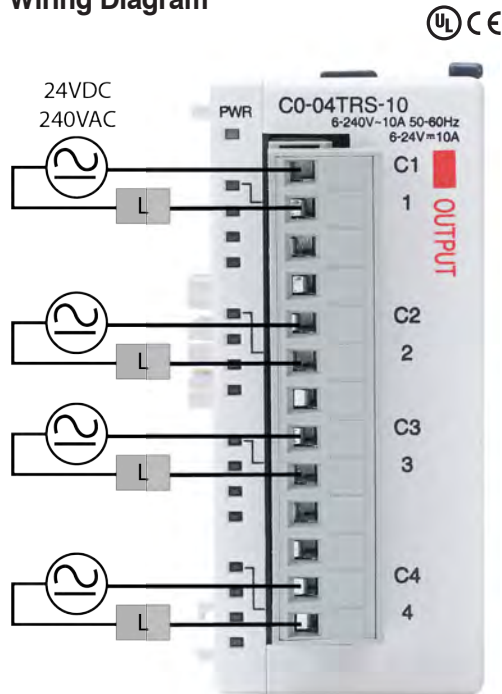
CLICK I/O Module Specifications

C0-04TRS-10 **\$54.00**

4-Point Relay Output Module

4-point 6-24 VDC/6-240 VAC Isolated relay output module, 4 Form A (SPST) relays, 4 isolated commons, 10 A/point, removable terminal block included (replacement AutomationDirect p/n C0-8TB-1).

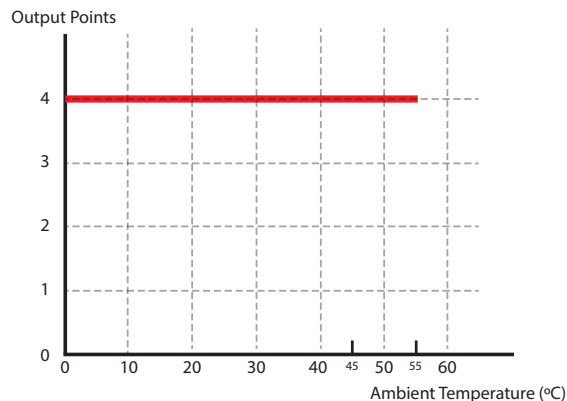
Wiring Diagram



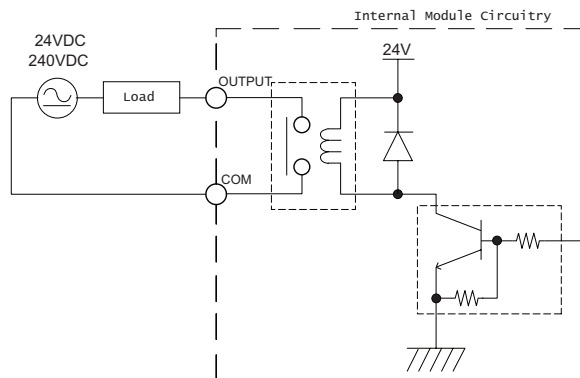
Output Specifications	
Outputs per Module	4
Operating Voltage Range	6-24 VDC / 6-240 VAC
Peak Voltage	24VDC / 264VAC
Output Type	Relay, form A (SPST)
AC Frequency	47-63 Hz
Maximum Output Current	10 A/point, 10 A/common
Minimum Load Current	100mA @ 5VDC
Maximum Inrush Current	16A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (4 points, red LED) Power Indicator (green LED)
Commons	4 (1 point/common)
Bus Power Required (24VDC)	Max. 120mA (All Outputs On)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	AutomationDirect p/n C0-8TB-1
Weight	5.2 oz. (148g)

Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
24VDC, 10A Resistive	120,000 cycles
24VDC, 10A Inductive	60,000 cycles
110VAC, 10A Resistive	120,000 cycles
110VAC, 10A Inductive	35,000 cycles
220VAC, 10A Resistive	120,000 cycles
220VAC, 10A Inductive	35,000 cycles
ON to OFF = 1 cycle	

Output Temperature Derating Chart



Equivalent Output Circuit



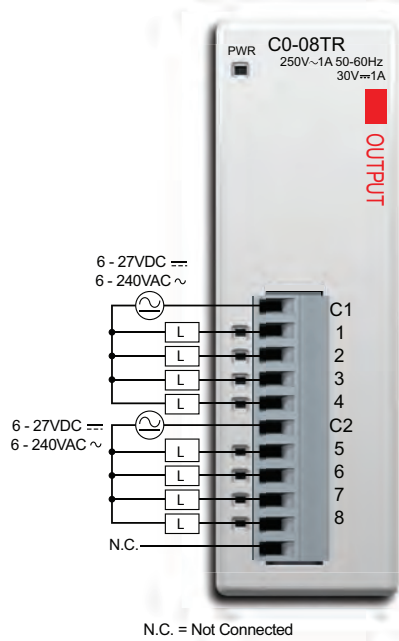
CLICK I/O Module Specifications

C0-08TR **\$43.50**

8-Point Relay Output Module

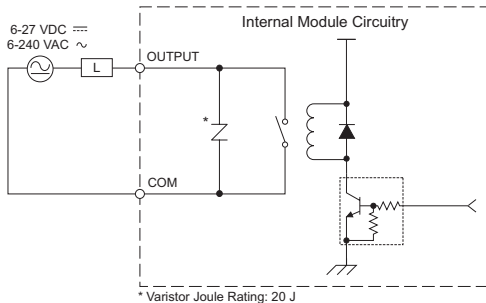
8-point 6-240 VAC/6-27 VDC relay output module, 8 Form A (SPST) relays, 2 commons, isolated, 1 A/point, removable terminal block included (replacement AutomationDirect p/n C0-08TB).

Wiring Diagram

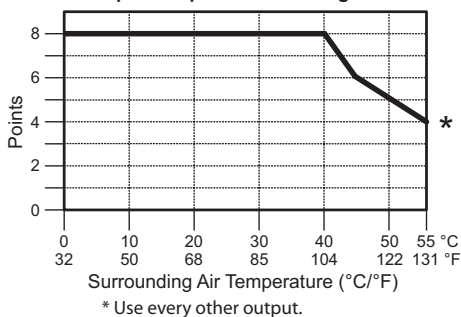


Output Specifications	
Outputs per Module	8
Operating Voltage Range	6-27 VDC / 6-240 VAC
Output Voltage Range	5-30 VDC / 5-264 VAC
Output type	Relay, form A (SPST)
AC Frequency	47-63 Hz
Maximum Current (resistive)	1 A/point, 4 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Leakage Current	0.1 mA @ 264VAC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (8 points, red LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24VDC)	Max. 100mA (All Outputs On)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	3.9 oz (110g)

Equivalent Output Circuit



Output Temperature Derating Chart



Typical Relay Life (Operations) at Room Temperature

Voltage & Load Type	Load Current: 1 A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
250VAC Resistive	500,000 cycles
250VAC Solenoid	200,000 cycles

ON to OFF = 1 cycle

ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module



11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

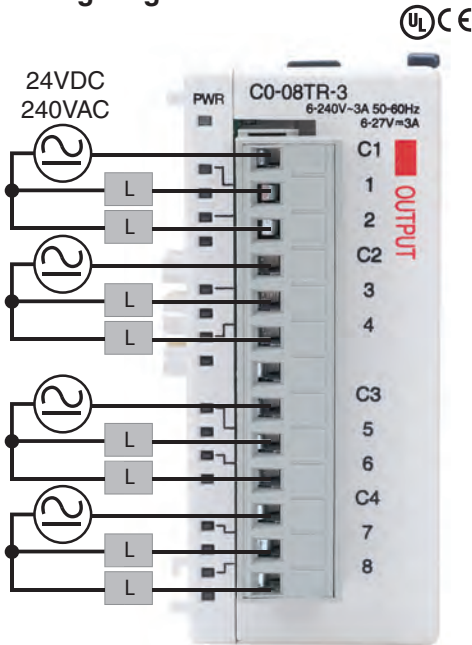
CLICK I/O Module Specifications

C0-08TR-3 **\$49.00**

8-Point Relay Output Module

8-point 6-27 VDC/6-240 VAC relay output module, 8 Form A (SPST) relays, 4 commons, isolated, 3 A/point, removable terminal block included (replacement AutomationDirect p/n C0-8TB-1).

Wiring Diagram

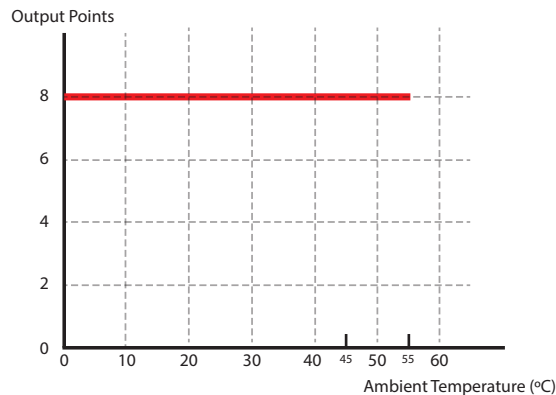


Output Specifications	
Outputs per Module	8
Operating Voltage Range	6-27 VDC / 6-240 VAC
Peak Voltage	30 VDC / 264 VAC
Output type	Relay, form A (SPST)
AC Frequency	47-63 Hz
Maximum Current (resistive)	3A/point, 6A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	5A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (8 points, red LED) Power Indicator (green LED)
Commons	4 (2 points/common)
Bus Power Required (24VDC)	Max. 90mA (All Outputs On)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	AutomationDirect p/n C0-8TB-1
Weight	4.1 oz (117g)

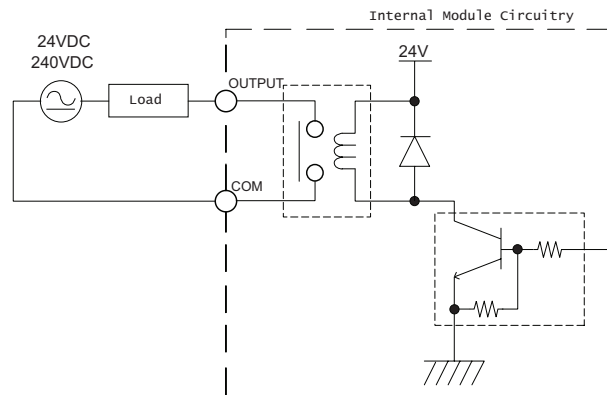
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
24VDC, 3A Resistive	100,000 cycles
24VDC, 3A Inductive	50,000 cycles
110VAC, 3A Resistive	100,000 cycles
110VAC, 3A Inductive	25,000 cycles
220VAC, 3A Resistive	100,000 cycles
220VAC, 3A Inductive	25,000 cycles

ON to OFF = 1 cycle

Output Temperature Derating Chart



Equivalent Output Circuit



CLICK I/O Module Specifications

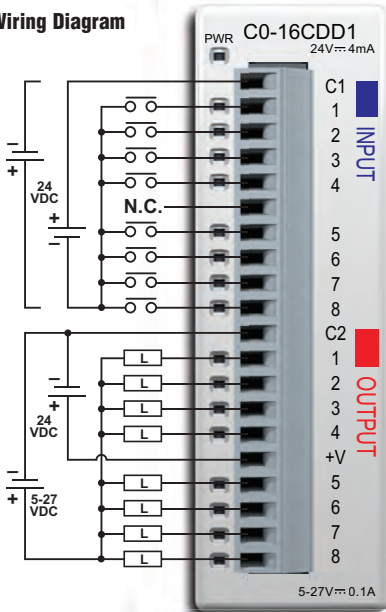
CO-16CDD1

\$62.00

8-Point DC Input and 8-Point DC Sinking Output Module

8-point 24VDC current sinking/sourcing input, 1 common, 8-point 5–27 VDC sinking output, 0.1A/pt., 1 common, non-fused, removable terminal block included (replacement AutomationDirect p/n CO-16TB).

Wiring Diagram

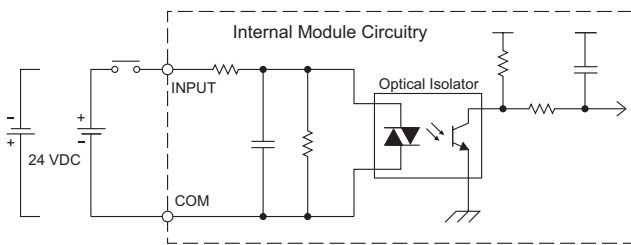


N.C. = Not Connected

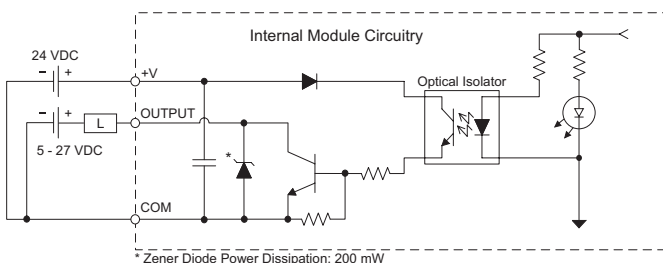


NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

Equivalent Input Circuit



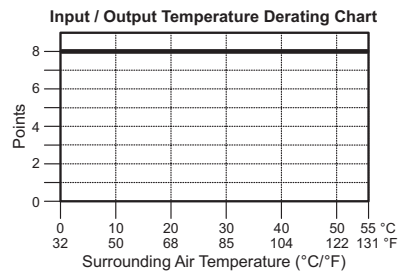
Equivalent Output Circuit



Input Specifications	
Inputs per Module	8 (Source/Sink)
Operating Voltage Range	CE: 24VDC (-10%/+10%) UL: 24VDC (-10%/+10%)
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 4.0 mA @ 24VDC
Maximum Input Current	5.0 mA @ 26.4 VDC
Input Impedance	6.8 kΩ @ 24VDC
ON Voltage Level	>19.0 VDC
OFF Voltage Level	<7.0 VDC
Minimum ON Current	3.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Max. 10ms Typ. 2ms
ON to OFF Response	Max. 10ms Typ. 3ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Commons	1 (8 points/common)

Output Specifications	
Outputs per Module	8 (sink)
Operating Voltage Range	CE: 5–24 VDC (-15%/+20%) UL: 5–27 VDC (-15%/+20%)
Output Voltage Range	4–30 VDC
Maximum Output Current	0.1 A/point, 0.8 A/common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.5 VDC @ 0.1 A
Maximum Inrush Current	0.15 A for 10 ms
OFF to ON Response	< 0.5 ms
ON to OFF Response	< 0.5 ms
Status Indicators	Logic Side (8 points, red LED)
Commons	1 (8 points/common)
External DC Power Required	24VDC (-10%/+10%) max. 50mA (all points on)

General Specifications	
Bus Power Required (24VDC)	Max. 80 mA (all points on)
Terminal Block Replacement	AutomationDirect p/n CO-16TB
Weight	3.2 oz (90g)



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC



ZL-RTB20 20-pin feed-through connector module

- 20-pin connector cable
- ZL-CO-CBL20 (0.5 m length)
- ZL-CO-CBL20-1 (1.0 m length)
- ZL-CO-CBL20-2 (2.0 m length)

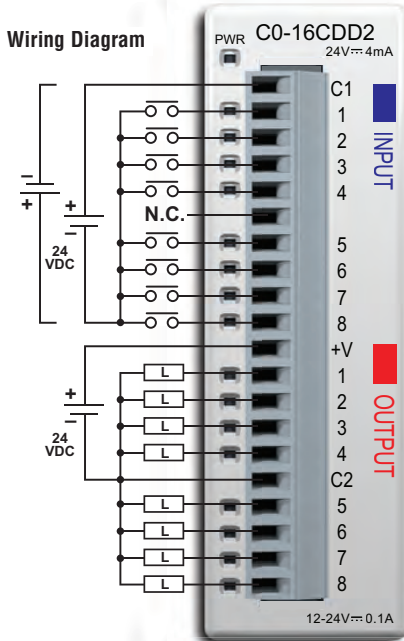


CLICK I/O Module Specifications

C0-16CDD2 **\$62.00**

8-Point DC Input and 8-Point DC Sourcing Output Module

8-point 24VDC current sinking/sourcing input, 1 common, 8-point 12–24 VDC sourcing output, 0.1 A/pt., 1 common, non-fused, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

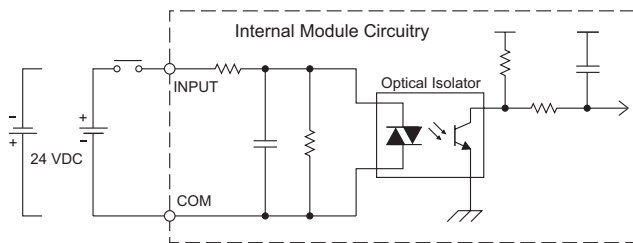


N.C. = Not Connected

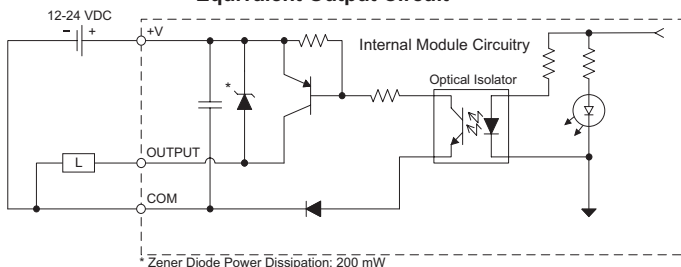


NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

Equivalent Input Circuit



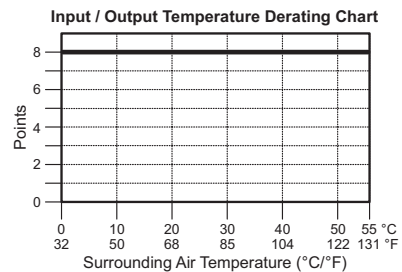
Equivalent Output Circuit



Input Specifications	
Inputs per Module	8 (source/sink)
Operating Voltage Range	CE: 24VDC (-10%/+10%) UL: 24VDC (-10%/+10%)
Input Voltage Range	21.6–26.4 VDC
Input Current	Typ 4.0 mA @ 24VDC
Maximum Input Current	5.0 mA @ 26.4 VDC
Input Impedance	6.8 kΩ @ 24VDC
ON Voltage Level	>19.0 VDC
OFF Voltage Level	<7.0 VDC
Minimum ON Current	3.5 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Max. 10ms Typ. 2ms
ON to OFF Response	Max. 10ms Typ. 3ms
Status Indicators	Logic Side (8 points, green LED) Power Indicator (green LED)
Commons	1 (8 points/common)

Output Specifications	
Outputs per Module	8 (Source)
Operating Voltage Range	CE: 12–24 VDC (-15%/+20%) UL: 12–24 VDC (-20%/+25%)
Output Voltage Range	9.6–30 VDC
Maximum Output Current	0.1 A / point, 0.8 A / common
Minimum Output Current	0.2 mA
Maximum Leakage Current	0.1 mA @ 30VDC
On Voltage Drop	0.6 VDC @ 0.1 A
Maximum Inrush Current	0.15 A for 10ms
OFF to ON Response	<0.5 ms
ON to OFF Response	<0.5 ms
Status Indicators	Logic Side (8 points, red LED)
Commons	1 (8 points/common)

General Specifications	
Bus Power Required (24VDC)	Max. 80mA (all points on)
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.2 oz (90g)



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

- 20-pin connector cable
- ZL-C0-CBL20 (0.5 m length)
- ZL-C0-CBL20-1 (1.0 m length)
- ZL-C0-CBL20-2 (2.0 m length)



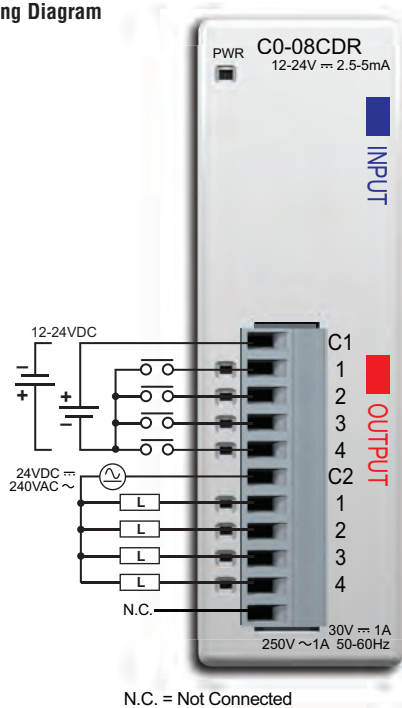
CLICK I/O Module Specifications

C0-08CDR \$53.00

4-Point DC Input and 4-Point Relay Output Module

4-point 12–24 VDC current sinking/sourcing input, 1 common, 4-point 6.25–24 VDC / 6–240 VAC relay output, Form A (SPST) relays 1A/pt., 1 common, non-fused, removable terminal block included (replacement AutomationDirect p/n C0-8TB).

Wiring Diagram



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

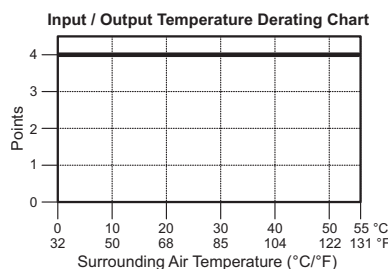
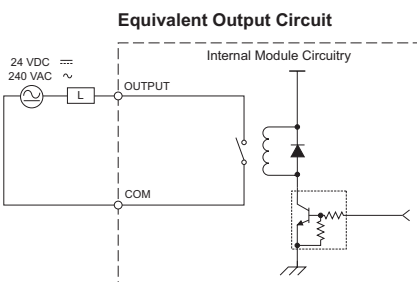
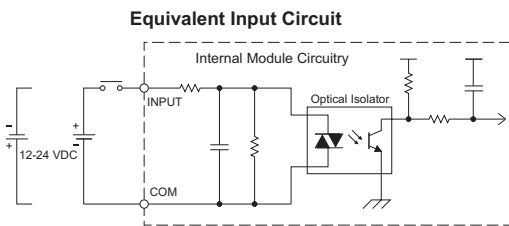
Input Specifications	
Inputs per Module	4 (source/sink)
Operating Voltage Range	CE: 12–24 VDC (-10%/+10%) UL: 12–24 VDC (-10%/+10%)
Input Voltage Range	10.8 – 26.4 VDC
Input Current	Typ 5.0 mA @ 24VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	4.7 kΩ @ 24VDC
ON Voltage Level	>8.0 VDC
OFF Voltage Level	<3.0 VDC
Minimum ON Current	1.4 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Max. 3.5 ms Typ. 2ms
ON to OFF Response	Max. 4ms Typ. 2.5 ms
Status Indicators	Logic Side (4 points, green LED) Power Indicator (green LED)
Commons	1 (4 points/common)

Output Specifications	
Outputs per Module	4 (Relay)
Operating Voltage Range	CE: 6.25–24VDC (-15%/+10%) / 6–240 VAC (-15%/+10%) UL: 24VDC (-15%/+10%) / 240 VAC (-10%/+10%)
Peak Voltage	30VDC / 264VAC
Output Type	Relay, Form A (SPST)
AC Frequency	47–63 Hz
Maximum Current	1 A/point, 4 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Leakage Current	0.1 mA @ 264VAC
Maximum Inrush Current	3A for 10ms
OFF to ON Response	<15ms
ON to OFF Response	<15ms
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)

General Specifications	
Bus Power Required (24VDC)	Max. 80 mA (all points on)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	3.2 oz (90g)

Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type*	Relay Life (ON to OFF = 1 cycle)
30VDC, 1A, Resistive	80,000 cycles
30VDC, 1A, Solenoid	80,000 cycles
250VAC, 1A, Resistive	80,000 cycles
250VAC, 1A, Solenoid	80,000 cycles

* These relay outputs support both inductive (solenoid) and resistive loads.



ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

ZL-RTB20 20-pin feed-through connector module



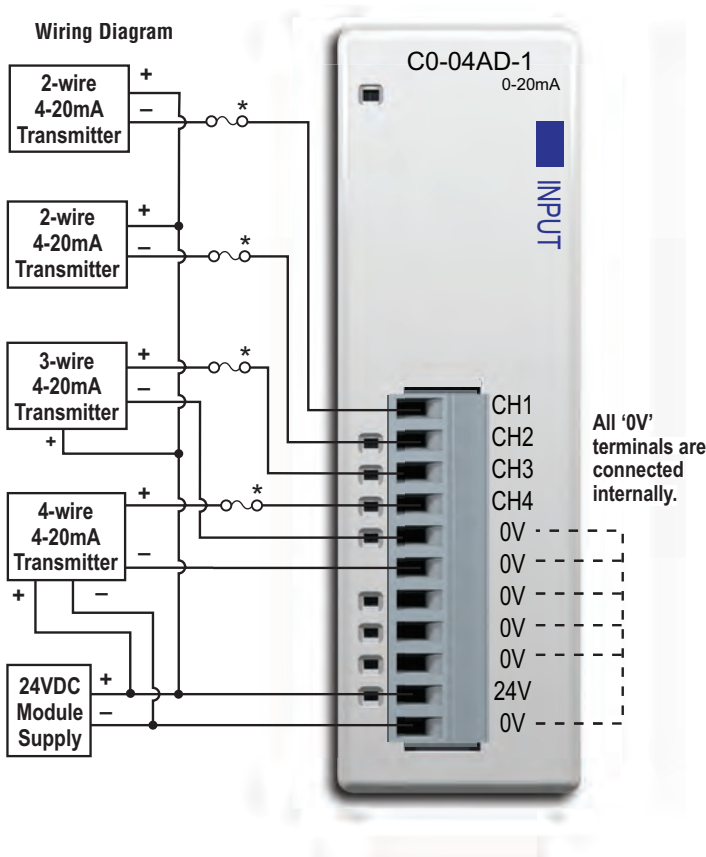
11-pin connector cable
ZL-C0-CBL11 (0.5 m length)
ZL-C0-CBL11-1 (1.0 m length)
ZL-C0-CBL11-2 (2.0 m length)

CLICK I/O Module Specifications

C0-04AD-1 **\$97.00**

4-Channel Analog Current Input Module

4-channel analog current sinking input module, 13-bit resolution, range: 0-20 mA. External 24VDC power required, removable terminal block included (replacement AutomationDirect p/n C0-8TB).



Input Specifications	
Inputs per Module	4
Input Range	0-20 mA (sink)
Resolution	13-bit, 2.44 uA/count
Input Type	Single ended (1 common)
Maximum Continuous Overload	±44 mA
Input Impedance	124Ω, 0.5 W current input
Filter Characteristics	Low pass, -3dB at 120Hz
Sample Duration Time	2ms
All Channel Update Rate	25ms
Open Circuit Detection Time	Zero reading within 100ms
Accuracy vs. Temperature	±75 PPM/°C maximum
Maximum Inaccuracy	0.5% of range (including temperature changes)
Linearity Error (End to End)	±3 count maximum, monotonic with no missing codes
Input Stability and Repeatability	±2 count maximum
Full Scale Calibration Error (including Offset)	±8 count maximum
Offset Calibration Error	±8 count maximum
Maximum Crosstalk at DC, 50/60Hz	±2 count maximum
Field to Logic Side Isolation	1800 VAC for 1 sec.
Recommended Fuse (external)	AutomationDirect p/n S500-32-R (0.032A fuse)
External 24VDC Power Required	65mA
Bus Power Required (24VDC)	20mA
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.9 oz (82g)



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

11-pin connector cable
 ZL-C0-CBL11 (0.5 m length)
 ZL-C0-CBL11-1 (1.0 m length)
 ZL-C0-CBL11-2 (2.0 m length)



ZL-RTB20 20-pin feed-through connector module

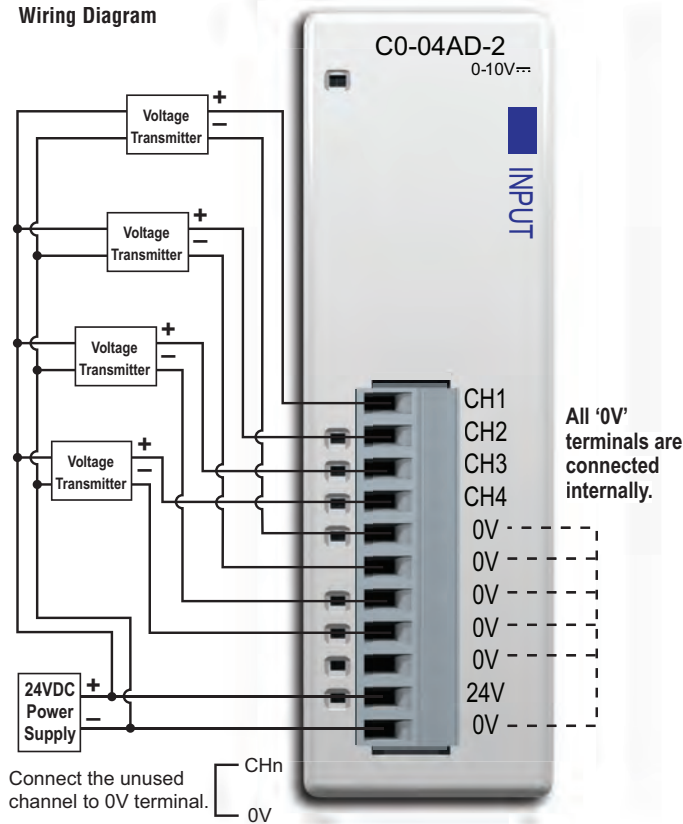
CLICK I/O Module Specifications

C0-04AD-2 **\$98.00**

4-Channel Analog Voltage Input Module

4-channel analog voltage input module, 13-bit resolution, range: 0-10V.
 External 24VDC power required, removable terminal block included
 (replacement AutomationDirect p/n C0-8TB).

Wiring Diagram



Input Specifications	
Inputs per Module	4
Input Range	0-10 V
Resolution	13-bit, 1.22 mV per count
Input Type	Single ended (1 common)
Maximum Continuous Overload	±100 VDC
Input Impedance	>150kΩ
Filter Characteristics	Low pass, -3dB at 500Hz
Sample Duration Time	6.25 ms
All Channel Update Rate	25ms
Open Circuit Detection Time	Zero reading within 100ms
Accuracy vs. Temperature	±75 PPM/°C maximum
Maximum Inaccuracy	0.5% of range (including temperature changes)
Linearity Error (End to End)	±3 count maximum, monotonic with no missing codes
Input Stability and Repeatability	±2 count maximum
Full Scale Calibration Error (Including Offset)	±8 count maximum
Offset Calibration Error	±8 count maximum
Maximum Crosstalk at DC, 50/60Hz	±2 count maximum
Field to Logic Side Isolation	1800 VAC for 1 sec.
External 24VDC Power Required	65mA
Base Power Required (24VDC)	23mA
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.9 oz (82g)



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

ZILink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

11-pin connector cable
 ZL-C0-CBL11 (0.5 m length)
 ZL-C0-CBL11-1 (1.0 m length)
 ZL-C0-CBL11-2 (2.0 m length)



ZL-RTB20 20-pin feed-through connector module

CLICK I/O Module Specifications

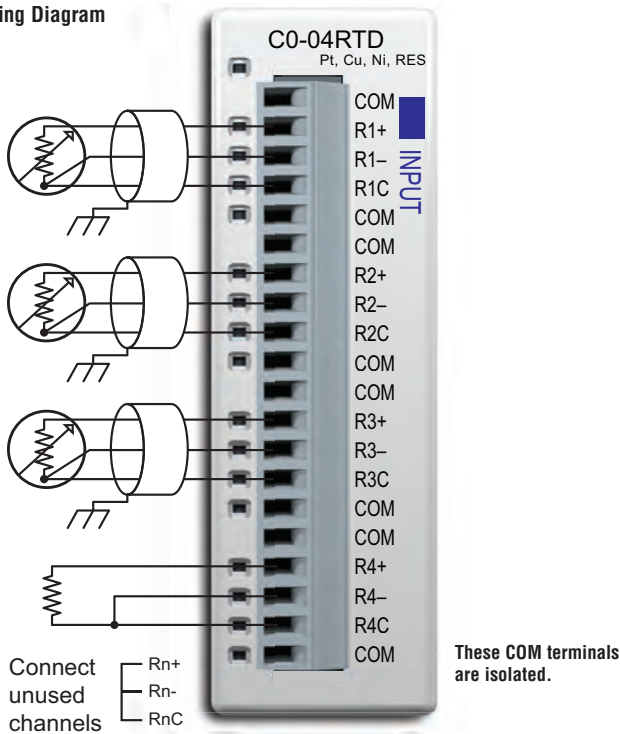
C0-04RTD **\$165.00**

4-Channel RTD Input Module

4-channel RTD input module, 16-bit resolution (+/-0.1 degrees Celsius or Fahrenheit), supports: Pt100, Pt1000, JPt100, Cu10, Cu25, Ni120. Resistive ranges also supported, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

NOTE: The C0-04RTD module cannot be used with thermistors.

Wiring Diagram



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

NOTE: When this module is used in a CLICK PLC system, it may take up to 24 seconds for initialization after power-up (see the table below). During this time period, the RUN LED on the PLC Unit blinks to indicate the initialization process.

Input Specifications	
Inputs per Module	4
Common Mode Range	±2.5 V
Common Mode Rejection	100dB at DC and 100 dB at 50/60Hz
Input Impedance	>5MΩ
Maximum Ratings	Fault protected inputs to ±50VDC
Resolution	±0.1°C or °F, 0.1 Ω or 0.01 Ω
Input Ranges*	Pt100: -200 to 850°C (-328 to 1562°F) Pt1000: -200 to 595°C (-328 to 1103°F) JPt100: -100 to 450°C (-148 to 842°F) 10Ω Cu: -200 to 260°C (-328 to 500°F) 25Ω Cu: -200 to 260°C (-328 to 500°F) 120Ω Ni: -80 to 260°C (-112 to 500°F) 0 to 3125.0 Ω : Resolution 0.1 Ω 0 to 1562.5 Ω : Resolution 0.1 Ω 0 to 781.2 Ω : Resolution 0.1 Ω 0 to 390.62 Ω : Resolution 0.01 Ω 0 to 195.31 Ω : Resolution 0.01 Ω
RTD Linearization	Automatic
Excitation Current (All Ranges)	210 μA
Accuracy vs. Temperature	±10ppm per °C maximum
RTD Input Maximum Inaccuracy	±3°C (excluding RTD error); ±5°C (ranges Cu10 and Cu25)
RTD Linearity Error (End to End)	±2°C maximum, ±0.5°C typical, monotonic with no missing codes
Resistance Input Maximum Zero Scale Error	±0.0015% of full scale range in ohms (negligible)
Resistance Input Maximum Full Scale Error	±0.02% of full scale range
Maximum Linearity Error	±0.015% of full scale range maximum at 25°C, monotonic with no missing codes
Resistance Maximum Input Inaccuracy	0.1% at 0 to 60°C (32° to 140° F), typical 0.04% at 25°C (77° F)
Warm Up Time	30 minutes for ±1°C repeatability
Single Channel Update Rate	240ms
All Channel Update Rate	Single Channel Update Rate times the number of enabled channels on the module
Open Circuit Detection Time	Positive full-scale reading within 2 seconds
Conversion Method	Sigma - Delta

* While it is possible to use different resistive ranges, we recommend using the narrowest range that covers the resistance being measured. For example, if measuring approximately 100 ohms resistance, use the 0 to 195.31 ohms range. While the resolution is the same as the 0 to 390.62 ohms range, output RMS noise will be lower and stability will be improved.

General Specifications	
Field to Logic Side Isolation	No isolation
External DC Power Required	None
Bus Power Required (24VDC)	25mA
Thermal Dissipation	2.047 BTU per hour
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.1 oz (86g)

C0-04RTD Initialization Time		
The Number of Channels Used	The same Input Type is selected for all Channels	Mixed Input Types are selected
1	4 sec	N/A
2	5 sec	May take up to 13 sec
3	6 sec	May take up to 18 sec
4	7 sec	May take up to 24 sec

Not Compatible with ZIPLink Pre-Wired PLC Connection Cables and Modules.



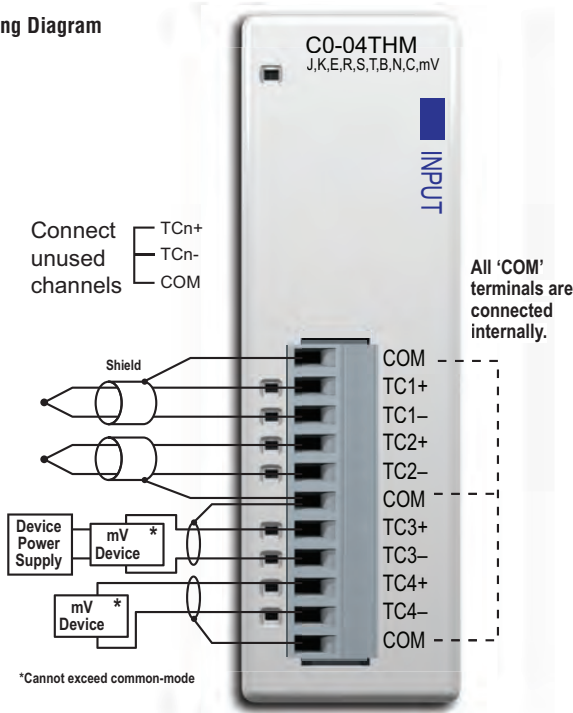
CLICK I/O Module Specifications

C0-04THM **\$165.00**

4-Channel Thermocouple Input Module

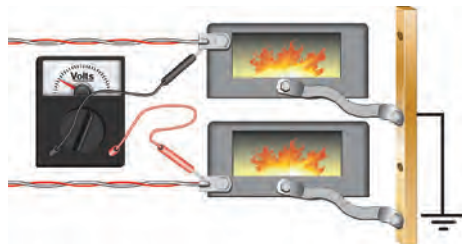
4-channel thermocouple input module, 16-bit resolution (+/-0.1 degrees Celsius or Fahrenheit), Supports: J, K, E, R, S, T, B, N, C type thermocouples; voltage ranges are also supported, removable terminal block included (replacement AutomationDirect p/n C0-8TB).

Wiring Diagram



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

NOTE: With grounded thermocouples, take precautions to prevent having a voltage potential between thermocouple tips. A voltage less than -1.3 V or greater than +3.8 V between tips will skew measurements.



NOTE: When this module is used in a CLICK PLC system, it takes up to 11 seconds for initialization after power-up (see the table right). During this time period, the RUN LED on the PLC Unit blinks to indicate the initialization process.

C0-04THM Initialization Time	
The Number of Channels Used	With any Configuration
1	5 sec
2	7 sec
3	9 sec
4	11 sec

Input Specifications	
Inputs per Module	4
Common Mode Range	-1.3 to +3.8 V
Common Mode Rejection	100dB at DC and 130 dB at 60Hz
Input Impedance	>5 MΩ
Maximum Ratings	Fault protected inputs to ±50VDC
Resolution	±0.1°C or °F, 16 bit
Input Ranges	Type J: -190 to 760°C (-310 to 1400°F) Type K: -150 to 1372°C (-238 to 2502°F) Type E: -210 to 1000°C (-346 to 1832°F) Type R: 65 to 1768°C (149 to 3214°F) Type S: 65 to 1768°C (149 to 3214°F) Type T: -230 to 400°C (-382 to 752°F) Type B: 529 to 1820°C (984 to 3308°F) Type N: -70 to 1300°C (-94 to 2372°F) Type C: 65 to 2320°C (149 to 4208°F) 0 to 39.0625 mV ±39.0625 mV ±78.125 mV 0 to 156.25 mV ±156.25 mV 0 to 1.25 V
Cold Junction Compensation	Automatic
Thermocouple Linearization	Automatic
Accuracy vs. Temperature	±25 ppm per °C maximum
Linearity Error	±2°C maximum, ±1°C typical, monotonic with no missing codes
Maximum Inaccuracy	±3°C maximum (excluding thermocouple error)
Maximum Voltage Input Offset Error	0.05% at 0° to 55°C (32° to 131° F) typical 0.04% at 25°C (77°F)
Maximum Voltage Input Gain Error	0.06% at 25°C (77°F)
Maximum Voltage Input Linearity Error	0.05% at 0° to 55°C (32° to 131°F), typical 0.03% at 25°C (77°F)
Maximum Voltage Input Inaccuracy	0.1% at 0° to 55°C (32° to 131°F), typical 0.04% at 25°C (77°F)
Warm Up Time	30 minutes for ±1°C repeatability
Single Channel Update Rate	400ms
All Channel Update Rate	Single Channel Update Rate times the number of enabled channels on the module
Open Circuit Detection Time	Burn Out flag set and zero scale reading within 3 seconds
Conversion Method	Sigma - Delta

General Specifications	
Field to Logic Side Isolation	1800 VAC applied for 1 second (100% tested)
External DC Power Required	None
Bus Power Required (24VDC)	25mA
Thermal Dissipation	0.175 BTU per hour
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	3.1 oz (86g)

Not Compatible with ZIPLink Pre-Wired PLC Connection Cables and Modules.



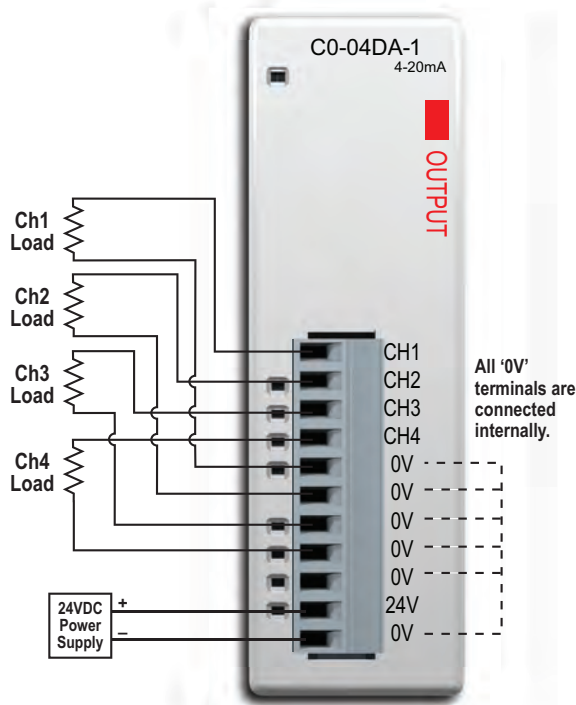
CLICK I/O Module Specifications

C0-04DA-1 **\$132.00**

4-Channel Analog Current Output Module

4-channel analog current sourcing output module, 12-bit resolution, range: 4-20 mA. External 24VDC power required, removable terminal block included (replacement AutomationDirect p/n C0-8TB).

Wiring Diagram



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

Output Specifications	
Outputs per Module	4
Output Range	4-20 mA (source)
Resolution	12-bit, 3.9 uA per count
Output Type	Current sourcing at 20mA max. (1 common)
Output Value in Fault Mode	Less than 4mA
Load Impedance	0-600Ω at 24VDC; minimum load: 0Ω 32° to 131°F (0° to 55°C) ambient temp.
Maximum Inductive Load	1 mH
Allowed Load Type	Grounded
Maximum Inaccuracy	±1% of range
Max. Full Scale Calibration Error (Including Offset)	±0.2% of range maximum
Max. Offset Calibration Error	±0.2% of range maximum
Accuracy vs. Temperature	±75 PPM/°C maximum full scale calibration change (±0.005% of range/°C)
Max. Crosstalk at DC, 50/60Hz	-72dB, 1 LSB
Linearity Error (End to End)	±4 LSB max., (±0.1% of full scale)
Output Stability and Repeatability	±2% LSB after 10 minute warmup period typical
Output Ripple	±0.1% of full scale
Output Settling Time	0.3 ms maximum, 5µs min. (full scale range)
All Channel Update Rate	10ms
Max. Continuous Overload	Outputs open circuit protected
Field to Logic Side Isolation	1800 VAC applied for 1 second (100% tested)
Type of Output Protection	Electronically limited to 20mA or less
Output Signal at Power Up and Power Down	4mA
External VDC Power Required	145mA
Base Power Required (24VDC)	20mA
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.9 oz (82g)

ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

11-pin connector cable
 ZL-C0-CBL11 (0.5 m length)
 ZL-C0-CBL11-1 (1.0 m length)
 ZL-C0-CBL11-2 (2.0 m length)



ZL-RTB20 20-pin feed-through connector module



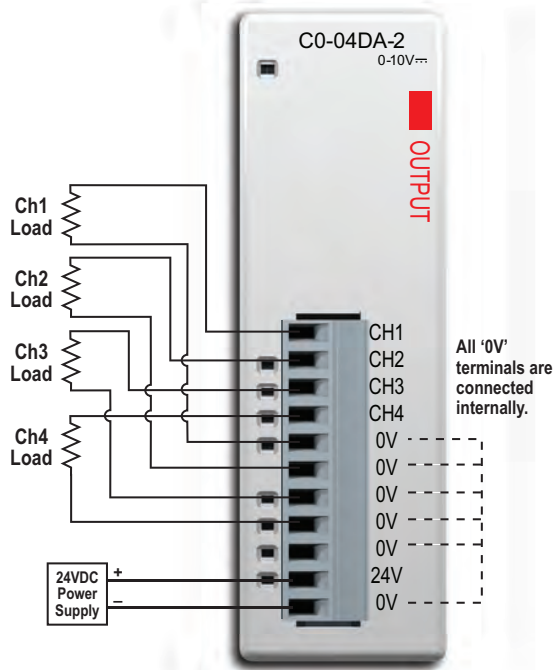
CLICK I/O Module Specifications

C0-04DA-2 **\$132.00**

4-Channel Analog Voltage Output Module

4-channel analog voltage output module, 12-bit resolution, range: 0-10V. External 24VDC power required, removable terminal block included (replacement AutomationDirect p/n C0-8TB).

Wiring Diagram



NOTE: When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

Output Specifications	
Outputs per Module	4
Output Range	0-10 V
Resolution	12-bit, 2.44 mV per count
Output Type	Voltage sourcing at 10mA max. (1 common)
Output Value in Program Mode	Determined by CPU
Output Value in Fault Mode	0 V
Output Impedance	0.2 Ω typical
Load Impedance	>1000Ω
Maximum Capacitive Load	0.01 μF maximum
Allowed Load Type	Grounded
Maximum Inaccuracy	0.5% of range
Max. Full Scale Calibration Error (Not including Offset)	±0.2% of range maximum voltage
Max. Offset Calibration Error	±0.2% of range maximum
Accuracy vs. Temperature	±75 PPM/°C maximum full scale calibration change (±0.0025% of range/°C)
Max. Crosstalk at DC, 50/60Hz	-72 dB, 1 LSB
Linearity Error (End to End)	±4 LSB max., (±0.1% of full scale); monotonic with no missing codes
Output Stability and Repeatability	±2% LSB after 10 minute warmup period typical
Output Ripple	0.1% of full scale
Output Settling Time	0.3 ms maximum, 5μs minimum (full scale range)
All Channel Update Rate	10ms
Max. Continuous Overload	Outputs current limited to 40mA typical; continuous overloads on multiple outputs can damage module.
Field to Logic Side Isolation	1800 VAC applied for 1 second (100% tested)
Type of Output Protection	0.1 μF transient suppressor
Output Signal at Power Up and Power Down	0 V
External 24VDC Power Required	85mA
Base Power Required (24VDC)	20mA
Terminal Block Replacement	AutomationDirect p/n C0-8TB
Weight	2.9 oz (82g)

ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

11-pin connector cable
 ZL-C0-CBL11 (0.5 m length)
 ZL-C0-CBL11-1 (1.0 m length)
 ZL-C0-CBL11-2 (2.0 m length)



ZL-RTB20 20-pin feed-through connector module

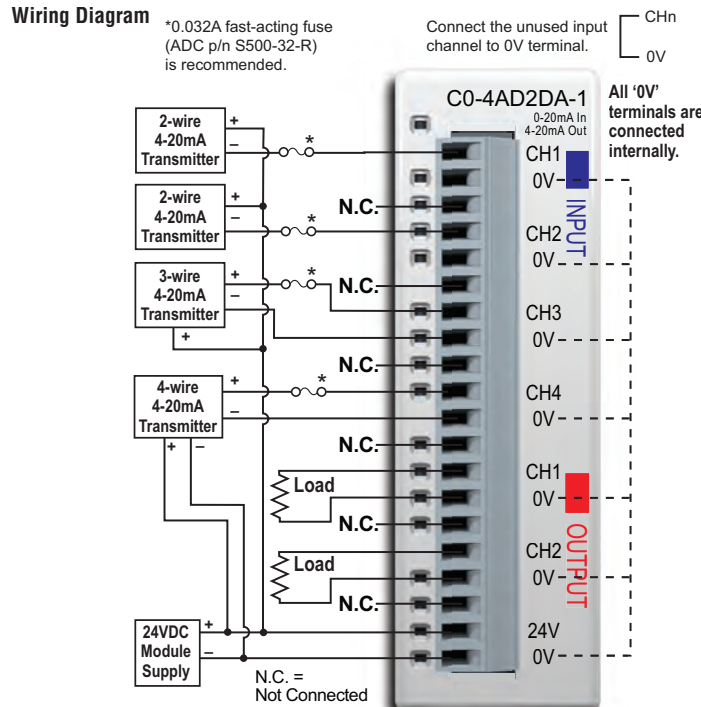


CLICK I/O Module Specifications

C0-4AD2DA-1 **\$172.00**

4-Channel Analog Current Input and 2-Channel Analog Current Output Module

4-channel analog current sinking input (13-bit resolution) and 2-channel analog current sourcing output (12-bit resolution) module, range: 0–20 mA (inputs), 4–20 mA (outputs). External 24VDC power required, removable terminal block included (replacement AutomationDirect p/n C0-16TB).



Input Specifications	
Inputs per Module	4
Input Range	0-20 mA (sink)
Resolution	13-bit, 2.44 uA per count
Input Type	Single ended (1 common)
Maximum Continuous Overload	±44mA
Input Impedance	124Ω, 0.5 W current input
Filter Characteristics	Low pass, -3dB at 400Hz
PLC Data Format	13-bit unsigned Integer, range is 0-8191
Sample Duration Time	5ms
All Channel Update Rate	20ms (input plus output maximum time)
Open Circuit Detection Time	Zero reading within 20ms
Conversion Method	Successive approximation
Accuracy vs. Temperature	±75 PPM/°C maximum
Maximum Inaccuracy	0.5% of range (including temperature changes)
Linearity Error (End to End)	±3 count maximum, monotonic with no missing codes
Input Stability and Repeatability	±2 count maximum
Full Scale Calibration Error (Including Offset)	±8 count maximum
Offset Calibration Error	±8 count maximum
Maximum Crosstalk at DC, 50/60Hz	±2 count maximum

Output Specifications	
Outputs per Module	2
Output Range	4-20 mA (source)
Resolution	12-bit, 3.9 uA per count
Output Type	Current sourcing at 20mA max. (1 common)
PLC Data Format	12-bit unsigned integer, 0-4095 counts
Output Value in Fault Mode	Less than 4mA
Load Impedance	0-600 Ω at 24VDC; minimum load: 0Ω 32° to 113°F (0° to 45°C); 125Ω 113° to 131°F (45° to 55°C) ambient temp.
Maximum Inductive Load	1mH
Allowed Load Type	Grounded
Maximum Inaccuracy	±1% of range
Max. Full Scale Calibration Error (Including Offset)	±0.2% of range maximum
Max. Offset Calibration Error	±0.2% of range maximum
Accuracy vs. Temperature	±50 PPM/°C maximum full scale calibration change (±0.005% of range/°C)
Max. Crosstalk at DC, 50/60Hz	-72dB, 1 LSB
Linearity Error (End to End)	±4 LSB maximum, (±0.1% of full scale), monotonic with no missing codes
Output Stability and Repeatability	±2% LSB after 10 minute warmup period typical
Output Ripple	±0.1% of full scale
Output Settling Time	0.2 ms maximum, 5µs min. (full scale range)
All Channel Update Rate	20ms
Max. Continuous Overload	Outputs open circuit protected
Type of Output Protection	Electronically limited to 20mA or less
Output Signal at Power Up or Power Down	4mA



NOTE: When using this module you must also use CLICK programming software and CPU firmware version V1.40 or later.

General Specifications	
Field to Logic Side Isolation	1800VAC for 1 sec.
External 24VDC Power Required	75mA
Bus Power Required (24VDC)	25mA
Recommended Fuse (External)	AutomationDirect p/n S500-32-R (0.032A fuse)
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.1 oz (86g)



ZL-RTB20 20-pin feed-through connector module

ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

- 20-pin connector cable
- ZL-C0-CBL20 (0.5 m length)
- ZL-C0-CBL20-1 (1.0 m length)
- ZL-C0-CBL20-2 (2.0 m length)



CLICK I/O Module Specifications

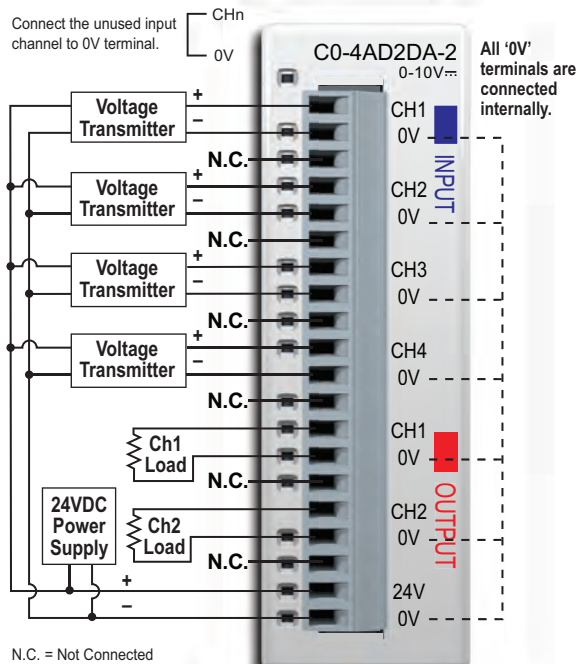
C0-4AD2DA-2

\$165.00

4-Channel Analog Voltage Input and 2-Channel Analog Voltage Output Module

4-channel analog voltage input (13-bit resolution) and 2-channel analog voltage output (12-bit resolution) module, range: 0–10V. External 24VDC power required, removable terminal block included (replacement AutomationDirect p/n C0-16TB).

Wiring Diagram



NOTE: When using this module you must also use CLICK programming software and CPU firmware version V1.40 or later.

General Specifications

Field to Logic Side Isolation	1800VAC
External 24VDC Power Required	65mA
Base Power Required (24VDC)	15mA
Terminal Block Replacement	AutomationDirect p/n C0-16TB
Weight	3.1 oz (86g)



ZL-RTB20 20-pin feed-through connector module

Z/PLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

- 20-pin connector cable ZL-C0-CBL20 (0.5 m length)
- ZL-C0-CBL20-1 (1.0 m length)
- ZL-C0-CBL20-2 (2.0 m length)



Input Specifications	
Inputs per Module	4
Input Range	0-10 V
Resolution	13-bit, 1.22 mV per count
Input Type	Single ended (1 common)
Maximum Continuous Overload	±100VDC
Input Impedance	>150kΩ
Filter Characteristics	Low pass, -3 dB at 500Hz
Sample Duration Time	5ms
All Channel Update Rate	20ms
Open Circuit Detection Time	Zero reading within 100ms
Conversion Method	Successive approximation
Accuracy vs. Temperature	±75 PPM/°C maximum
Maximum Inaccuracy	0.5% of range (including temperature changes)
Linearity Error (End to End)	±3 count maximum, monotonic with no missing codes
Input Stability and Repeatability	±2 count maximum
Full Scale Calibration Error (including Offset)	±8 count maximum
Offset Calibration Error	±8 count maximum
Maximum Crosstalk at DC, 50/60Hz	±2 count maximum

Output Specifications	
Outputs per Module	2
Output Range	0-10 V
Resolution	12-bit, 2.44 mV per count
Output Type	Voltage sourcing at 10mA max. (1 common)
Output Value in Program Mode	Determined by CPU
Output Value in Fault Mode	0 V
Output Impedance	0.2 Ω typical
Load Impedance	>1000Ω
Maximum Capacitive Load	0.01 uF maximum
Allowed Load Type	Grounded
Maximum Inaccuracy	1% of range
Max. Full Scale Calibration Error (Not including Offset)	±0.2% of range maximum voltage
Max. Offset Calibration Error	±0.2% of range maximum
Accuracy vs. Temperature	±75 PPM/°C maximum full scale calibration change (±0.0025% of range/°C)
Max. Crosstalk at DC, 50/60Hz	-72 dB, 1 LSB
Linearity Error (End to End)	±4 LSB maximum, (±0.1% of full scale); monotonic with no missing codes
Output Stability and Repeatability	±2% LSB after 10 minute warmup period typical
Output Ripple	0.5% of full scale
Output Settling Time	0.3 ms maximum, 5µs minimum (full scale range)
All Channel Update Rate	20ms
Max. Continuous Overload	Outputs current limited to 40mA typical; continuous overloads on multiple outputs can damage module.
Type of Output Protection	0.1 µF transient suppressor
Output Signal at Power Up or Power Down	0 V

Accessories

C0-USER-M \$0.00

CLICK PLC Hardware User Manual

Manual covers all CLICK PLC and I/O module installation and wiring, specifications, error codes and troubleshooting guide. The CLICK PLC Hardware User Manual can be downloaded free at the *AutomationDirect* Web site; www.automationdirect.com



C0-PGMSW \$11.00



Programming Software CD-ROM

The programming software can be downloaded free at the *AutomationDirect* Web site, or the CD can be purchased from the *AutomationDirect* online Web store. www.automationdirect.com

EA-MG-PGM-CBL \$46.50

PC to Panel Programming Cable Assembly for C-more Micro-Graphic Panels and CLICK PLCs

The 6ft cable assembly connects a personal computer to any C-more Micro-Graphic panel or CLICK PLC for setup and programming.

Note: This cable assembly uses the PC's USB port and converts the signals to serial transmissions. The USB port supplies 5VDC to the Micro-Graphic panel for configuration operations.

Assembly includes standard USB A-type connector to B-type connector cable, custom converter, and a RS232C cable with RJ12 modular connector on each end.



D2-DSCBL \$24.00

Programming Cable for CLICK and *Direct*LOGIC PLCs 12ft. (3.66 m) RS232



shielded PC programming cable for CLICK, DL05, DL06, DL105, DL205, D3-350, D4-450, D4-454, and Do-more H2 and T1H series CPUs. 9-pin D-shell female connector to an RJ12 6P6C connector.

Note: If your PC has a USB port but does not have a serial port, you must use programming cable EA-MG-PGM-CBL.

C0-3TB \$7.75

Spare 3-Pole Terminal Block

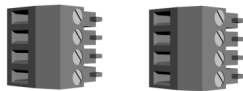
Replacement 3-pole terminal block for the 3-wire RS-485 Port 3 on CLICK Standard and Analog PLCs. Sold in packs of 2.



C0-4TB \$7.75

Spare 24VDC Power Terminal Block

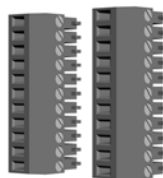
Replacement terminal block for the 24VDC supply power to the PLC. Sold in packs of 2.



C0-8TB \$13.50

Spare 8-Point I/O Terminal Block

Replacement terminal block for the 8-point I/O modules. Sold in packs of 2.



D2-BAT-1 \$5.75

Replacement battery for Standard, Analog, Ethernet Standard and Ethernet Analog PLC units.



C0-8TB-1 \$15.00
Spare 13-Point I/O Terminal Block

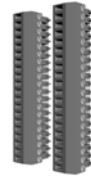
Replacement terminal block for the 8-point I/O relay modules. Sold in packs of 2.



C0-16TB \$18.50

Spare 16-Point I/O Terminal Block

Replacement terminal block for the 16-point I/O modules and PLC built-in I/O. Sold in packs of 2.



DN-WS \$57.00

Wire Stripper



DN-EB35MN \$21.50
DINnectors End Bracket



C-more and C-more Micro Graphic Operator Interfaces



ZIPLink Wiring Systems



Spare Cat5e Ethernet Cable

Cat5e Ethernet Cable sold in lengths of 3ft. to 50ft.

