



# Programmable Controller

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# Just CLICK! For Simple discrete and analog control



**CLICK PLC UNITS**  
Starting at:

**\$69**

CO-00DD1-D  
CO-00DD2-D

Two communication ports support operator interfaces, PC programmers or any Modbus RTU device

*Modbus TCP (client/server) and EtherNet/IP Implicit and Explicit (adapter server) capable PLC units also available*



Shown actual size

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

## 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 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.

**LOW PRICES**

### 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.

**FREE SOFTWARE**

### 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.

**QUALITY CONSTRUCTION**





# Simply CLICK to get started

## 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
- 24 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](http://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](http://www.automationdirect.com) and get a CLICK shipped the same day!



### BASIC PLC UNITS

- Two RS-232 comm ports
- Super Capacitor

**C0-00DD1-D**  
**\$69.00**

8 DC sink/source inputs, 6 DC sinking outputs

### STANDARD PLC UNITS

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

**C0-01DD1-D**  
**\$101.00**

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**  
**\$101.00**

8 DC sink/source inputs, 6 DC sourcing outputs

**FREE Full-featured Software**

### ANALOG PLC UNITS

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

**C0-02DD1-D**  
**\$132.00**

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

**C0-00DR-D**  
**\$82.00**

8 DC sink/source inputs, 6 Relay outputs

**C0-01DR-D**  
**\$112.00**

8 DC sink/source inputs, 6 Relay outputs

**C0-02DD2-D**  
**\$132.00**

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

**C0-00AR-D**  
**\$82.00**

8 AC inputs, 6 relay outputs

**C0-01AR-D**  
**\$112.00**

8 AC inputs, 6 relay outputs

**C0-02DR-D**  
**\$142.00**

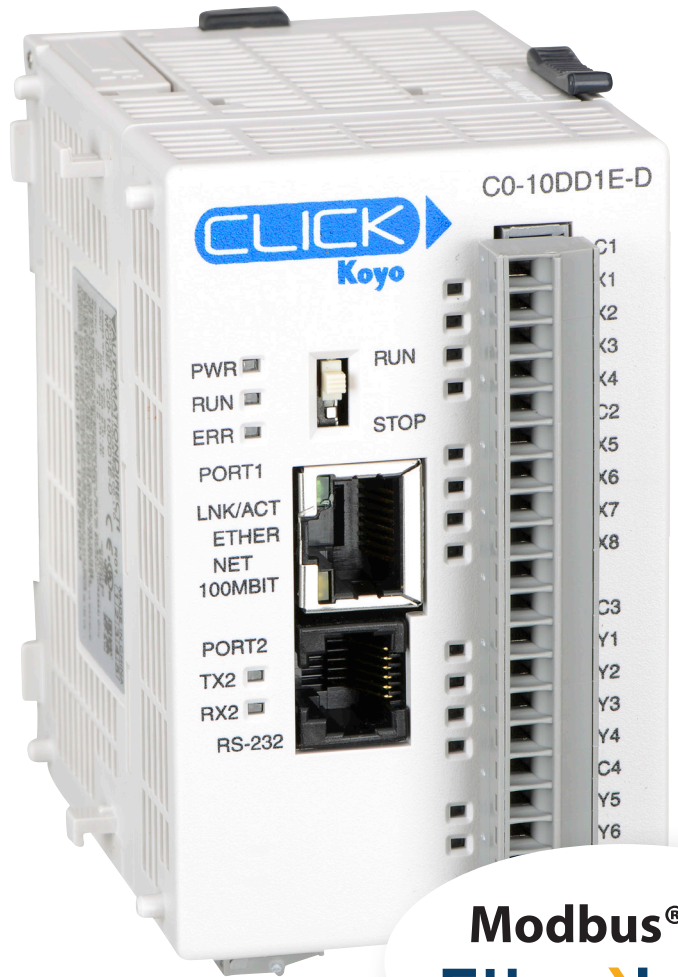
4 DC inputs, 4 Relay outputs, 2 Analog inputs, 2 Analog outputs

# 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.



**Modbus<sup>®</sup> TCP  
EtherNet/IP**

## 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!





### 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

 <b>C0-10DD1E-D</b> <b>\$132.00</b> 8 DC sink/source inputs, 6 DC sinking outputs	 <b>C0-10DD2E-D</b> <b>\$132.00</b> 8 DC sink/source inputs, 6 DC sourcing outputs
 <b>C0-10DRE-D</b> <b>\$142.00</b> 8 DC sink/source inputs, 6 relay outputs	 <b>C0-10ARE-D</b> <b>\$142.00</b> 8 AC inputs, 6 relay outputs

### 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

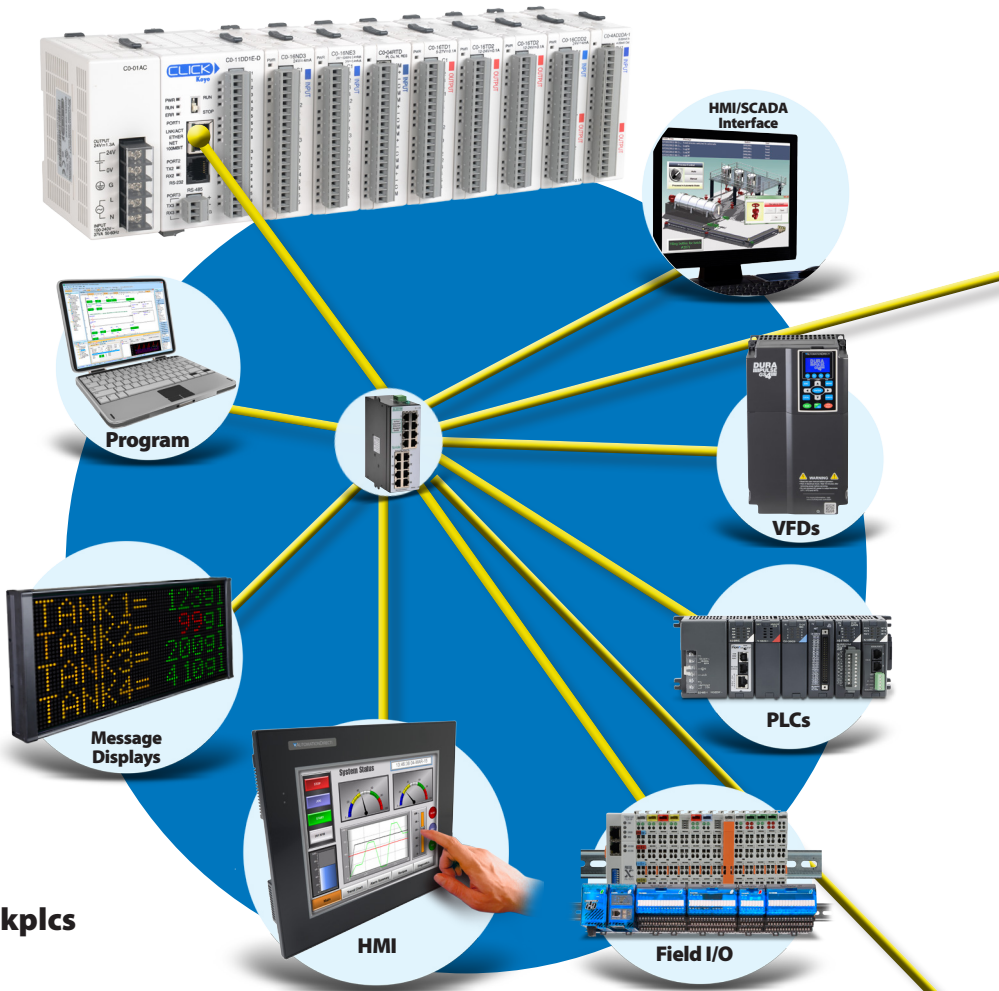
 <b>C0-11DD1E-D</b> <b>\$153.00</b> 8 DC sink/source inputs, 6 DC sinking outputs	 <b>C0-11DD2E-D</b> <b>\$153.00</b> 8 DC sink/source inputs, 6 DC sourcing outputs
 <b>C0-11DRE-D</b> <b>\$163.00</b> 8 DC sink/source inputs, 6 relay outputs	 <b>C0-11ARE-D</b> <b>\$163.00</b> 8 AC inputs, 6 relay outputs

## 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/clickplc](http://www.automationdirect.com/clickplc)

### 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

**C0-12DD1E-D**

**\$179.00**

4 DC inputs, 4 DC sinking outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)

**C0-12DD2E-D**

**\$179.00**

4 DC inputs, 4 DC sourcing outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)

**C0-12DRE-D**

**\$189.00**

4 DC inputs, 4 relay outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)

**C0-12ARE-D**

**\$189.00**

4 AC inputs, 4 relay outputs, 2 Analog inputs, 2 Analog outputs (current/voltage)

**C0-12DD1E-1-D**

**\$179.00**

4 DC inputs, 4 DC sinking outputs, 4 Analog inputs, 2 Analog outputs (current)

**C0-12DD2E-1-D**

**\$179.00**

4 DC inputs, 4 DC sourcing outputs, 4 Analog inputs, 2 Analog outputs (current)

**C0-12DRE-1-D**

**\$189.00**

4 DC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (current)

**C0-12ARE-1-D**

**\$189.00**

4 AC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (current)

**C0-12DD1E-2-D**

**\$179.00**

4 DC inputs, 4 DC sinking outputs, 4 Analog inputs, 2 Analog outputs (voltage)

**C0-12DD2E-2-D**

**\$179.00**

4 DC inputs, 4 DC sourcing outputs, 4 Analog inputs, 2 Analog outputs (voltage)

**C0-12DRE-2-D**

**\$189.00**

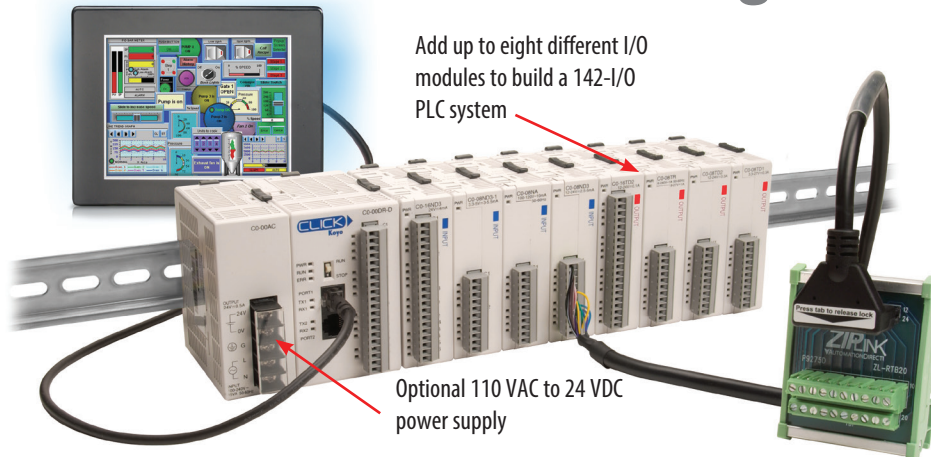
4 DC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (voltage)

**C0-12ARE-2-D**

**\$189.00**

4 AC inputs, 4 relay outputs, 4 Analog inputs, 2 Analog outputs (voltage)

# 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

## DISCRETE OUTPUT MODULES

CO-08TD1

**\$36.50**

8 DC Outputs (Sinking)  
3.3-27 VDC  
0.3A/pt



CO-08TD2

**\$36.50**

8 DC Outputs (Sourcing)  
12-24 VDC  
0.3A/pt



CO-16TD1

**\$46.00**

16 DC Outputs (Sinking)  
5-27 VDC  
0.1A/pt



CO-16TD2

**\$46.00**

16 DC Outputs (Sourcing)  
12-24 VDC  
0.1A/pt



CO-08TA

**\$52.00**

8 AC Outputs  
17-240 VAC triac  
0.3A/pt



## 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 24 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 seven 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.

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 INPUT MODULES

CO-08ND3

**\$34.00**

8 DC Inputs (Sink/Source)  
12-24 VDC



CO-08ND3-1

**\$34.00**

8 DC Inputs (Sink/Source)  
3.3-5 VDC



CO-16ND3

**\$46.00**

16 DC Inputs (Sink/Source)  
24 VDC



CO-08NA

**\$41.00**

8 AC Inputs  
100-120 VAC



CO-08TR

**\$41.50**

8 Relay Outputs  
6-240 VAC or  
6-27 VDC  
1A/pt



CO-08NE3

**\$36.00**

8 AC/DC Inputs (Sink/Source)  
24 VAC/VDC



CO-16NE3

**\$50.00**

16 AC/DC Inputs (Sink/Source)  
24 VAC/VDC



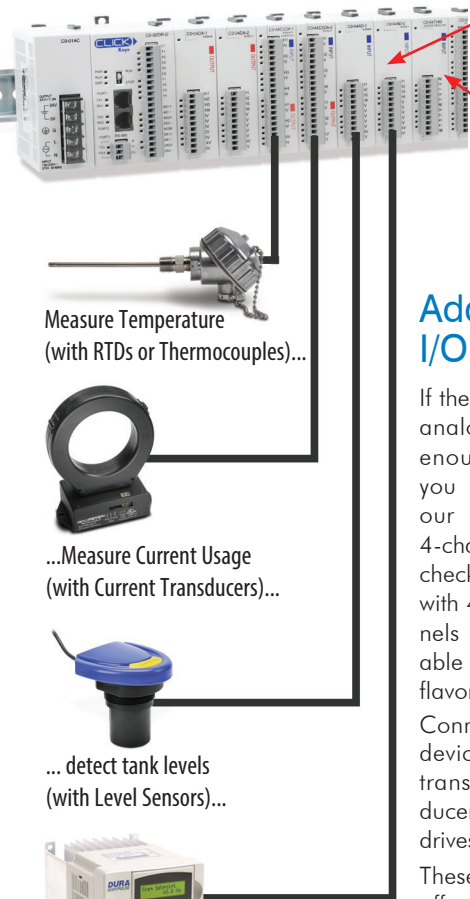
CO-04TRS

**\$45.00**

4 Relay Outputs  
6-240 VAC or  
6-27 VDC  
7A/pt



# CLICK to add Analog I/O



Measure Temperature  
(with RTDs or Thermocouples)...



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



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



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

## 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.

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

### ANALOG INPUT MODULES

**C0-04AD-1**

**\$92.00**

4 Channel  
Current Inputs  
0-20mA  
13 Bit Resolution



**C0-04AD-2**

**\$92.00**

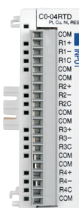
4 Channel  
Voltage Inputs  
0-10VDC  
13 Bit Resolution



**C0-04RTD**

**\$155.00**

4 Channel  
RTD Inputs  
(0.1 degree) or  
Resistive Inputs



**C0-04THM**

**\$155.00**

4 Channel  
Thermocouple  
Inputs  
(0.1 degree) or  
Voltage Inputs



### ANALOG OUTPUT MODULES

**C0-04DA-1**

**\$123.00**

4 Channel  
Current Outputs  
4-20mA Source  
12 Bit Resolution



**C0-04DA-2**

**\$123.00**

4 Channel  
Voltage Outputs  
0-10 VDC  
12 Bit Resolution



### ANALOG COMBO MODULES

**C0-4AD2DA-1**

**\$155.00**

4 CH Current Inputs  
0-20mA (13 bit)  
2 CH Current Outputs  
4-20mA (12 bit)



**C0-4AD2DA-2**

**\$155.00**

4 CH Voltage Inputs  
0-10 VDC (13 bit)  
2 CH Voltage Outputs  
0-10 VDC (12 bit)



## 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.

Input Range	Scaled Range	Data Register
Max 20.0 mA	→ 1750.0	DF2
Min 4.0 mA	→ 0.0	Resolution 0.427350

Enable Range Limiter

# Double CLICK to add Discrete COMBO Modules

### DISCRETE COMBO MODULES

**C0-16CDD1**

**\$60.00**

8 Inputs (24V)  
(Sink/Source)  
PLUS 8 Outputs  
5-27VDC (Sink)



**C0-16CDD2**

**\$60.00**

8 Inputs (24V)  
(Sink/Source)  
PLUS 8 Outputs  
12-24VDC (Source)



**C0-08CDR**

**\$51.00**

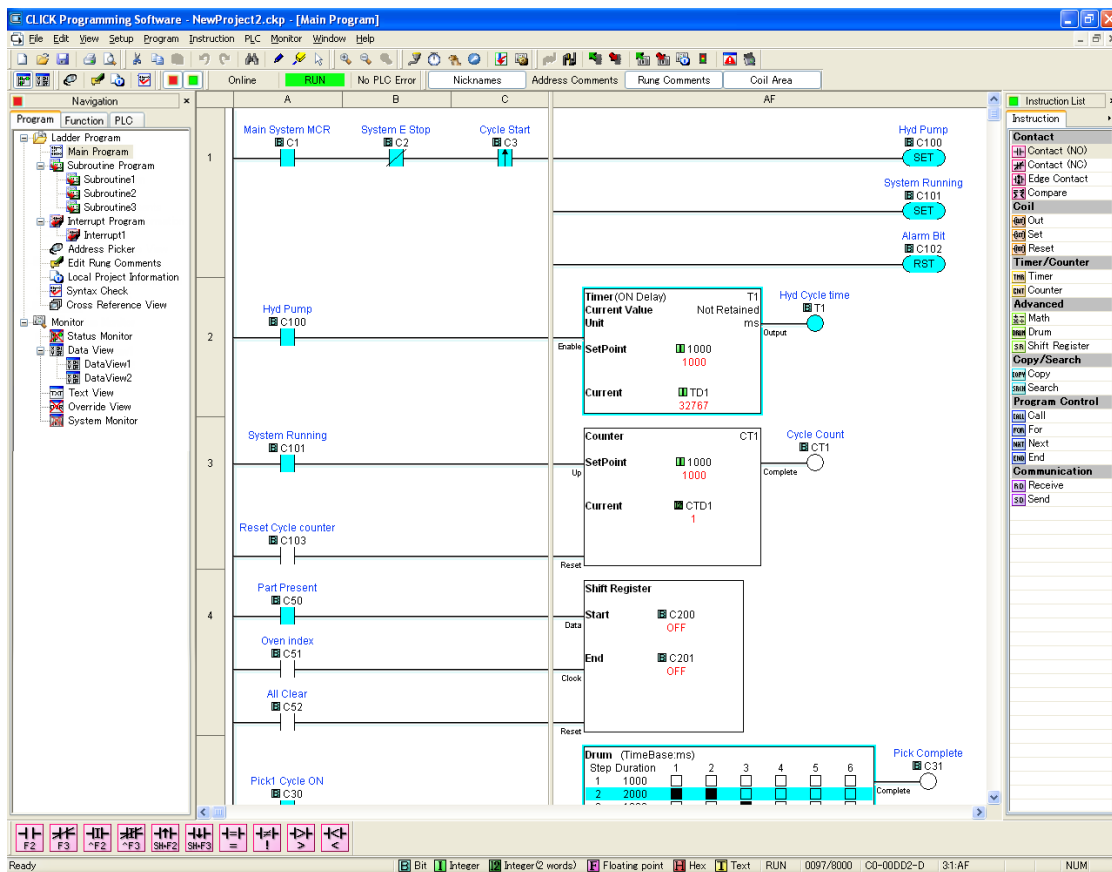
4 Inputs (12-24VDC)  
(Sink/Source)  
PLUS 4 Relay Outputs  
1.0A AC/DC



## 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!



## 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](http://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.

## 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](#).

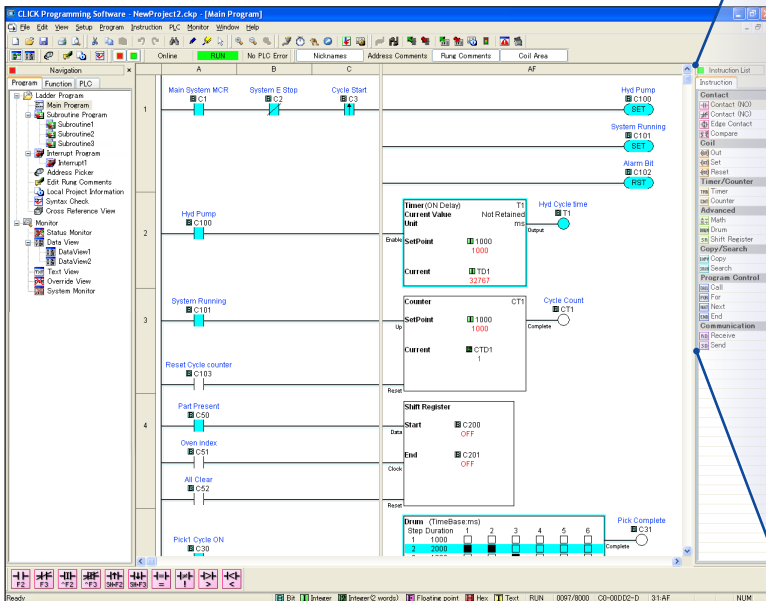




# Simplified instruction set reduces your programming time

## 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.



**Instruction List** [X]

Instruction [v]

**Contact**

- [NO] Contact (NO)
- [NC] Contact (NC)
- [E] Edge Contact
- [C] Compare

**Coil**

- [O] Out
- [S] Set
- [R] Reset

**Timer/Counter**

- [TMR] Timer
- [CNT] Counter

**Advanced**

- [M] Math
- [DRM] Drum
- [SR] Shift Register

**Copy/Search**

- [COPY] Copy
- [SRCH] Search

**Program Control**

- [CALL] Call
- [FOR] For
- [NXT] Next
- [END] End

**Communication**

- [RD] Receive
- [SD] Send

## 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
- Copy
- Shift Register
- Call/Return(Subroutine)
- Search
- For/Next

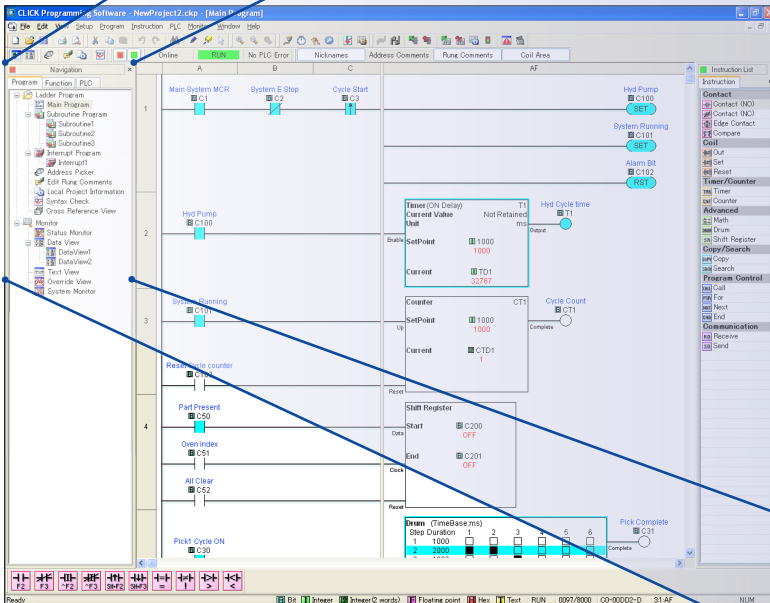
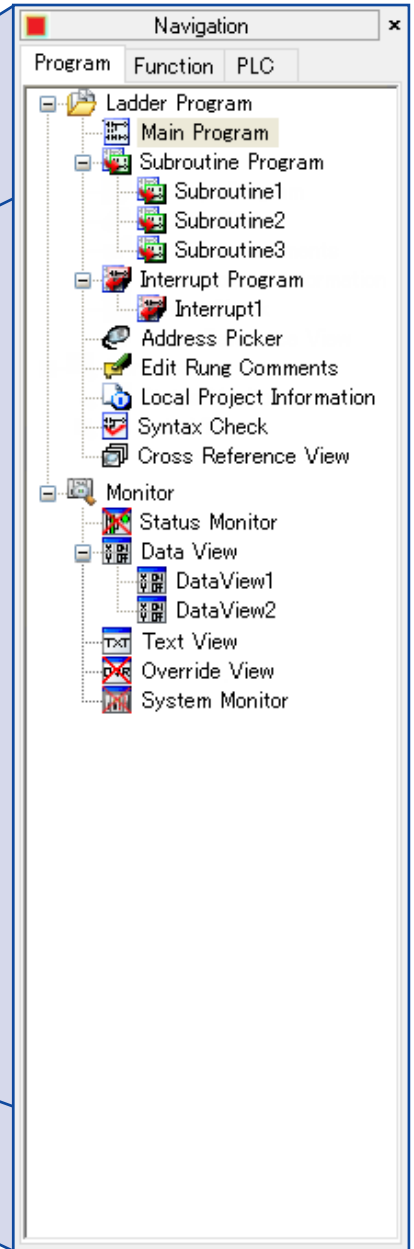
\* Contacts include Normally Open, Normally Closed, Edge-triggered and Compare  
 \*\* Math includes Decimal, Floating Point and HEX math. Supports free-form formula entry.

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

# CLICK offers intuitive navigation

## Navigation Pane

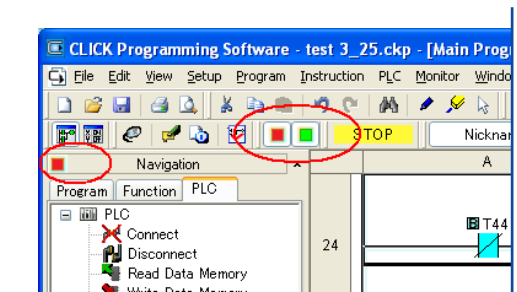
The CLICK PLC programming software offers an easy-to-view Navigation Pane which places program controls at your fingertips. Quickly toggle between your main program, Subroutines, Interrupts, Data Views, Rung Comments Editor and more.



## 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.

No.	Address	Nickname	Current Value	New Value	Write	Viewing Format
001	B SC3	SCAN ClocOn				Bit
002	B SC4	10ms ClocOff				Bit
003	B SC5	100ms CloOn				Bit
004	B SC6	500ms CloOff				Bit
005	B SC7	1sec. CloOff				Bit
006	I CTD2		0			Integer
007	I TD44		29			Integer
008	F DF114		123.40000153	123.40000153		Real
009	F DF59		100.00000000			Real
010	I DD319		345	345		Integer
011	B Y501		Off	On Off		Bit
012	B Y502		On	On Off		Bit
013	B Y503		On	On Off		Bit
014	B Y504		Off	On Off		Bit
015	B Y505		On	On Off		Bit
016	B Y506		On	On Off		Bit
017	B Y507		Off	On Off		Bit
018	B Y508		On	On Off		Bit
019						
020						
021						
022						
023						
024						

## 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.

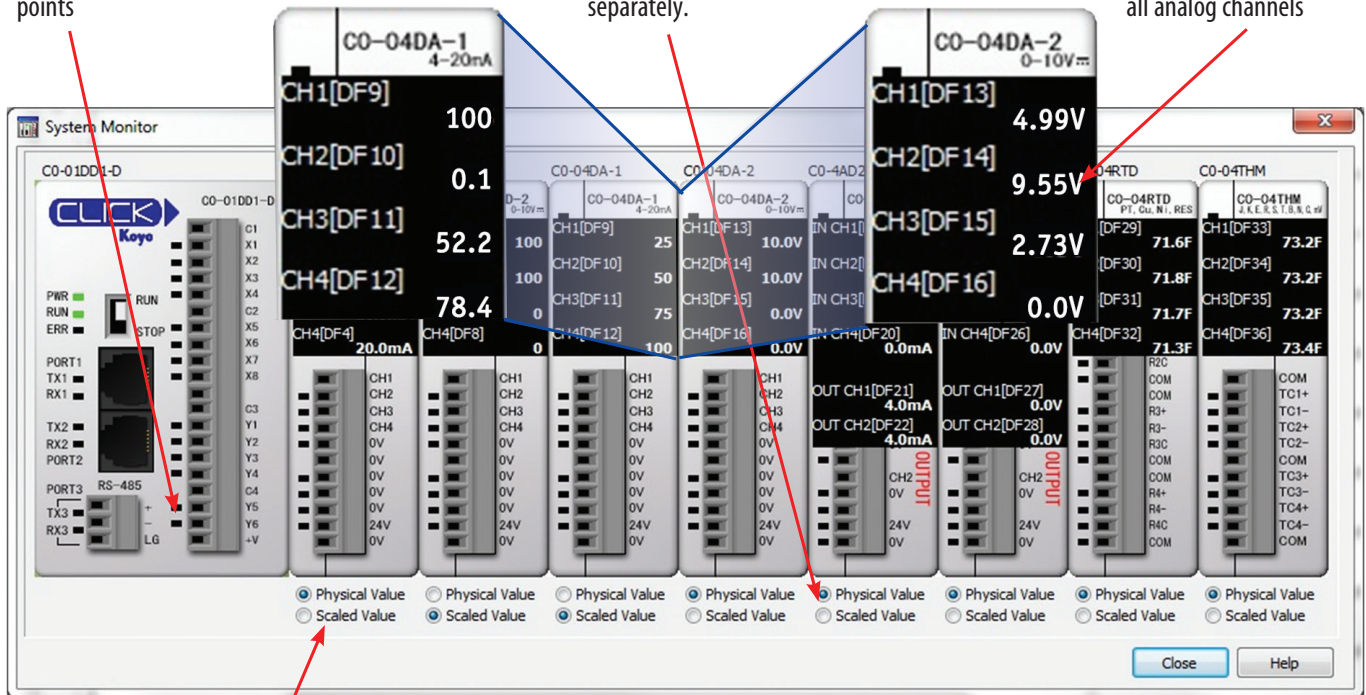
# Check I/O status with a CLICK

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:

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.



Visit [www.automationdirect.com/click-plc](http://www.automationdirect.com/click-plc) for all the latest information, including **FREE** software downloads, how-to videos and much more

# CLICK on a practical instruction

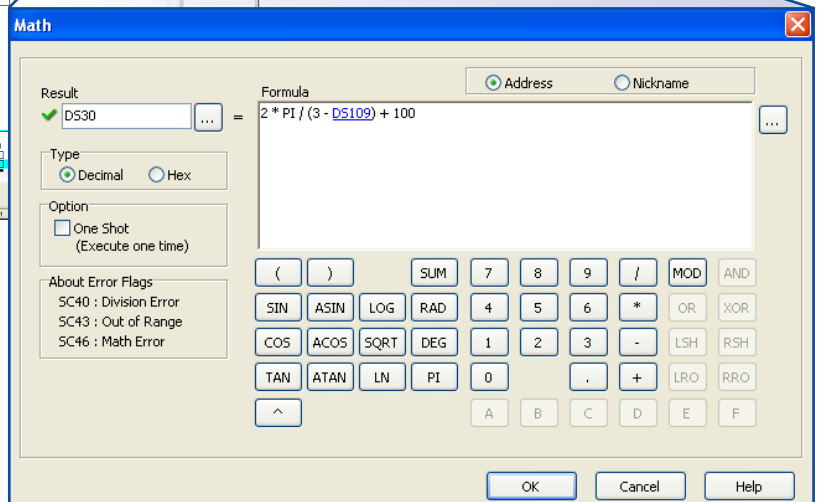
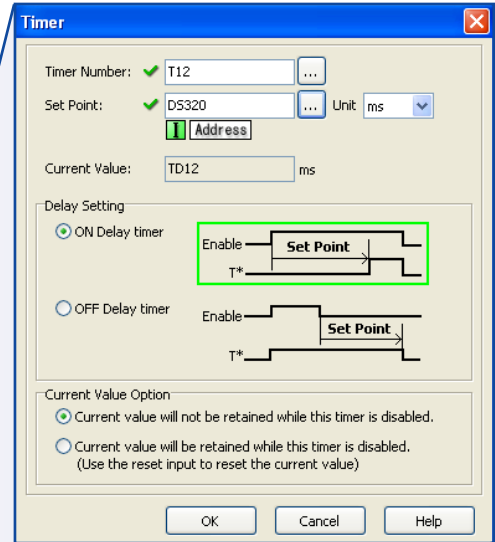
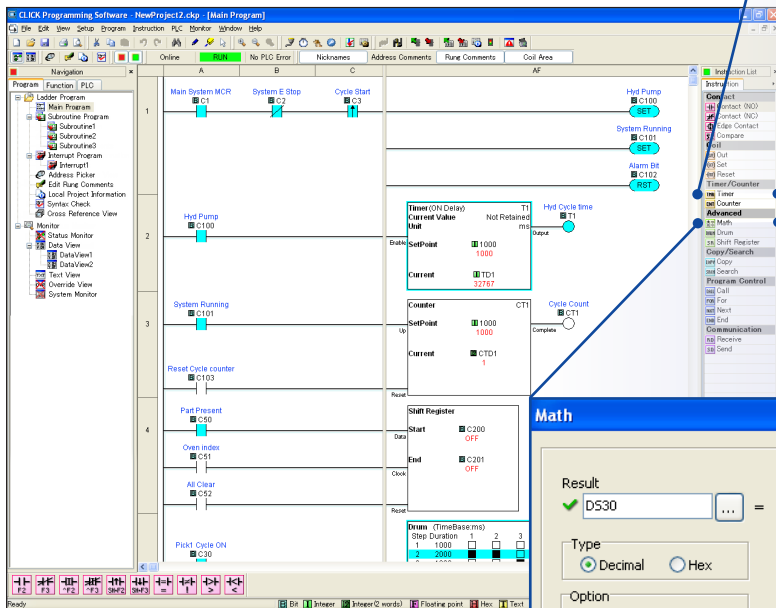
For example ...

## 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.



## 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.


# 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 application window. The main content area displays the 'Math (Decimal)' help page. The 'Description' section explains that the Math instruction solves a user-defined formula during the execution of the Ladder Program. The 'Decimal Setup' dialog box is shown in the foreground, with red numbers 1 through 7 highlighting various fields and buttons. The dialog box includes a 'Result' field (DF1), a 'Formula' field with a complex mathematical expression, a 'Type' section with 'Decimal' selected, an 'Option' section with 'One Shot' checked, and a list of 'About Error Flags' (SC30, SC33, SC36). A legend at the bottom indicates that a red heart icon means 'Entry required or invalid entry' and a green heart icon means 'Valid entry'.

**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.

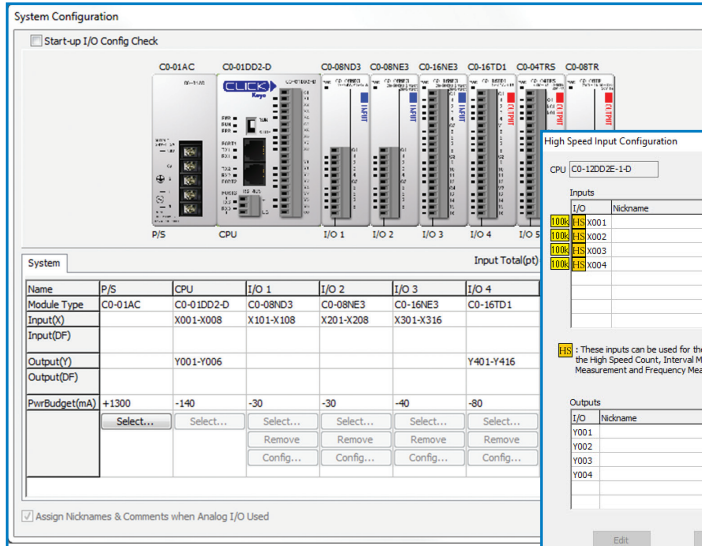
**4 Error Flags:** These System Bits turn ON when the specified condition has occurred.

**5 Address or Nickname:** Data Registers can be identified in the Formula by the Memory Address or the Nickname.

# CLICK to configure the hardware

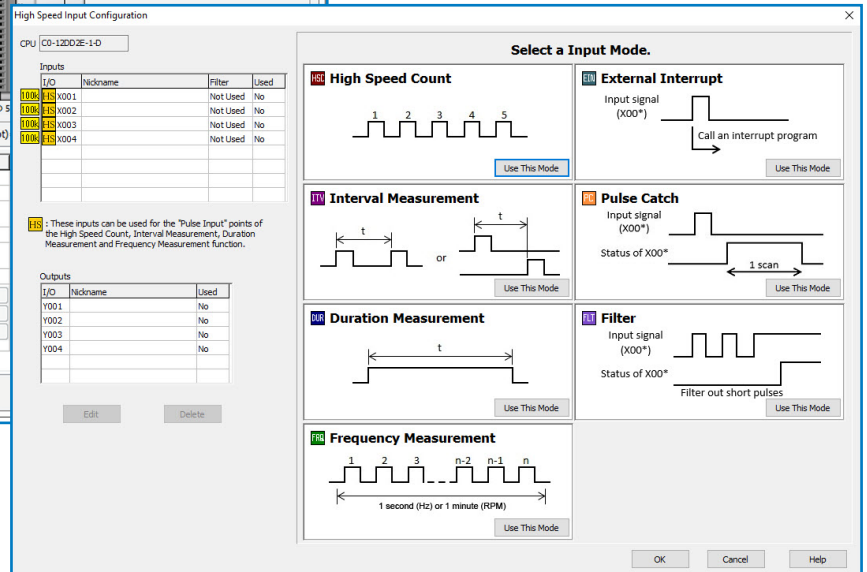
## System Configuration

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.

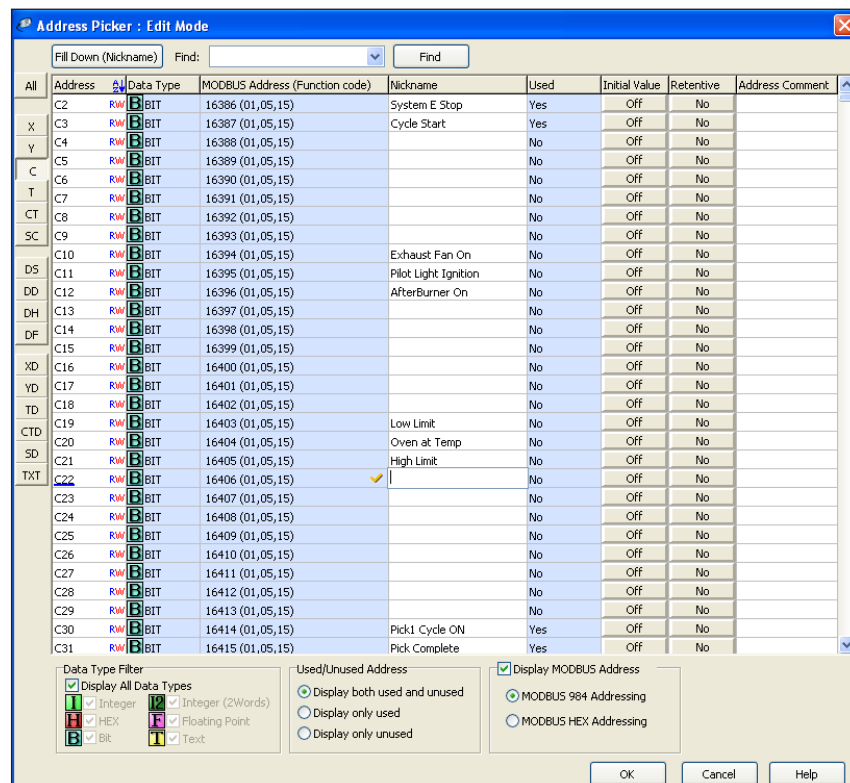


## High-speed Input Configuration

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.



# CLICK to configure the PLC tags



## 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 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.

Three ZIPLink cable lengths are available: 0.5m (1.6ft.), 1.0m (3.3ft.), and 2.0m (6.6ft.). See Wiring Solutions section of catalog.

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

I/O Module



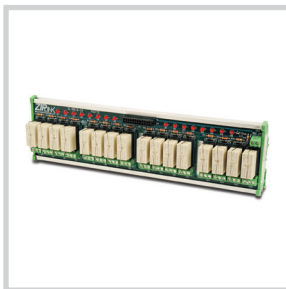
ZIPLink Cable



ZIPLink Connector Module



ZIPLink Sensor Input Module



ZIPLink Fuse Module



Programming Cables



EA-MG-PGM-CBL  
\$43

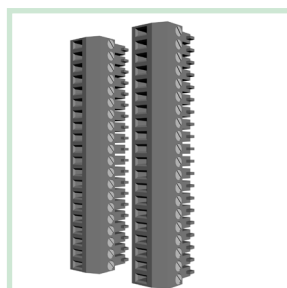


D2-DSCBL  
\$14

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 5 VDC, 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**.

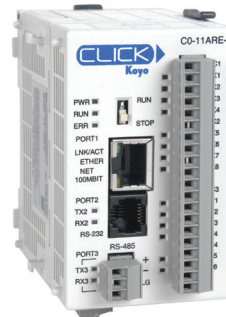
### Easy-to-Use Instructions

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

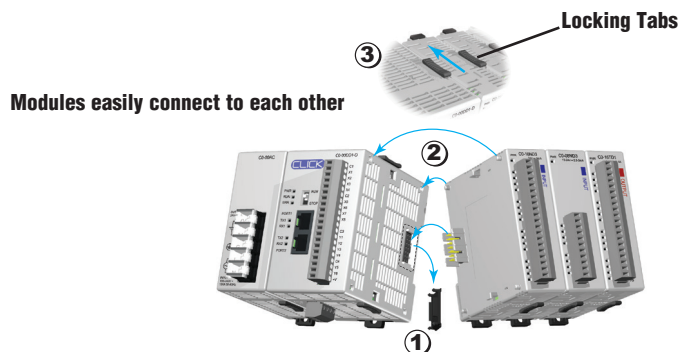
### 8,000 Steps Program Memory

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)	\$82.00
<i>CO-00AR-D</i>	AC (100-120 VAC)		\$82.00

**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)	\$101.00
<i>CO-01DD2-D</i>		DC (0.1 A, 24VDC, Source)	\$101.00
<i>CO-01DR-D</i>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)	\$112.00
<i>CO-01AR-D</i>	AC (100-120 VAC)		\$112.00

**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	\$132.00
<i>CO-02DD2-D</i>		DC (0.1 A, 24VDC, Source)		\$132.00
<i>CO-02DR-D</i>		Relay (1 A @ 6-27 VDC/6-240 VAC)		\$142.00

**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)	\$132.00
<i>CO-10DD2E-D</i>		DC (0.1 A, 24VDC, Source)	\$132.00
<i>CO-10DRE-D</i>		Relay (1A @ 6-27 VDC/6-240 VAC)	\$142.00
<i>CO-10ARE-D</i>	AC (100-120 VAC)		\$142.00

**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)	\$153.00
<i>CO-11DD2E-D</i>		DC (0.1 A, 24VDC, Source)	\$153.00
<i>CO-11DRE-D</i>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)	\$163.00
<i>CO-11ARE-D</i>	AC (100-120 VAC)		\$163.00

**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

## PLC Units (continued)



**Ethernet Analog PLC**

CLICK Ethernet Analog PLC Units						
Part Number	Discrete Inputs (4 points)	Discrete Outputs (4 points)	Analog Inputs	Analog Outputs	External Power	Price
<b>CO-12DD1E-D</b>	DC (24V, sink/source) 4 points High-Speed	DC (0.1 A, 5–27 V, sink)	2 channel; voltage (0–5 VDC) / current (4–20 mA); selectable separately per channel, 12-bit	2 channel; voltage (0–5 VDC) / current (4–20 mA); selectable separately per channel, 12-bit	24VDC (Required for all PLC units)	\$183.00
<b>CO-12DD2E-D</b>		DC (0.1 A, 24V, source)				\$183.00
<b>CO-12DRE-D</b>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)				\$194.00
<b>CO-12ARE-D</b>		AC (100-120 VAC)				\$194.00
<b>CO-12DD1E-1-D</b>	DC (24V, sink/source) 4 points High-Speed	DC (sink)	4 channel; current (0–20 mA), 12-bit	2 channel; current (4–20 mA), 12-bit		\$183.00
<b>CO-12DD2E-1-D</b>		DC (source)				\$183.00
<b>CO-12DRE-1-D</b>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)				\$194.00
<b>CO-12ARE-1-D</b>		AC (100-120 VAC)				\$194.00
<b>CO-12DD1E-2-D</b>	DC (24V, sink/source) 4 points High-Speed	DC (sink)	4 channel; voltage (0–10 VDC), 12-bit	2 channel; voltage (0–10 VDC), 12-bit		\$183.00
<b>CO-12DD2E-2-D</b>		DC (source)				\$183.00
<b>CO-12DRE-2-D</b>		Relay (1 A @ 6-27 VDC/ 6-240 VAC)				\$194.00
<b>CO-12ARE-2-D</b>		AC (100-120 VAC)				\$194.00

**Ethernet Analog PLC Unit Features:**

- Four discrete input points
- Four discrete output points
- Two or Four analog input points (current or voltage)
- Two analog output points (current or voltage)
- 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 seven discrete output modules available.



**CO-08TD1**



**CO-08TD2**



**CO-16TD1**



**CO-16TD2**



**CO-08TA**



**CO-04TRS**



**CO-08TR**

### CLICK Power Supplies

Part Number	Input Voltage	Output Current	Price
<b>CO-00AC</b>	85-264 VAC	0.5 A @ 24VDC	\$30.00
<b>CO-01AC</b>	85-264 VAC	1.3 A @ 24VDC	\$40.50

### 12VDC-to-24VDC Converter

Part Number	Input Voltage	Output Current	Price
<b>PSP24-DC12-1</b>	9.5-18 VDC	1.0 A @ 24VDC	\$81.00

### CLICK Discrete Input Modules

Part Number	Inputs	Price
<b>CO-08ND3</b>	DC (8 pts, 12-27 VDC)	\$34.00
<b>CO-08ND3-1</b>	DC (8 pts, 3.3-5 VDC)	\$34.00
<b>CO-16ND3</b>	DC (16 pts, 24VDC)	\$46.00
<b>CO-08NE3</b>	AC/DC (8 pts, 24 VAC/VDC)	\$36.00
<b>CO-16NE3</b>	AC/DC (16 pts, 24 VAC/VDC)	\$50.00
<b>CO-08NA</b>	AC (8 pts, 100-120 VAC)	\$41.00

### CLICK Discrete Output Modules

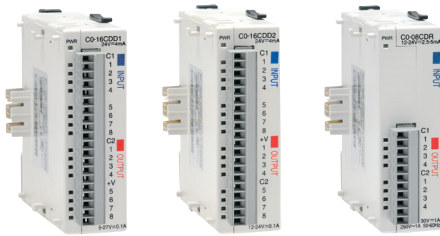
Part Number	Outputs	Price
<b>CO-08TD1</b>	DC (8 pts, 0.3 A @ 3.3-27 VDC, Sink)	\$36.50
<b>CO-08TD2</b>	DC (8 pts, 0.3 A @ 12-24 VDC, Source)	\$36.50
<b>CO-16TD1</b>	DC (16 pts, 0.1 A @ 5-27 VDC, Sink)	\$46.00
<b>CO-16TD2</b>	DC (16 pts, 0.1 A @ 12-24 VDC, Source)	\$46.00
<b>CO-08TA</b>	AC (8 pts, 0.3A @ 17-240 VAC)	\$52.00
<b>CO-04TRS*</b>	Relay (4 pts, 7A @ 6-27 VDC/6-240 VAC)	\$45.00
<b>CO-08TR</b>	Relay (8 pts, 1A @ 6-27 VDC/6-240 VAC)	\$41.50

\* 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**

Discrete Combo I/O Modules			
Part Number	Input Type	Output Type	Price
<b>CO-16CDD1</b>	DC (8 pts, 24VDC)	DC (8 pts, 0.1 A @ 5–27 VDC, Sink)	\$60.00
<b>CO-16CDD2</b>	DC (8 pts, 24VDC)	DC (8 pts, 0.1 A @ 12–24 VDC, Source)	\$60.00
<b>CO-08CDR</b>	DC (4 pts, 12–24 VDC)	Relay (4 pts, 1A @ 6.25–24 VDC / 6-240 VAC)	\$51.00

## Analog Input Modules

There are four analog input modules available.



**CO-04AD-1**

**CO-04AD-2**

**CO-04RTD**

**CO-04THM**

Analog Input Modules		
Part Number	Analog Input Types	Price
<b>CO-04AD-1</b>	4 channel, current (0-20 mA), 13 bit	\$92.00
<b>CO-04AD-2</b>	4 channel, voltage (0-10 V), 13 bit	\$92.00
<b>CO-04RTD</b>	4 channel RTD input (0.1 degree °C/°F resolution), or resistive input (0 - 3125Ω, 0.1Ω or 0.01Ω resolution)	\$155.00
<b>CO-04THM</b>	4 channel thermocouple input (0.1 degree °C/°F resolution), or voltage input (-156.25 mV to 1.25 V, 16 bit)	\$155.00

## Analog Output Modules

There are two analog output modules available.



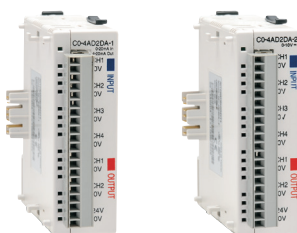
**CO-04DA-1**

**CO-04DA-2**

Analog Output Modules		
Part Number	Analog Output Types	Price
<b>CO-04DA-1</b>	4 channel, current sourcing (4-20 mA), 12-bit	\$123.00
<b>CO-04DA-2</b>	4 channel, voltage (0-10 V), 12-bit	\$123.00

## Analog Combo I/O Modules

There are two analog combo modules available.



**CO-4AD2DA-1**

**CO-4AD2DA-2**

Analog Combo I/O Modules			
Part Number	Analog Input Type	Analog Output Type	Price
<b>CO-4AD2DA-1</b>	4 channel, current (0-20 mA), 13-bit	2 channel, current sourcing (4-20 mA), 12-bit	\$155.00
<b>CO-4AD2DA-2</b>	4 channel, voltage (0-10 V), 13-bit	2 channel, voltage (0-10 V), 12-bit	\$155.00

# 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](http://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

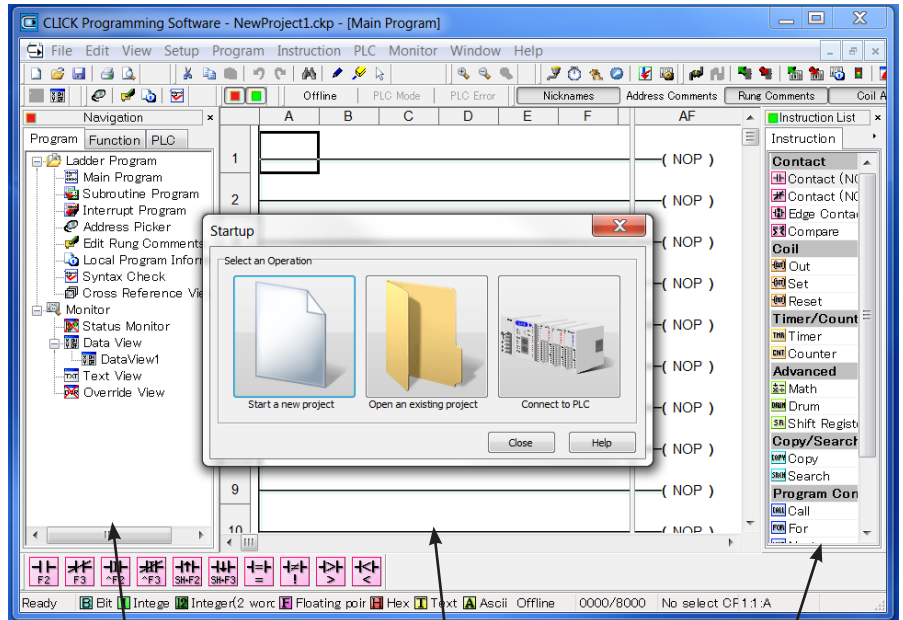
### Free Download

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 Menus, 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.

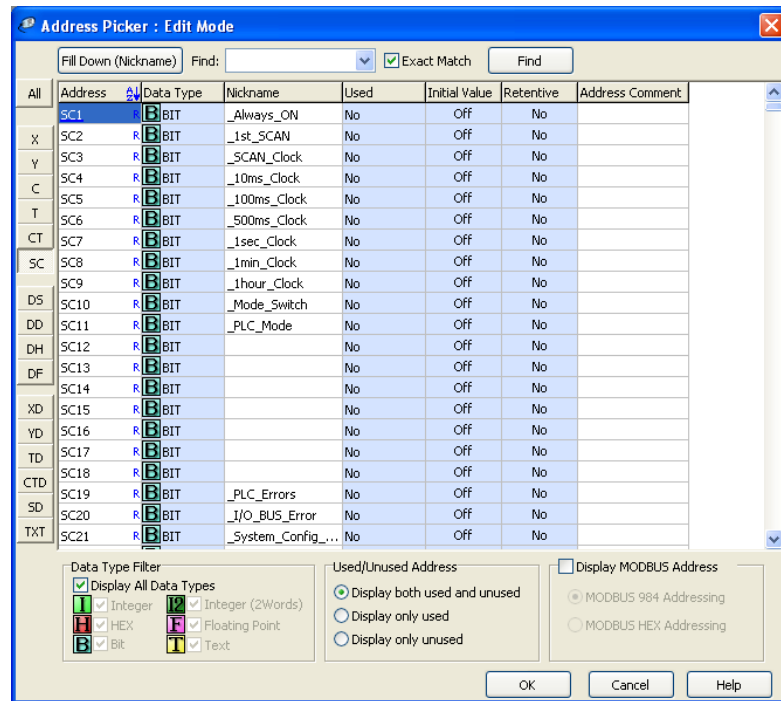
## Powerful Features!

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.

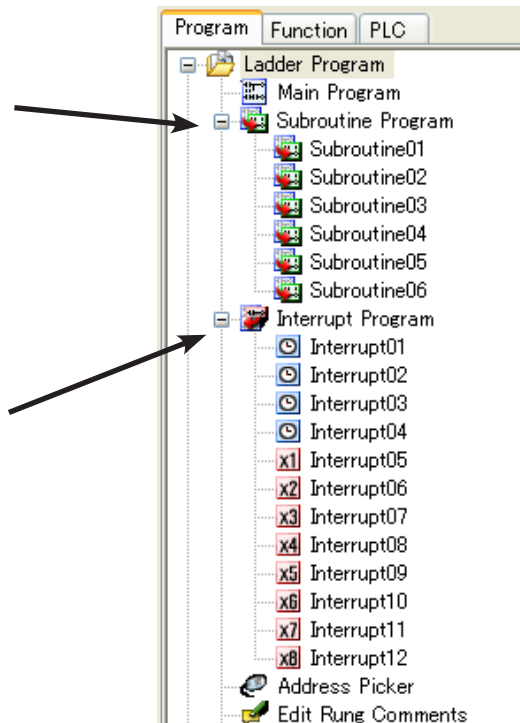


## Subroutine Programs

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

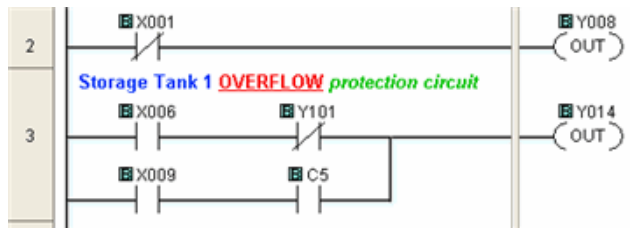
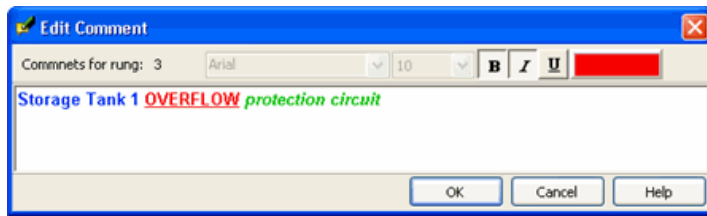
Interrupt programs are created and named. Interrupt Programs are used for: External Interrupts, Software Interrupts, High Speed Input features.



# CLICK Programming Software

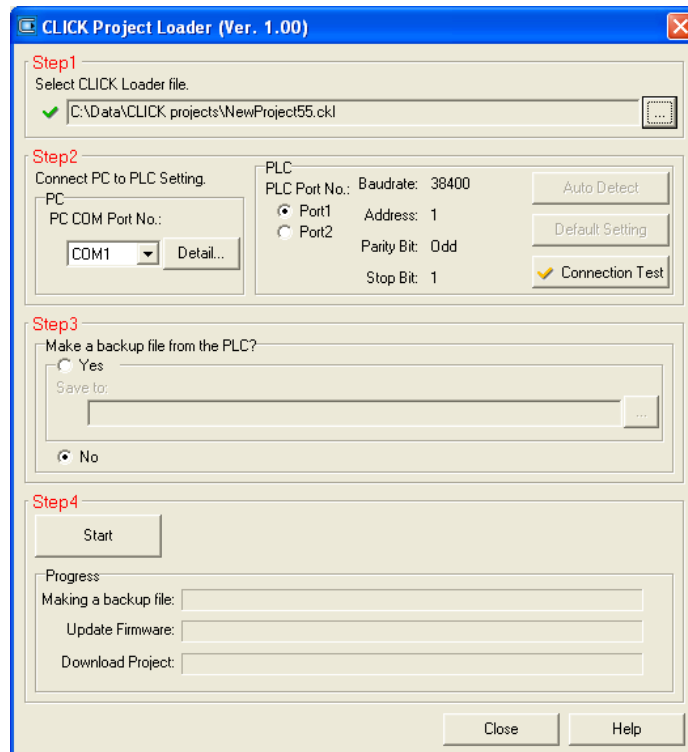
## Color Rung Comment

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.

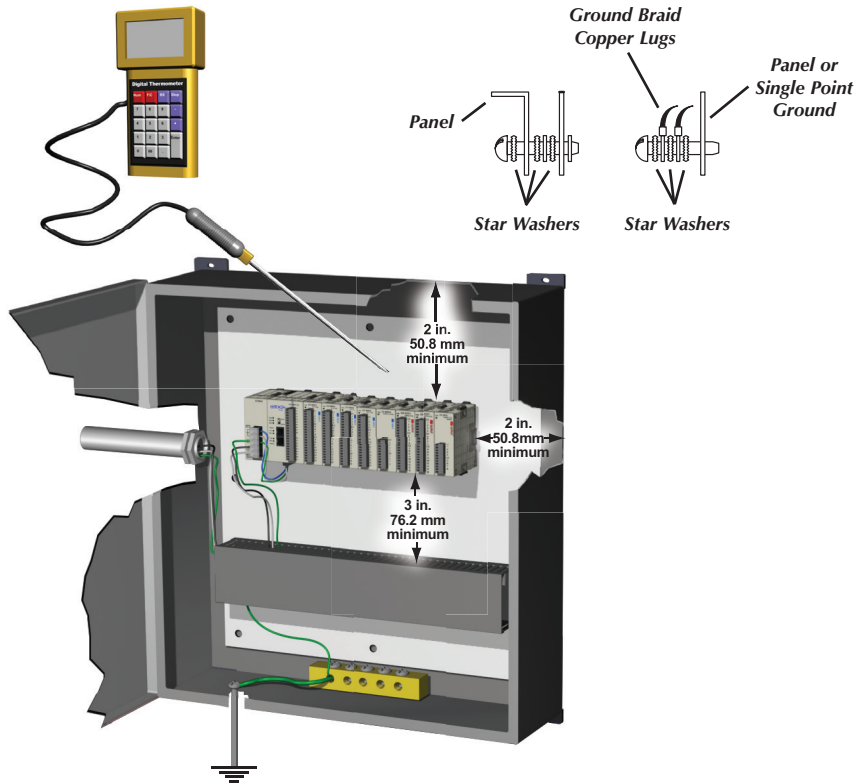
# Product Dimensions and Installation

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.

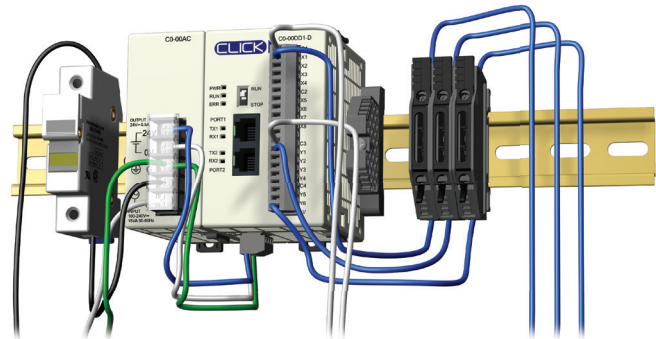
## Plan for Safety

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 C0-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.

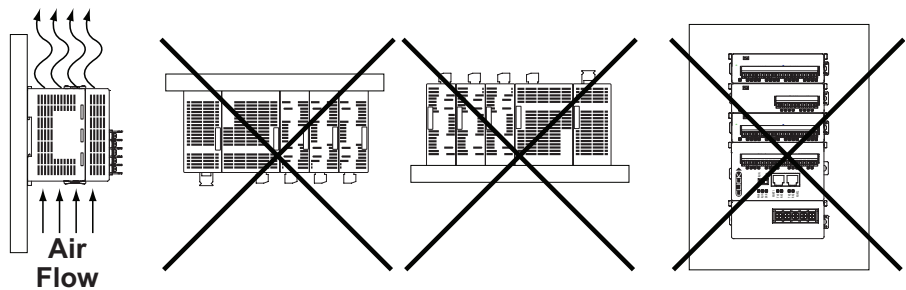


**NOTE:** THERE IS A MINIMUM CLEARANCE REQUIREMENT OF 2 INCHES (51MM) BETWEEN THE CLICK PLC AND THE PANEL DOOR OR ANY DEVICES MOUNTED IN THE PANEL DOOR. THE SAME CLEARANCE IS REQUIRED BETWEEN THE PLC AND ANY SIDE OF THE ENCLOSURE. A MINIMUM CLEARANCE OF 3 INCHES (76MM) IS REQUIRED BETWEEN THE PLC AND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

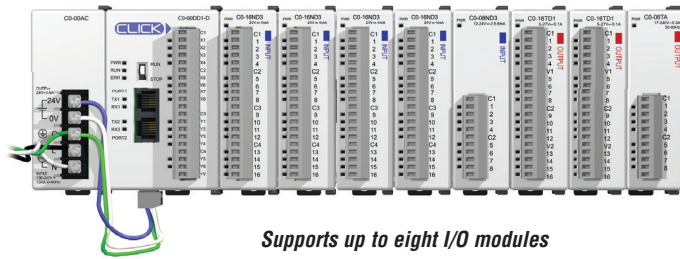
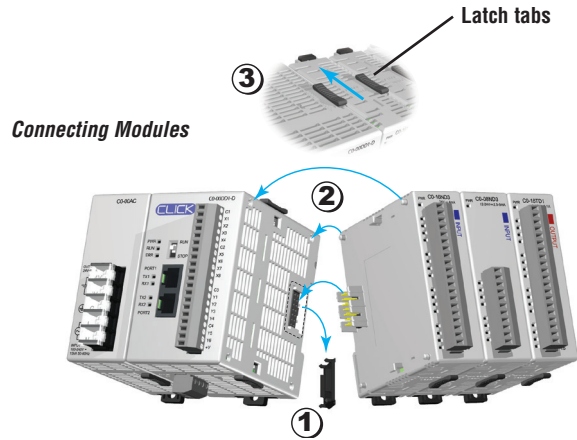


# Product Dimensions and Installation

## 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).

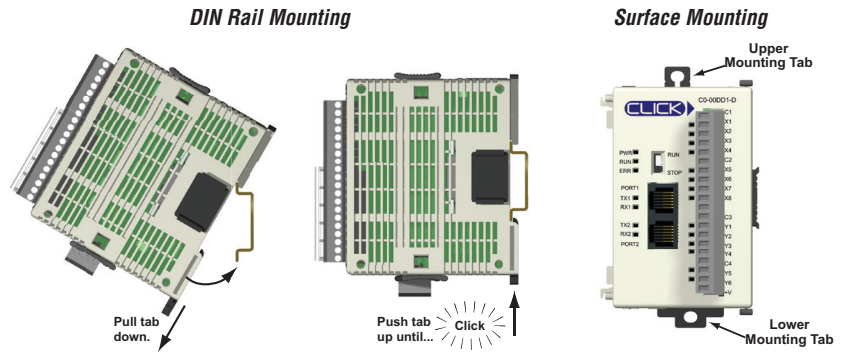
1. Remove extension port covers and slide the latch tabs forward.
2. Align the module pins and connection plug, and press the I/O module onto the right side of the PLC.
3. Slide the latch tabs backward to lock the modules together.



## 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.



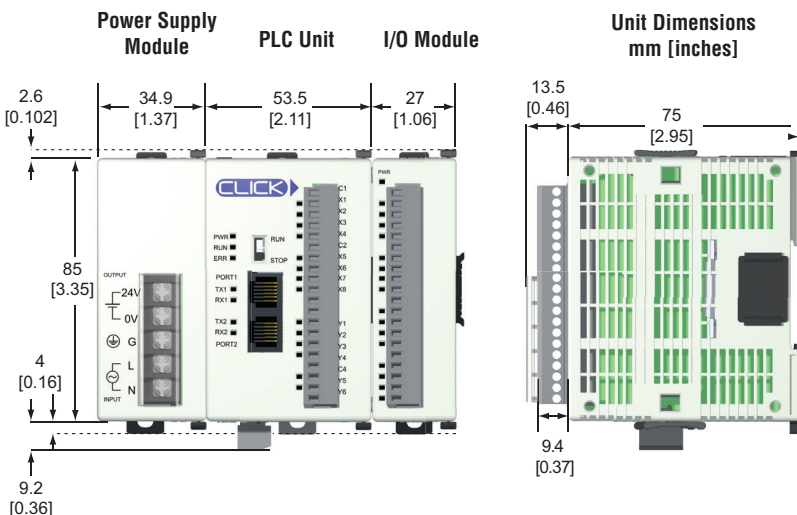
## Unit Dimensions

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.

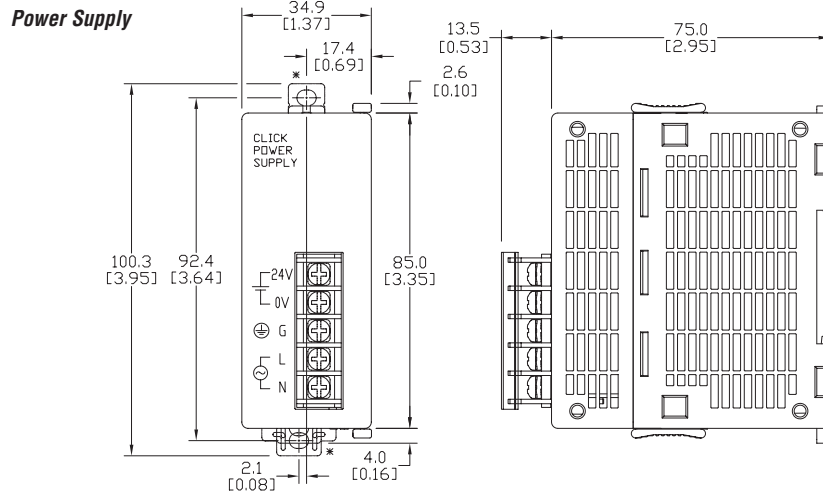
### Maximum system:

Power Supply + PLC + 8 I/O modules.

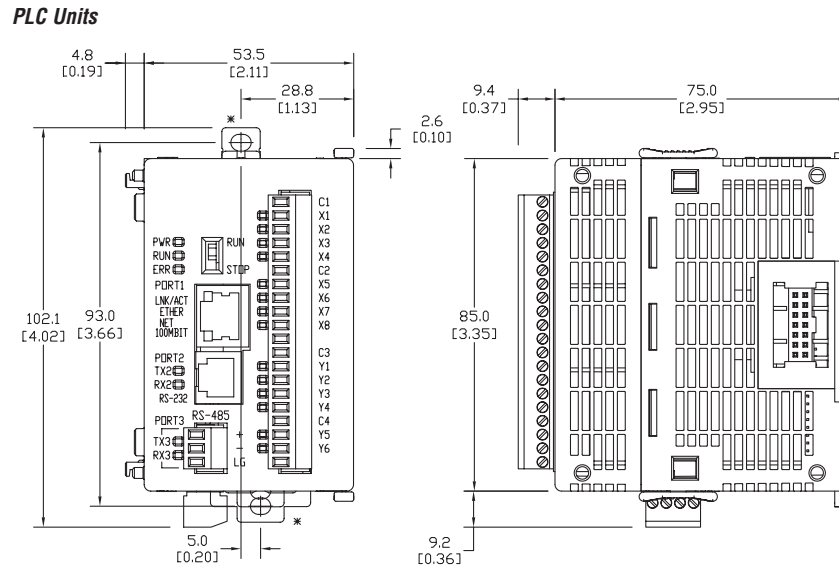


# Product Dimensions and Installation

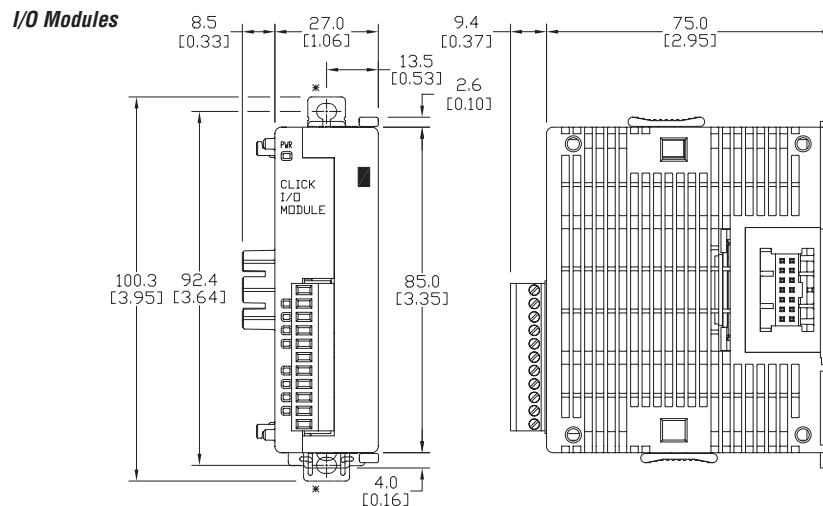
## Unit Dimensions mm [inches]



\*Use size M4 screws for tab mounting.



\*Use size M4 screws for tab mounting.



\*Use size M4 screws for tab mounting.

# Networking the CLICK PLC

## Built-in Communications Ports

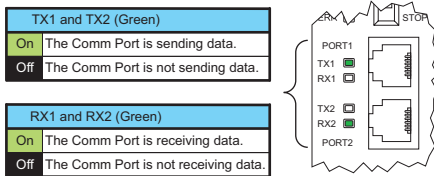
Basic, Standard and Analog PLCs have two built-in RS-232 communications ports. Standard and Analog PLCs also have one built-in RS-485 communications port. One RS-232 port supports the Modbus RTU protocol only and can be used as the programming port. The other ports support either Modbus RTU or ASCII 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.

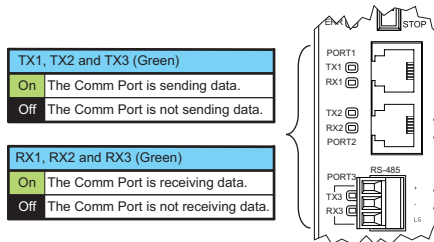
### Basic PLCs

Port 1 & 2 LED Status Indicators



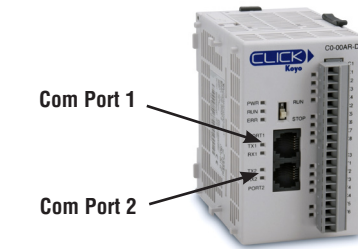
### Standard and Analog PLCs

Port 1, 2, & 3 LED Status Indicators

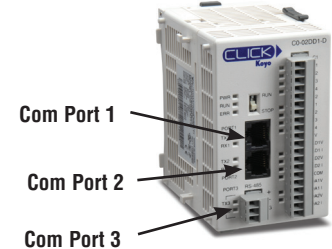


## Port Setup

Use CLICK programming software to easily configure the communications ports.



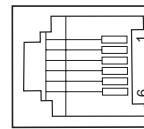
Basic PLC



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)

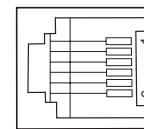
Port 1  
6 pin RJ12 Phone Type Jack



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

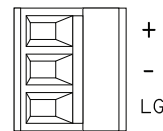
Port 2  
6 pin RJ12 Phone Type Jack



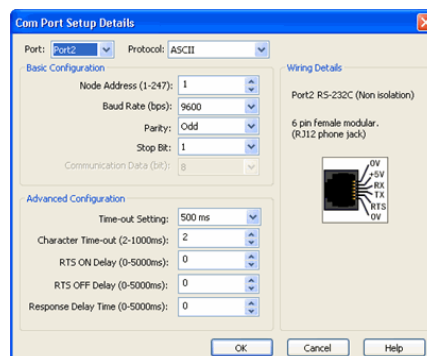
Port 2 Pin Descriptions		
1	0V	Power (-) connection (GND)
2	5V	Power (+) connection
3	RXD	Receive data (RS-232)
4	TXD	Transmit data (RS-232)
5	RTS	Request to send
6	0V	Power (-) connection (GND)

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.

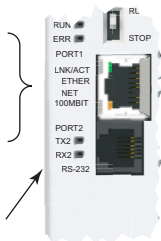
### Ethernet Basic PLCs

- 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.

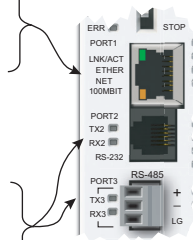
### Ethernet Standard and Ethernet Analog PLCs

- Port 1, 2 & 3 LED Status Indicators

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

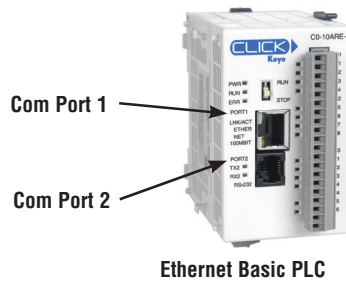
  

100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network

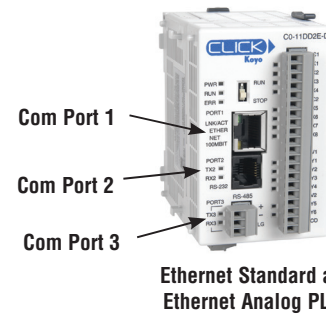


TX2 and TX3 (Green)	
On	The Comm Port is sending data.
Off	The Comm Port is not sending data.

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



Ethernet Basic PLC

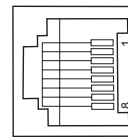


Ethernet Standard and Ethernet Analog PLCs

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

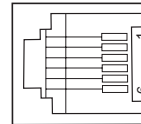


Port 1 Pin Descriptions	
1	TX+ Transmit Data (+)
2	TX- Transmit Data (-)
3	RX+ Receive data (+)
4	NC Not connected
5	NC Not connected
6	RX- Receive Data (-)
7	NC No connection
8	NC No connection

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

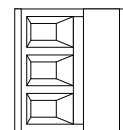


Port 2 Pin Descriptions	
1	0V Power (-) connection (GND)
2	5V Power (+) connection
3	RXD Receive data (RS-232)
4	TXD Transmit data (RS-232)
5	RTS Request to send
6	0V Power (-) connection (GND)

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

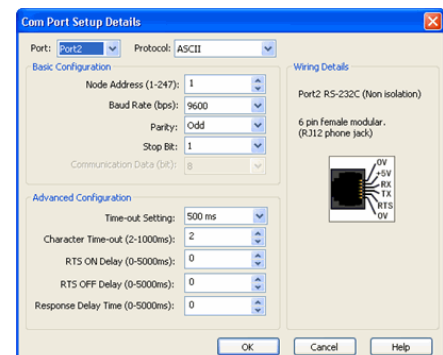
RS-485



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

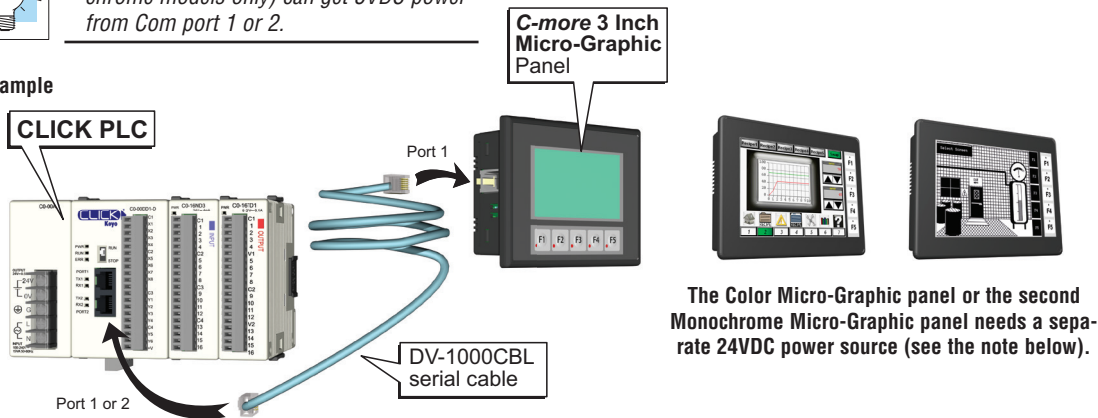
The diagrams on these three pages illustrate the typical uses for the CLICK PLC's communication ports.

### 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 5 VDC 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:**



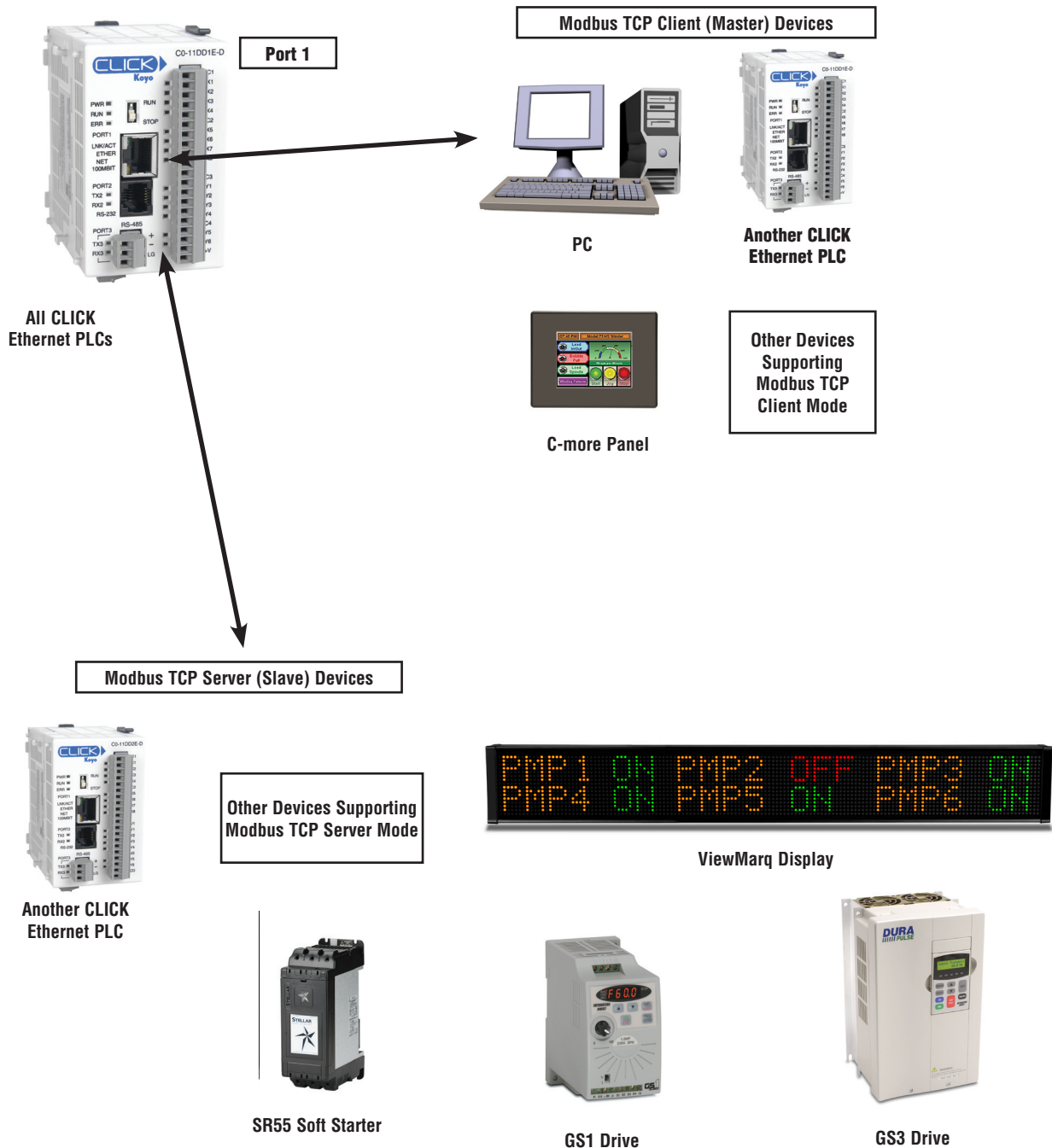
**WARNING:** The following DirectLOGIC PLC devices cannot be used with a CLICK PLC's Port 1 or Port 2:  
 Handheld Programmer (p/n D2-HPP) for DL05, DL06, DL105, DL205 & D3-350 CPUs,  
 Handheld Programmer (p/n D4-HPP-1) for DL405 CPUs,





# Networking the CLICK PLC

## Port 1 (Ethernet) – Modbus TCP



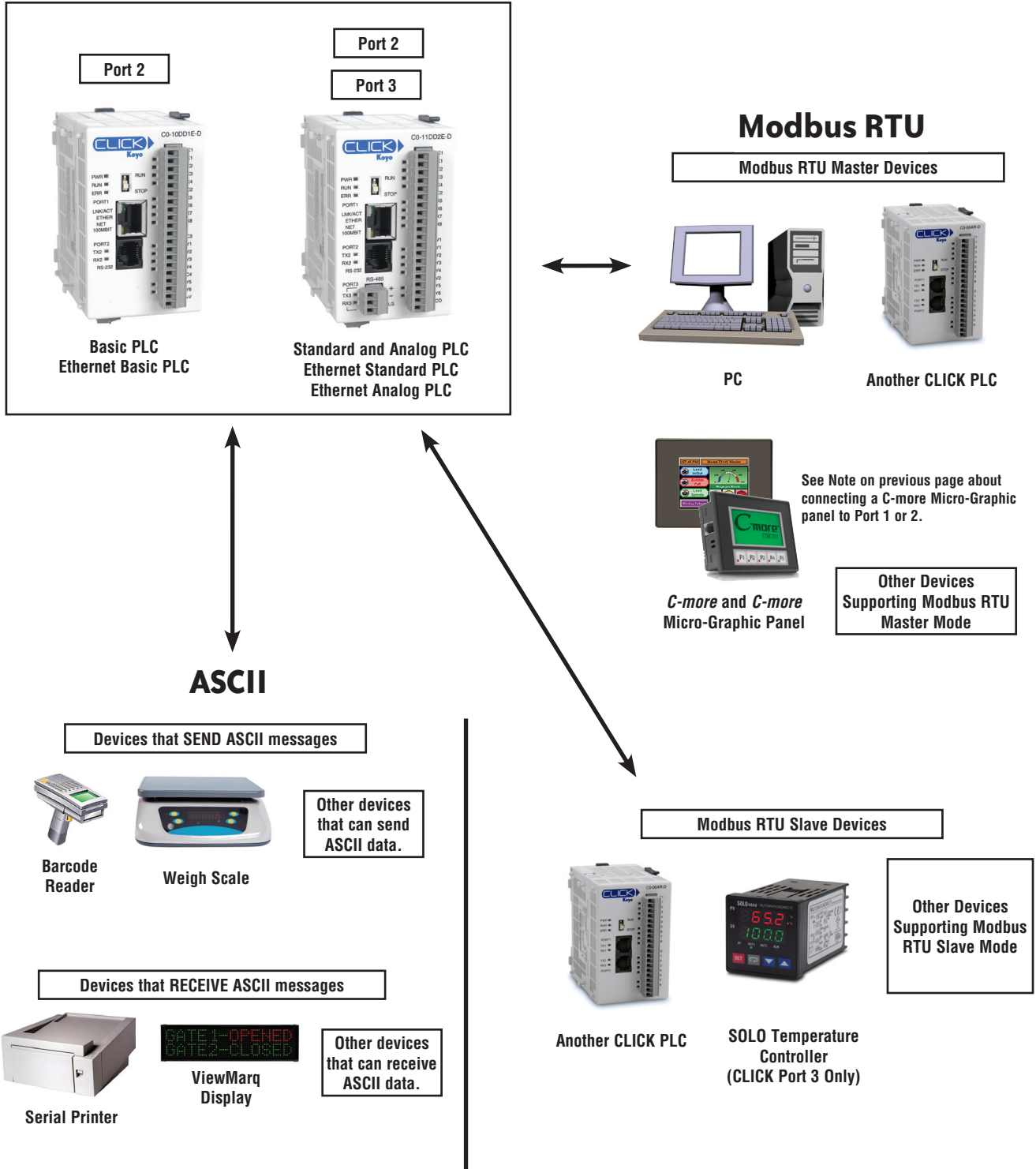
# Networking the CLICK PLC

**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.

### CO-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 CO-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.

### CO-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

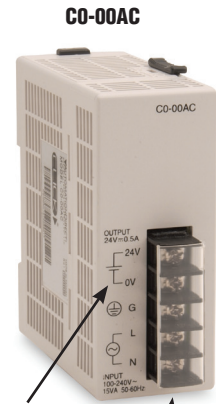
With this DC-DC converter you can operate the CLICK PLC with 12VDC input power.

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

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

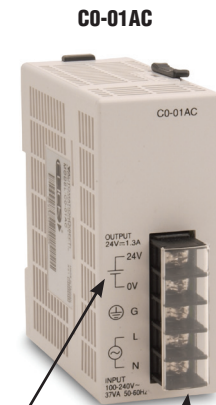
CO-01AC Power Supply Specifications	
<b>Input Voltage Range</b>	85-264 VAC
<b>Input Frequency</b>	47-63 Hz
<b>Input Current (typical)</b>	0.9 A @ 100VAC, 0.6 A @ 200 VAC
<b>Inrush Current</b>	30 A
<b>Output Voltage Range</b>	23-25 VDC
<b>Output Current</b>	1.3 A
<b>Over Current Protection</b>	@ 1.6 A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

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



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

85-264 VAC Power Source Input Terminals

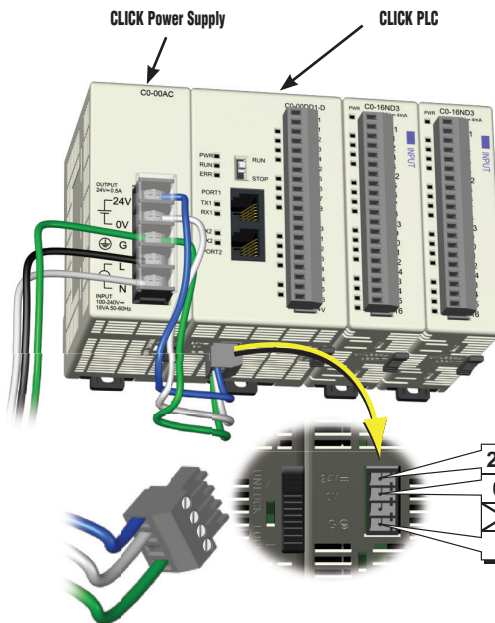


24VDC Output Power Terminals (for CLICK PLC, I/O or field device, etc.)

85-264 VAC Power Source Input Terminals



PSP24-DC12-1



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

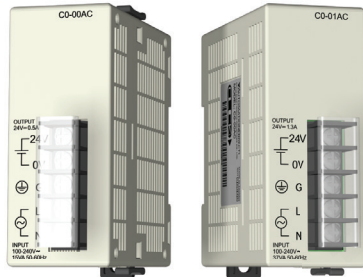
## Power Budgeting

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)
<b>Basic PLC Units</b>		
CO-00DD1-D	120	60
CO-00DD2-D	120	0
CO-00DR-D		
CO-00AR-D		
<b>Standard PLC Units</b>		
CO-01DD1-D	140	60
CO-01DD2-D	140	0
CO-01DR-D		
CO-01AR-D		
<b>Analog PLC Units</b>		
CO-02DD1-D	140	60
CO-02DD2-D	140	0
CO-02DR-D		
<b>Ethernet Basic PLC Units</b>		
CO-10DD1E-D	120	60
CO-10DD2E-D	120	0
CO-10DRE-D		
CO-10ARE-D		
<b>Ethernet Standard PLC Units</b>		
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)
<b>Ethernet Analog PLC Units</b>		
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

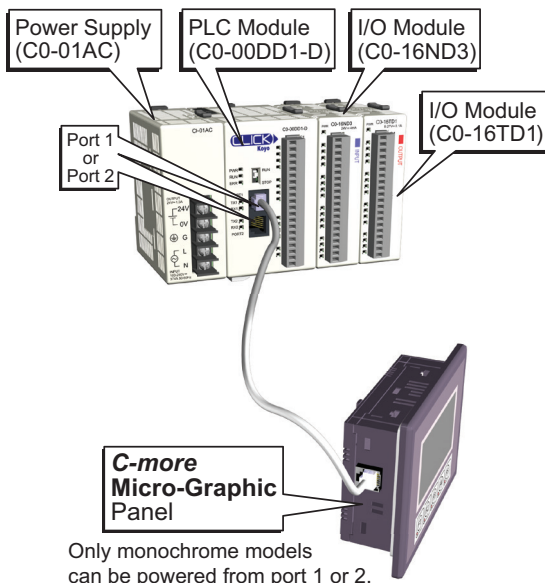
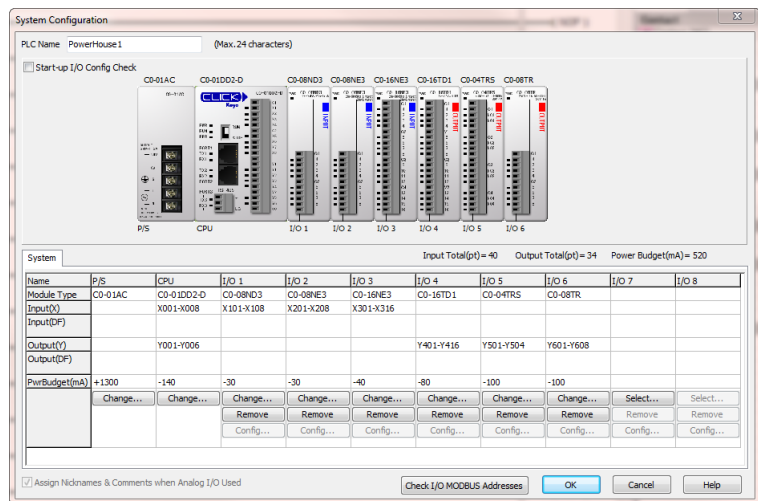
## Power Consumption for CLICK I/O Expansion Modules

I/O Module Current Consumption (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
<b>Discrete Input Modules</b>		
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
<b>Discrete Output Modules</b>		
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-08TR	100	0

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



## 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
<b>Total:</b>	<b>330</b>	<b>160*</b>

\* 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

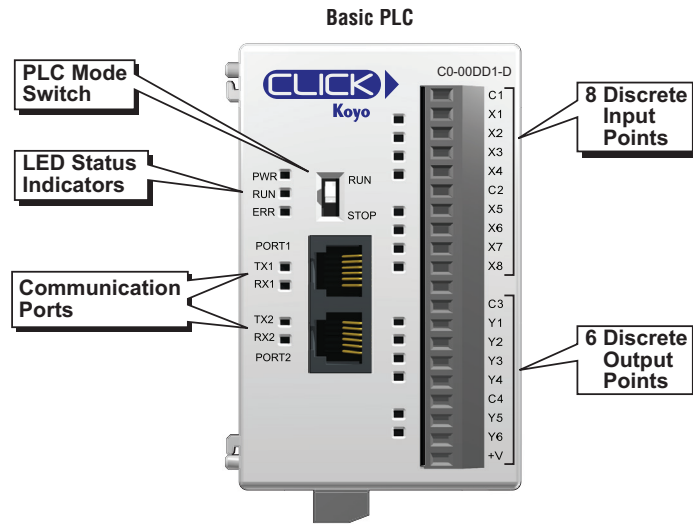
The Basic and Standard CLICK PLC units are available with different combinations of built-in I/O types (i.e. DC input/DC output, DC input/relay output, and AC input/relay output). With the 14 built-in I/O points (8 inputs/6 outputs), the PLC can be used as a ready-to-go PLC control system without any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

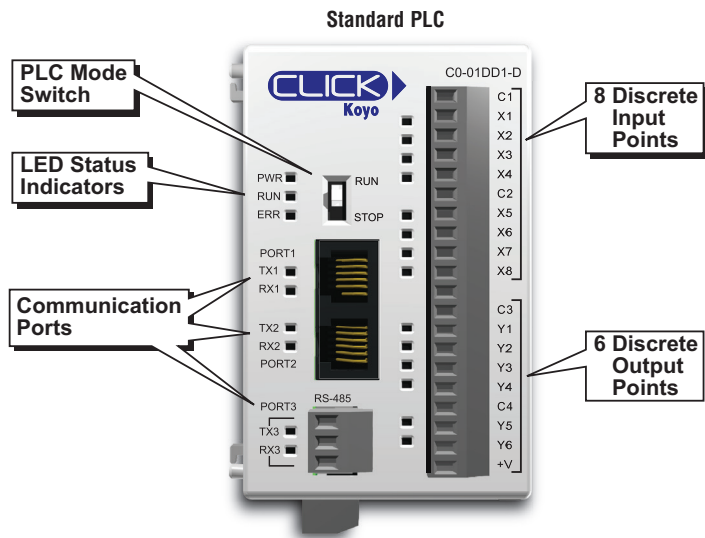
Each PLC unit I/O can easily be extended with the addition of optional I/O expansion modules as the need arises.

## 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		

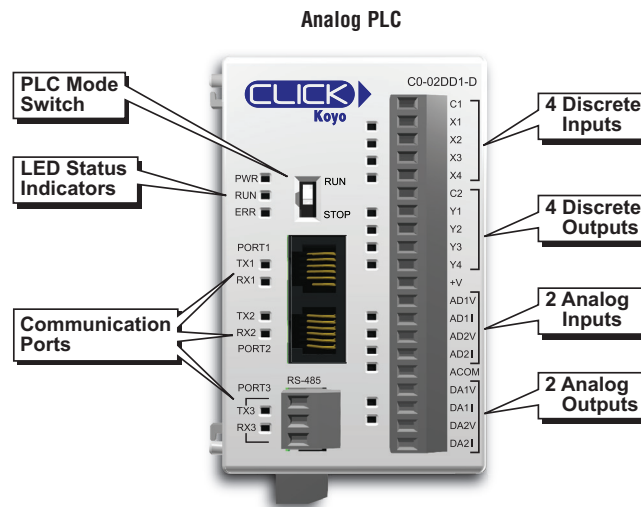
# Choosing a PLC Unit

## 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
<b>CO-02DD1-D</b>	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)
<b>CO-02DD2-D</b>		4 DC (source)			
<b>CO-02DR-D</b>		4 relay			

## Ethernet Basic and Standard PLC Units

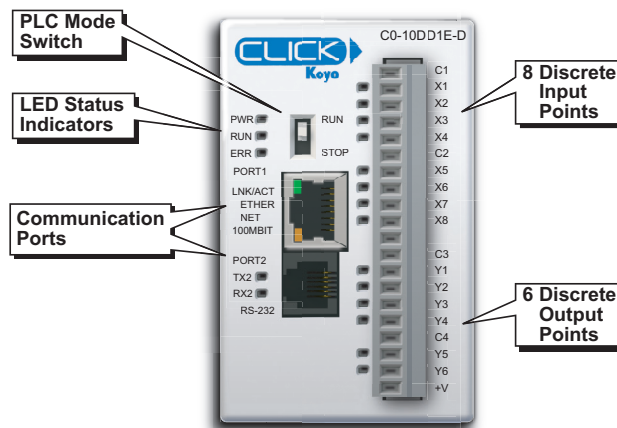
CLICK Ethernet Basic and Standard PLC units have one built-in Ethernet communications port and one standard RS-232 serial communications port. Additionally, Ethernet Standard PLC Units have an RS-485 port for Modbus RTU and ASCII communication.

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.

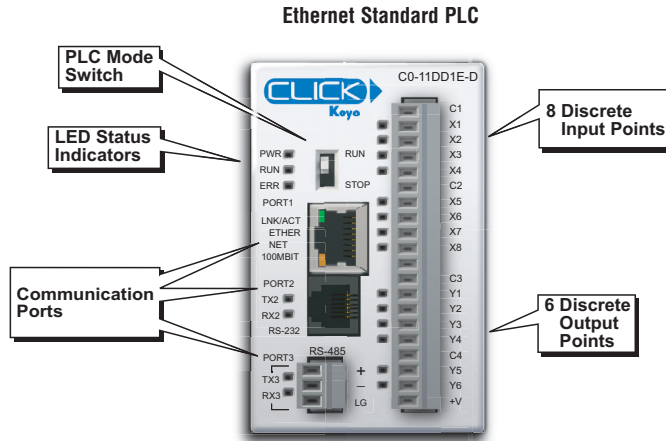
All Ethernet PLC Units have a battery backup feature which will retain the data in SRAM for 3 years (battery sold separately; part no. D2-BAT-1).

### Ethernet Basic PLC



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

# Choosing a PLC Unit



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

## Ethernet Analog PLC Units

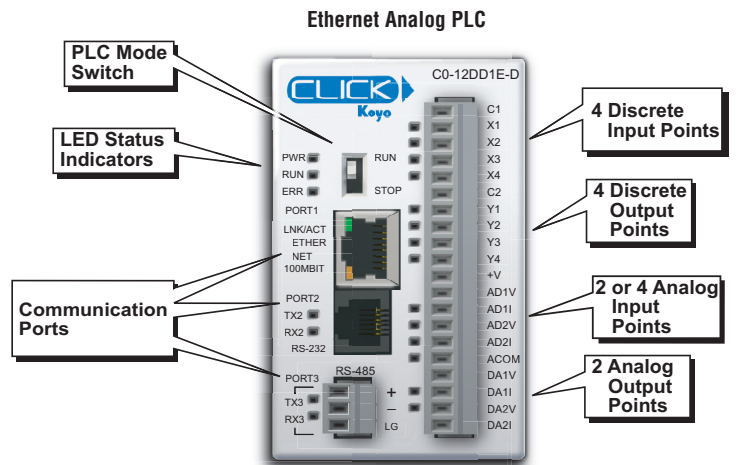
CLICK Ethernet Analog PLC units have one built-in Ethernet communications port, one standard RS-232 serial communications port and an RS-485 port for Modbus RTU and ASCII communication.

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
<b>C0-12DD1E-D</b>	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)
<b>C0-12DD2E-D</b>		4 DC (source)			
<b>C0-12DRE-D</b>		4 Relay			
<b>C0-12ARE-D</b>	4 AC				
<b>C0-12DD1E-1-D</b>	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	
<b>C0-12DD2E-1-D</b>		4 DC (source)			
<b>C0-12DRE-1-D</b>		4 Relay			
<b>C0-12ARE-1-D</b>	4 AC				
<b>C0-12DD1E-2-D</b>	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	
<b>C0-12DD2E-2-D</b>		4 DC (source)			
<b>C0-12DRE-2-D</b>		4 Relay			
<b>C0-12ARE-2-D</b>	4 AC				

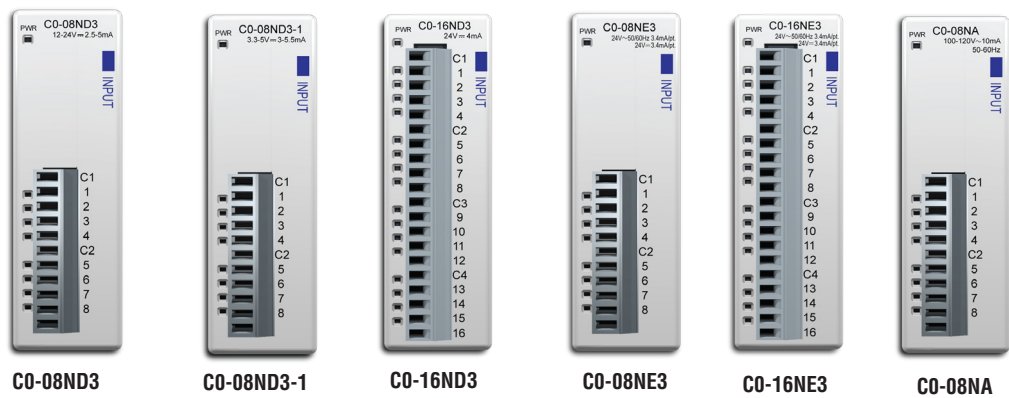


# Choosing Expansion I/O Modules

## I/O Modules

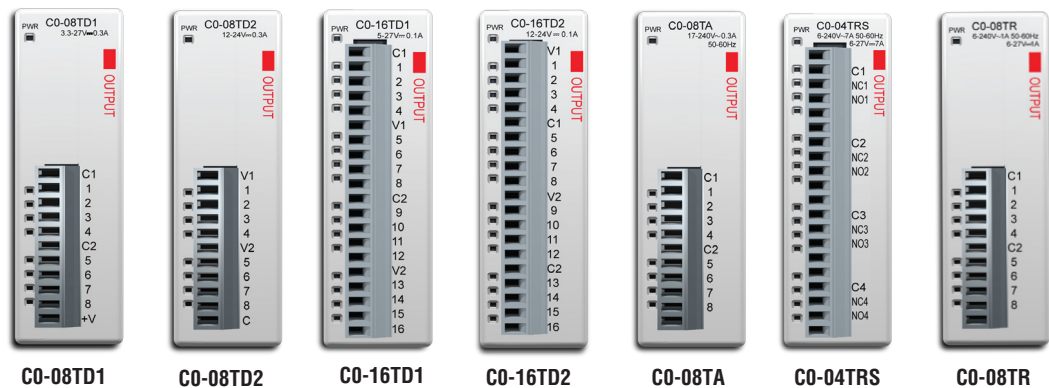
A variety of discrete, combo, and analog I/O modules are available for the CLICK PLC system. Up to eight I/O modules can be connected to a CLICK PLC unit to expand the system I/O count and meet the needs of a specific application. Complete I/O module specifications and wiring diagrams can be found later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

## Discrete Input Modules



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

## Discrete Output Modules

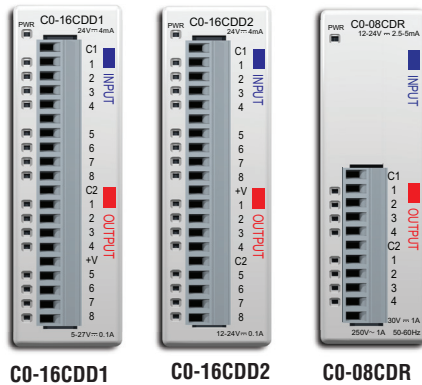


Discrete Output Modules			
Part Number	I/O Type/ Number/ Commons	Sink or Source	Voltage/Current Ratings
<b>CO-08TD1</b>	DC/8/2	Sink	3.3–27 VDC, 0.3 A
<b>CO-08TD2</b>	DC/8/1	Source	12–24 VDC, 0.3 A
<b>CO-16TD1</b>	DC/16/2	Sink	5–27 VDC, 0.1 A
<b>CO-16TD2</b>	DC/16/2	Source	12–24 VDC, 0.1 A
<b>CO-08TA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

# Choosing Expansion I/O Modules

## Discrete I/O Modules (continued)

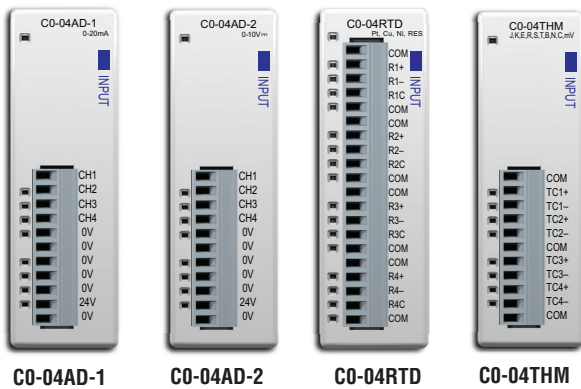
### Discrete Combo I/O Modules



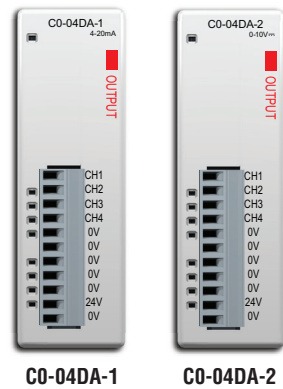
Discrete Combo I/O Modules				
Part Number	Input Type	Input Voltage	Output Type	Output Voltage / Current Ratings
<b>CO-16CDD1</b>	8 DC (source/sink)	24VDC	8 DC (sink)	5–27 VDC / 0.1 A
<b>CO-16CDD2</b>	8 DC (source/sink)	24VDC	8 DC (source)	12–24 VDC / 0.1 A
<b>CO-08CDR</b>	4 DC (source/sink)	12–24 VDC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

## Analog I/O Modules

### Analog Input Modules



### Analog Output Modules



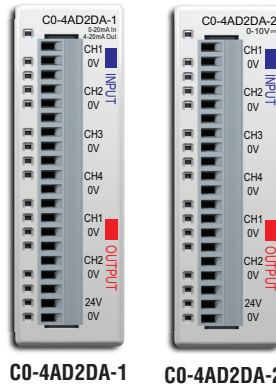
Analog Input Modules		
Part Number	Analog Input Types	External Power Required
<b>CO-04AD-1</b>	4 channel, current (0–20 mA), 13 bit	24VDC
<b>CO-04AD-2</b>	4 channel, voltage (0–10 V), 13 bit	24VDC
<b>CO-04RTD</b>	4 channel RTD input (0.1 degree °C/°F resolution), or resistive input (0 to 3125 ohms)	None
<b>CO-04THM</b>	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
<b>CO-04DA-1</b>	4 channel, current sourcing (4–20 mA), 12-bit	24VDC
<b>CO-04DA-2</b>	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
<b>CO-4AD2DA-1</b>	4 channel, current (0-20 mA), 13-bit	2 channel, current sourcing (4-20 mA), 12-bit	24VDC
<b>CO-4AD2DA-2</b>	4 channel, voltage (0-10 V), 13-bit	4 channel, voltage (0-10 V), 12-bit	24VDC

## 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	
<b>Power Input Voltage Range</b>	20–28 VDC
<b>Maximum Power Consumption</b>	5W (No 5V use from communication port)
<b>Maximum Inrush Current</b>	30A (less than 1ms)
<b>Acceptable External Power Drop</b>	Max 10ms
<b>Operating Temperature</b>	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)
<b>Storage Temperature</b>	–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)
<b>Ambient Humidity</b>	30% to 95% relative humidity (non-condensing)
<b>Environmental Air</b>	No corrosive gases. Environmental pollution level is 2 (UL840)
<b>Vibration</b>	MIL STD 810C, Method 514.2, EC60068-2-6 JIS C60068-2-6 (Sine wave vibration test)
<b>Shock</b>	MIL STD 810C, Method 516.2, IEC60068-2-27, JIS C60068-2-27
<b>Noise Immunity</b>	Comply with NEMA ICS3-304, Impulse noise 1μs, 1000V 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) RFI: No interference measured at 150 and 450 MHz (5w/15cm)
<b>Emissions</b>	EN55011:1998 Class A
<b>Agency Approvals</b>	UL508 (File No. E157382, E316037); CE (EN61131-2)
<b>Other</b>	RoHS

# CLICK Specifications

## PLC Unit Specifications

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

# CLICK Specifications

## PLC Units Specifications (continued)

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

# CLICK Specifications

## CLICK PLC Hardware/Software Compatibility

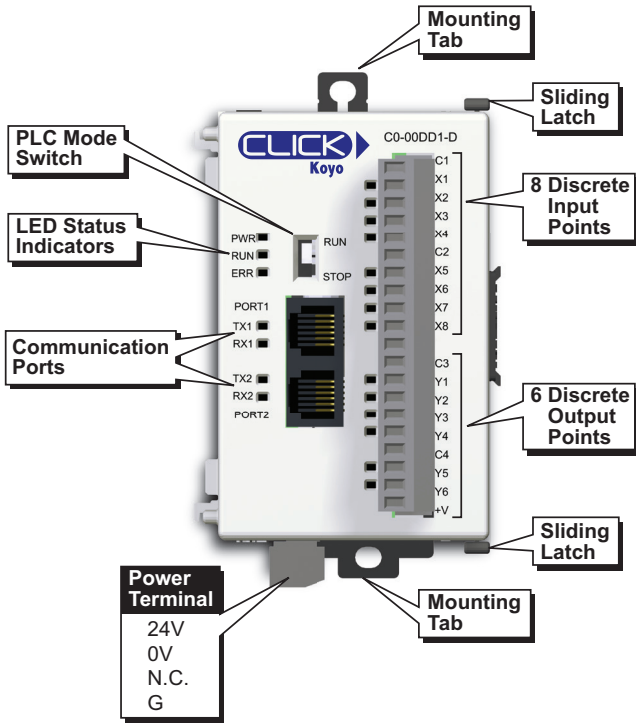
CLICK PLCs require a minimum software version for the high-speed features to be accessible. The table below shows the required software and hardware versions for High-Speed input operation capability.

CLICK PLC Features Software Compatibility				
CPU Type	Part Number	Minimum CLICK Software Version		
		Hardware	High-Speed Inputs	
<b>Basic</b>	CO-00DD1-D	v1.00	N/A	
	CO-00DD2-D			
	CO-00DR-D			
	CO-00AR-D			
<b>Standard</b>	CO-01DD1-D	v1.20	N/A	
	CO-01DD2-D			
	CO-01DR-D			
	CO-01AR-D			
<b>Analog</b>	CO-02DD1-D (before SN 171208001)	v1.12	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		
<b>Ethernet Basic</b>	CO-10DD1E-D	v2.00	v2.30	
	CO-10DD2E-D		N/A	
	CO-10DRE-D			
	CO-10ARE-D			
<b>Ethernet Standard</b>	CO-11DD1E-D	v2.00	v2.30	
	CO-11DD2E-D		N/A	
	CO-11DRE-D			
	CO-11ARE-D			
<b>Ethernet Analog</b>	CO-12DD1E-D	v2.20	v2.30	
	CO-12DD2E-D		N/A	
	CO-12DRE-D			
	CO-12ARE-D			
	CO-12DD1E-1-D		v2.30	
	CO-12DD2E-1-D		N/A	
	CO-12DRE-1-D			
	CO-12ARE-1-D			
	CO-12DD1E-2-D		v2.30	
	CO-12DD2E-2-D		N/A	
	CO-12DRE-2-D			
	CO-12ARE-2-D			
<b>I/O Modules</b>	CO-08NE3	v1.20	N/A	
	CO-16NE3			
	CO-04AD-1			
	CO-04AD-2	v1.40		
	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

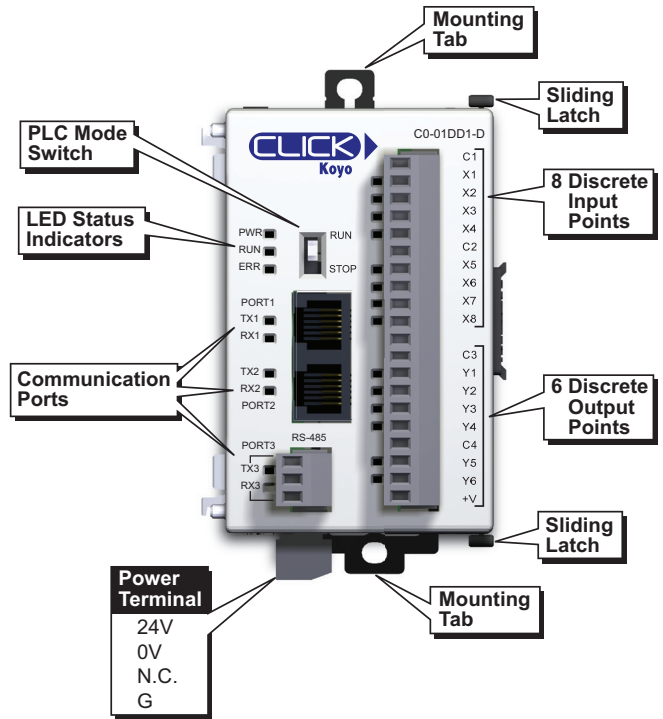
# CLICK Specifications

## PLC Features

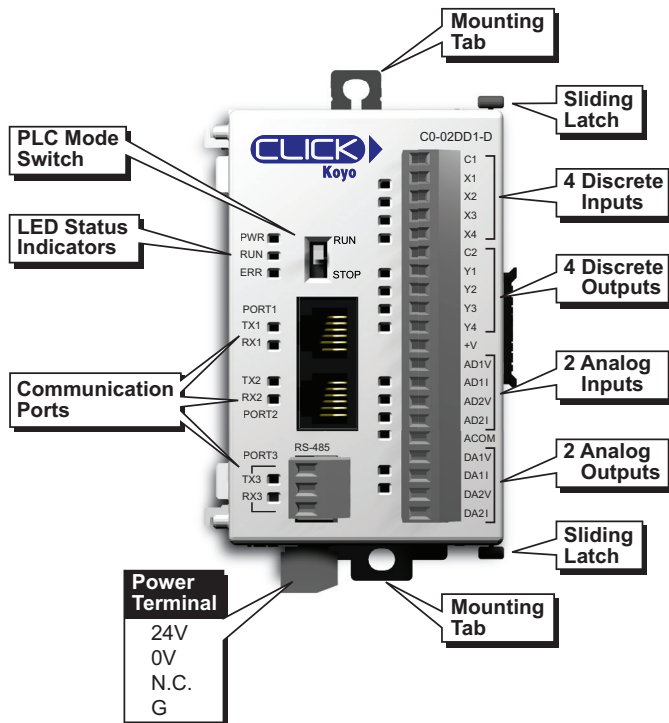
**Basic PLCs**



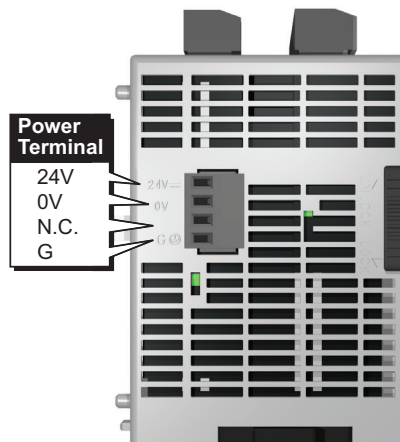
**Standard PLCs**



**Analog PLCs**



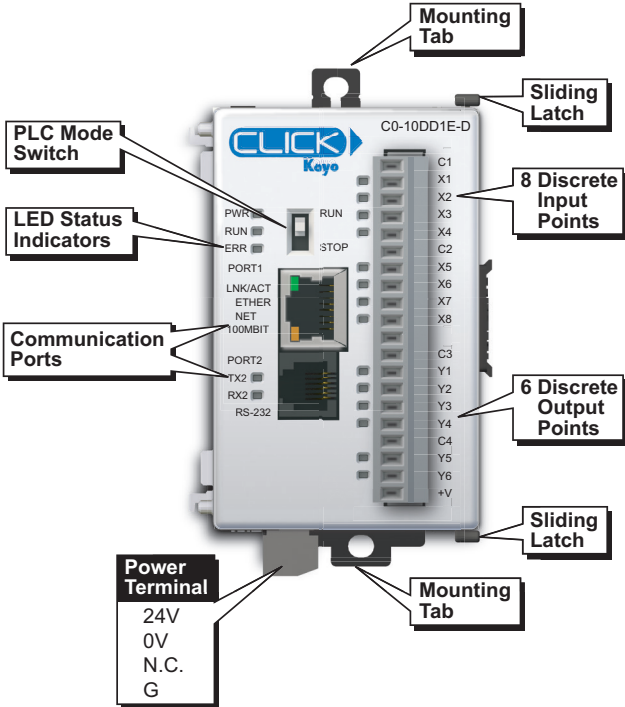
**Bottom of PLC  
(Same on all models)**



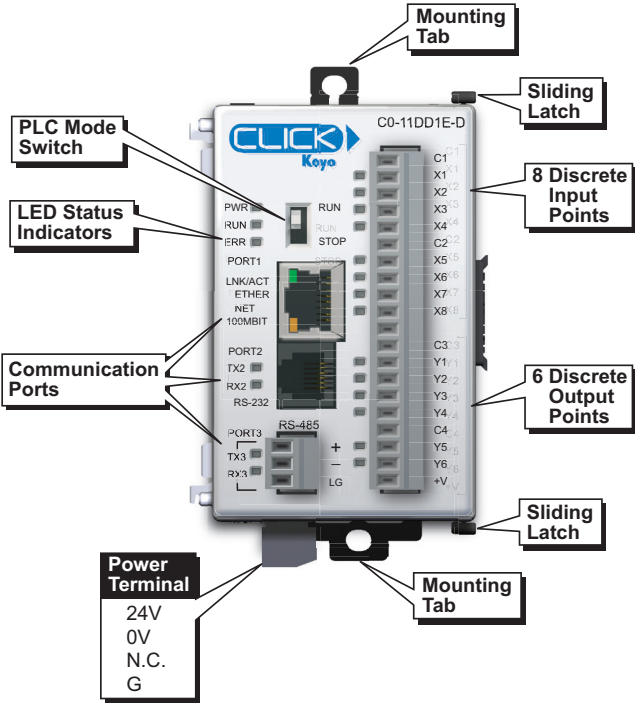
# CLICK Specifications

## PLC Features (continued)

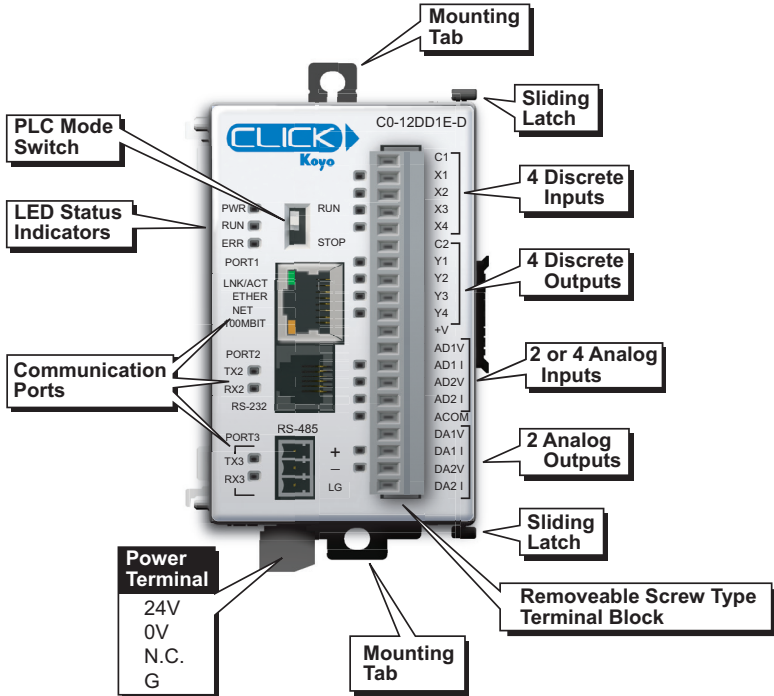
Ethernet Basic PLCs



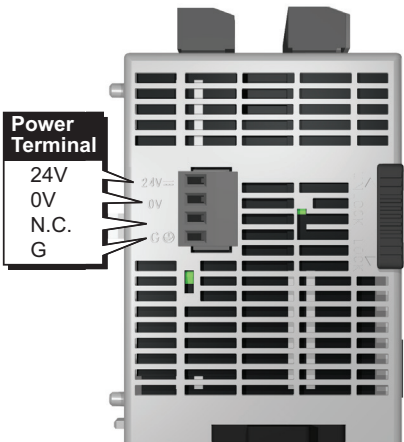
Ethernet Standard PLCs



Ethernet Analog PLCs



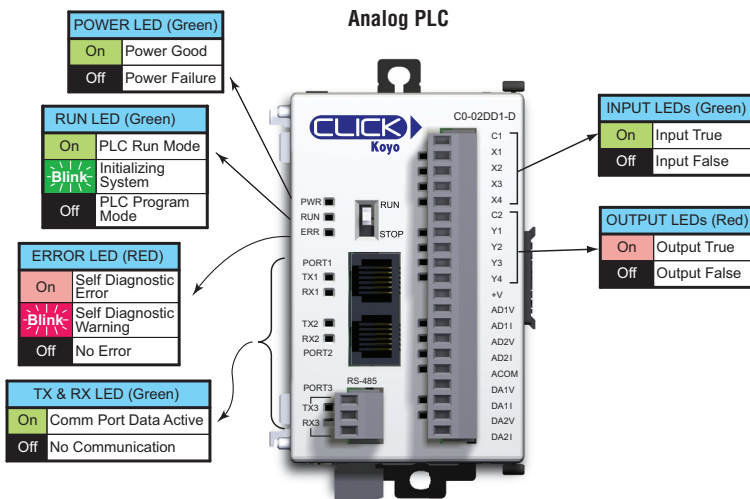
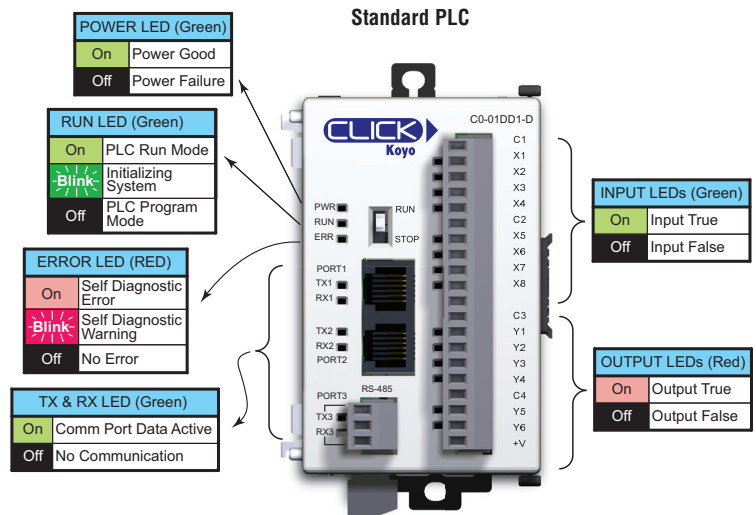
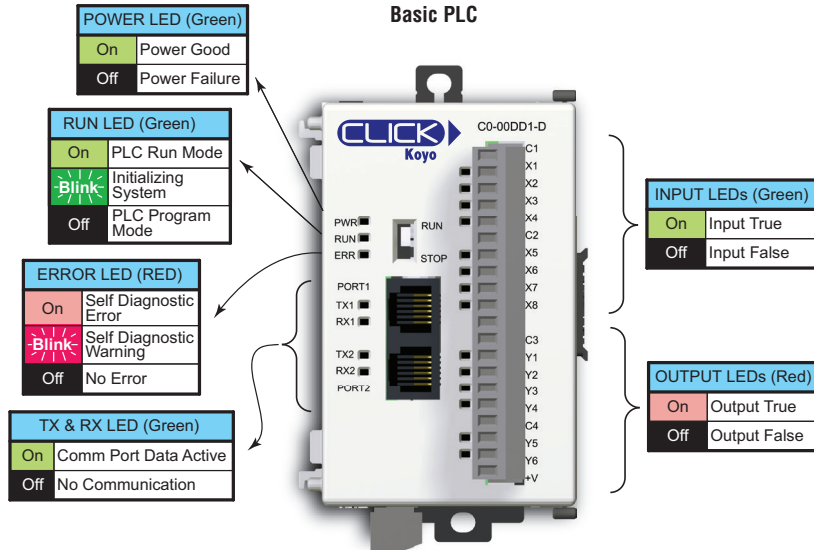
Bottom of Ethernet PLC (Same on all models)





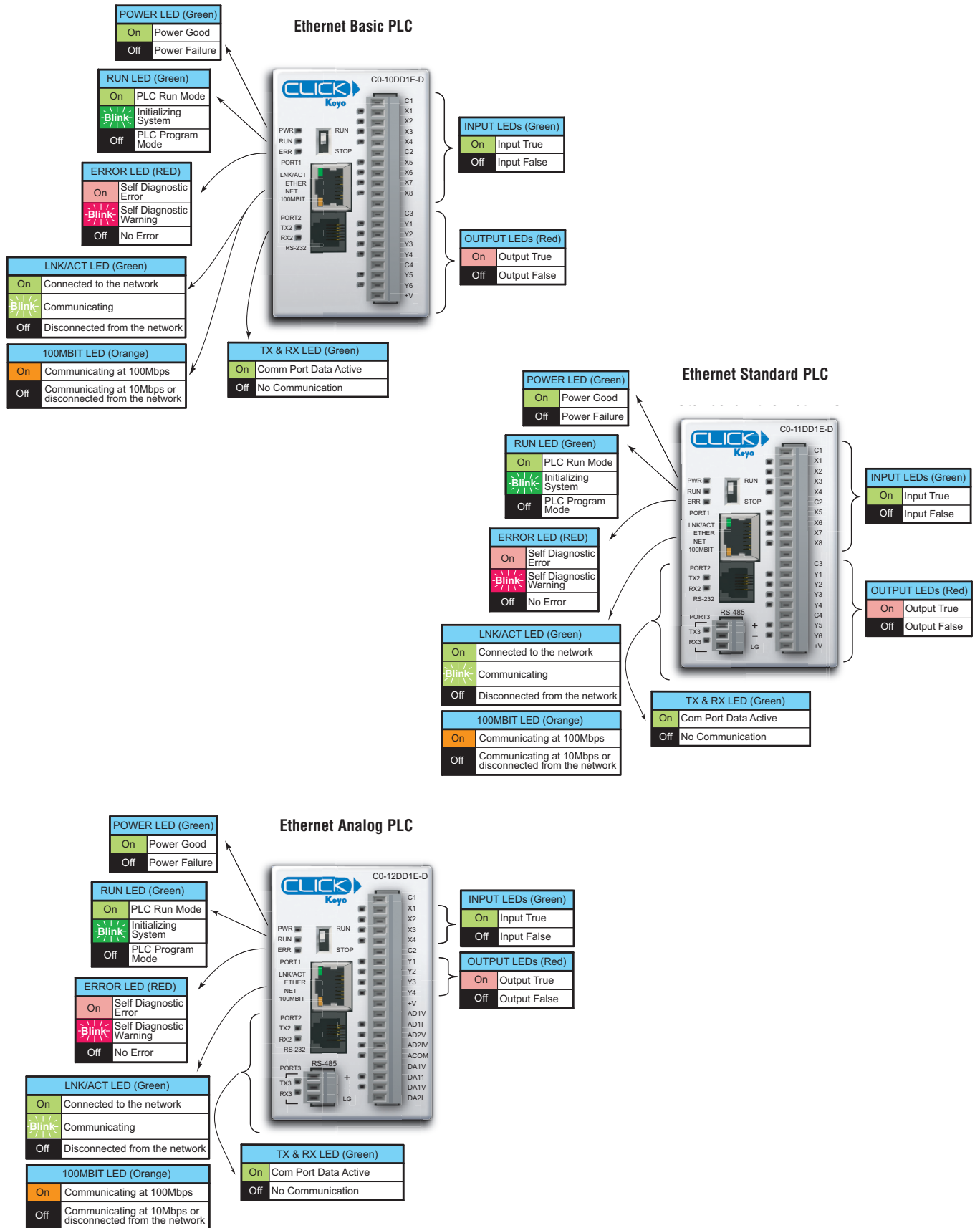
# CLICK Specifications

## PLC LED Status Indicators



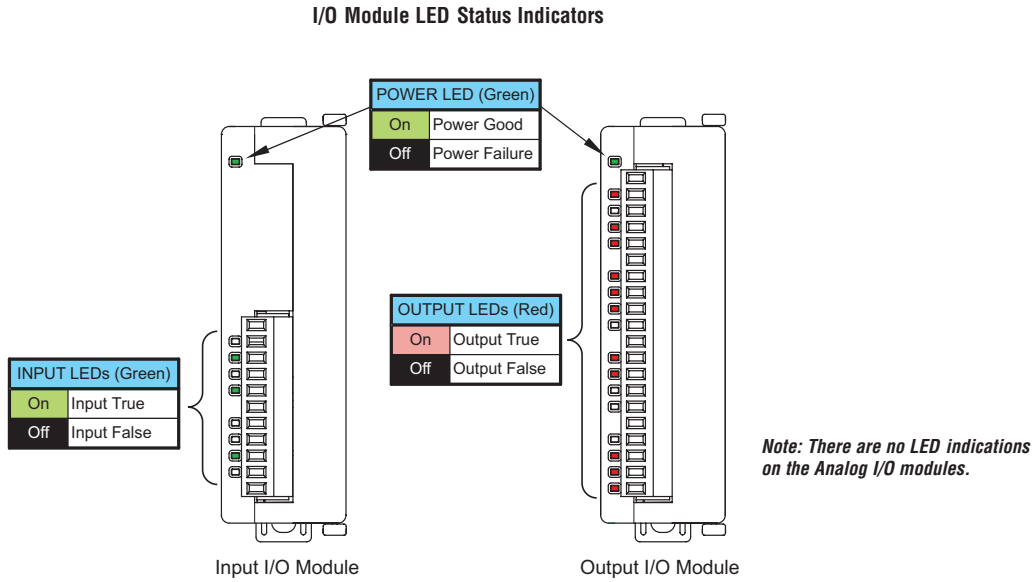
# CLICK Specifications

## PLC LED Status Indicators



# CLICK Specifications

## I/O Module LED Status Indicators



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

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

11-Pin Terminal Block, CO-8TB

20-pin Terminal Block Specifications	
<b>Connector Type</b>	Pluggable Terminal Block
<b>Number of Pins</b>	20
<b>Pitch</b>	3.50 mm
<b>Wire Range</b>	28-16 AWG
<b>Wire Strip Length</b>	7mm
<b>Screw Size</b>	M2.0
<b>Screw Torque</b>	Analog, analog combo I/O modules only: 1.7 lb-in; All other modules: 2.0 to 2.2 lb-in
<b>ADC Part Number</b>	CO-16TB

20-Pin Terminal Block, 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 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				

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

<sup>2</sup> 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-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	
CO-16NE3	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
		Sensor	ZL-LTB16-24	

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-08TA				
CO-16TD1	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
		Fuse	ZL-RFU20 <sup>2</sup>	
		Relay (sinking)	ZL-RRL16-24-1	
CO-16TD2	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
		Fuse	ZL-RFU20 <sup>2</sup>	
		Relay (sourcing)	ZL-RRL16-24-2	
CO-04TRS <sup>1</sup>	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *

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 *

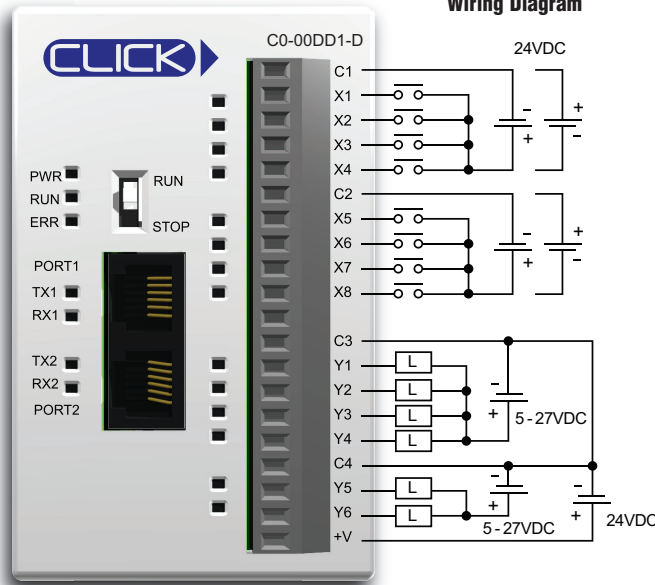
CLICK PLC Analog I/O Module ZIPLink Selector				
I/O Module		ZIPLink		
Analog Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-04AD-1	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-04AD-2	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-04RTD	20	No ZIPLinks are available for RTD and thermocouple modules.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

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

# Basic PLC

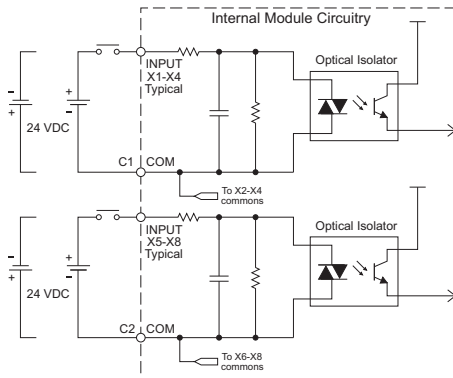
**CO-00DD1-D**     **\$69.00**

**8 DC Input/6 Sinking DC Output Micro PLC**

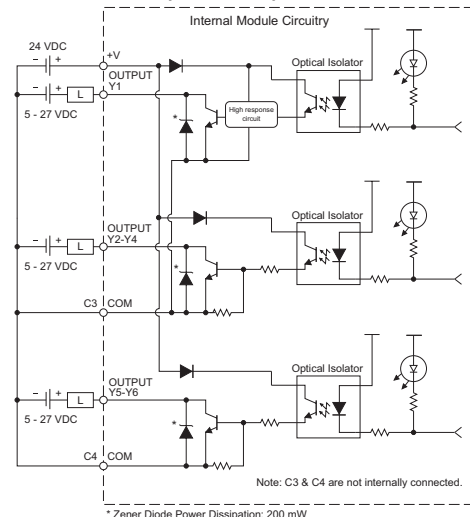


**Wiring Diagram**

**Equivalent Input Circuit**



**Equivalent Output Circuit**



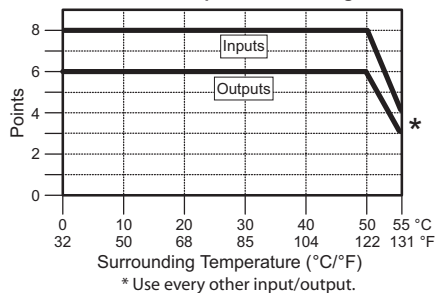
\* Zener Diode Power Dissipation: 200 mW

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

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

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

**C0-00DD1-D Temperature Derating Chart**



**ZIPLink Pre-Wired PLC Connection Cables and Modules**



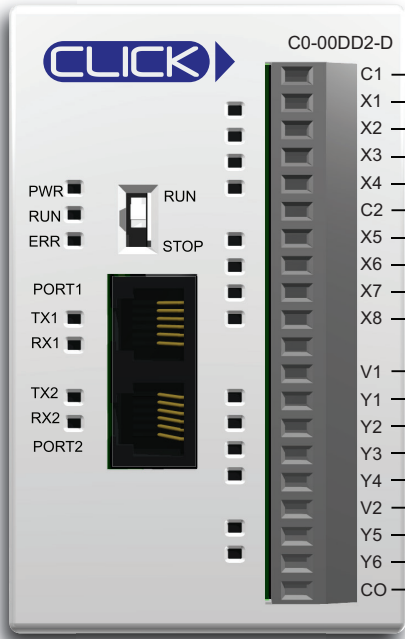
**ZL-RTB20 20-pin feed-through connector module**

**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)**

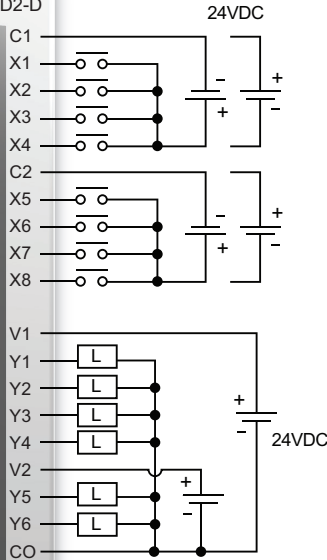
# Basic PLC

**C0-00DD2-D \$69.00**

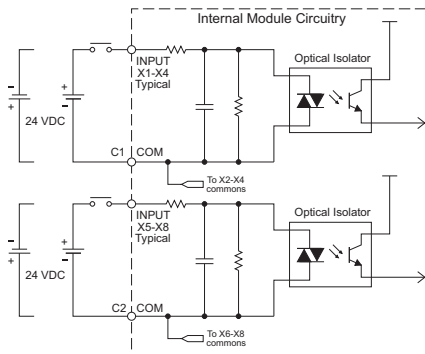
**8 DC Input/6 Sourcing DC Output Micro PLC**



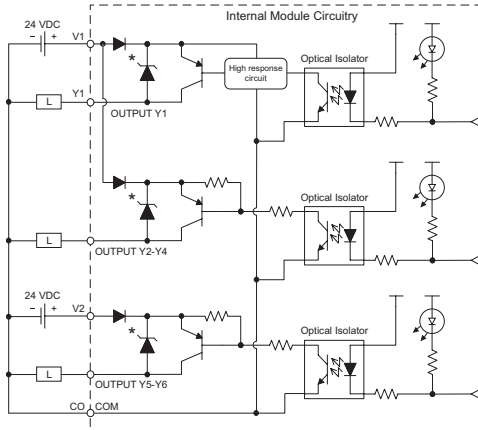
**Wiring Diagram**



**Equivalent Input Circuit**



**Equivalent Output Circuit**



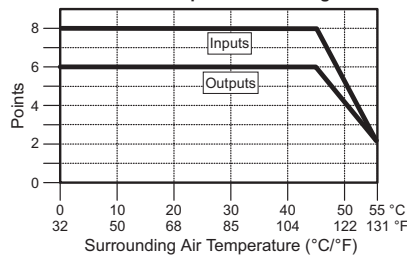
\*Zener Diode Power Dissipation: 200 mW

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

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

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

**C0-00DD2-D Temperature Derating Chart**



**ZIPLink Pre-Wired PLC Connection Cables and Modules**



**ZL-RTB20 20-pin feed-through connector module**

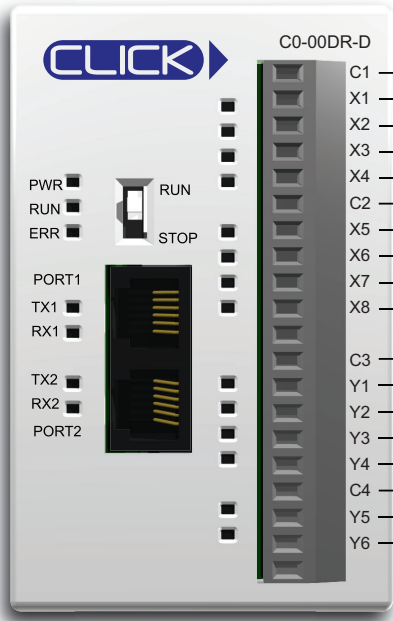


**20-pin connector cable**  
**ZL-C0-CBL20 (0.5 m length)**  
**ZL-C0-CBL20-1 (1.0 m length)**  
**ZL-C0-CBL20-2 (2.0 m length)**

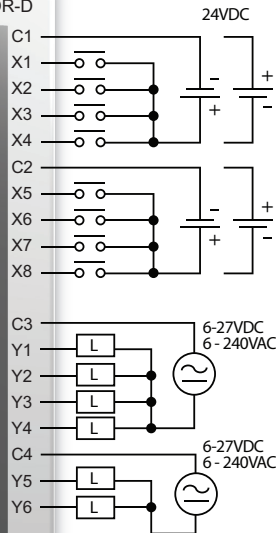
# Basic PLC

CO-00DR-D \$82.00

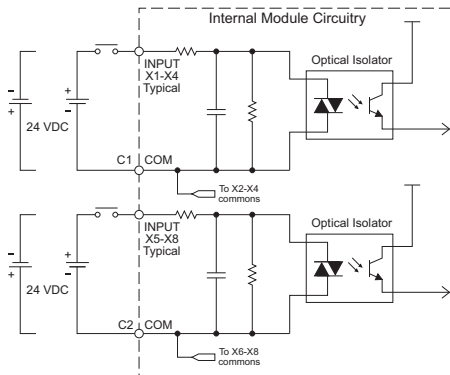
8 DC Input/6 Relay Output Micro PLC



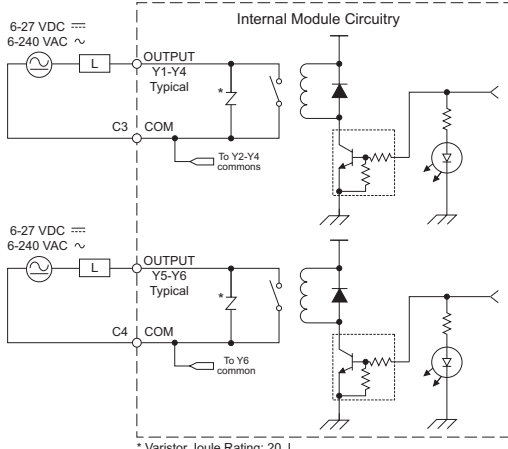
Wiring Diagram



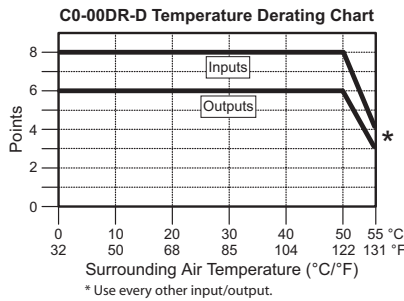
Equivalent Input Circuit



Equivalent Output Circuit



\* Varistor Joule Rating: 20 J



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

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

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

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



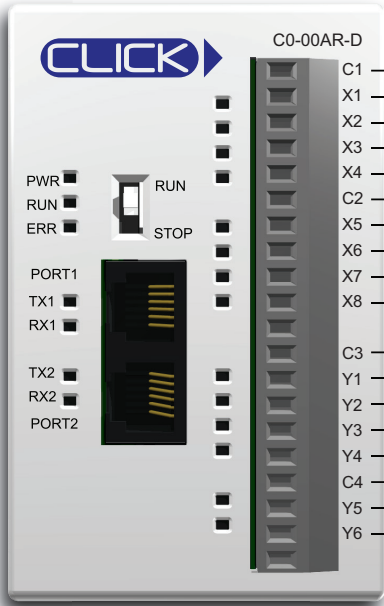
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



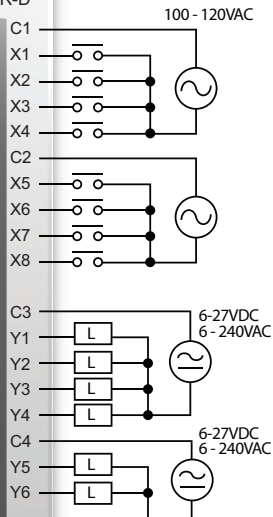
# Basic PLC

C0-00AR-D \$82.00

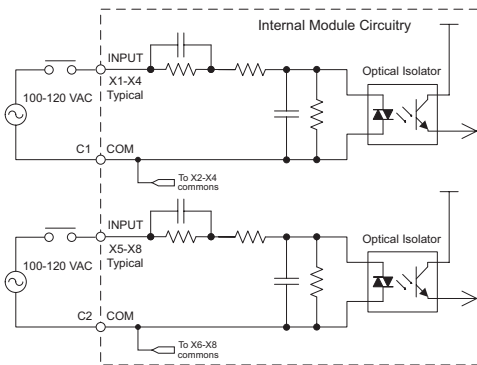
8 AC Input/6 Relay Output Micro PLC



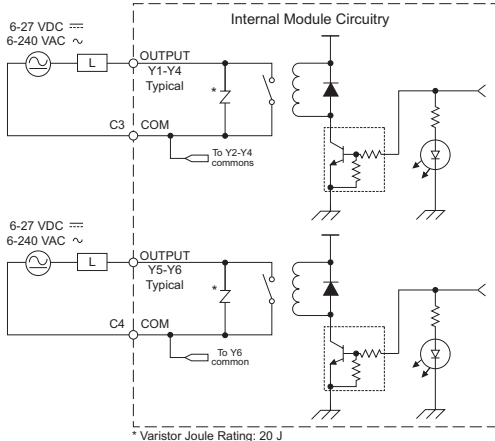
Wiring Diagram



Equivalent Input Circuit



Equivalent Output Circuit



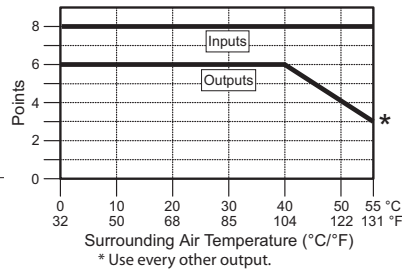
\* Varistor Joule Rating: 20 J

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

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

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

C0-00AR-D Temperature Derating Chart



\* Use every other output.

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

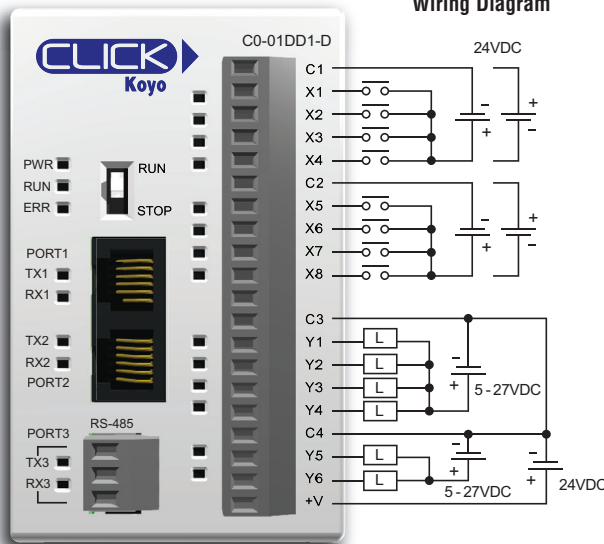


20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)

# Standard PLC

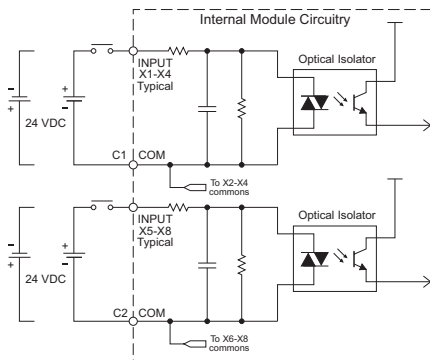
C0-01DD1-D \$101.00

8 DC Input/6 Sinking DC Output Micro PLC

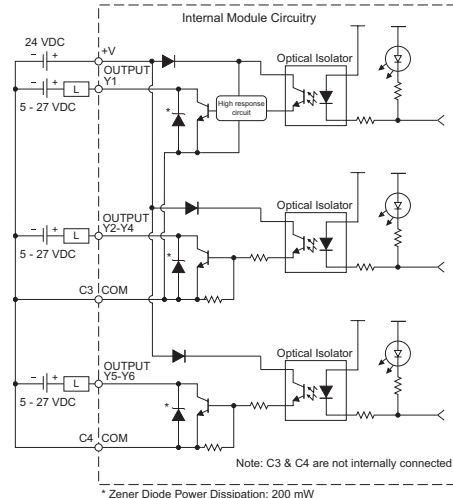


**NOTE:** When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

### Equivalent Input Circuit



### Equivalent Output Circuit

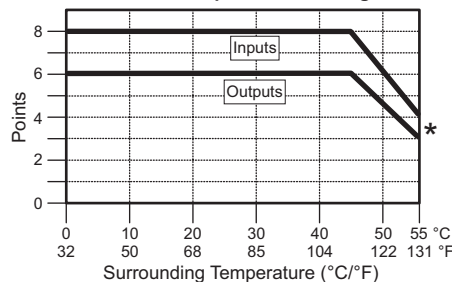


Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24VDC
<b>Input Voltage Range</b>	21.6-26.4 VDC
<b>Input Current</b>	X1-2: Typ 5mA @ 24VDC X3-8: Typ 4mA @ 24VDC
<b>Maximum Input Current</b>	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
<b>Input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

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

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

C0-01DD1-D Temperature Derating Chart



\* Use every other input/output.

### ZIFLink Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



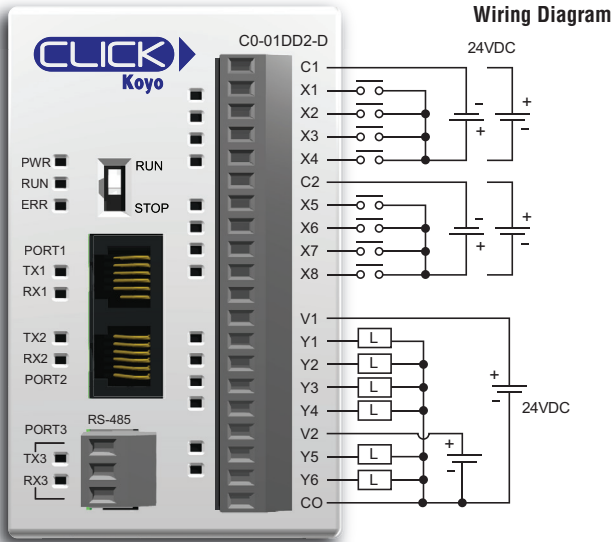
20-pin connector cable  
 ZL-CO-CBL20 (0.5 m length)  
 ZL-CO-CBL20-1 (1.0 m length)  
 ZL-CO-CBL20-2 (2.0 m length)



# Standard PLC

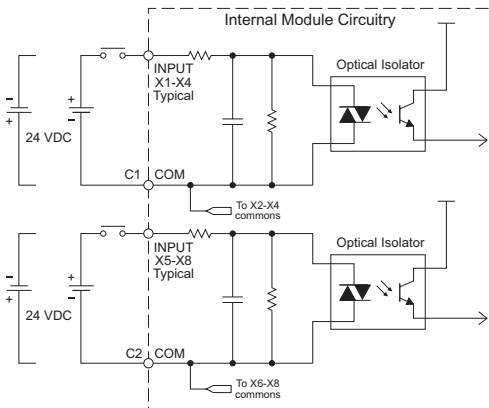
C0-01DD2-D \$101.00

8 DC Input/6 Sourcing DC Output Micro PLC

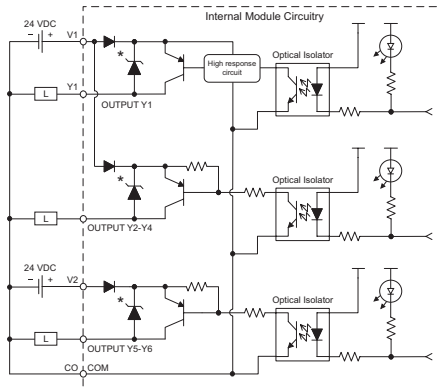


**NOTE:** When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

### Equivalent Input Circuit



### Equivalent Output Circuit

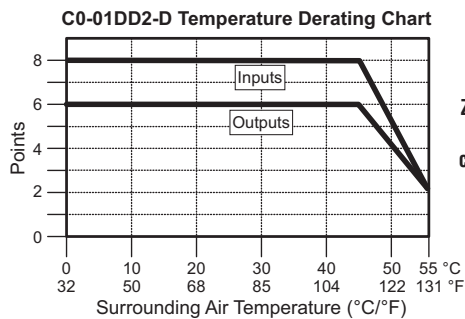


\*Zener Diode Power Dissipation: 200 mW

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

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

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



### ZIPLink Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



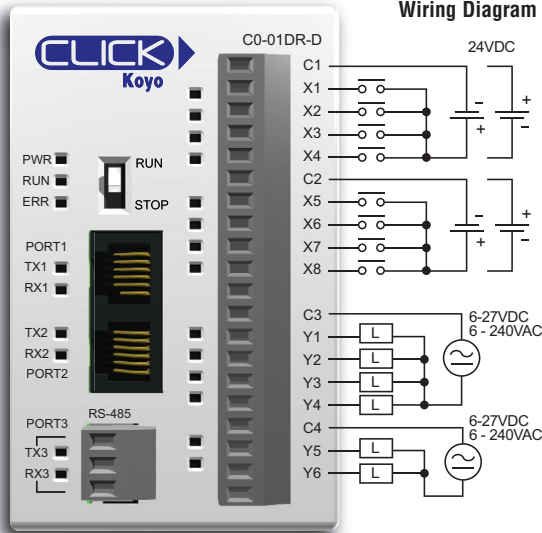
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



# Standard PLC

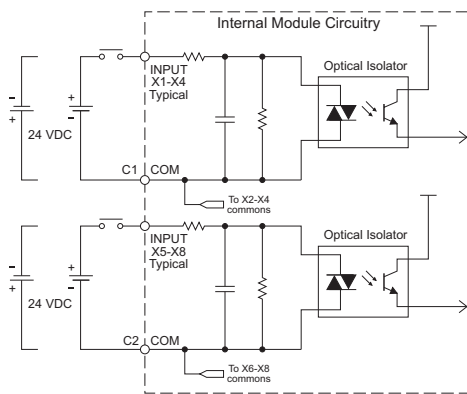
**C0-01DR-D**      **\$112.00**

**8 DC Input/6 Relay Output Micro PLC**

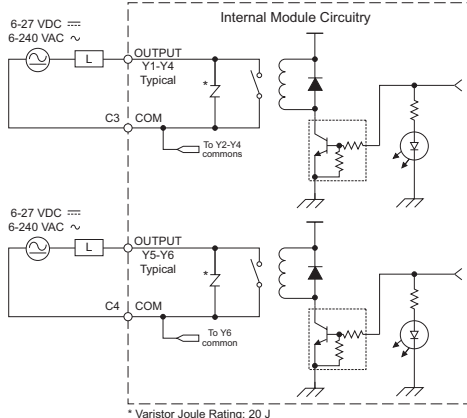


**NOTE:** When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

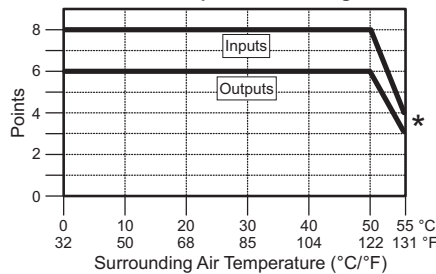
### Equivalent Input Circuit



### Equivalent Output Circuit



**C0-01DR-D Temperature Derating Chart**



\* Use every other input/output.

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

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

General Specifications	
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	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/PLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC**

**ZL-RTB20**  
20-pin feed-through connector module



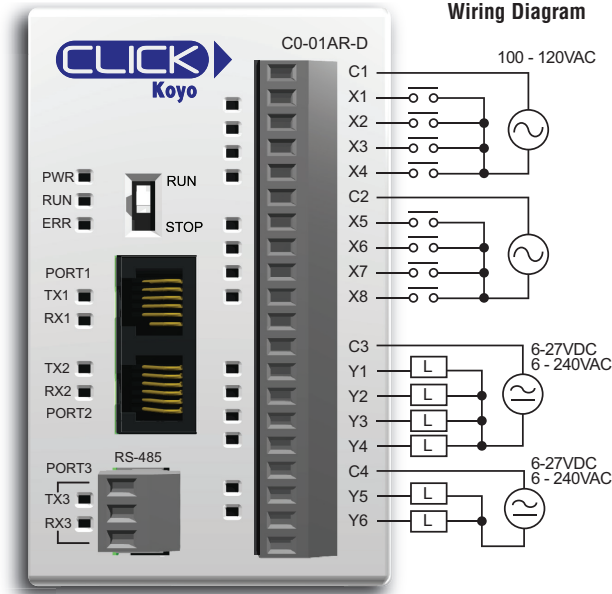
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



# Standard PLC

C0-01AR-D \$112.00

8 AC Input/6 Relay Output Micro PLC

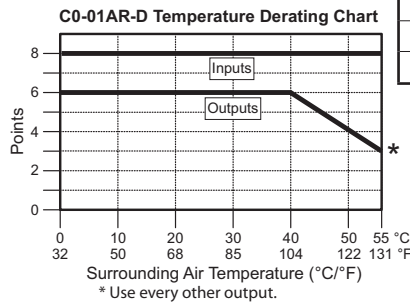
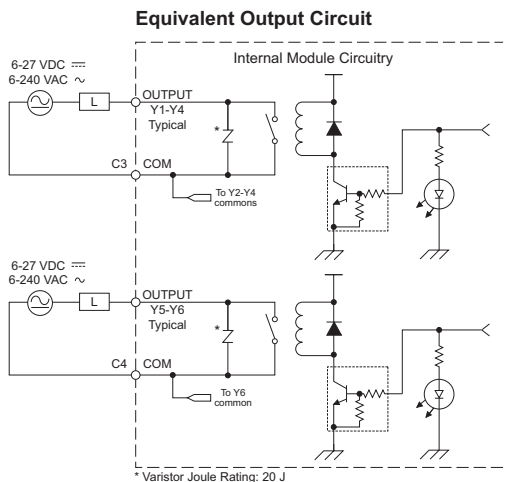
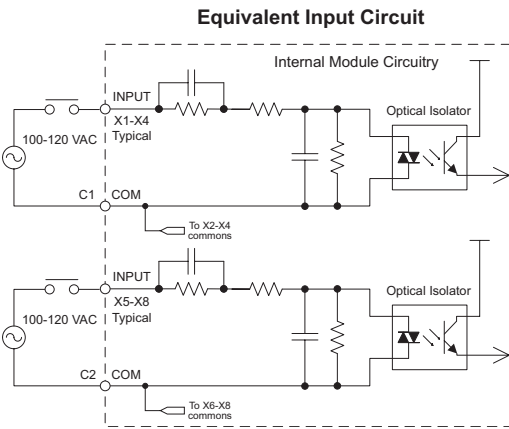


**NOTE:** When using Standard PLCs, you must use CLICK programming software version V1.20 or later.

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

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

General Specifications	
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	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	

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)

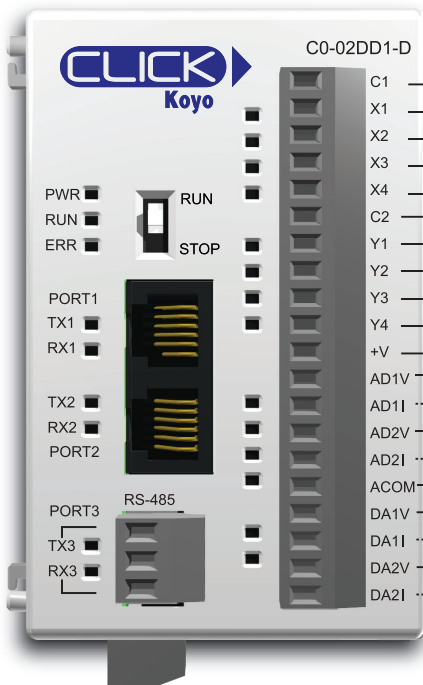


ZIPLink Pre-Wired PLC Connection  
Cables and Modules for CLICK PLC

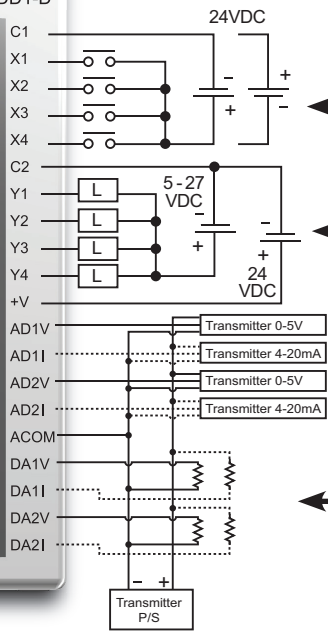
# Analog PLC

C0-02DD1-D \$132.00

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)



**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 171208001	V1.12 or later	V1.10 or later
171208001 or later	V2.10 or later	V2.10 or later

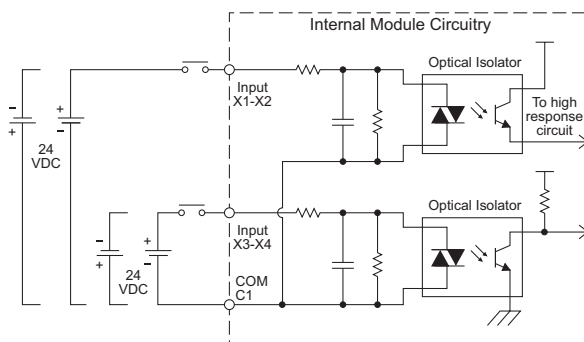
You can find the serial number on the bottom of the product label.

## X1 - X4

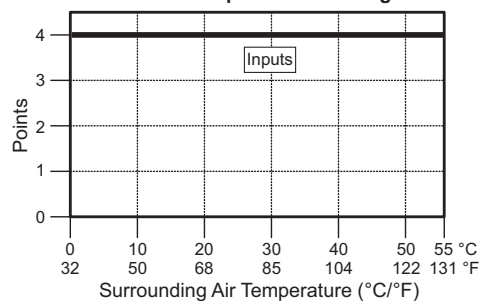
Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-4: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC 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).

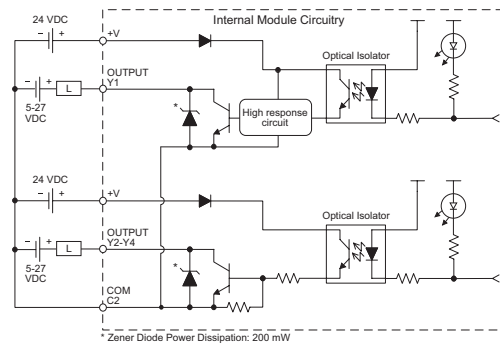
# Analog PLC

## C0-02DD1-D (cont'd)

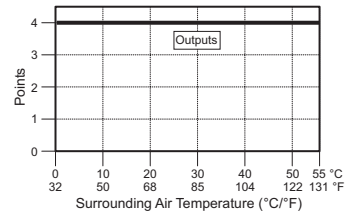
Y1 - Y4

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

Equivalent Discrete Output Circuit



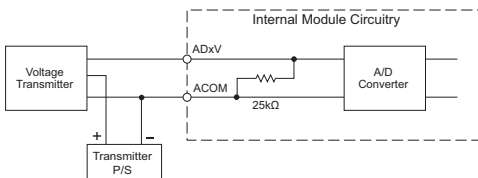
C0-02DD1-D Temperature Derating Chart



## AD1V - AD2I

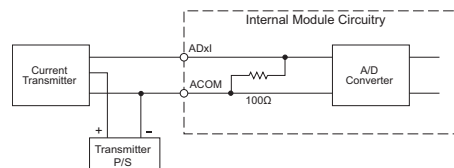
Analog Specifications - Voltage Input	
<b>Number of Channels</b>	2 (voltage/current selectable)
<b>Input Range</b>	0–5 VDC (6VDC Max.)
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	50ms
<b>Input Impedance</b>	25kΩ 150kΩ (Serial numbers prior to 171208001)
<b>Input Stability</b>	±2 LSB maximum
<b>Full-Scale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

Analog Voltage Input Circuit



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

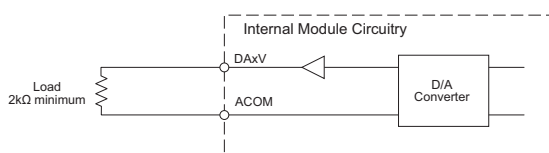
Analog Current Input Circuit



## DA1V - DA2I

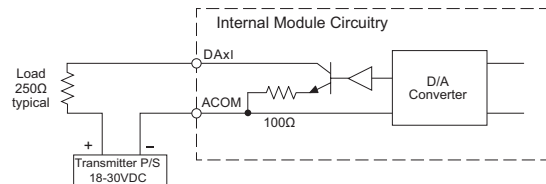
Analog Specifications - Voltage Output	
<b>Outputs per Module</b>	2 (voltage/current selectable)
<b>Output Range</b>	0–5 VDC
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	1ms
<b>Load Impedance</b>	2kΩ minimum (output current 2.5 mA maximum)
<b>Full-Scale Calibration Error</b>	±0.8% maximum
<b>Offset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

Analog Voltage Output Circuit



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

Analog Current Output Circuit

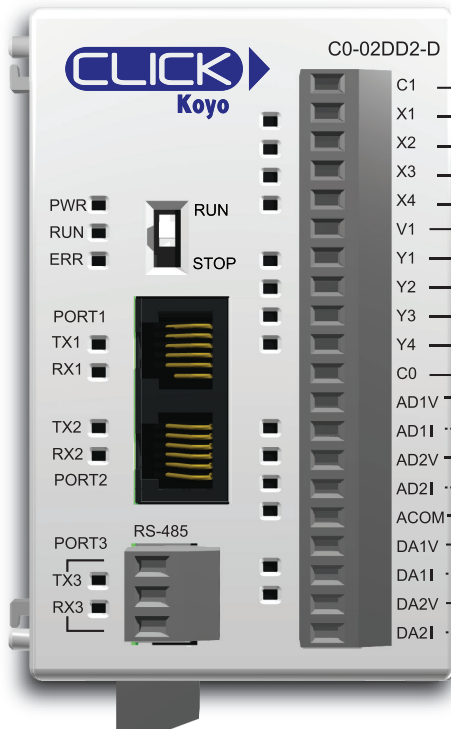


# Analog PLC

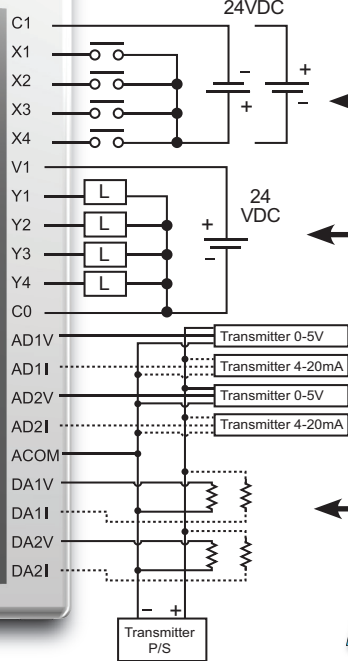
C0-02DD2-D \$132.00

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)



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)



**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

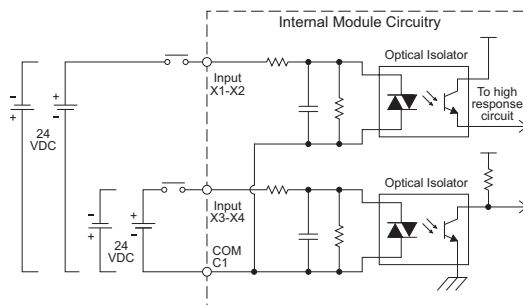
You can find the serial number on the bottom of the product label.

## X1 - X4

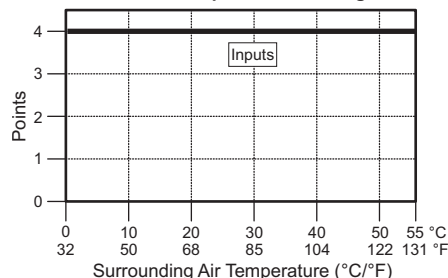
Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-4: Typ 4mA @ 24VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC 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)

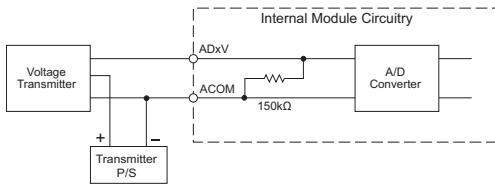
### Y1 - Y4

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

### AD1V - AD2I

Analog Specifications - Voltage Input	
<b>Number of Channels</b>	2 (voltage/current selectable)
<b>Input Range</b>	0–5 VDC (6 VDC Max.)
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	50ms
<b>Input Impedance</b>	25k $\Omega$ 150k $\Omega$ (Serial numbers prior to 174018001)
<b>Input Stability</b>	$\pm 2$ LSB maximum
<b>Full-Scale Calibration Error</b>	$\pm 1.2\%$ maximum
<b>Offset Calibration Error</b>	$\pm 5$ mV maximum
<b>Accuracy vs. Temperature Error</b>	$\pm 100$ ppm / $^{\circ}$ C maximum

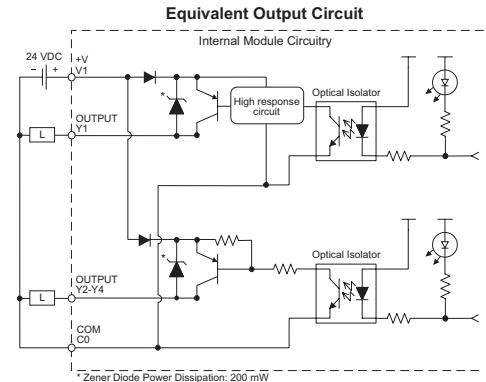
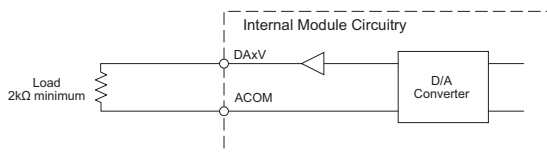
Analog Voltage Input Circuit



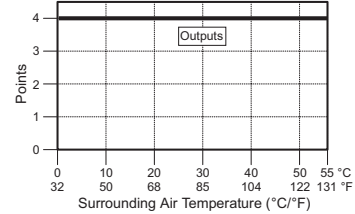
### DA1V - DA2I

Analog Specifications - Voltage Output	
<b>Outputs per Module</b>	2 (voltage/current selectable)
<b>Output Range</b>	0–5 VDC
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	1ms
<b>Load Impedance</b>	2k $\Omega$ minimum (output current 2.5 mA maximum)
<b>Full-Scale Calibration Error</b>	$\pm 0.8\%$ maximum
<b>Offset Calibration Error</b>	$\pm 5$ mV maximum
<b>Accuracy vs Temperature Error</b>	$\pm 100$ ppm / $^{\circ}$ C maximum

Analog Voltage Output Circuit

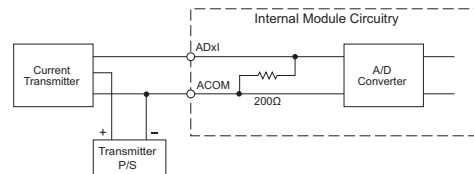


C0-02DD2-D Temperature Derating Chart



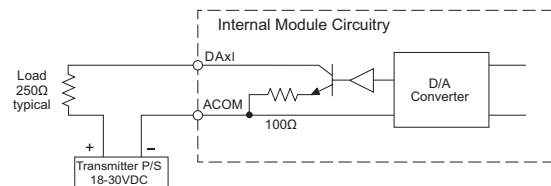
C0-02DD2-D Analog Specifications - Current Input	
<b>Inputs per Module</b>	2 (voltage/current selectable)
<b>Input Range</b>	4–20 mA (sink)
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	50ms
<b>Input Impedance</b>	100k $\Omega$ 200k $\Omega$ (Serial numbers prior to 174018001)
<b>Input Stability</b>	$\pm 2$ LSB
<b>Full-Scale Calibration Error</b>	$\pm 1\%$ maximum
<b>Offset Calibration Error</b>	$\pm 0.1$ mA maximum
<b>Accuracy vs Temperature Error</b>	$\pm 100$ ppm / $^{\circ}$ C maximum

Analog Current Input Circuit



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

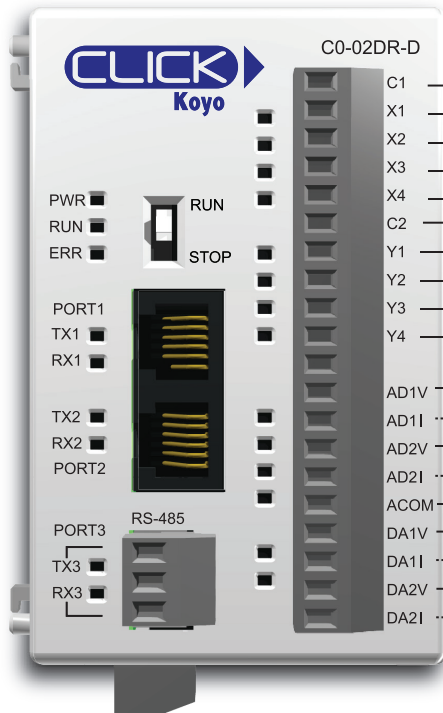
Analog Current Output Circuit



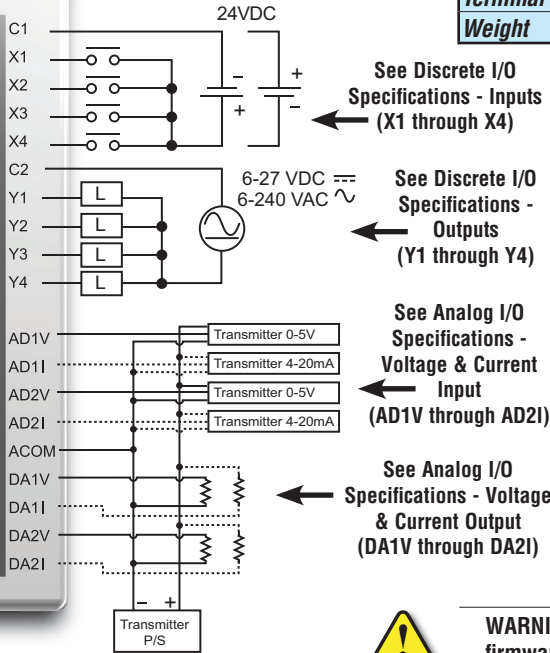
# Analog PLC

C0-02DR-D \$142.00

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



Wiring Diagram



General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	CO-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	

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.



**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).

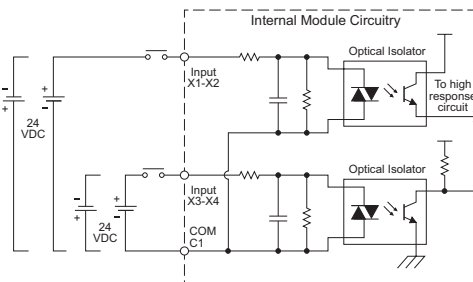
Serial Number	Software	Firmware
Before 173158001	V1.12 or later	V1.10 or later
173158001 or later	V2.10 or later	V2.10 or later
You can find the serial number on the bottom of the product label.		

## X1 - X4

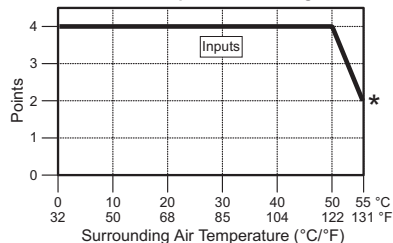
Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Source/Sink)
Operating Voltage Range	24VDC
Input Voltage Range	21.6-26.4 VDC
Input Current	X1-2: Typ 5mA @ 24VDC X3-4: Typ 4mA @ 24VDC
Input Impedance	X1-2: 4.7 kΩ @ 24VDC X3-4: 6.8 kΩ @ 24VDC
ON Voltage Level	X1-2: > 19VDC X3-4: > 19VDC
OFF 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



\* Use every other input.

# Analog PLC

## C0-02DR-D (cont'd)

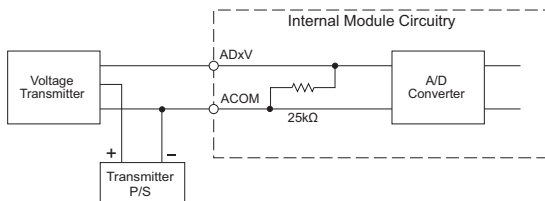
Y1 - Y4

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

## AD1V - AD2I

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

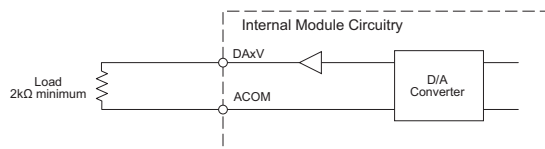
Analog Voltage Input Circuit



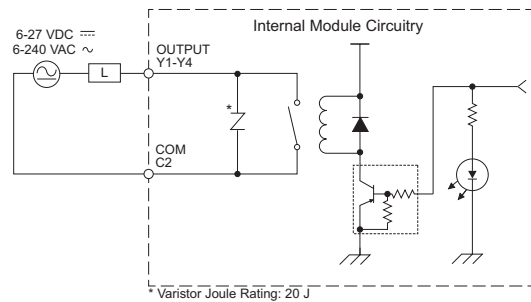
## DA1V - DA2I

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

Analog Voltage Output Circuit

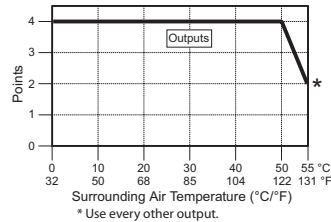


Equivalent Output Circuit



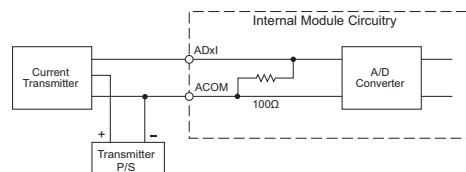
This circuit does not contain built-in protection. Install protection elements such as a fuse outside the module if necessary.

C0-02DR-D Temperature Derating Chart



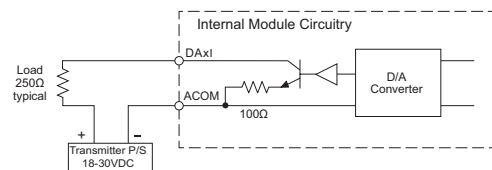
Analog Specifications - Current Input	
<b>Inputs per Module</b>	2 (voltage/current selectable)
<b>Input Range</b>	4-20 mA (sink)
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	50ms
<b>Input Impedance</b>	100Ω 200Ω (Serial numbers prior to 173158001)
<b>Input Stability</b>	± 2 LSB
<b>Full-Scale Calibration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

Analog Current Input Circuit



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

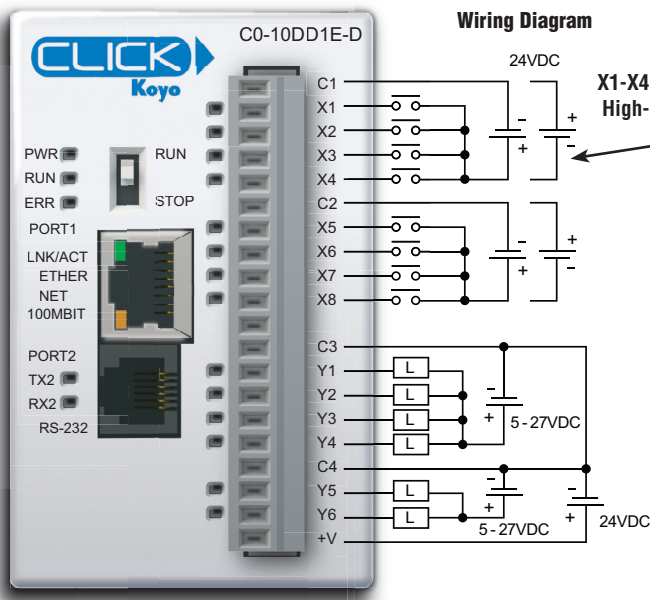
Analog Current Output Circuit



# Ethernet Basic PLC

C0-10DD1E-D \$132.00

8 DC Input/6 Sinking DC Output Micro PLC



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

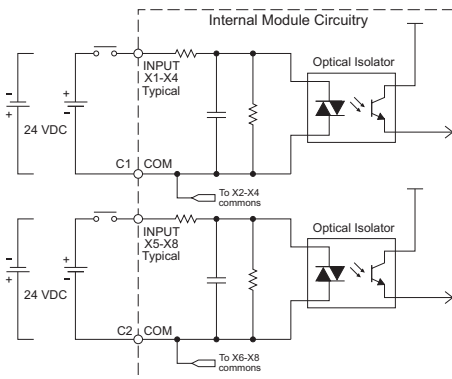
Built-in I/O Specifications - Outputs	
<b>Outputs per Module</b>	6 (Sink)
<b>Operating Voltage Range</b>	5-27 VDC
<b>Output Voltage Range</b>	4-30 VDC
<b>Maximum Output Current</b>	0.1 A/point; C3: 0.4 A/common, C4: 0.2 A/common
<b>Minimum Output Current</b>	0.2 mA
<b>Maximum Leakage Current</b>	0.5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

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

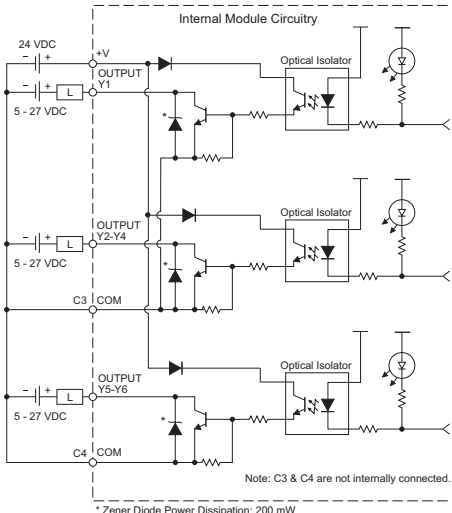


**NOTE:** When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

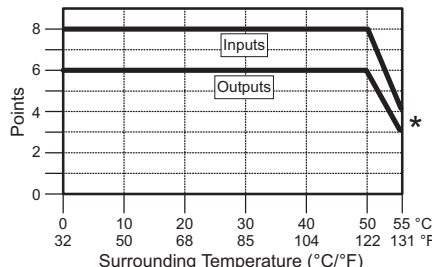
### Equivalent Input Circuit



### Equivalent Output Circuit



C0-10DD1E-D Temperature Derating Chart



### Z/Link Pre-Wired PLC Connection Cables and Modules



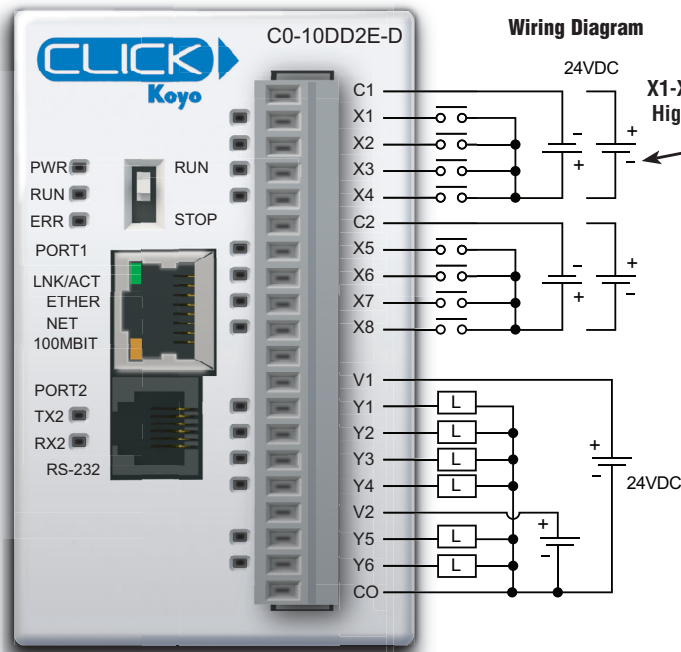
ZL-RTB20 20-pin feed-through connector module

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 Basic PLC

C0-10DD2E-D \$132.00

8 DC Input/6 Sourcing DC Output Micro PLC



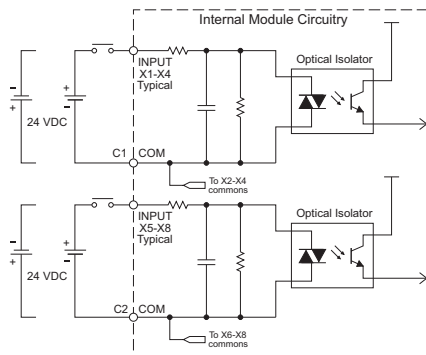
Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24VDC
<b>Input Voltage Range</b>	21.6–26.4 VDC
<b>Input Current</b>	X1-4: Typ 6.5 mA @ 24VDC X5-8: Typ 4mA @ 24VDC
<b>Maximum Input Current</b>	X1-4: 7.0 mA @ 26.4 VDC X5-8: 5.0 mA @ 26.4 VDC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



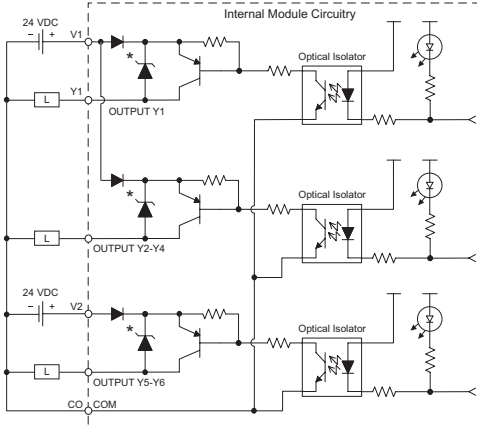
**NOTE:** When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

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

### Equivalent Input Circuit



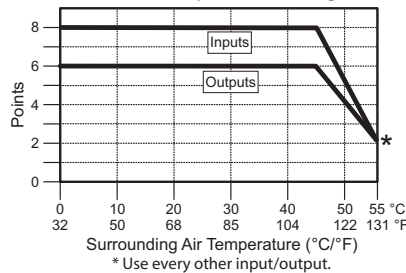
### Equivalent Output Circuit



\*Zener Diode Power Dissipation: 200 mW

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

C0-10DD2E-D Temperature Derating Chart



\* Use every other input/output.

### ZIPLink Pre-Wired PLC Connection Cables and Modules



ZL-RTB20 20-pin feed-through connector module

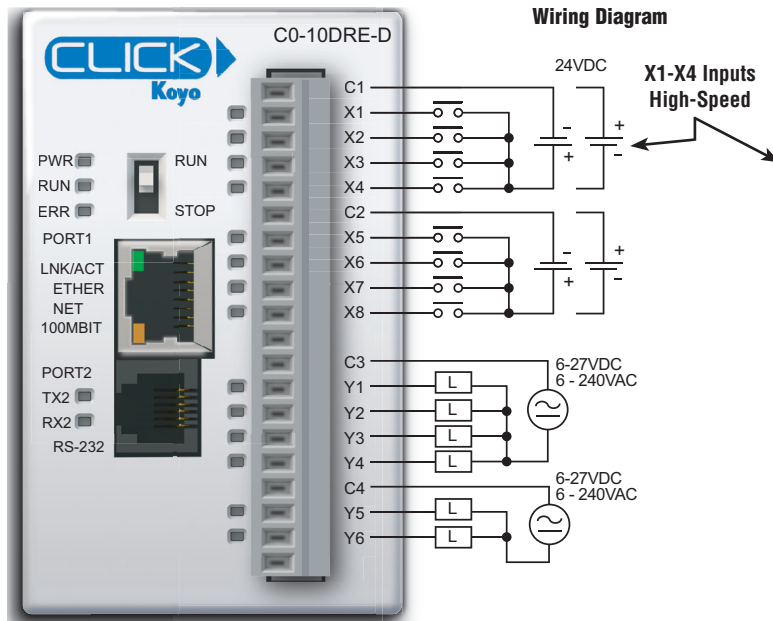


20-pin connector cable  
 ZL-C0-CBL20 (0.5 m length)  
 ZL-C0-CBL20-1 (1.0 m length)  
 ZL-C0-CBL20-2 (2.0 m length)

# Ethernet Basic PLC

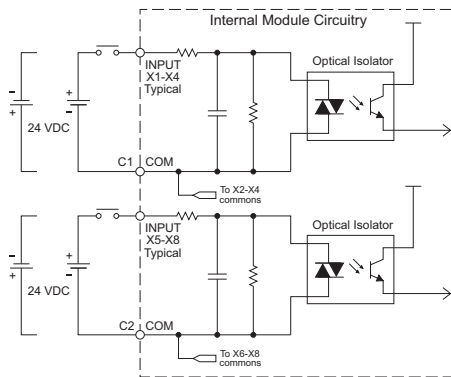
**C0-10DRE-D**      **\$142.00**

**8 DC Input/6 Relay Output Micro PLC**

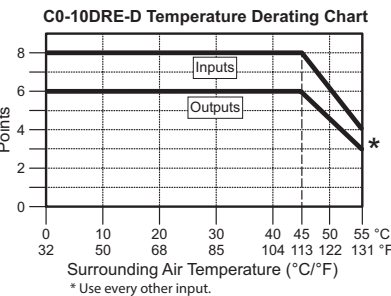
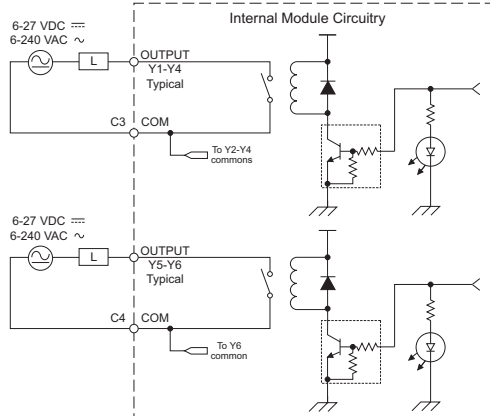


**NOTE:** When using Ethernet Basic PLCs, you must use CLICK programming software version V2.00 or later.

### Equivalent Input Circuit



### Equivalent Output Circuit



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

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

General Specifications	
<b>Current Consumption at 24VDC</b>	120mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	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



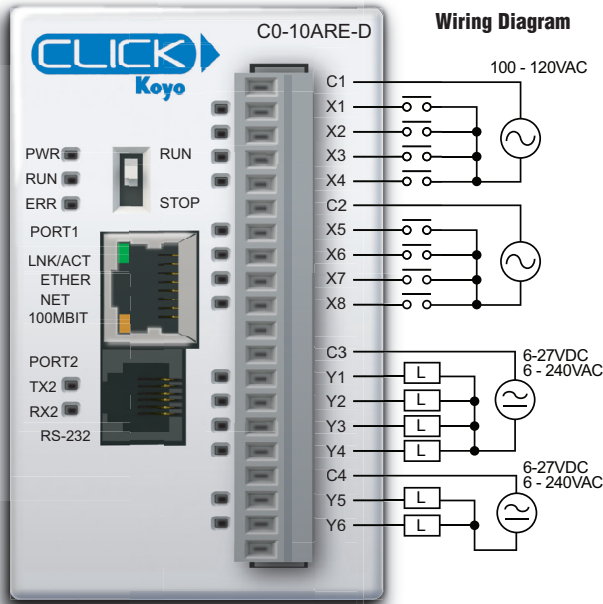
**ZL-RTB20** 20-pin feed-through connector module

**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 Basic PLC

**C0-10ARE-D**      **\$142.00**

**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.

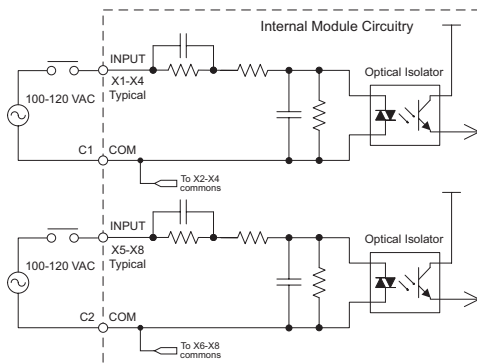
Built-in I/O Specifications - Inputs	
Inputs per Module	8
Operating Voltage Range	100-120 VAC
Input Voltage Range	80-144 VAC
AC Frequency	47-63 Hz
Input Current	8.5 mA @ 100VAC at 50Hz 10mA @ 100VAC at 60Hz
Maximum Input Current	16mA @ 144VAC at 55°C or 131°F
Input Impedance	15kΩ @ 50Hz 12kΩ @ 60Hz
ON 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

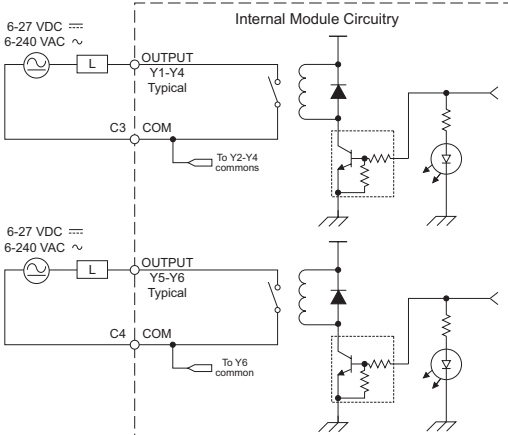
General Specifications	
Current Consumption at 24VDC	120mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.6 oz (160g)



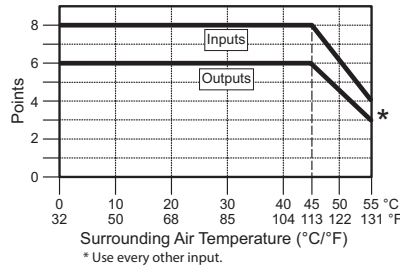
### Equivalent Input Circuit



### Equivalent Output Circuit



C0-10ARE-D Temperature Derating Chart



### 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

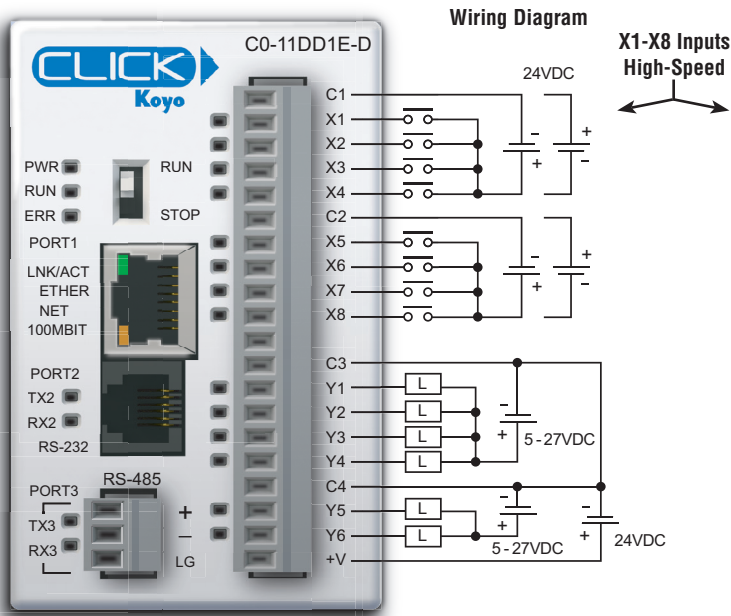


20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)

# Ethernet Standard PLC

C0-11DD1E-D \$153.00

8 DC Input/6 Sinking DC Output Micro PLC



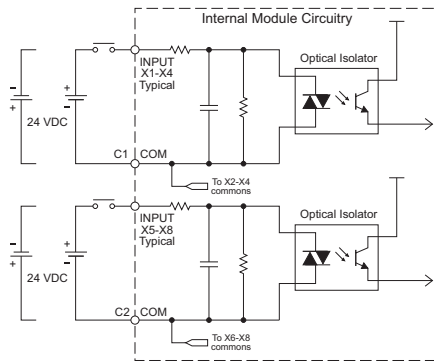
Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24VDC
<b>Input Voltage Range</b>	21.6-26.4 VDC
<b>Input Current</b>	Typ 6.5 mA @ 24VDC
<b>Maximum Input Current</b>	7.0 mA @ 26.4 VDC
<b>Input Impedance</b>	3.9 kΩ @ 24VDC
<b>Maximum Input Frequency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

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

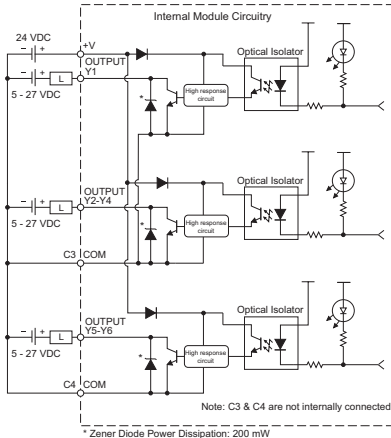
General Specifications	
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.0 oz (140g)

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

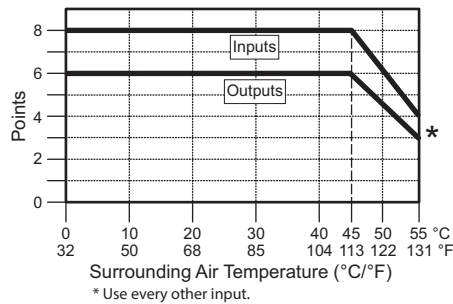
### Equivalent Input Circuit



### Equivalent Output Circuit



C0-11DD1E-D Temperature Derating Chart



### 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)

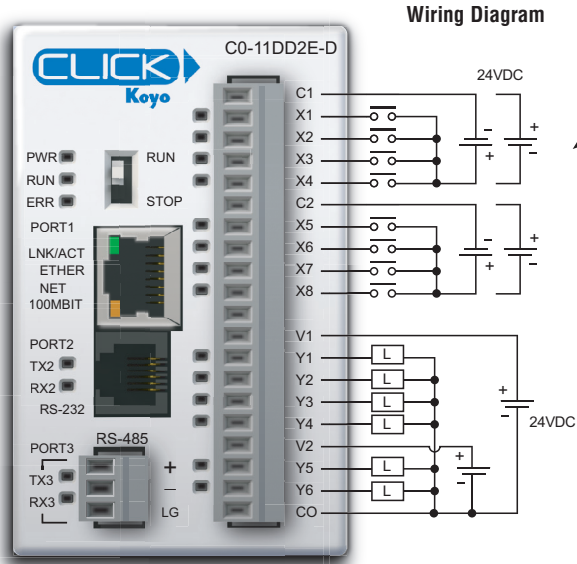




# Ethernet Standard PLC

C0-11DD2E-D \$153.00

8 DC Input/6 Sourcing DC Output Micro PLC



X1-X8 Inputs  
High-Speed

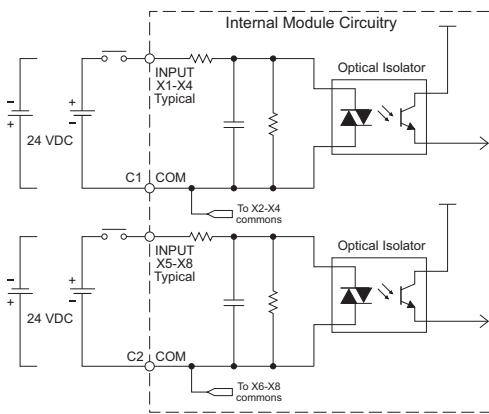
Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24VDC
<b>Input Voltage Range</b>	21.6-26.4 VDC
<b>Input Current</b>	Typ 6.5 mA @ 24VDC
<b>Maximum Input Current</b>	7.0 mA @ 26.4 VDC
<b>Input Impedance</b>	3.9 kΩ @ 24VDC
<b>Maximum Input Frequency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

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

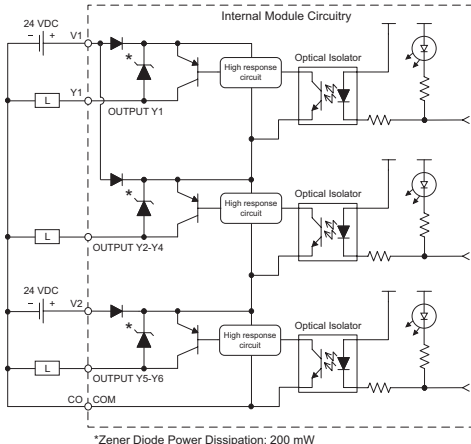
General Specifications	
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.0 oz (140g)

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

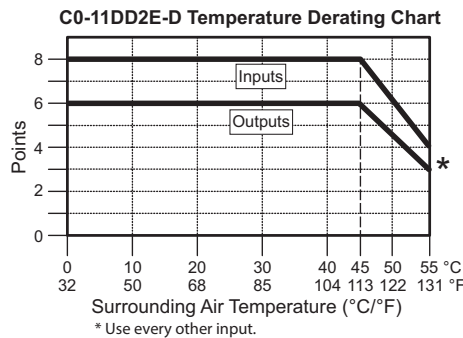
### Equivalent Input Circuit



### Equivalent Output Circuit



\*Zener Diode Power Dissipation: 200 mW



### ZIPLink Pre-Wired PLC Connection Cables and Modules

ZL-RTB20 20-pin feed-through connector module



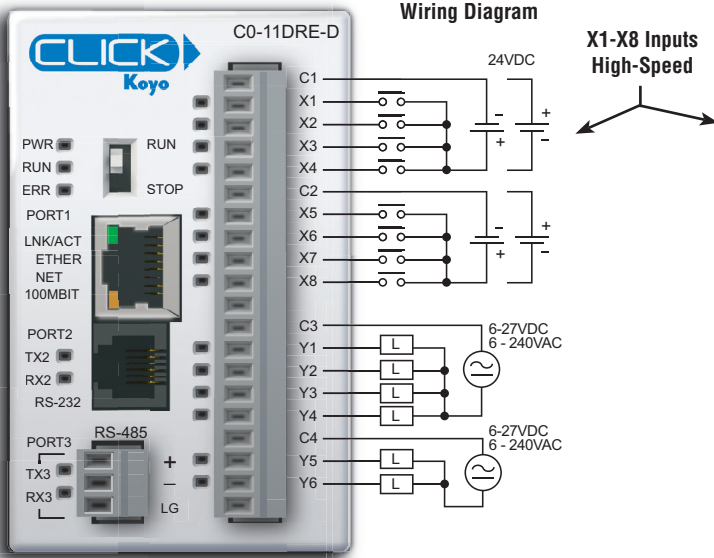
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



# Ethernet Standard PLC

**C0-11DRE-D**     **\$163.00**

**8 DC Input/6 Relay Output Micro PLC**



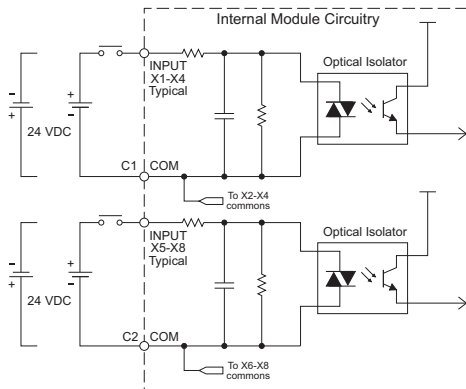
Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24VDC
<b>Input Voltage Range</b>	21.6–26.4 VDC
<b>Input Current</b>	Typ 6.5 mA @ 24VDC
<b>Maximum Input Current</b>	7.0 mA @ 26.4 VDC
<b>Input Impedance</b>	3.9 kΩ @ 24VDC
<b>Maximum Input Frequency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

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

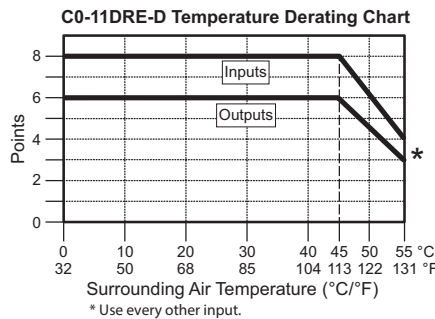
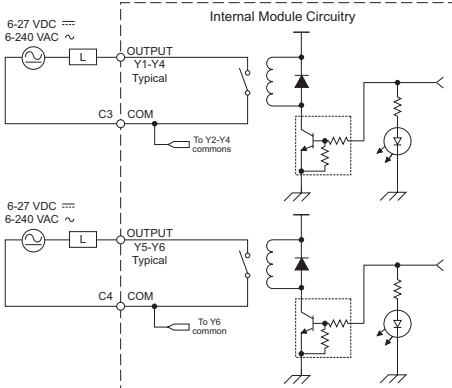
General Specifications	
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.6 oz (160g)

**NOTE:** When using Ethernet Standard 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 for CLICK PLC

**ZL-RTB20**  
20-pin feed-through connector module



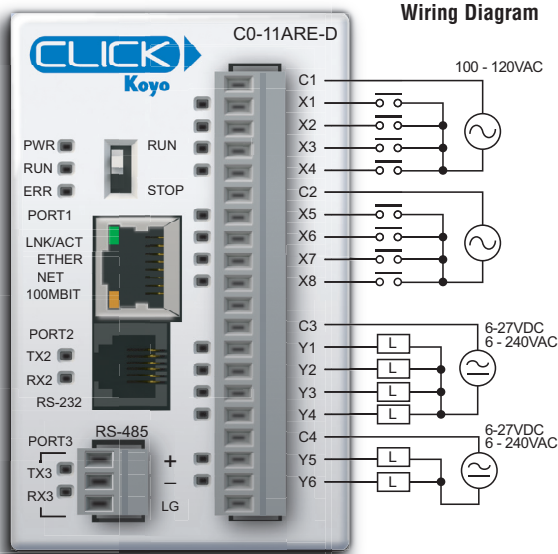
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



# Ethernet Standard PLC

**C0-11ARE-D**     \$163.00

**8 AC Input/6 Relay Output Micro PLC**



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

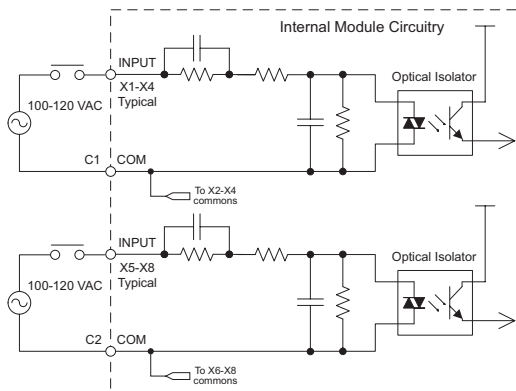
Built-in I/O Specifications - Outputs	
<b>Outputs per Module</b>	6
<b>Operating Voltage Range</b>	6-240 VAC (47-63 Hz), 6-27 VDC
<b>Output Voltage Range</b>	5-264 VAC (47-63 Hz), 5-30 VDC
<b>Output Type</b>	Relay, form A (SPST)
<b>Maximum Current</b>	1 A/point; C3: 4A/common, C4: 2A/common
<b>Minimum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

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

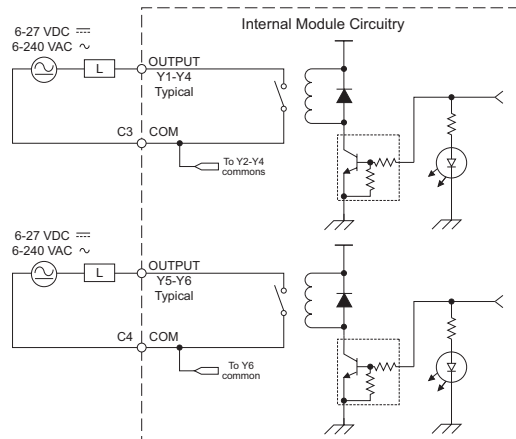
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
30VDC, 1A Resistive	300,000 cycles
30VDC, 1A Solenoid	50,000 cycles
250VAC, 1A Resistive	500,000 cycles
250VAC, 1A Solenoid	200,000 cycles
ON to OFF = 1 cycle	

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

### Equivalent Input Circuit



### Equivalent Output Circuit



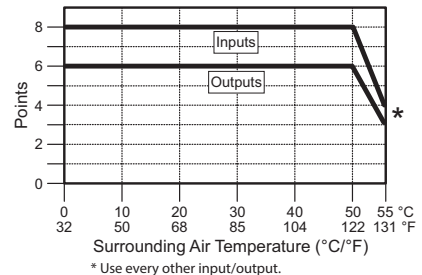
**ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC**

- 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

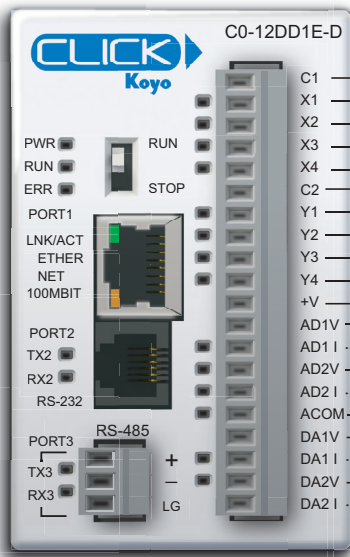
### C0-11ARE-D Temperature Derating Chart



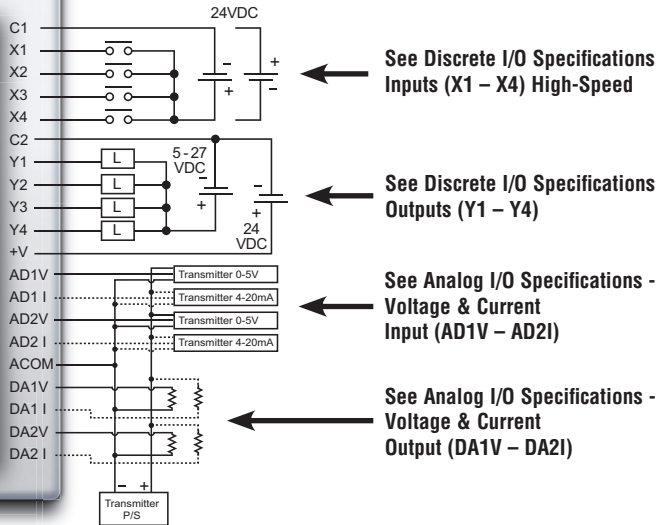
# Ethernet Analog PLC

C0-12DD1E-D \$183.00

- 4 DC Input (Sink/Source)/4 Sinking 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).

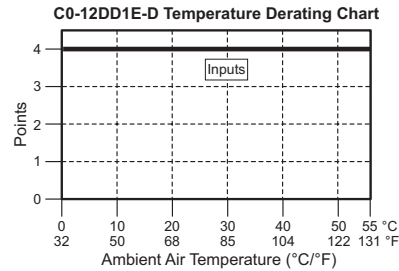
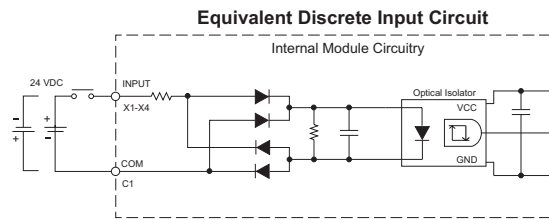
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.1 oz (145g)

# Ethernet Analog PLC

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

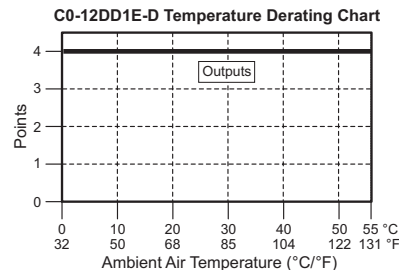
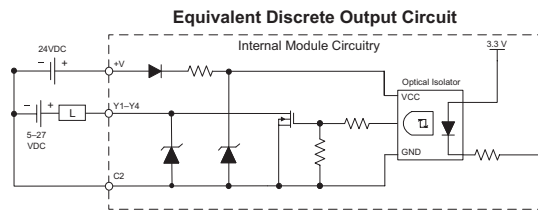
### X1 - X4 (High-Speed)

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



### Y1 - Y4

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



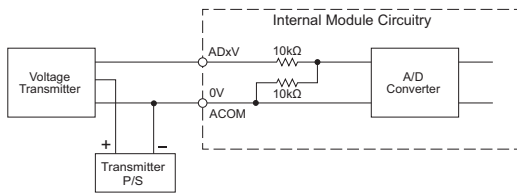
# Ethernet Analog PLC

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

### AD1V - AD2V

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

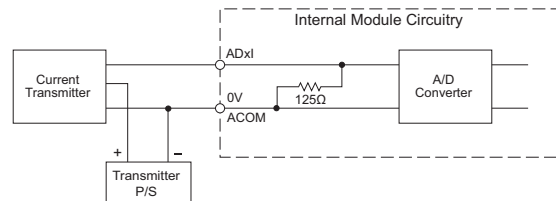
Analog Voltage Input Circuit



### AD1I - AD2I

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

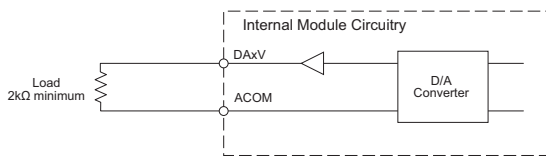
Analog Current Input Circuit



### DA1V - DA2V

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

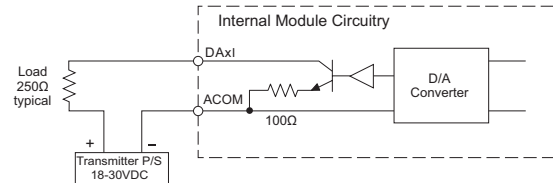
Analog Voltage Output Circuit



### DA1I - DA2I

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

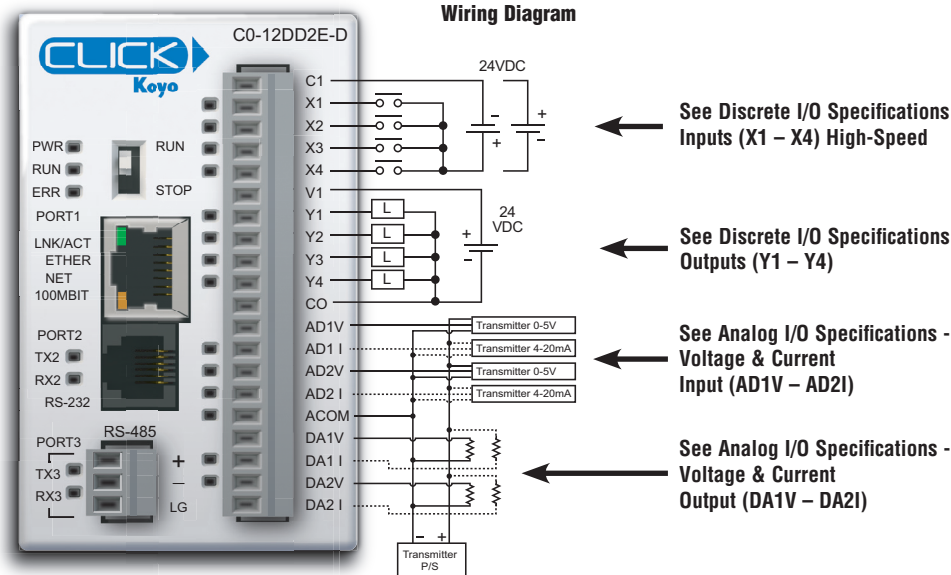
Analog Current Output Circuit



# Ethernet Analog PLC

C0-12DD2E-D \$183.00

4 DC Input (Sink/Source)/ 4 Sourcing 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).

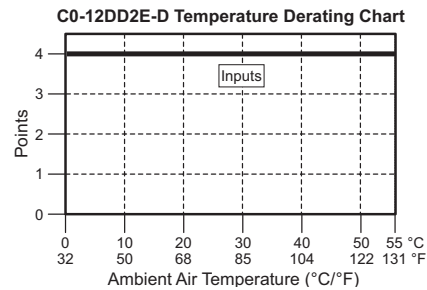
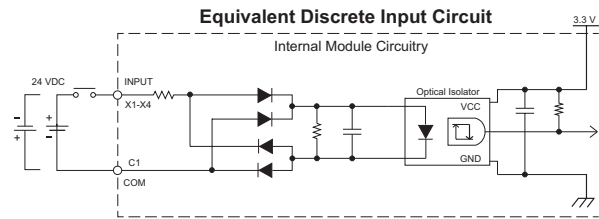
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

# Ethernet Analog PLC

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

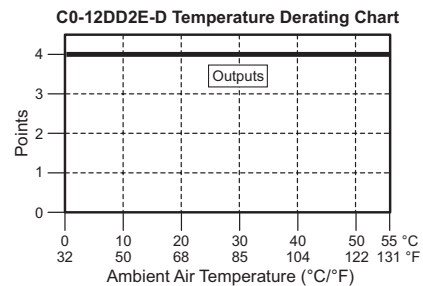
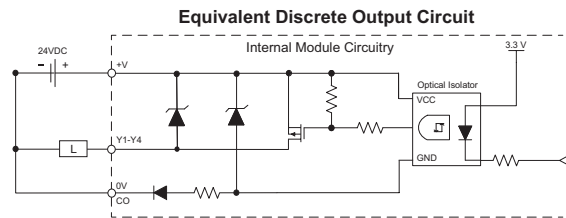
### X1 - X4 (High-Speed)

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



### Y1 - Y4

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





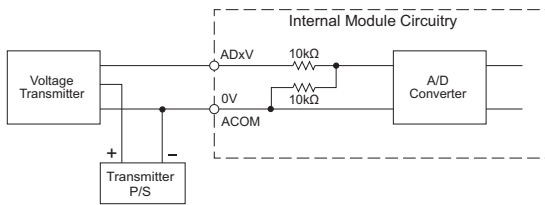
# Ethernet Analog PLC

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

### AD1V - AD2V

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

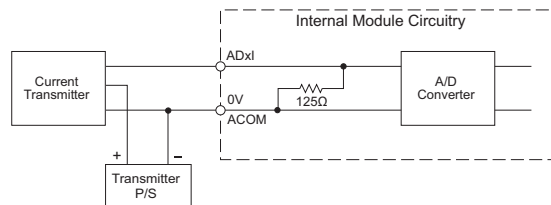
Analog Voltage Input Circuit



### AD1I - AD2I

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

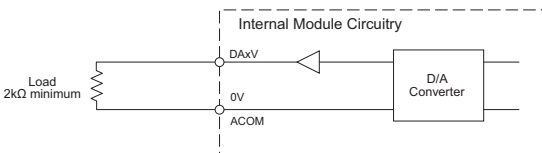
Analog Current Input Circuit



### DA1V - DA2V

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

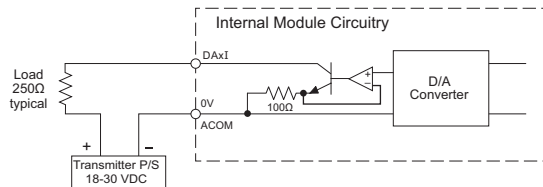
Analog Voltage Output Circuit



### DA1I - DA2I

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

Analog Current Output Circuit

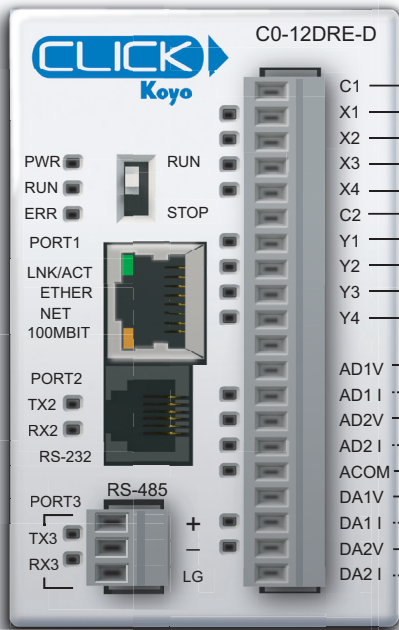


# Ethernet Analog PLC

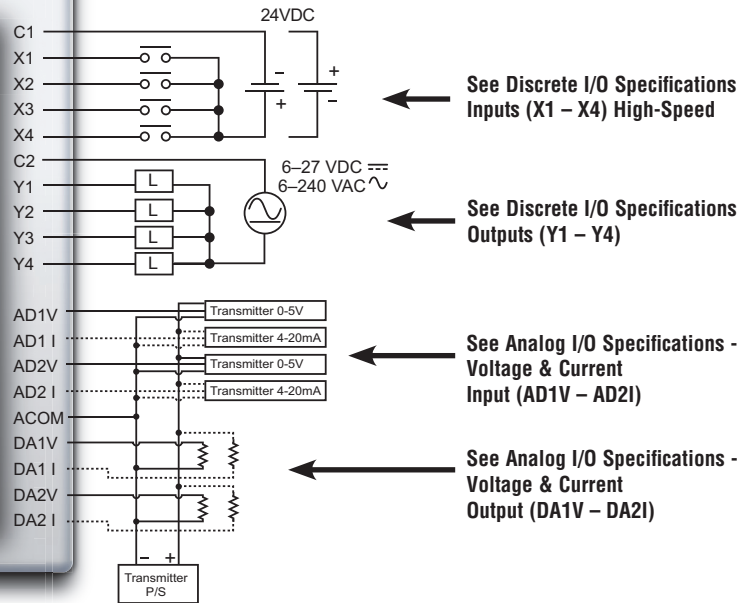
C0-12DRE-D

\$194.00

**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).

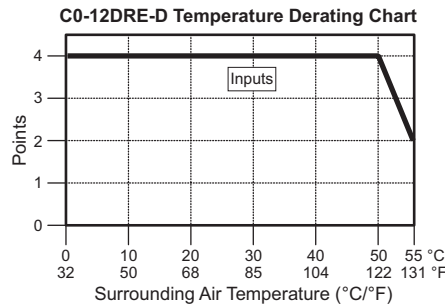
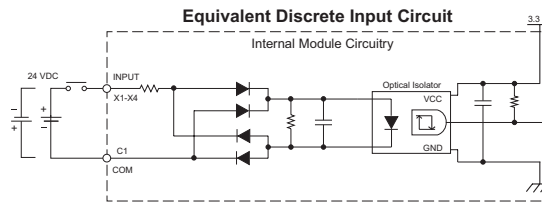
General Specifications	
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (155g)

# Ethernet Analog PLC

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

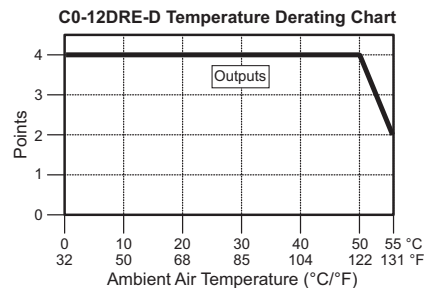
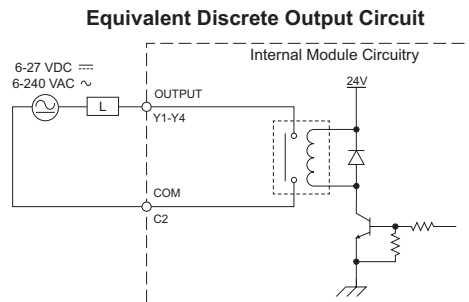
### X1 - X4 (High-Speed)

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



### Y1 - Y4

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

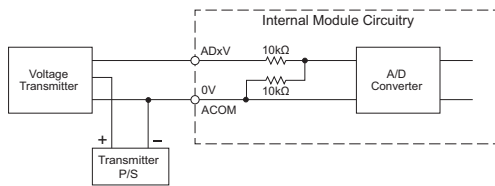
# Ethernet Analog PLC

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

### AD1V - AD2V

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

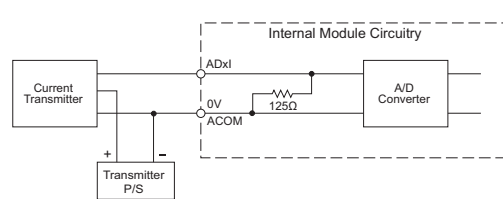
Analog Voltage Input Circuit



### AD1I - AD2I

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

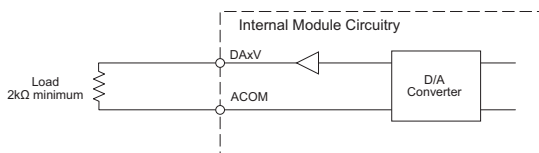
Analog Current Input Circuit



### DA1V - DA2V

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

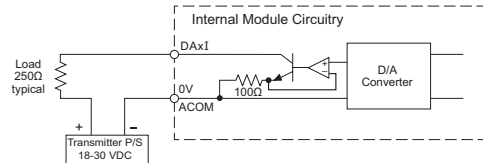
Analog Voltage Output Circuit



### DA1I - DA2I

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

Analog Current Output Circuit

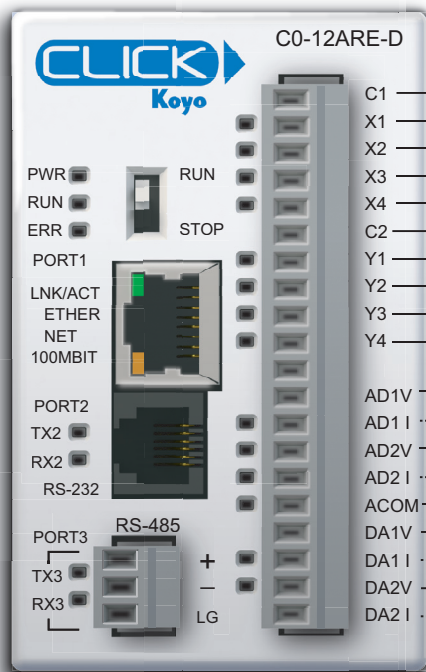


# Ethernet Analog PLC

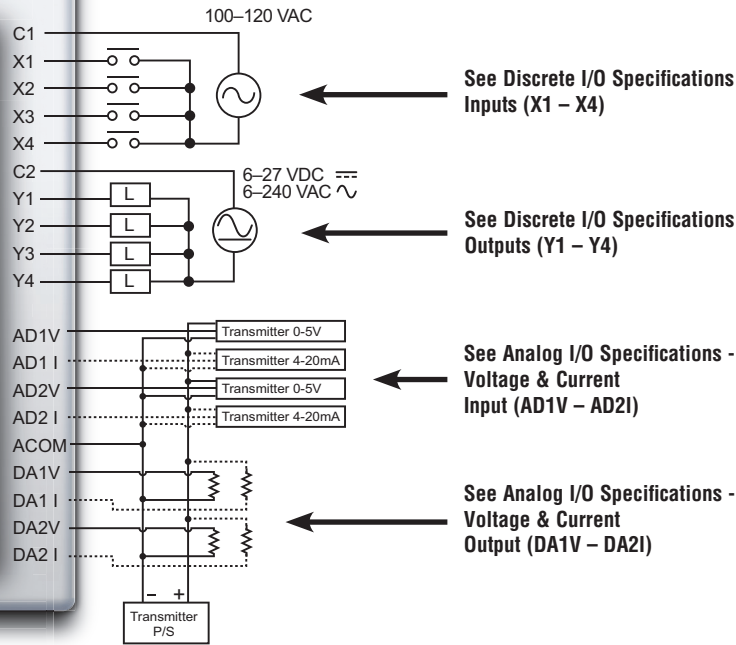
C0-12ARE-D

\$194.00

**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).

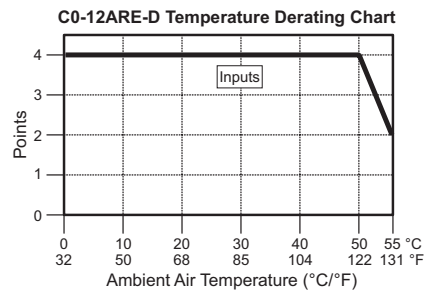
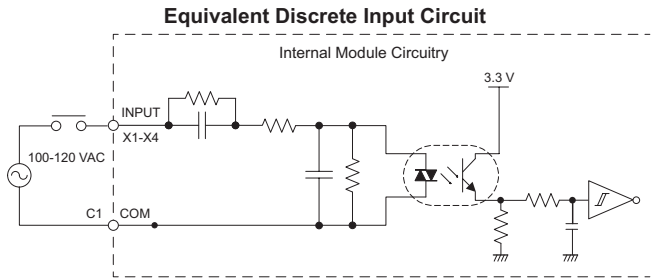
General Specifications	
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (154g)

# Ethernet Analog PLC

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

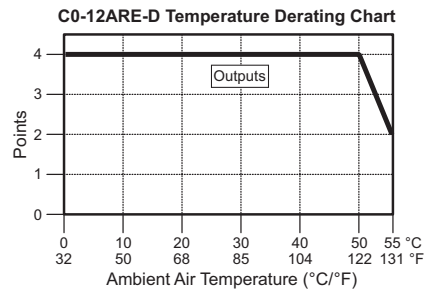
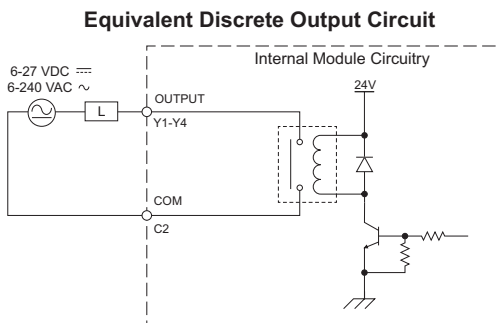
### X1 - X4

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



### Y1 - Y4

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

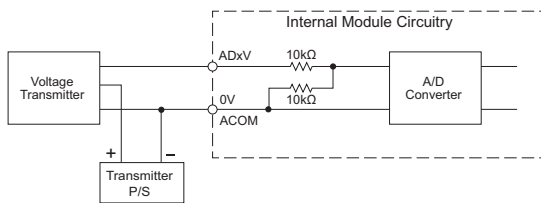
# Ethernet Analog PLC

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

### AD1V - AD2V

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

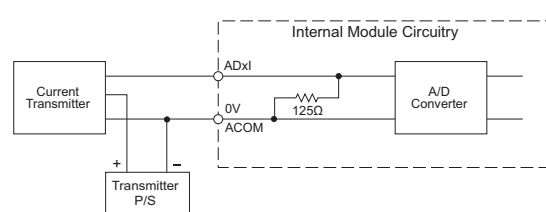
Analog Voltage Input Circuit



### AD1I - AD2I

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

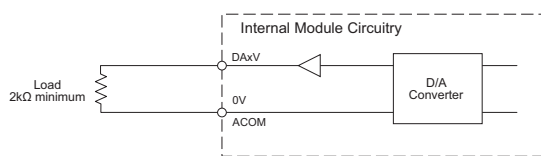
Analog Current Input Circuit



### DA1V - DA2V

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

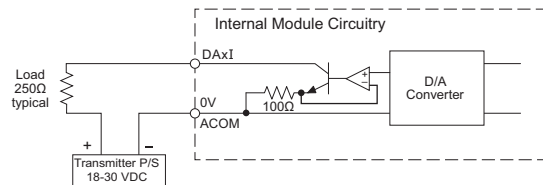
Analog Voltage Output Circuit



### DA1I - DA2I

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

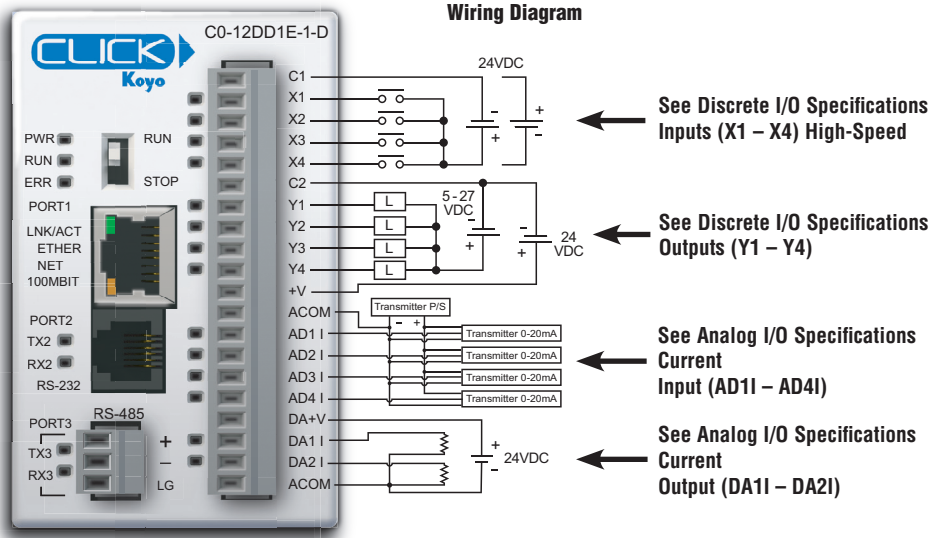
Analog Current Output Circuit



# Ethernet Analog PLC

C0-12DD1E-1-D \$183.00

- 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)

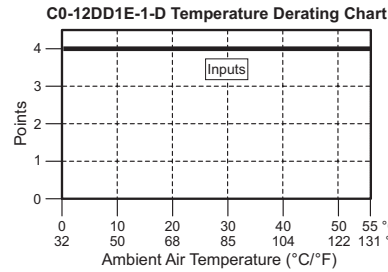
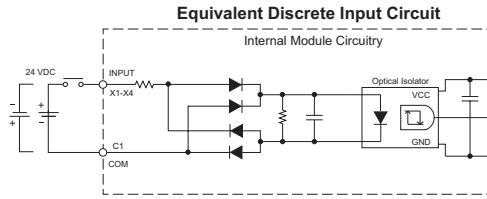


# Ethernet Analog PLC

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

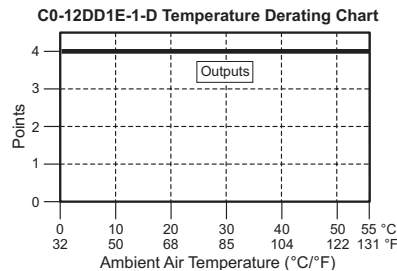
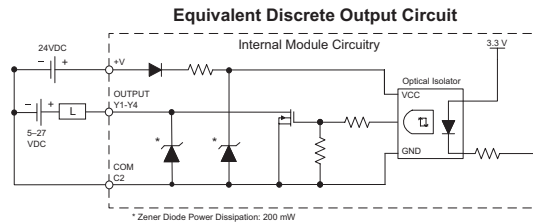
### X1 - X4 (High-Speed)

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



### Y1 - Y4

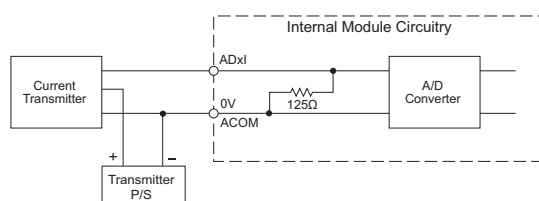
Discrete I/O Specifications - Outputs	
<b>Outputs per Module</b>	4 (Sink)
<b>Operating Voltage Range</b>	5–27 VDC
<b>Maximum Output Current</b>	0.1 A/point; 0.4 A/common
<b>Minimum Output Current</b>	0.2 mA
<b>Maximum Leakage Current</b>	0.1 mA @ 30.0 VDC
<b>On Voltage Drop</b>	0.5 VDC @ 0.1 A
<b>Maximum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



### AD1V - AD4V

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

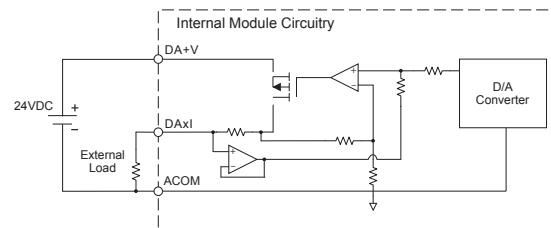
Analog Current Input Circuit



### DA1I - DA2I

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

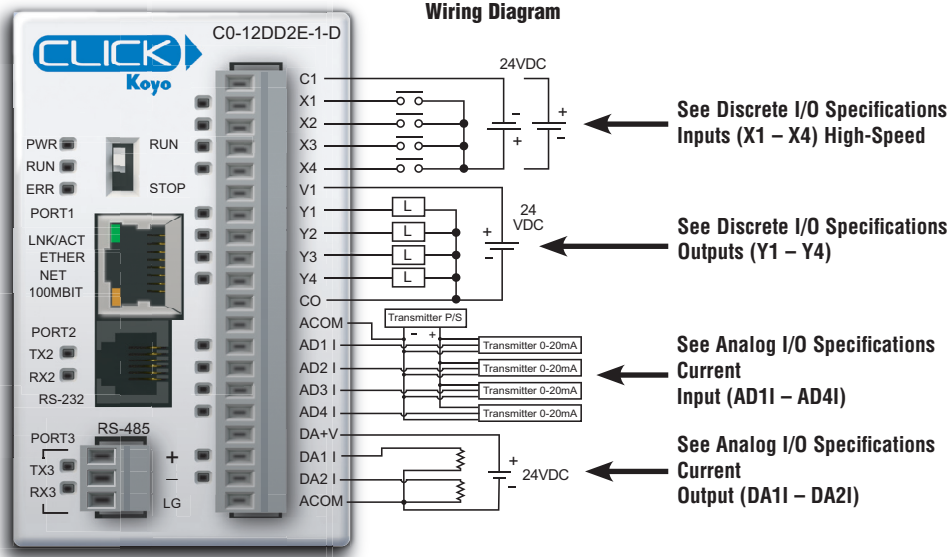
Analog Current Output Circuit



# Ethernet Analog PLC

C0-12DD2E-1-D \$183.00

- 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.



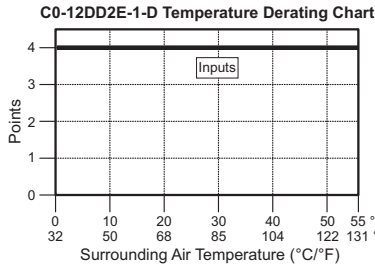
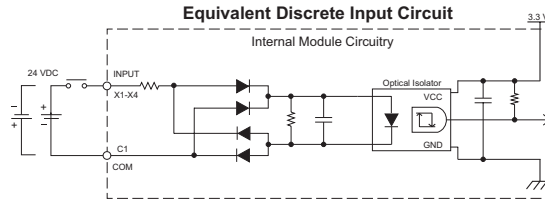
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.08 oz (144g)

# Ethernet Analog PLC

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

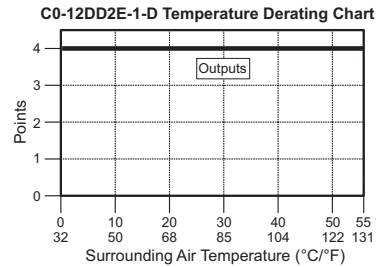
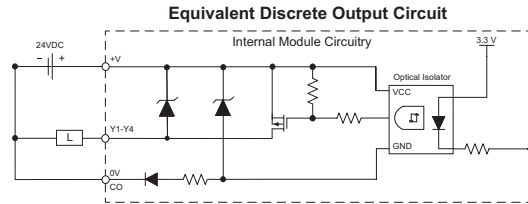
### X1 - X4 (High-Speed)

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



### Y1 - Y4

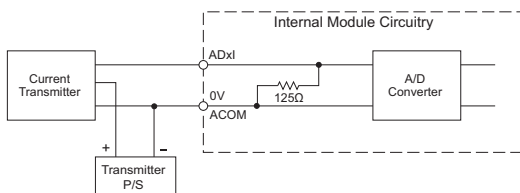
Discrete I/O Specifications - Outputs	
<b>Outputs per Module</b>	4 (Source)
<b>Output Voltage Range</b>	19.2–30 VDC
<b>Maximum Output Current</b>	0.1 A/point, 0.4 A/common CO
<b>Minimum Output Current</b>	0.2 mA
<b>Maximum Leakage Current</b>	0.1 mA @ 30VDC
<b>On Voltage Drop</b>	0.5 VDC @ 0.1 A
<b>Maximum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



### AD1I - AD4I

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

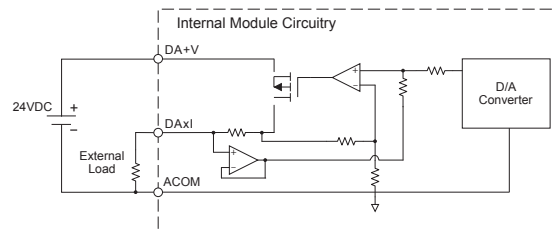
Analog Current Input Circuit



### DA1I - DA2I

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

Analog Current Output Circuit

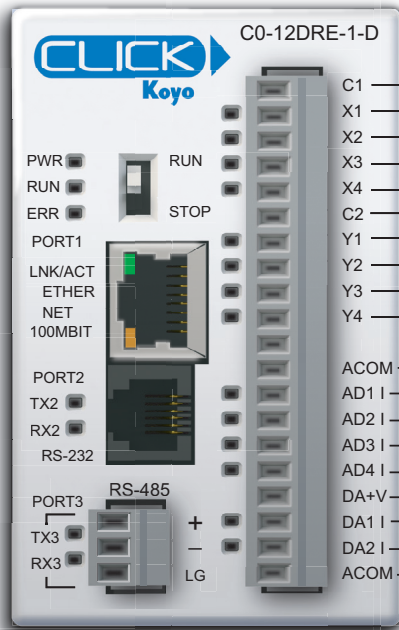


# Ethernet Analog PLC

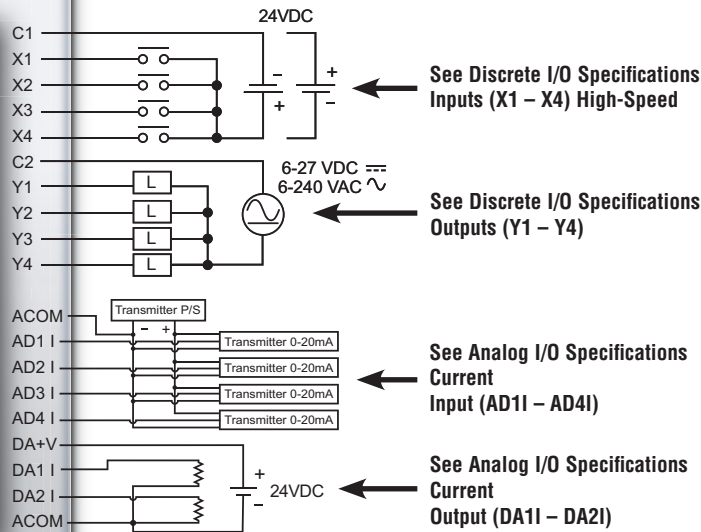
C0-12DRE-1-D

\$194.00

**4 DC 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

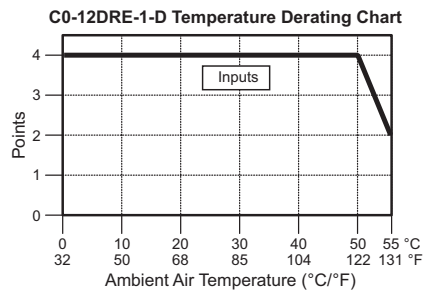
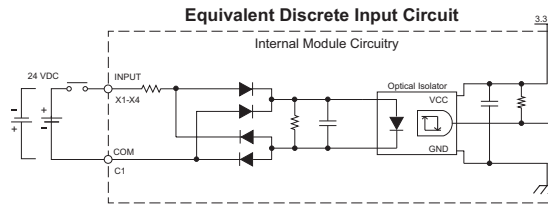
<b>Current Consumption at 24VDC</b>	160mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.3 oz (151g)

# Ethernet Analog PLC

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

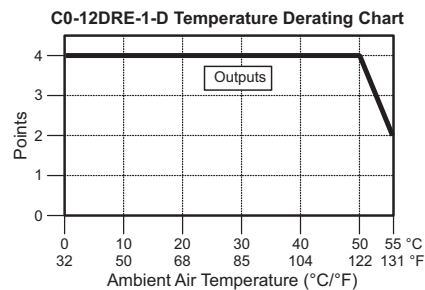
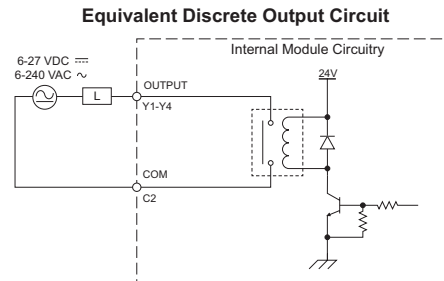
### X1 - X4 (High-Speed)

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



### Y1 - Y4

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



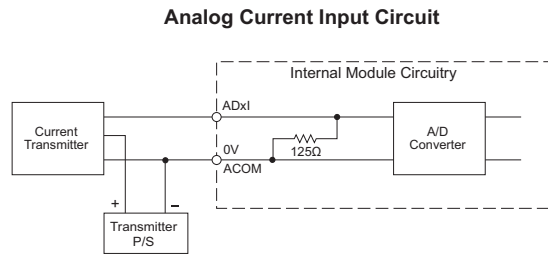
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Load Current: 1A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

# Ethernet Analog PLC

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

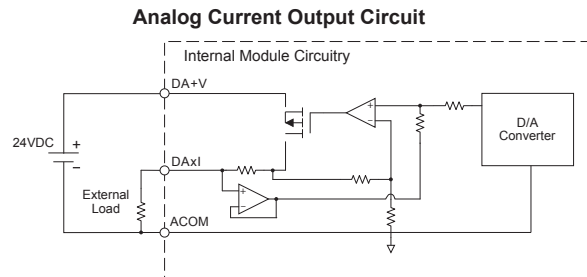
### AD1I - AD4I

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



### DA1I - DA2I

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

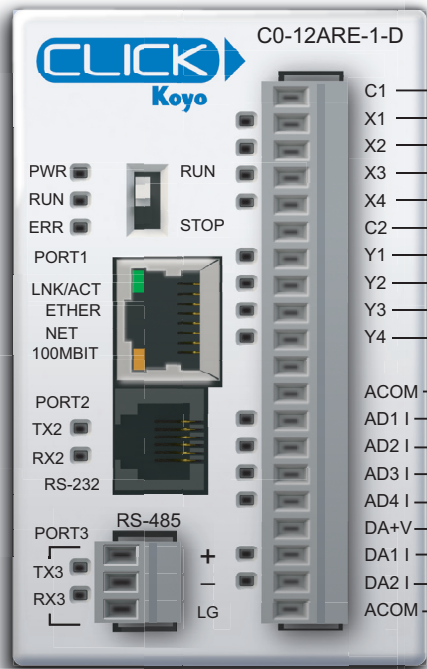


# Ethernet Analog PLC

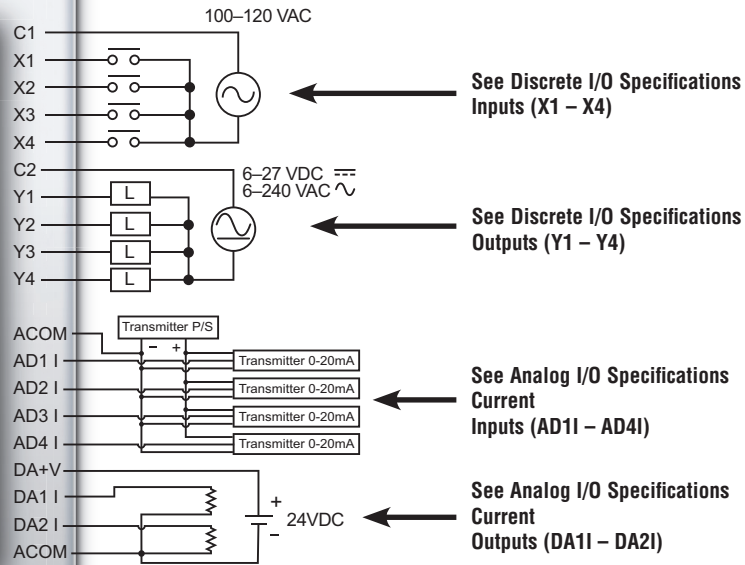
C0-12ARE-1-D

\$194.00

- 4 AC Input (Sink/Source)/4 Relay Output
- 4 Analog Current Input
- 2 Analog 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  
Current  
Inputs (AD1I – AD4I)

See Analog I/O Specifications  
Current  
Outputs (DA1I – 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.

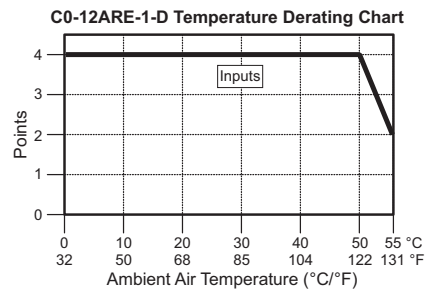
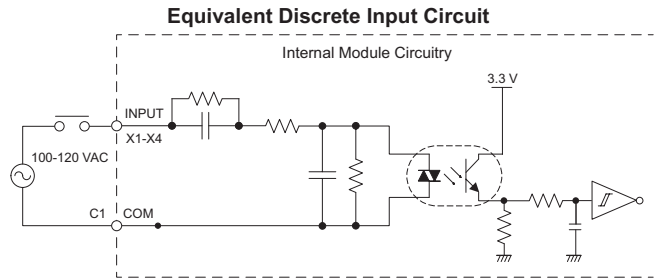
General Specifications	
Current Consumption at 24VDC	160mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (154g)

# Ethernet Analog PLC

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

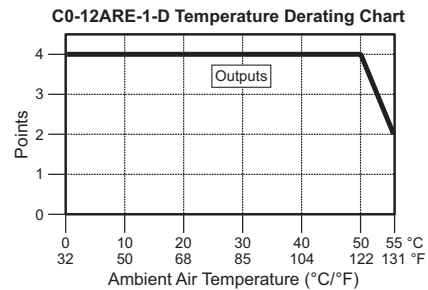
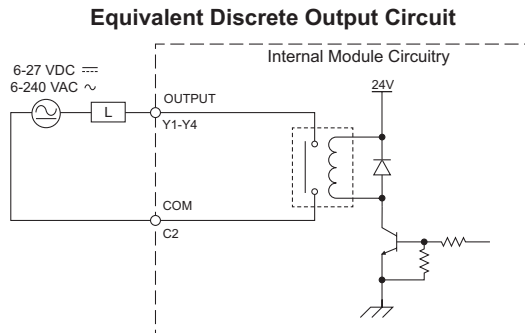
### X1 - X4

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



### Y1 - Y4

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



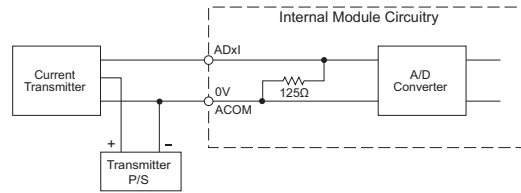
# Ethernet Analog PLC

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

### AD1I - AD4I

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

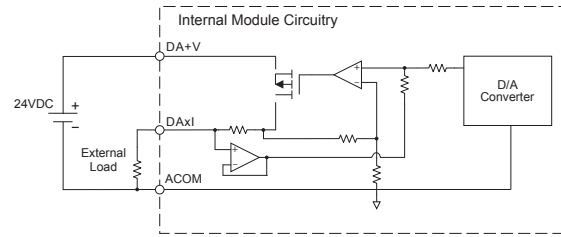
Analog Current Input Circuit



### DA1I - DA2I

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

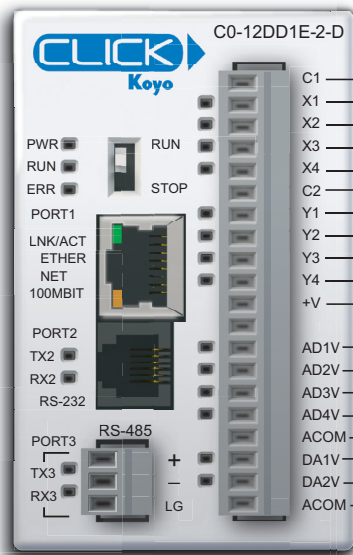
Analog Current Output Circuit



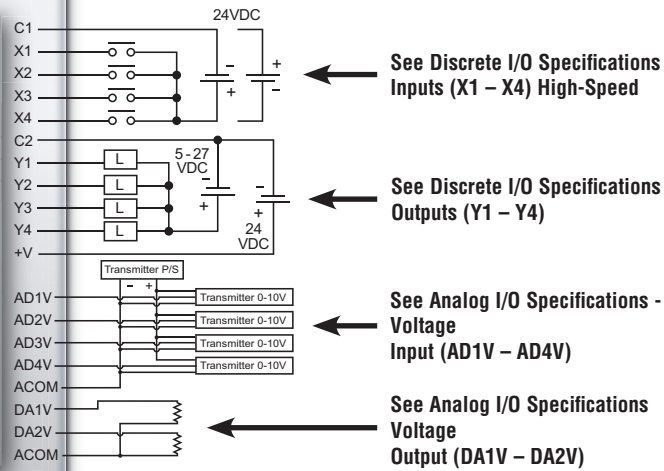
# Ethernet Analog PLC

C0-12DD1E-2-D \$183.00

- 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

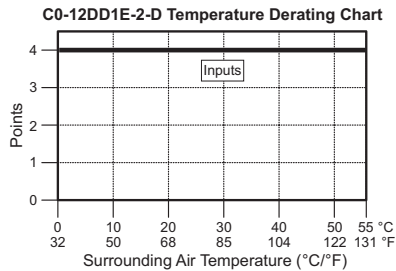
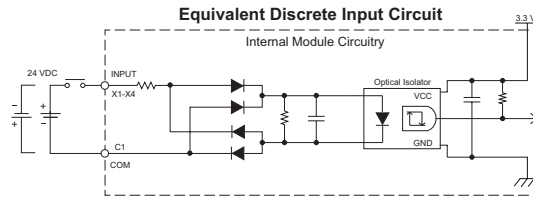
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.08 oz (144g)

# Ethernet Analog PLC

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

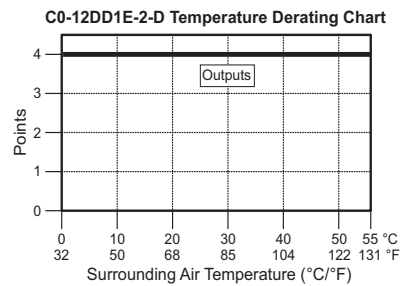
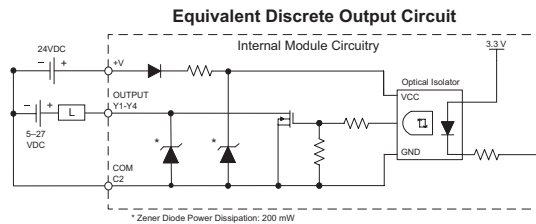
### X1 - X4 (High-Speed)

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



### Y1 - Y4

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

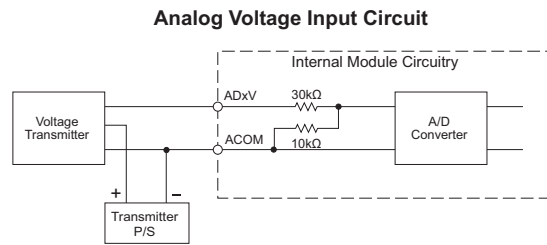


# Ethernet Analog PLC

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

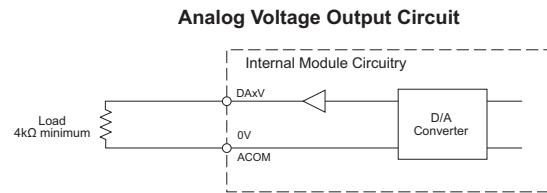
### AD1V - AD4V

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



### DA1V - DA2V

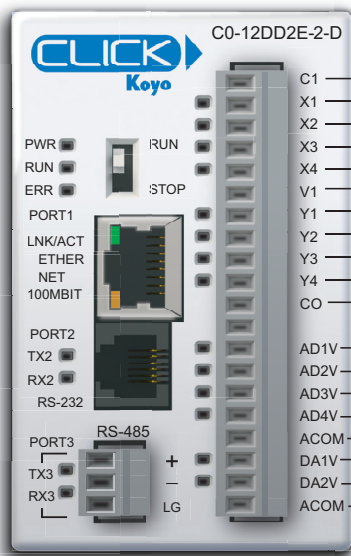
Analog Specifications - Voltage Output	
<b>Outputs per Module</b>	2 (voltage)
<b>Output Range</b>	0–10 VDC
<b>Resolution</b>	12-bit
<b>Conversion Time</b>	1ms
<b>Load Impedance</b>	4k $\Omega$ minimum (output current 2.5 mA maximum)
<b>Full-Scale Calibration Error</b>	$\pm 2\%$ maximum
<b>Offset Calibration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



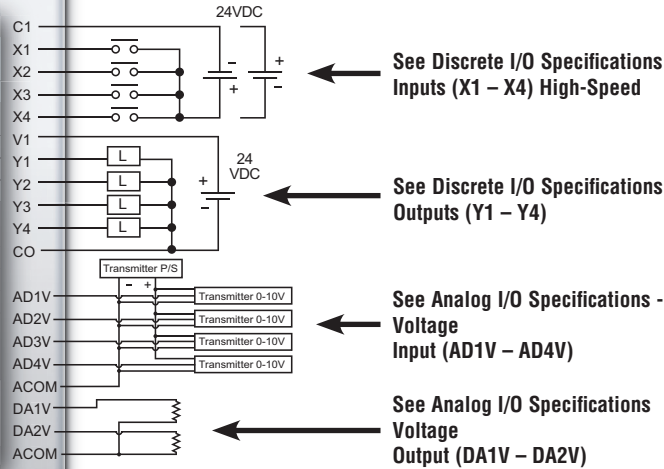
# Ethernet Analog PLC

C0-12DD2E-2-D \$183.00

**4 DC Input (Sink/Source)/ 4 Sourcing DC 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  
Input (AD1V – AD4V)

See Analog I/O Specifications  
Voltage  
Output (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.

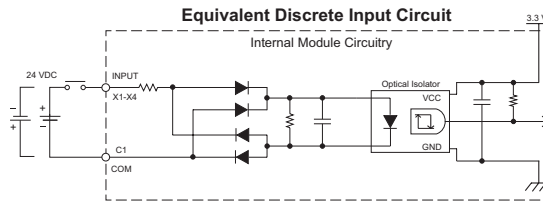
General Specifications	
<b>Current Consumption at 24VDC</b>	140mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.08 oz (144g)

# Ethernet Analog PLC

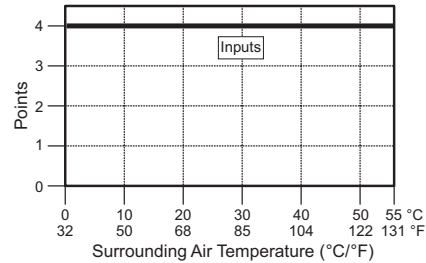
## C0-12DD2E-2-D (cont'd)

### X1 - X4 (High-Speed)

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

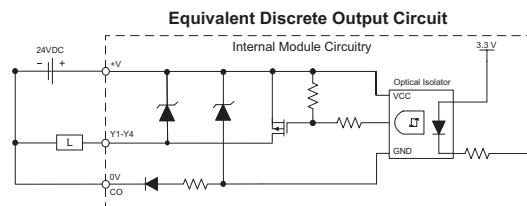


C0-12DD2E-2-D Temperature Derating Chart

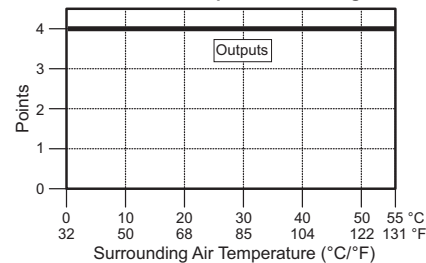


### Y1 - Y4

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



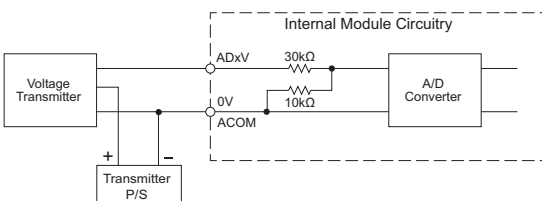
C0-12DD2E-2-D Temperature Derating Chart



### AD1V - AD4V

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

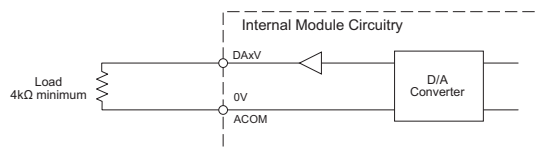
Analog Voltage Input Circuit



### DA1V - DA2V

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

Analog Voltage Output Circuit

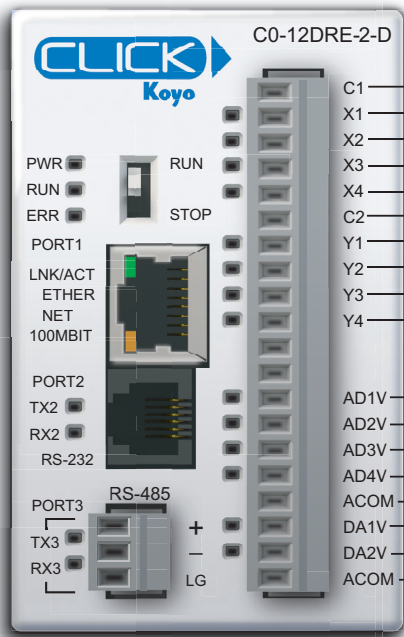


# Ethernet Analog PLC

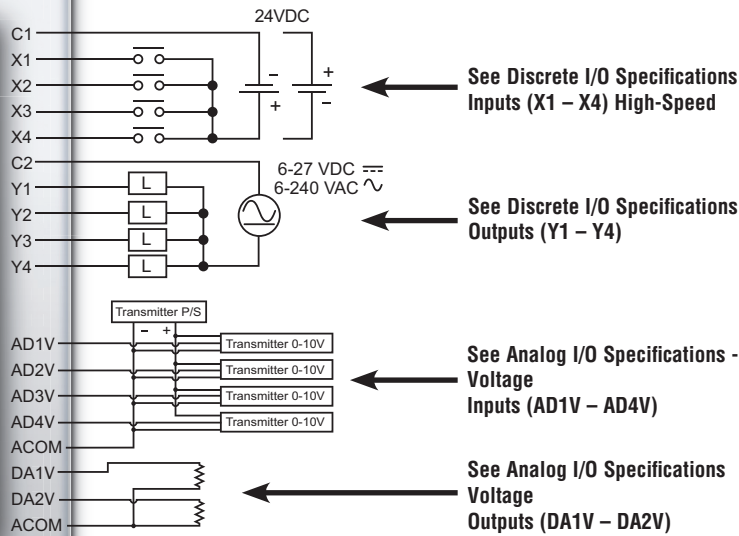
C0-12DRE-2-D

\$194.00

**4 DC 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

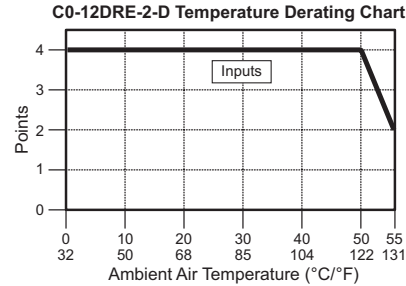
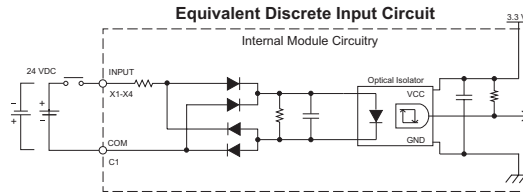
<b>Current Consumption at 24VDC</b>	160mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.4 oz (154g)

# Ethernet Analog PLC

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

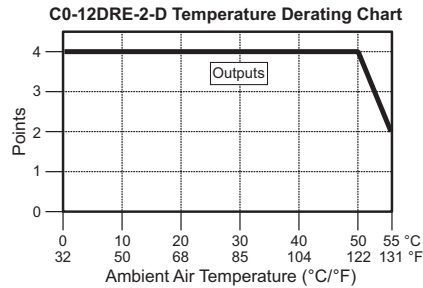
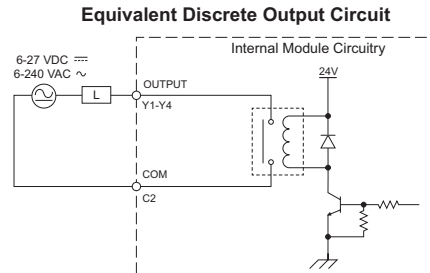
### X1 - X4 (High-Speed)

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



### Y1 - Y4

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

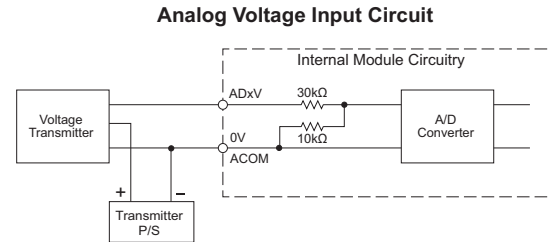


# Ethernet Analog PLC

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

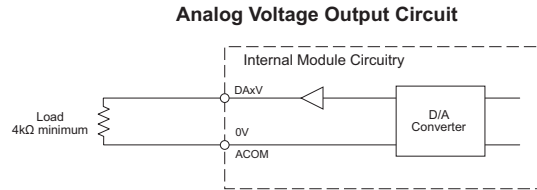
### AD1V - AD4V

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



### DA1V - DA2V

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

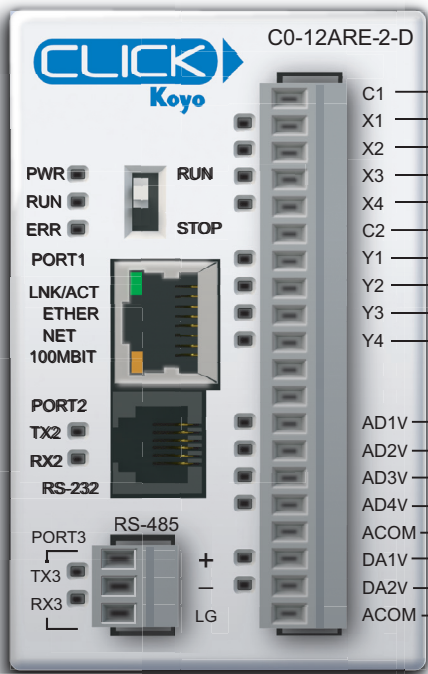


# Ethernet Analog PLC

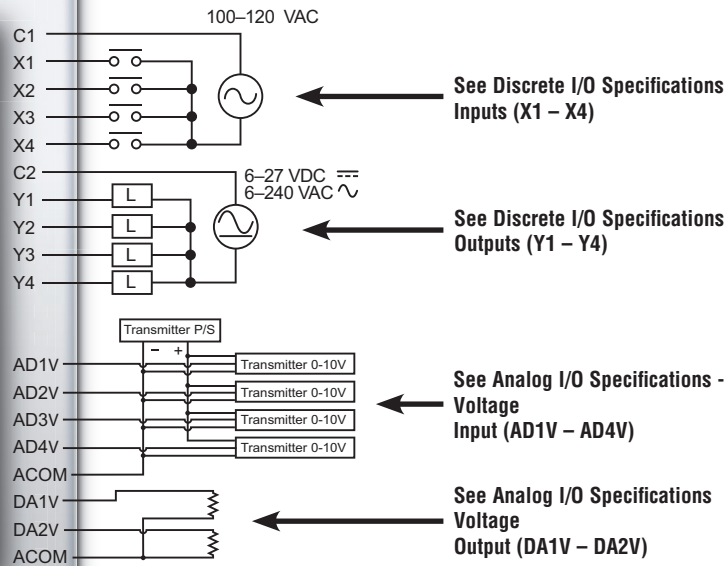
C0-12ARE-2-D

\$194.00

**4 AC 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)

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

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

See Analog I/O Specifications  
Voltage  
Output (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.

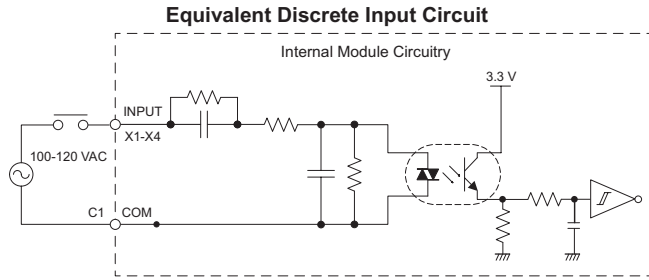
General Specifications	
Current Consumption at 24VDC	140mA
Terminal Block Replacement Part No.	C0-16TB
Weight	5.4 oz (155g)

# Ethernet Analog PLC

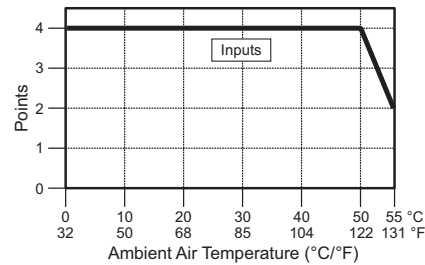
## C0-12ARE-2-D (cont'd)

### X1 - X4

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

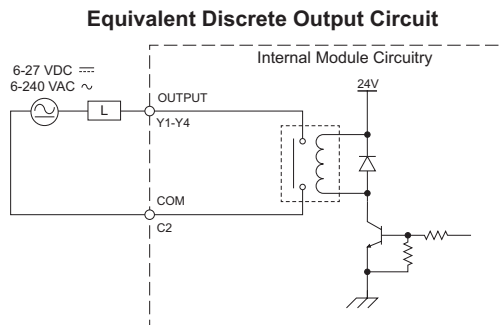


C0-12ARE-2-D Temperature Derating Chart

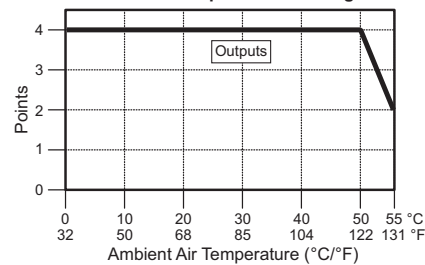


### Y1 - Y4

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



C0-12ARE-2-D Temperature Derating Chart



### Typical Relay Life (Operations) at Room Temperature

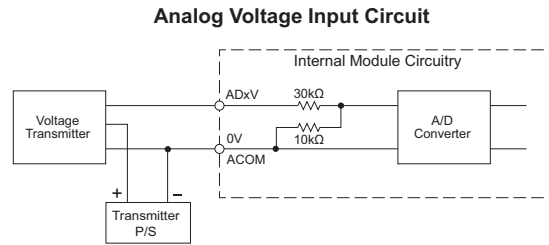
Voltage & Load Type	Load Current: 1A
30VDC Resistive	300,000 cycles
30VDC Solenoid	50,000 cycles
120VAC Resistive	500,000 cycles
120VAC Solenoid	200,000 cycles
ON to OFF = 1 cycle	

# Ethernet Analog PLC

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

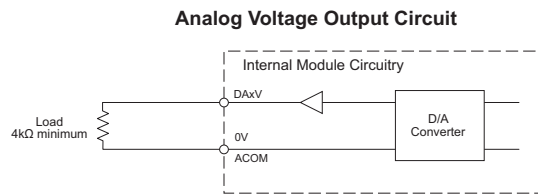
### AD1V - AD4V

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



### DA1V - DA2V

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



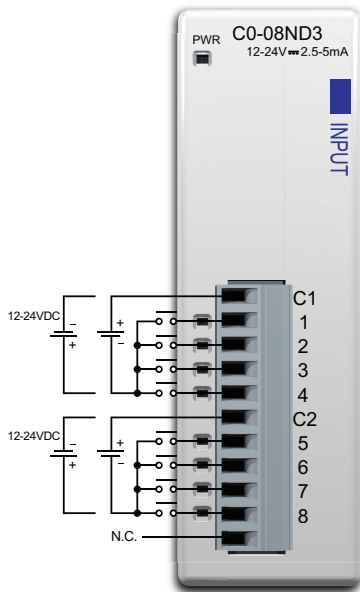
# CLICK I/O Module Specifications

**C0-08ND3**      **\$34.00**

## 8-Point Sink/Source DC Input Module

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

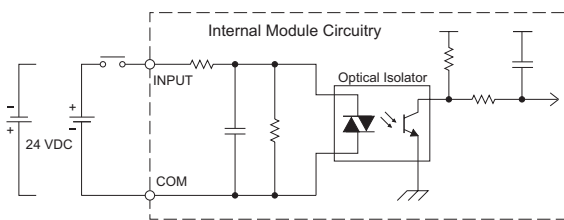
### Wiring Diagram



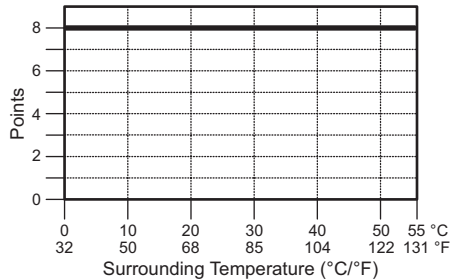
N.C. = Not Connected

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

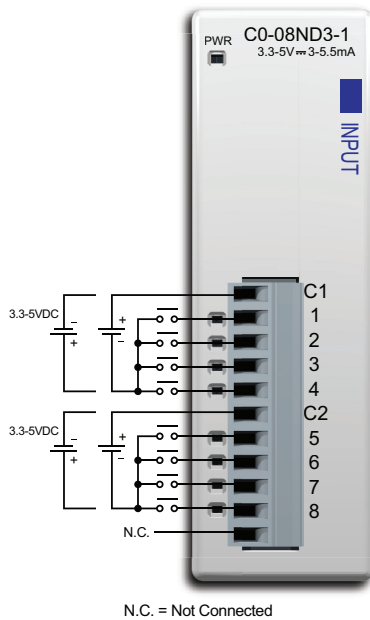
# CLICK I/O Module Specifications

**C0-08ND3-1**      **\$34.00**

## 8-Point Sink/Source DC Input Module

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

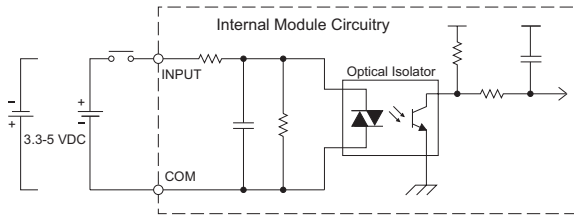
### Wiring Diagram



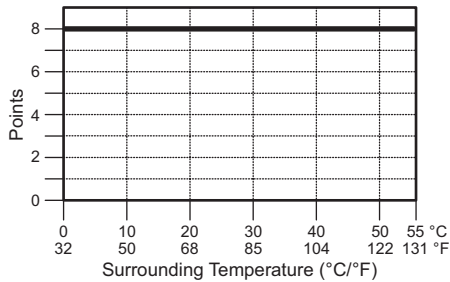
N.C. = Not Connected

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

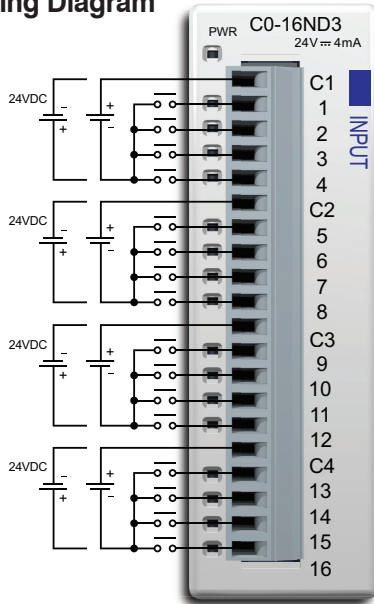
# CLICK I/O Module Specifications

**C0-16ND3**      **\$46.00**

## 16-Point Sink/Source DC Input Module

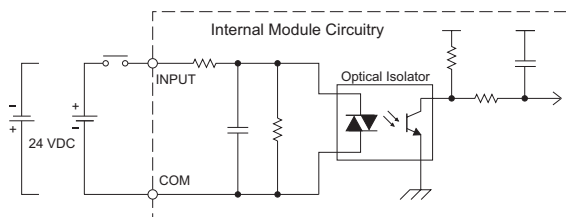
16-pt 24VDC current sinking or sourcing input module, 4 commons, isolated, removable terminal block included (replacement ADC p/n C0-16TB).

### Wiring Diagram

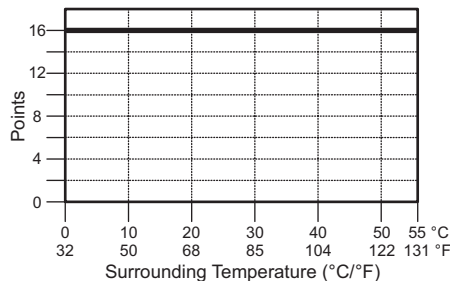


Input Specifications	
<b>Inputs per Module</b>	16 (Sink/Source)
<b>Input Voltage Range</b>	21.6–26.4 VDC
<b>Operating Voltage Range</b>	24VDC
<b>Input Current</b>	Typ 4.0 mA @ 24VDC
<b>Maximum Input Current</b>	5.0 mA @ 26.4 VDC
<b>Input Impedance</b>	6.8 kΩ @ 24VDC
<b>ON Voltage Level</b>	> 19VDC
<b>OFF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

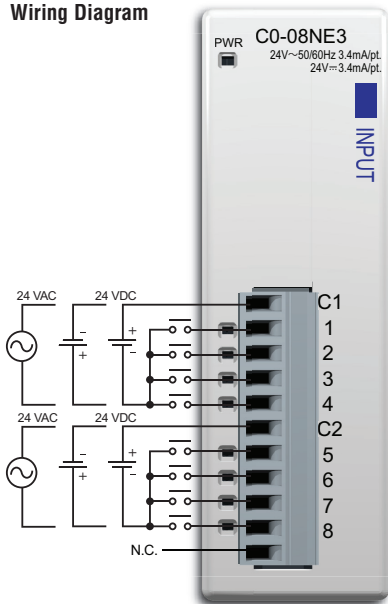
# CLICK I/O Module Specifications

**C0-08NE3**      **\$36.00**

## 8-Point Sink/Source AC/DC Input Module

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

Wiring Diagram



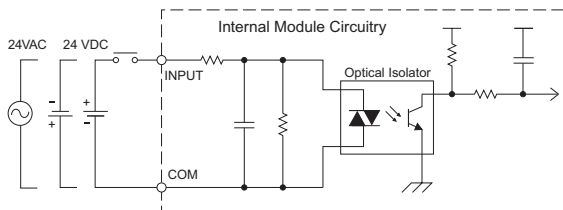
N.C. = Not Connected

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

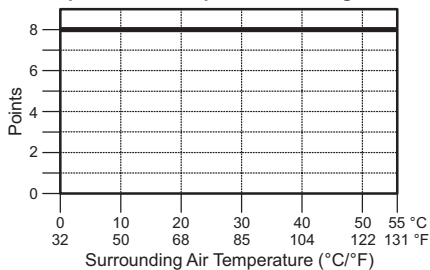


**NOTE:** When using this module you must also use CLICK programming software version V1.20 or later.

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)



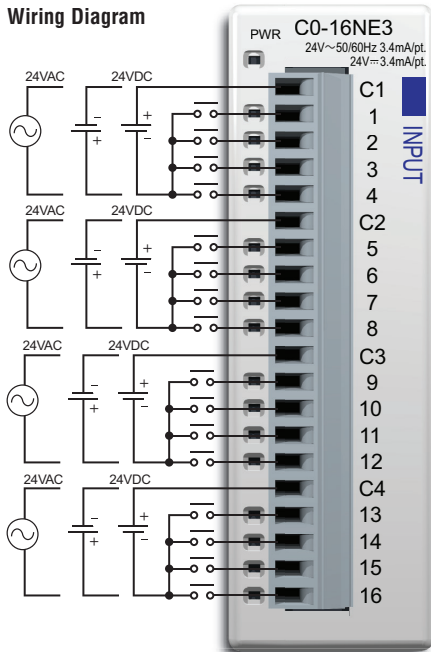
# CLICK I/O Module Specifications

**C0-16NE3**      **\$50.00**

## 16-Point Sink/Source AC/DC Input Module

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

**Wiring Diagram**



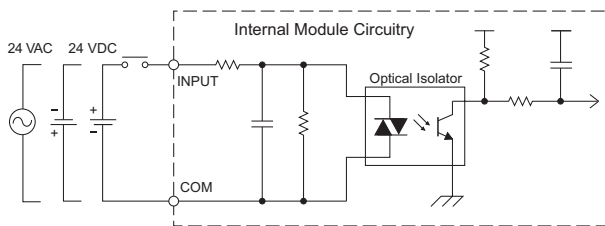
Input Specifications	
<b>Inputs per Module</b>	16 (Sink/Source)
<b>Operating Voltage Range</b>	24 VAC/VDC
<b>Input Voltage Range</b>	20.4–27.6 VAC/VDC
<b>Peak Voltage</b>	27.6 VAC/VDC
<b>AC Frequency</b>	47-63 Hz
<b>Input Current</b>	Typ 3.4 mA @ 24 VAC/VDC
<b>Maximum Input Current</b>	5.0 mA @ 27.6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

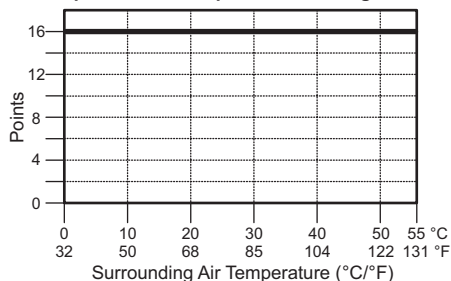
**Equivalent Input Circuit**



- 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 sensor input module**

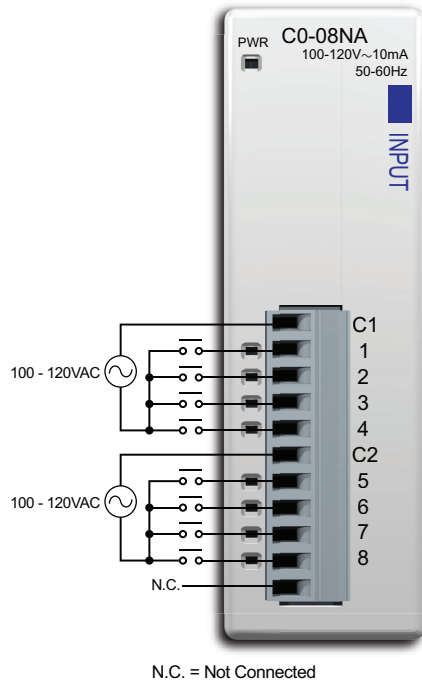
# CLICK I/O Module Specifications

**C0-08NA**      **\$41.00**

## 8-Point AC Input Module

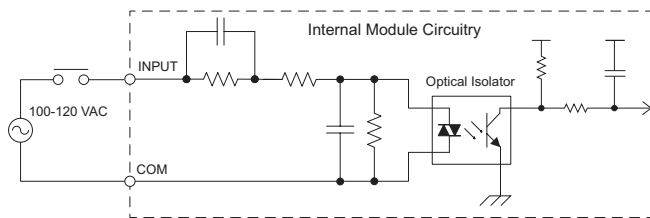
8-pt 100-120 VAC input module, 2 commons, isolated, removable terminal block included (replacement ADC p/n C0-08TB).

### Wiring Diagram

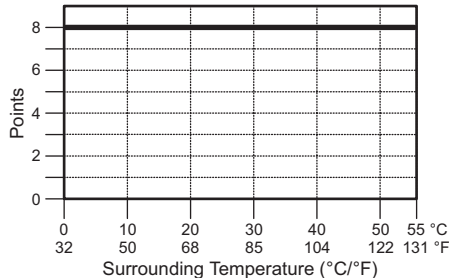


Input Specifications	
<b>Inputs per Module</b>	8
<b>Operating Voltage Range</b>	100-120 VAC
<b>Input Voltage Range</b>	80-144 VAC
<b>AC Frequency</b>	47-63 Hz
<b>Input Current</b>	Typ 8.5 mA @ 100VAC (50Hz) Typ 10mA @ 100VAC (60Hz)
<b>Maximum Input Current</b>	16mA @ 144VAC
<b>Input Impedance</b>	15kΩ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

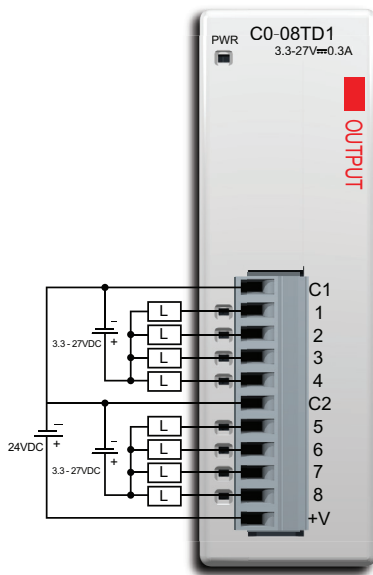
# CLICK I/O Module Specifications

**C0-08TD1**      **\$36.50**

## 8-Point Sinking DC Output Module

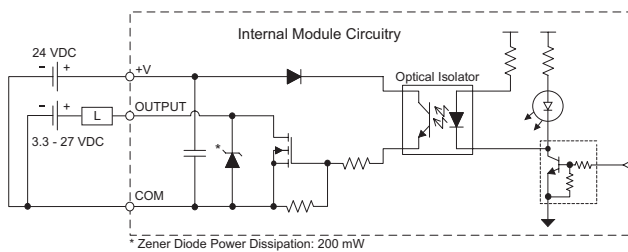
8-pt 3.3-27 VDC current sinking output module, 2 commons, 0.3 A/pt, removable terminal block included (replacement ADC p/n C0-08TB).

### Wiring Diagram

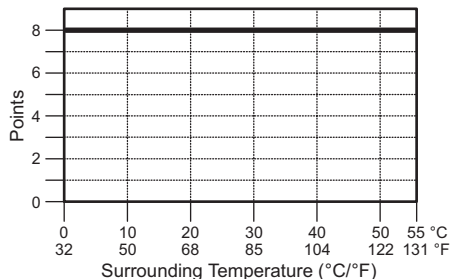


Output Specifications	
<b>Outputs per Module</b>	8 (Sink)
<b>Operating Voltage Range</b>	3.3–27 VDC
<b>Output Voltage Range</b>	2.8–30 VDC
<b>Maximum Output Current</b>	0.3 A/point , 1.2 A/common
<b>Minimum Output Current</b>	0.5 mA
<b>Maximum Leakage Current</b>	0.1 mA @ 30.0 VDC
<b>On Voltage Drop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

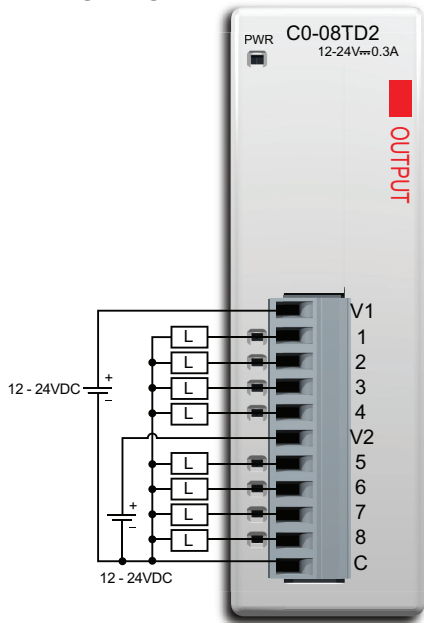
# CLICK I/O Module Specifications

**CO-08TD2**      **\$36.50**

## 8-Point Sourcing DC Output Module

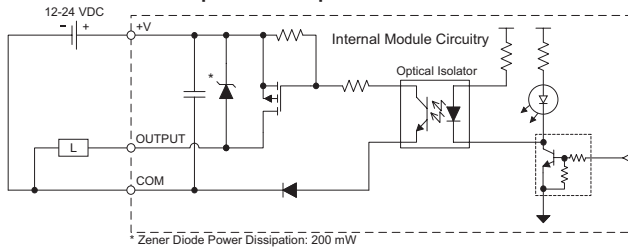
8-pt 12–24 VDC current sourcing output module,  
1 common, 0.3 A/pt, removable terminal block included  
(replacement ADC p/n CO-08TB).

### Wiring Diagram

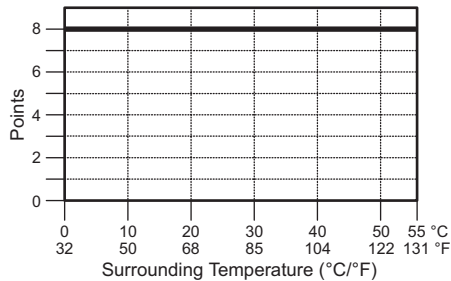


Output Specifications	
<b>Outputs per Module</b>	8 (Source)
<b>Operating Voltage Range</b>	12–24 VDC
<b>Output Voltage Range</b>	9.6–30 VDC
<b>Maximum Output Current</b>	0.3 A/point , 1.2 A/common
<b>Minimum Output Current</b>	0.5 mA
<b>Maximum Leakage Current</b>	0.1 mA @ 30.0 VDC
<b>On Voltage Drop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

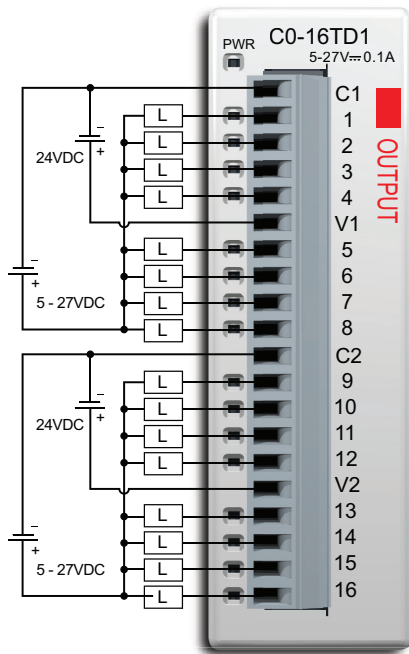
# CLICK I/O Module Specifications

**C0-16TD1**      **\$46.00**

## 16-Point Sinking DC Output Module

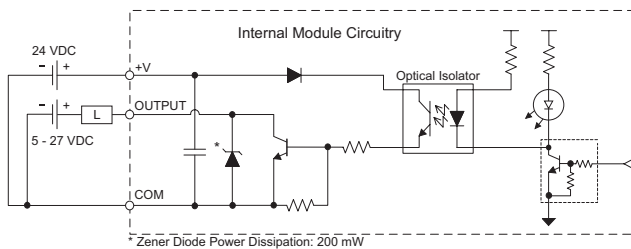
16-pt 5–27 VDC current sinking output module, 2 commons, isolated, 0.1 A/pt, removable terminal block included (replacement ADC p/n C0-16TB).

### Wiring Diagram



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

### Equivalent Output Circuit

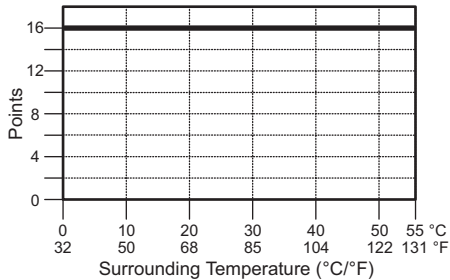


### ZIPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

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)



### Output Module Temperature Derating Chart



**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)

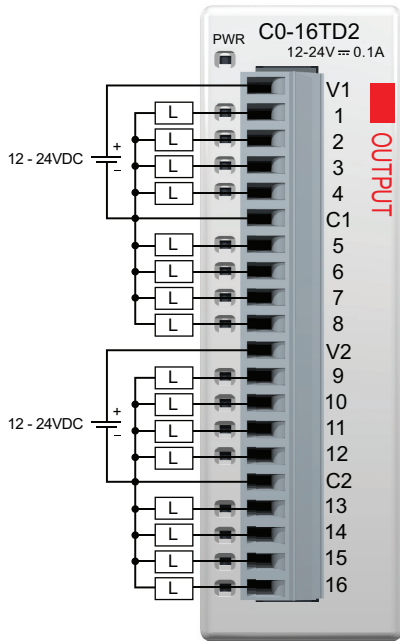
# CLICK I/O Module Specifications

**C0-16TD2 \$46.00**

## 16-Point Sourcing DC Output Module

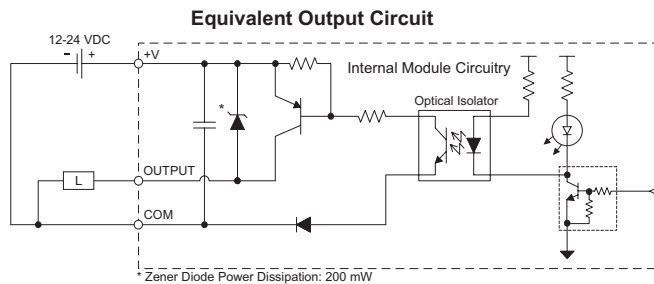
16-pt 12–24 VDC current sourcing output module, 2 commons, isolated, 0.1 A/pt, removable terminal block included (replacement ADC p/n C0-16TB).

### Wiring Diagram

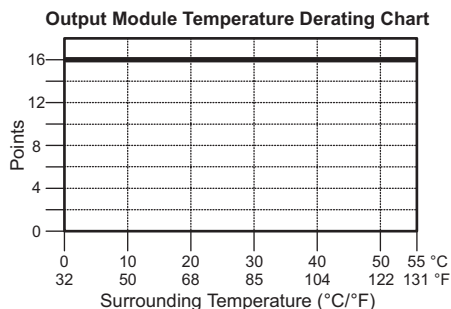


Output Specifications	
<b>Outputs per Module</b>	16 (Source)
<b>Operating Voltage Range</b>	12–24 VDC
<b>Output Voltage Range</b>	9.6–30.0 VDC
<b>Maximum Output Current</b>	0.1 A/point , 0.8 A/common
<b>Minimum Output Current</b>	0.2 mA
<b>Maximum Leakage Current</b>	0.1 mA @ 30.0 VDC
<b>On Voltage Drop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



**ZL-RTB20** 20-pin  
feed-through  
connector module



**ZL-RFU20**  
fuse module



**ZL-RRL16-24-2** relay module  
 Note: 10A/Point (DC)  
 8A/Point (AC)  
 (Replaceable relays)



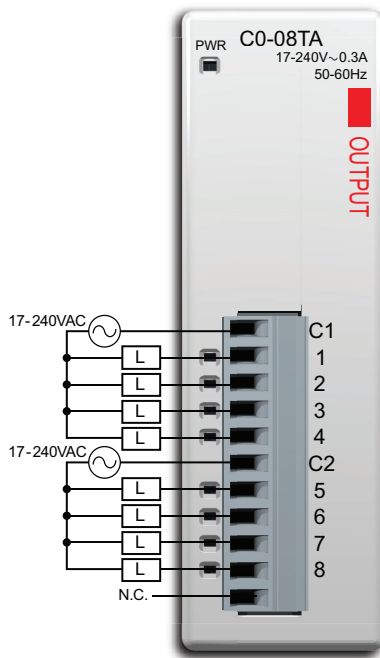
# CLICK I/O Module Specifications

**C0-08TA**      **\$52.00**

## 8-Point AC Output Module

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

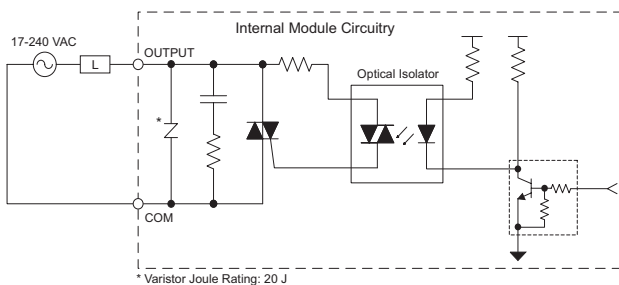
### Wiring Diagram



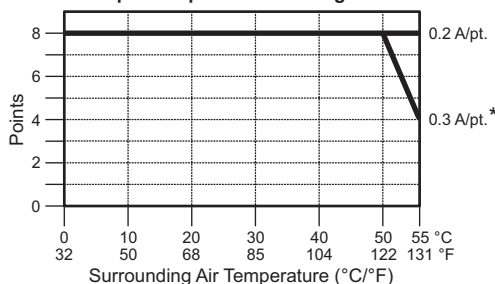
N.C. = Not Connected

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

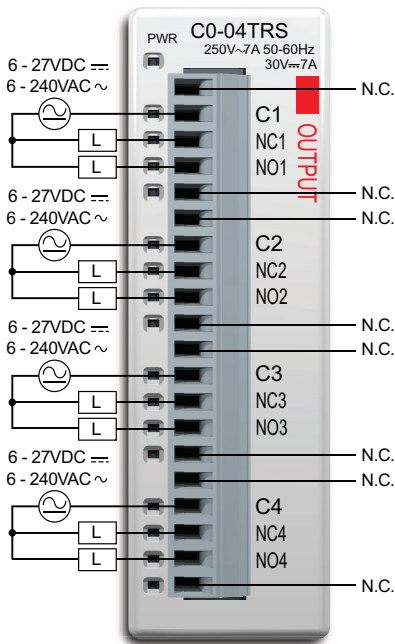
# CLICK I/O Module Specifications

**C0-04TRS**      **\$45.00**

## 4-Point Relay Output Module

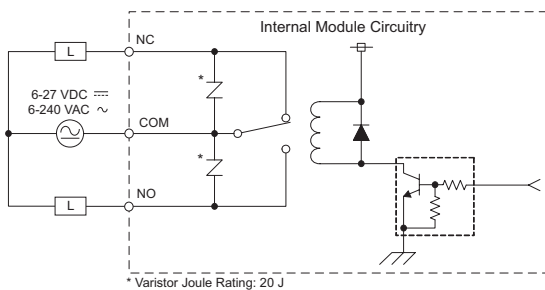
4-pt 6-240 VAC/6-27 VDC Isolated relay output module, 4 Form C (SPDT) relays, 4 isolated commons, 7 A/point, removable terminal block included (replacement ADC p/n C0-16TB).

### Wiring Diagram

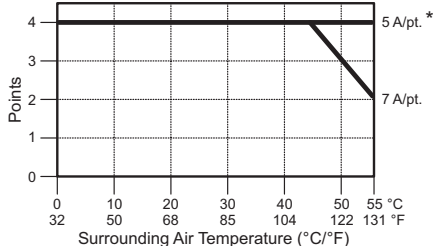


N.C. = Not Connected

### Equivalent Output Circuit



### Output Temperature Derating Chart



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

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



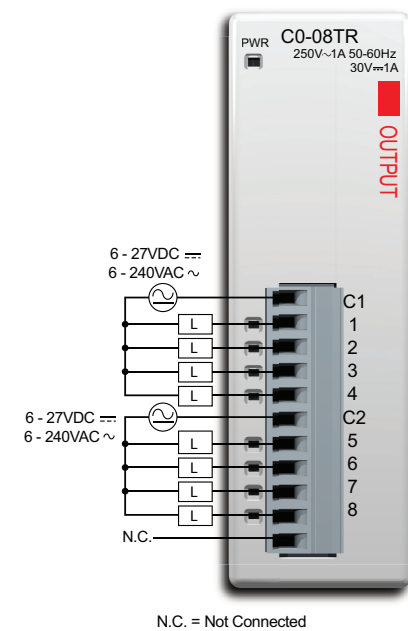
# CLICK I/O Module Specifications

**C0-08TR**      **\$41.50**

## 8-Point Relay Output Module

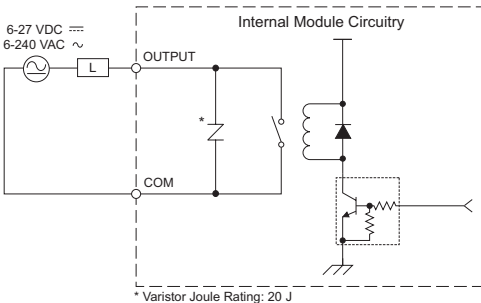
8-point 6-240 VAC/6-27 VDC relay output module, 8 Form A (SPST) relays, 2 commons, isolated, 1 A/point, removable terminal block included (replacement ADC p/n C0-08TB).

### Wiring Diagram

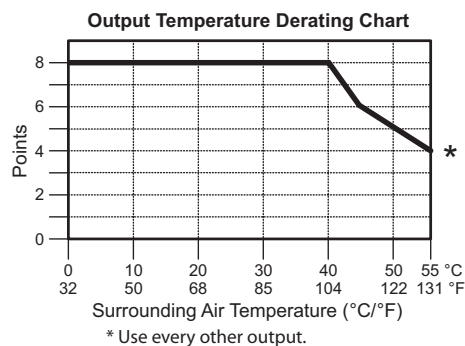


Output Specifications	
<b>Outputs per Module</b>	8
<b>Operating Voltage Range</b>	6-27 VDC / 6-240 VAC
<b>Output Voltage Range</b>	5-30 VDC / 5-264 VAC
<b>Output type</b>	Relay, form A (SPST)
<b>AC Frequency</b>	47-63 Hz
<b>Maximum Current (resistive)</b>	1 A/point, 4 A/common
<b>Minimum Load Current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

### 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



**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

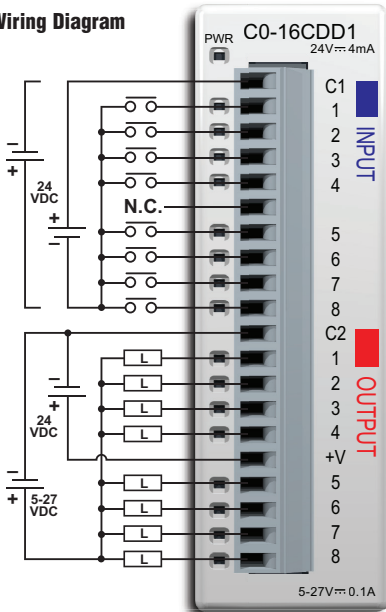
**CO-16CDD1**

**\$60.00**

## 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 ADC p/n CO-16TB).

Wiring Diagram

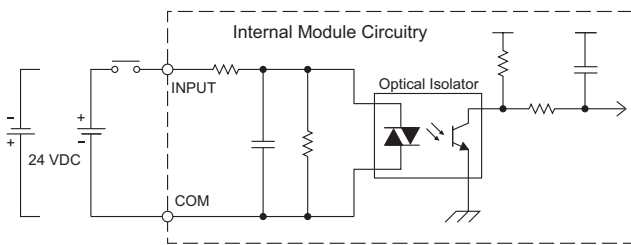


N.C. = Not Connected

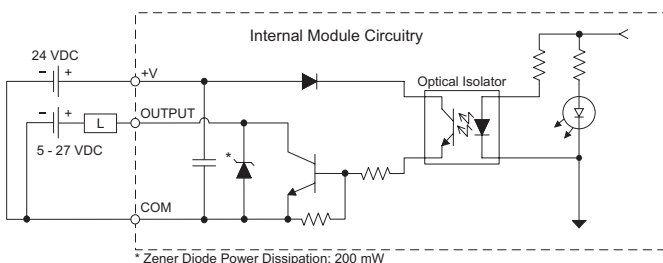


**NOTE:** When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

### Equivalent Input Circuit



### Equivalent Output Circuit

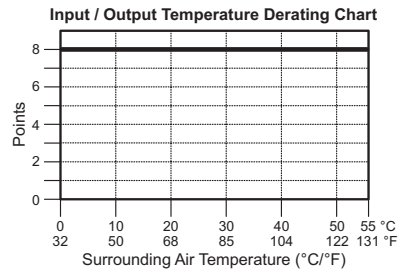


\* Zener Diode Power Dissipation: 200 mW

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

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

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



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



ZL-RTB20 20-pin feed-through connector module



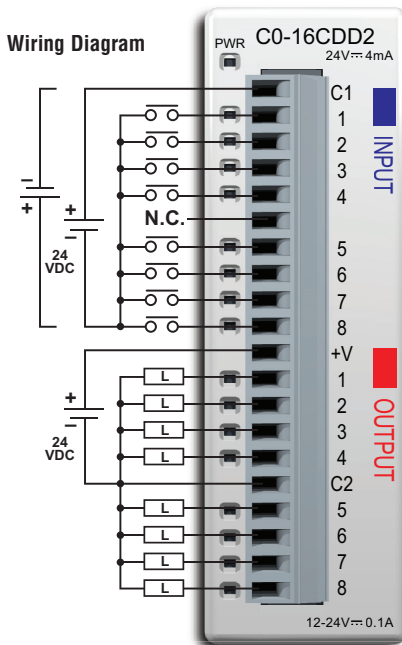
20-pin connector cable  
ZL-CO-CBL20 (0.5 m length)  
ZL-CO-CBL20-1 (1.0 m length)  
ZL-CO-CBL20-2 (2.0 m length)

# CLICK I/O Module Specifications

**C0-16CDD2**      **\$60.00**

## 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 ADC p/n C0-16TB).

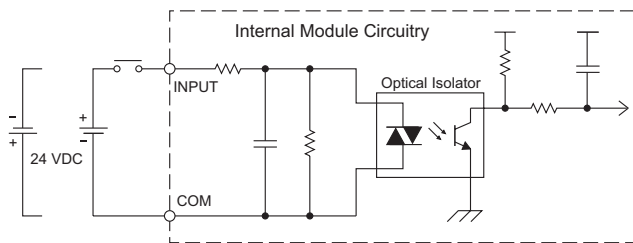


N.C. = Not Connected

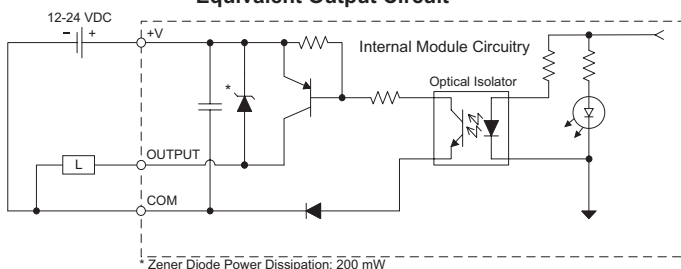


**NOTE:** When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

### Equivalent Input Circuit



### Equivalent Output Circuit

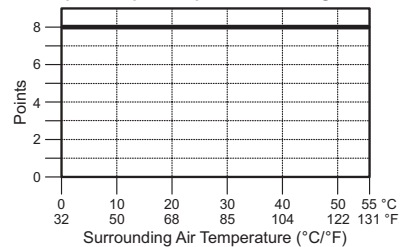


Input Specifications	
<b>Inputs per Module</b>	8 (source/sink)
<b>Operating Voltage Range</b>	CE: 24VDC (-10%/+10%) UL: 24VDC (-10%/+10%)
<b>Input Voltage Range</b>	21.6–26.4 VDC
<b>Input Current</b>	Typ 4.0 mA @ 24VDC
<b>Maximum Input Current</b>	5.0 mA @ 26.4 VDC
<b>Input Impedance</b>	6.8 kΩ @ 24VDC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

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

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

Input / Output Temperature Derating Chart



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)



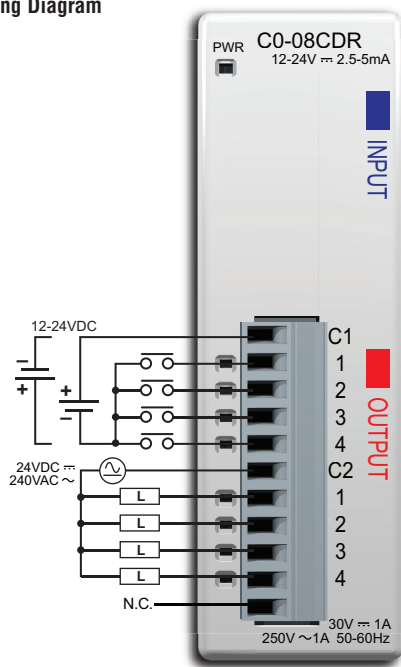
# CLICK I/O Module Specifications

**C0-08CDR**      **\$51.00**

## 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 ADC p/n C0-8TB).

### Wiring Diagram



N.C. = Not Connected

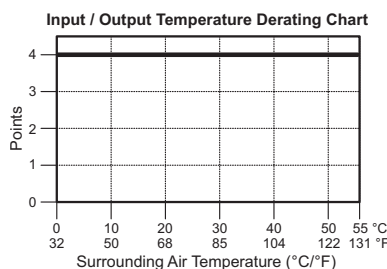
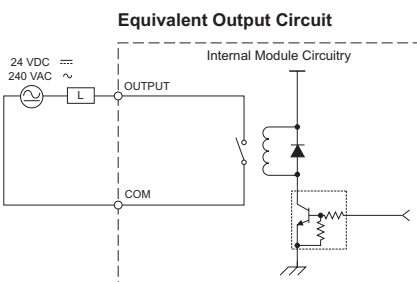
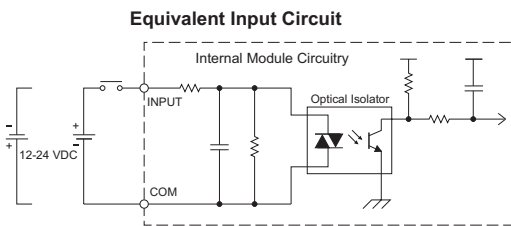


**NOTE:** When using this module you must also use CLICK programming software and PLC firmware version V1.40 or later.

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

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

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

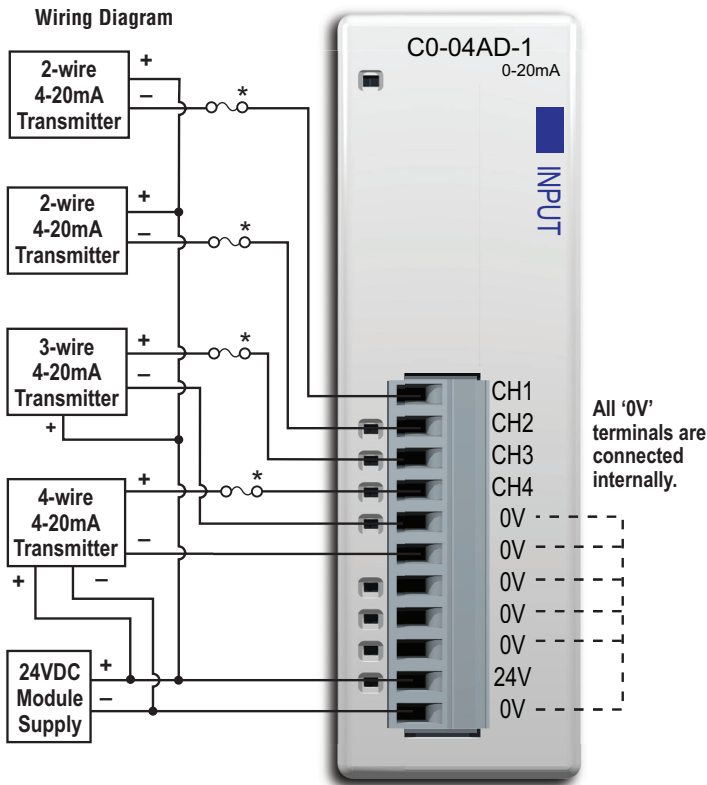


# CLICK I/O Module Specifications

**C0-04AD-1**      **\$92.00**

## 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 ADC p/n C0-8TB).



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

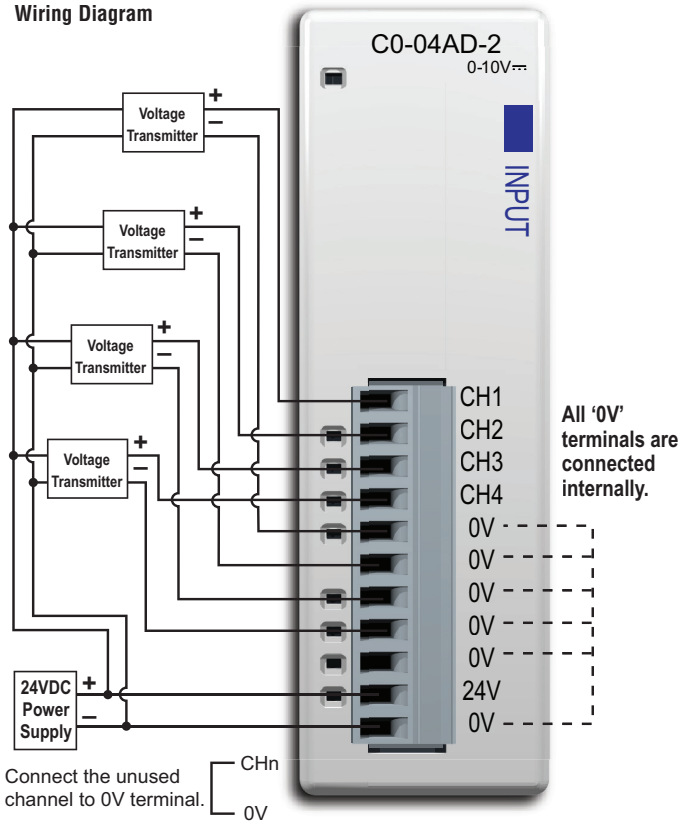
# CLICK I/O Module Specifications

**C0-04AD-2**      **\$92.00**

## 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 ADC p/n C0-8TB).

**Wiring Diagram**



Input Specifications	
<b>Inputs per Module</b>	4
<b>Input Range</b>	0-10 V
<b>Resolution</b>	13-bit, 1.22 mV per count
<b>Input Type</b>	Single ended (one common)
<b>Maximum Continuous Overload</b>	±100 VDC
<b>Input Impedance</b>	>150kΩ
<b>Filter Characteristics</b>	Low pass, -3dB at 500Hz
<b>Sample Duration Time</b>	6.25 ms
<b>All Channel Update Rate</b>	25ms
<b>Open Circuit Detection Time</b>	Zero reading within 100ms
<b>Accuracy vs. Temperature</b>	±75 PPM/°C maximum
<b>Maximum Inaccuracy</b>	0.5% of range (including temperature changes)
<b>Linearity Error (End to End)</b>	±3 count maximum, monotonic with no missing codes
<b>Input Stability and Repeatability</b>	±2 count maximum
<b>Full Scale Calibration Error (Including Offset)</b>	±8 count maximum
<b>Offset Calibration Error</b>	±8 count maximum
<b>Maximum Crosstalk at DC, 50/60Hz</b>	±2 count maximum
<b>Field to Logic Side Isolation</b>	1800 VAC for 1 sec.
<b>External 24VDC Power Required</b>	65mA
<b>Base Power Required (24VDC)</b>	23mA
<b>Terminal Block Replacement</b>	ADC p/n C0-8TB
<b>Weight</b>	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**      **\$155.00**

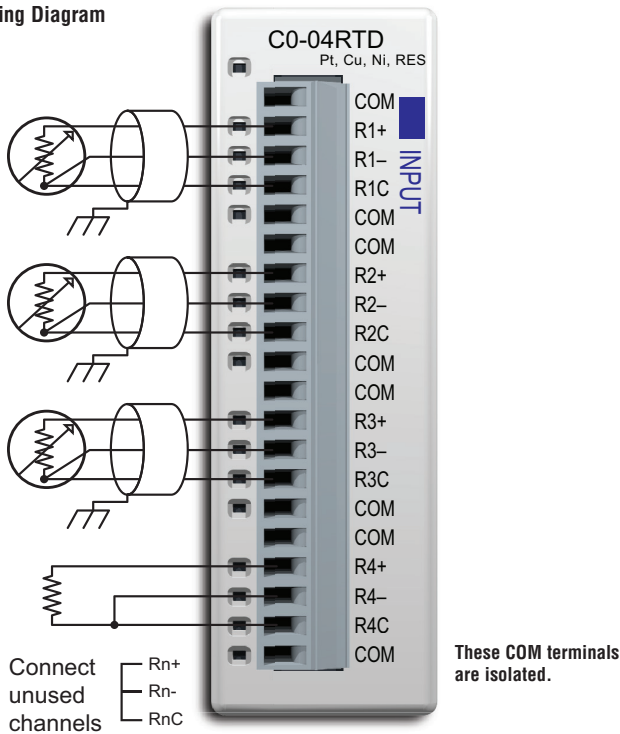
## 4-Channel RTD Input Module

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 ADC 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.

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

Input Specifications	
<b>Inputs per Module</b>	4
<b>Common Mode Range</b>	±2.5 V
<b>Common Mode Rejection</b>	100dB at DC and 100 dB at 50/60Hz
<b>Input Impedance</b>	>5MΩ
<b>Maximum Ratings</b>	Fault protected inputs to ±50VDC
<b>Resolution</b>	±0.1°C or °F, 0.1 Ω or 0.01 Ω
<b>Input Ranges*</b>	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
<b>RTD Linearization</b>	Automatic
<b>Excitation Current (All Ranges)</b>	210 μA
<b>Accuracy vs. Temperature</b>	±10ppm per °C maximum
<b>RTD Input Maximum Inaccuracy</b>	±3°C (excluding RTD error); ±5°C (ranges Cu10 and Cu25)
<b>RTD Linearity Error (End to End)</b>	±2°C maximum, ±0.5°C typical, monotonic with no missing codes
<b>Resistance Input Maximum Zero Scale Error</b>	±0.0015% of full scale range in ohms (negligible)
<b>Resistance Input Maximum Full Scale Error</b>	±0.02% of full scale range
<b>Maximum Linearity Error</b>	±0.015% of full scale range maximum at 25°C, monotonic with no missing codes
<b>Resistance Maximum Input Inaccuracy</b>	0.1% at 0 to 60°C (32° to 140° F), typical 0.04% at 25°C (77° F)
<b>Warm Up Time</b>	30 minutes for ±1°C repeatability
<b>Single Channel Update Rate</b>	240ms
<b>All Channel Update Rate</b>	Single Channel Update Rate times the number of enabled channels on the module
<b>Open Circuit Detection Time</b>	Positive full-scale reading within 2 seconds
<b>Conversion Method</b>	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	
<b>Field to Logic Side Isolation</b>	No isolation
<b>External DC Power Required</b>	None
<b>Bus Power Required (24VDC)</b>	25mA
<b>Thermal Dissipation</b>	2.047 BTU per hour
<b>Terminal Block Replacement</b>	ADC p/n C0-16TB
<b>Weight</b>	3.1 oz (86g)

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



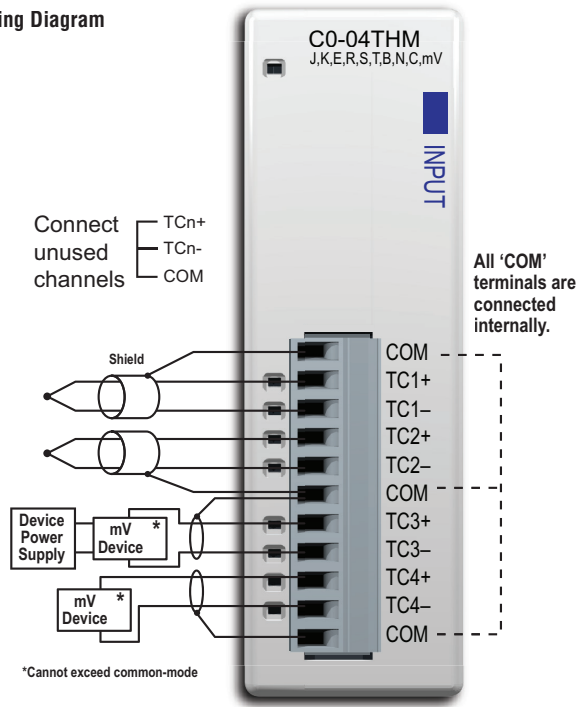
# CLICK I/O Module Specifications

**C0-04THM**      **\$155.00**

## 4-Channel Thermocouple Input Module

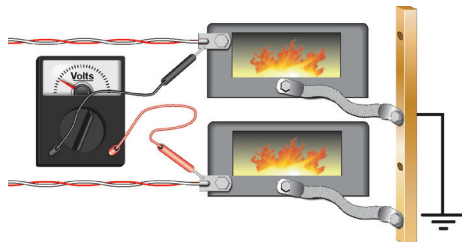
4-channel thermocouple input module, 16-bit resolution (+/-0.1 degrees Celsius or Fahrenheit), Supports: J, K, E, R, S, T, B, N, C type thermocouples; voltage ranges are also supported, removable terminal block included (replacement ADC p/n C0-8TB).

### 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	
<b>Inputs per Module</b>	4
<b>Common Mode Range</b>	-1.3 to +3.8 V
<b>Common Mode Rejection</b>	100dB at DC and 130 dB at 60Hz
<b>Input Impedance</b>	>5 MΩ
<b>Maximum Ratings</b>	Fault protected inputs to ±50VDC
<b>Resolution</b>	±0.1°C or °F, 16 bit
<b>Input Ranges</b>	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
<b>Cold Junction Compensation</b>	Automatic
<b>Thermocouple Linearization</b>	Automatic
<b>Accuracy vs. Temperature</b>	±25 ppm per °C maximum
<b>Linearity Error</b>	±2°C maximum, ±1°C typical, monotonic with no missing codes
<b>Maximum Inaccuracy</b>	±3°C maximum (excluding thermocouple error)
<b>Maximum Voltage Input Offset Error</b>	0.05% at 0° to 55°C (32° to 131° F) typical 0.04% at 25°C (77°F)
<b>Maximum Voltage Input Gain Error</b>	0.06% at 25°C (77°F)
<b>Maximum Voltage Input Linearity Error</b>	0.05% at 0° to 55°C (32° to 131°F), typical 0.03% at 25°C (77°F)
<b>Maximum Voltage Input Inaccuracy</b>	0.1% at 0° to 55°C (32° to 131°F), typical 0.04% at 25°C (77°F)
<b>Warm Up Time</b>	30 minutes for ±1°C repeatability
<b>Single Channel Update Rate</b>	400ms
<b>All Channel Update Rate</b>	Single Channel Update Rate times the number of enabled channels on the module
<b>Open Circuit Detection Time</b>	Burn Out flag set and zero scale reading within 3 seconds
<b>Conversion Method</b>	Sigma - Delta

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

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





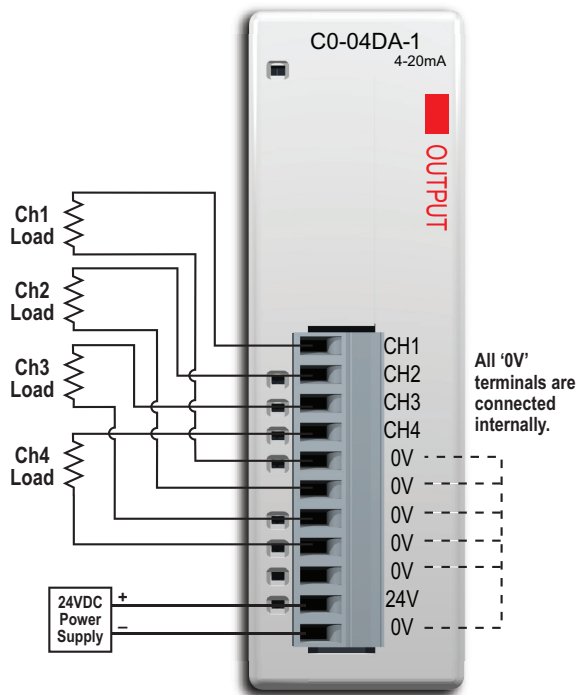
# CLICK I/O Module Specifications

**C0-04DA-1**      **\$123.00**

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



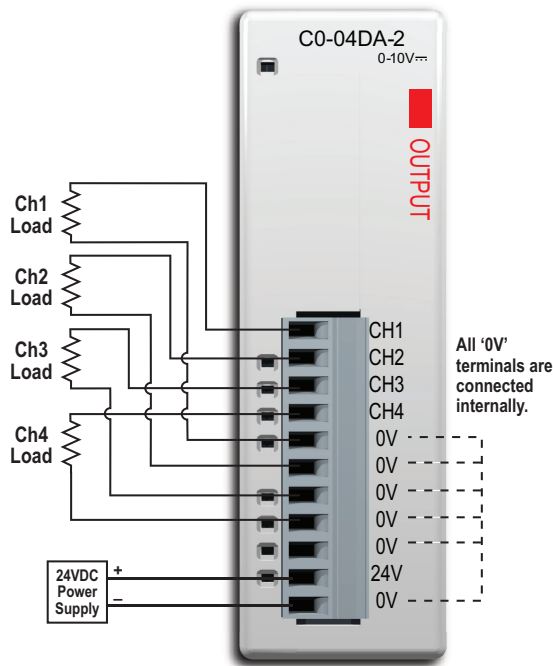
# CLICK I/O Module Specifications

**C0-04DA-2**      **\$123.00**

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

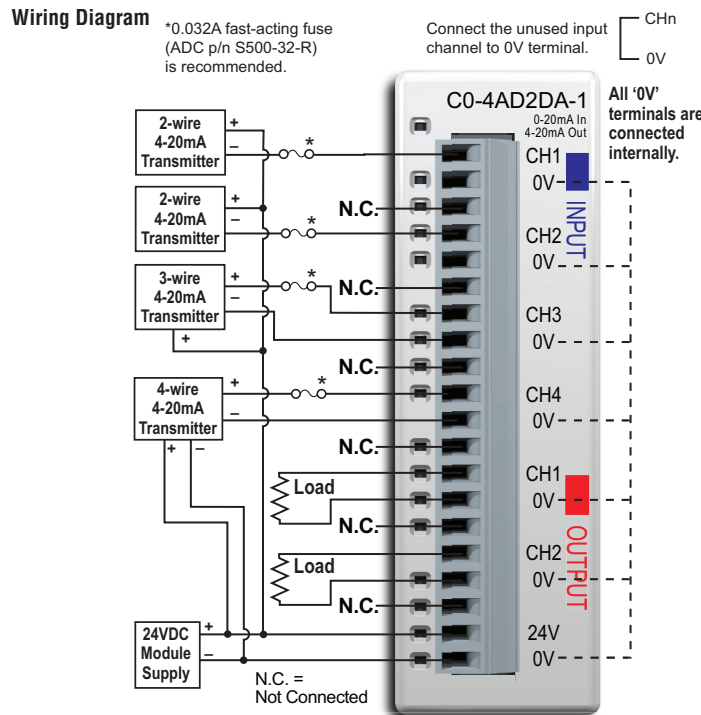


# CLICK I/O Module Specifications

**C0-4AD2DA-1** **\$155.00**

## 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 ADC p/n CO-16TB).



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

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



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

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

**ZiPLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC**



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)



# CLICK I/O Module Specifications

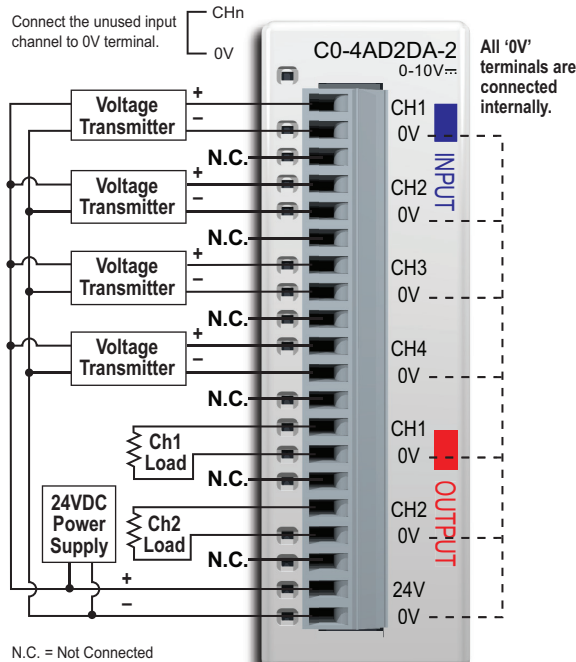
C0-4AD2DA-2

\$155.00

## 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 ADC 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	ADC 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 (one 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. (one 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 trouble shooting guide. Sold separately from hardware.

The CLICK PLC Hardware User Manual can be downloaded free at the *AutomationDirect* Web site, or purchased from the *AutomationDirect* online Web store. [www.automationdirect.com](http://www.automationdirect.com)



**C0-PGMSW \$10.50**

## Programming Software CD-ROM



The programming software can be downloaded free at the *AutomationDirect* Web site, or CD purchased from the *AutomationDirect* online Web store. [www.automationdirect.com](http://www.automationdirect.com)

**EA-MG-PGM-CBL \$44.50**

## 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 5 VDC 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 \$18.00**



**Programming Cable for CLICK and DirectLOGIC 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 \$7.25**

## 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 \$7.25**

## Spare 24VDC Power Terminal Block

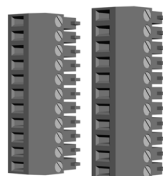
Replacement terminal block for the 24VDC supply power to the PLC. Sold in packs of 2.



**C0-8TB \$12.50**

## 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 \$5.50**

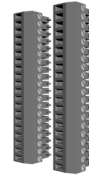
Replacement battery for Standard, Analog, Ethernet Standard and Ethernet Analog PLC units.



**C0-16TB \$17.50**

## 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.

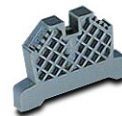


**DN-WS \$55.00**

## Wire Stripper



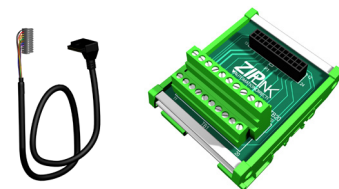
**DN-EB35MN \$20.50**  
**DINnectors End Bracket**



## 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.

