

# CLICK PLC Overview

## PLC System

The CLICK PLC family of components is designed to offer practical PLC features in a compact and expandable design and, at the same time, offer the best ease-of-use.

### System Configuration

A powered CLICK CPU module by itself can be used as a complete PLC system with 8 input points and 6 output points built-in (Basic and Standard CPUs) or with 4 output points, 2 analog input points and 2 analog output points (Analog CPUs). The system can also be expanded with the addition of up to 8 I/O modules. A variety of I/O modules are available for flexible and optimal system configuration.

### Decimal Memory Addressing

The I/O numbering system and memory addressing are decimal to make it easier to count the number of I/O points and data registers.

### Communications

All CPUs have two built-in RS-232 communications ports. Standard and Analog CPUs 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 5 VDC, so you can connect a monochrome C-more Micro HMI panel without an additional power supply.

### Analog I/O

Analog CPU modules have built-in analog I/O (2-channel analog inputs and 2-channel analog outputs). Each channel can be separately set for voltage (0 to 5 VDC) or current (4 to 20 mA).

### Calendar / Clock & Battery Backup

Standard and Analog CPU modules include the real time clock and battery backup for the internal SRAM. Battery allows data to be stored for 5 years (Battery sold separately).

### FREE Programming Software

The CLICK programming software can be downloaded free from our Web site and provides an intuitive programming tool that will get you up and running quickly.

### Easy-to-Use Instructions

The CLICK PLC supports a very simple but practical instruction set. The easy-to-use instructions can cover most applications that are suitable for this class of PLC (the CLICK PLC does not support DirectLOGIC instructions).

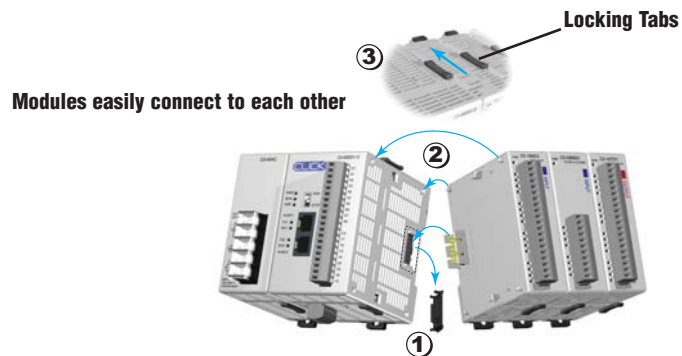
### 8,000 Steps Program Memory

The CLICK CPU module 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!



# CLICK PLC Overview

## CPU Modules

The eleven CLICK CPU modules are available with different combinations of built-in I/O types.



**Basic CPU**

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

**Basic CPU Module Features:**

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



**Standard CPU**

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

**Standard CPU Module Features:**

- Eight discrete input points
- Six discrete output points
- Two RS-232 communications ports
- One RS-485 communications port
- Backup battery (Battery sold separately)



**Analog CPU**

CLICK Analog CPU Modules				
Part Number	Inputs (4 points)	Outputs (4 points)	Analog Inputs, Outputs	Price
<i>CO-02DD1-D</i>	DC (24 VDC, sink/source)	DC (0.1 A, 5-24 VDC, Sink)	2 channels in / 2 channels out; voltage (0-5 VDC) and current (4-20 mA) selectable	<--->
<i>CO-02DD2-D</i>		DC (0.1 A, 24 VDC, Source)		<--->
<i>CO-02DR-D</i>		Relay (1 A@6-27 VDC/6-240 VAC)		<--->

**Analog CPU Module Features:**

- Four discrete input points and four discrete output points
- Two analog input points and two analog output points
- Two RS-232 communications ports
- One RS-485 communications port
- Backup battery (Battery sold separately)

# CLICK PLC Overview

## Input I/O Modules

There are six input I/O modules available.



**CO-08ND3**



**CO-08ND3-1**



**CO-16ND3**



**CO-08NE3**



**CO-16NE3**



**CO-08NA**

## Output I/O Modules

There are seven output I/O modules available.



**CO-08TD1**



**CO-08TD2**



**CO-16TD1**



**CO-16TD2**



**CO-08TA**



**CO-04TRS**



**CO-08TR**

## Power Supplies

Two power supplies are offered.



**CO-00AC**



**CO-01AC**

### CLICK Input I/O Modules

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

### CLICK Output I/O Modules

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

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

### CLICK Power Supplies

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

# 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 CPU module.



### 2. If you need additional I/O, select from thirteen types of I/O modules.



### 3. Select a 24 VDC power supply.



or

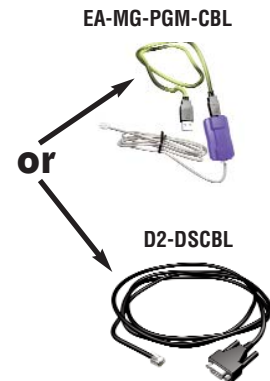


### 4. Download the FREE CLICK programming software.



### 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 CPU module port. If your PC has a 9-pin serial communications port, use programming cable D2-DSCBL.



### 6. Select tools, wire, and provide power.

Screwdriver  
DN-SS1



Wire Strippers  
DN-WS



Hookup Wire



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

# 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.

## PC Requirements

CLICK PLC Windows-based programming software works with Windows® 2000 Service Pack 4, XP Home or Professional, Vista (32 bit only) or Windows 7 (32 bit only). These are the minimum system requirements:

- Personal Computer with a 333 MHz or higher processor (CPU) clock speed recommended; Intel Pentium/Celeron family or AMD K6/Athlon/Duron family, or compatible processor recommended
- SVGA 800x600 pixels resolution. (1024x768 pixels resolution recommended)
- 150MB free hard-disk space
- 128MB free Ram (512MB recommended)
- CD-ROM or DVD drive for installing software from the CD
- 9-pin serial port or USB port for project transfer to PLC (USB port communications also requires USB-to-serial converter)

## C0-PGMSW FREE

### CLICK PLC Programming Software

Free download available from the Web includes the manual in pdf format. Cable sold separately.

Windows2000/XP(Home/Pro)/Vista/Windows 7 required.

The CLICK Programming Software can be downloaded free at the [AutomationDirect](http://www.automationdirect.com) Web site:

[www.support.automationdirect.com/downloads.html](http://www.support.automationdirect.com/downloads.html)



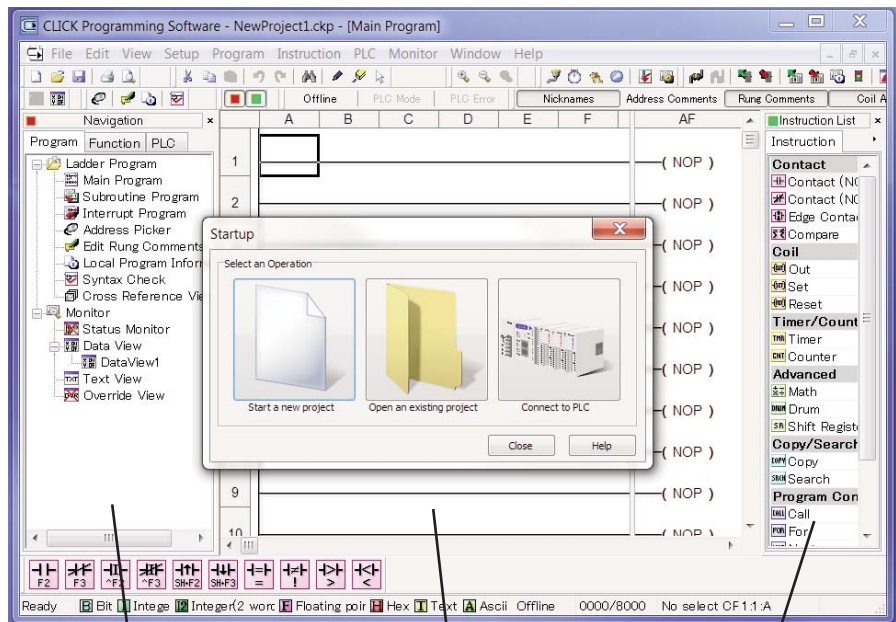
**NOTE:** CLICK PLCs cannot be programmed using *DirectSOFT5* programming software, which is used to program our *DirectLOGIC* PLCs; you must use the CLICK programming software, C0-PGMSW.



**NOTE:** When using Standard CPUs, you must use CLICK programming software version V1.20 or later.  
When using Analog CPUs, you must use CLICK programming software version V1.12 or later.

## 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.

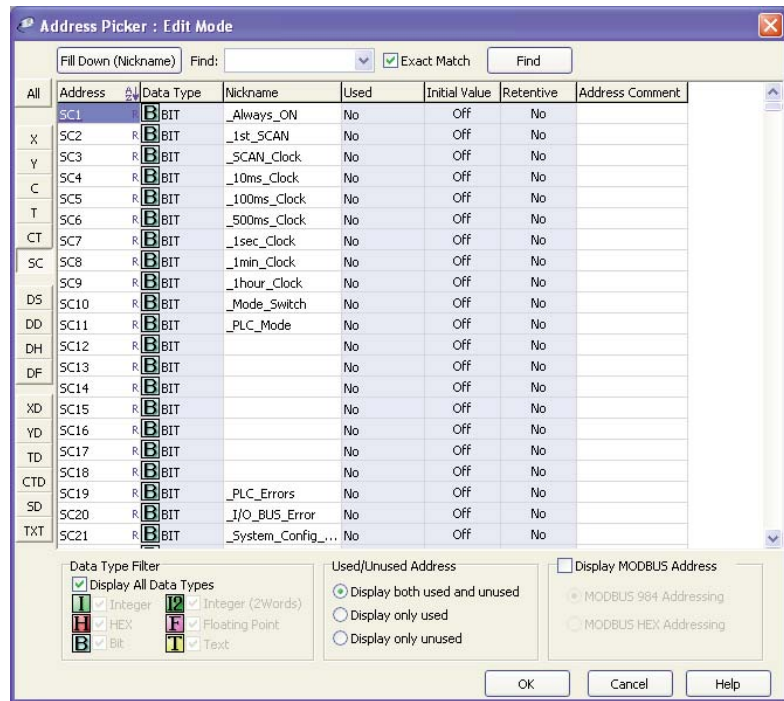
## Powerful Features!

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.

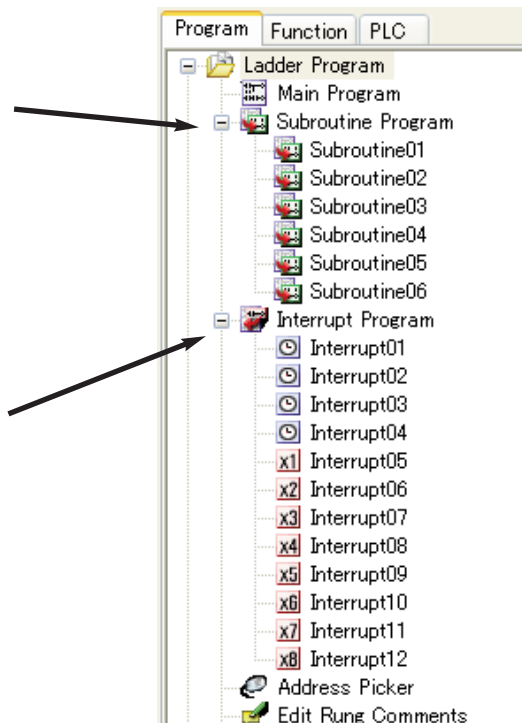


## Subroutine Programs

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

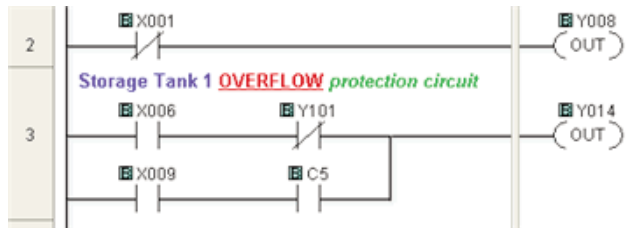
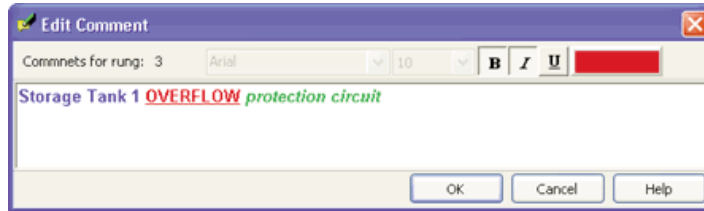
Interrupt programs are created and named. The Basic and Standard CPU modules support up to 12 interrupt programs. The Analog CPU modules support up to 8 interrupt programs.



# CLICK Programming Software

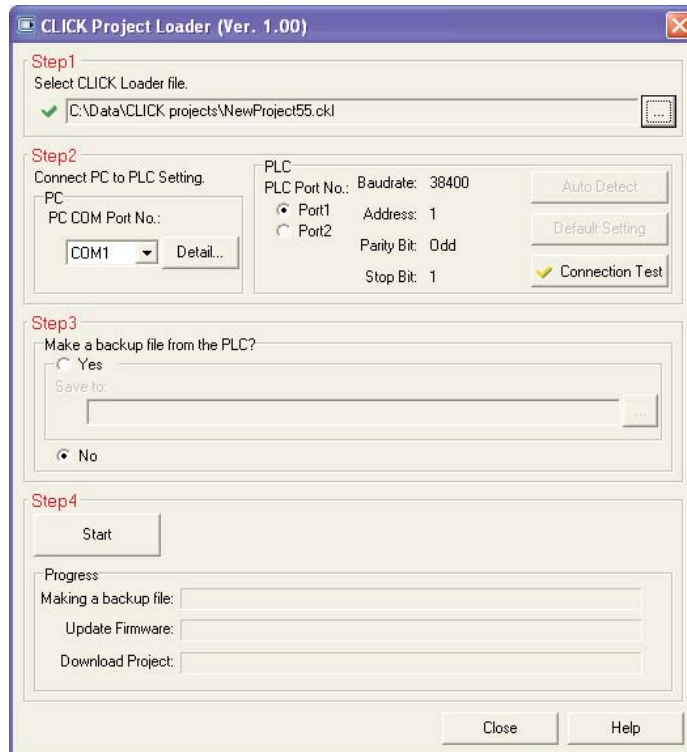
## Color Rung Comment

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.**

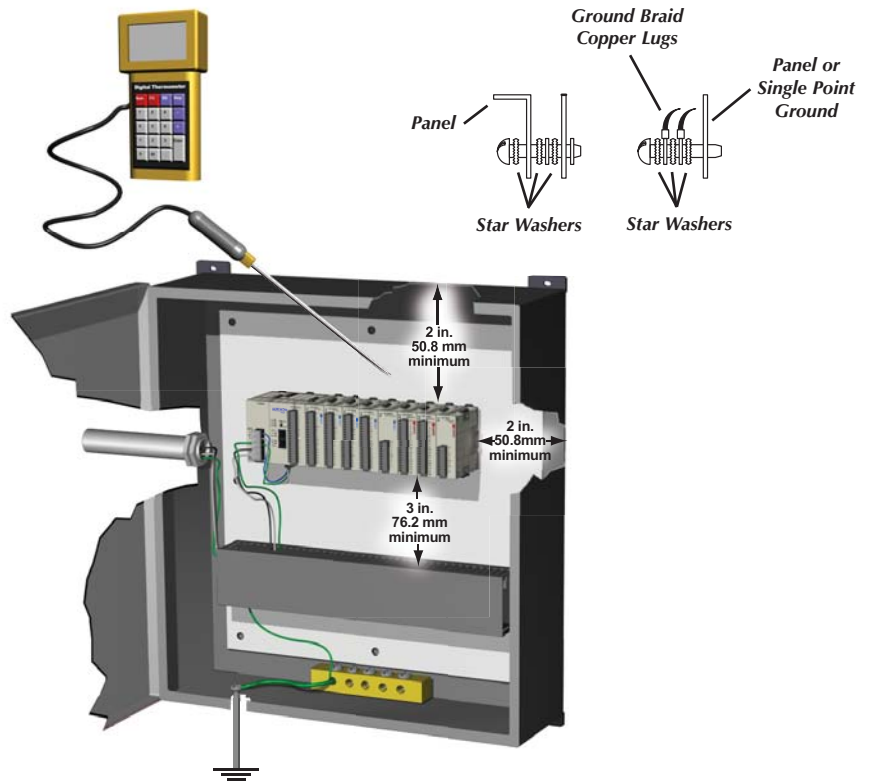
# Product Dimensions and Installation

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. This user manual contains important safety information that must be followed. The system installation should comply with all appropriate electrical codes and standards.

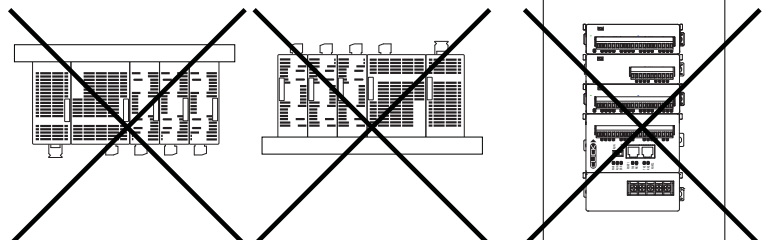
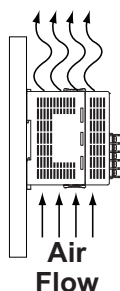


**NOTE:** THERE IS A MINIMUM CLEARANCE REQUIREMENT OF 2 INCHES (51 MM) BETWEEN THE CLICK PLC AND THE PANEL DOOR OR ANY DEVICES MOUNTED IN THE PANEL DOOR. THE SAME CLEARANCE IS REQUIRED BETWEEN THE PLC AND ANY SIDE OF THE ENCLOSURE. A MINIMUM CLEARANCE OF 3 INCHES (76 MM) IS REQUIRED BETWEEN THE PLC AND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



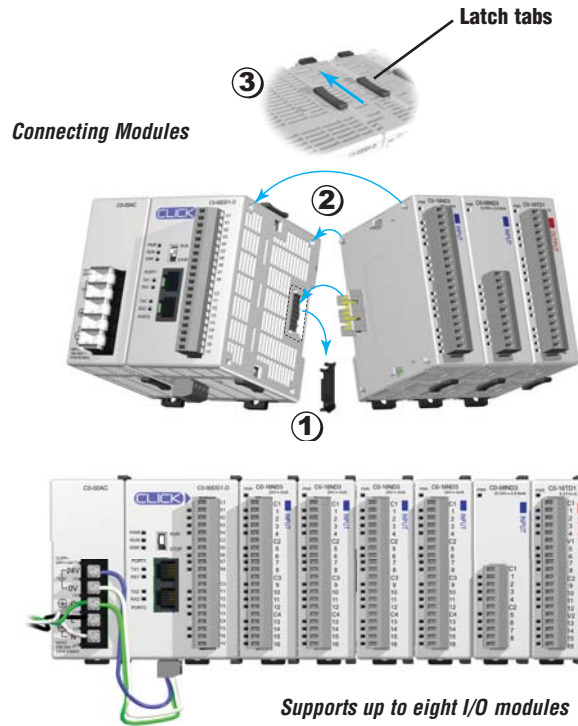


# Product Dimensions and Installation

## Connecting the Modules Together

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

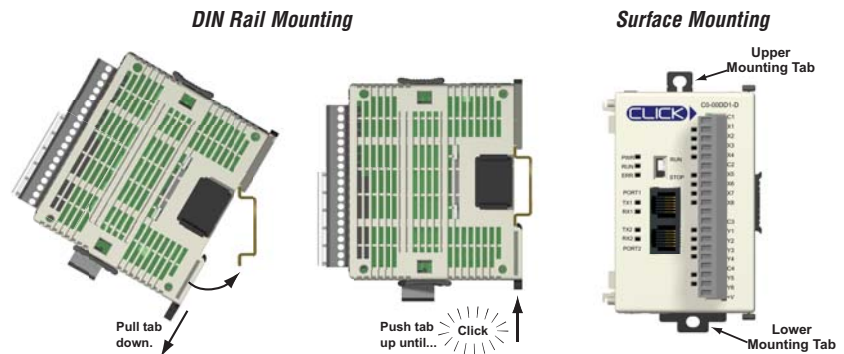
1. Remove extension port covers and slide the latch tabs forward.
2. Align the module pins and connection plug, and press the I/O module onto the right side of the CPU.
3. Slide the latch tabs backward to lock the modules together.



## Mounting

The CLICK PLC system, which includes the CLICK power supplies, CPU modules, 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.



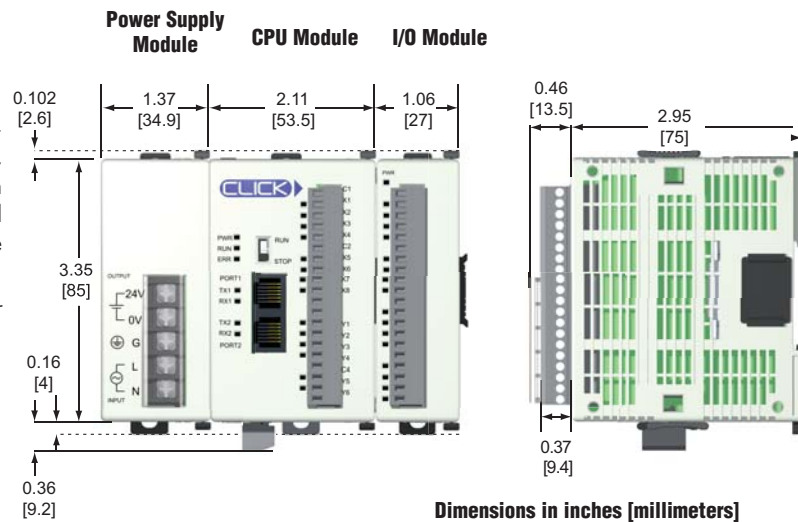
## Unit Dimensions

These diagrams show the outside dimensions of the CLICK power supply, CPU, 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:

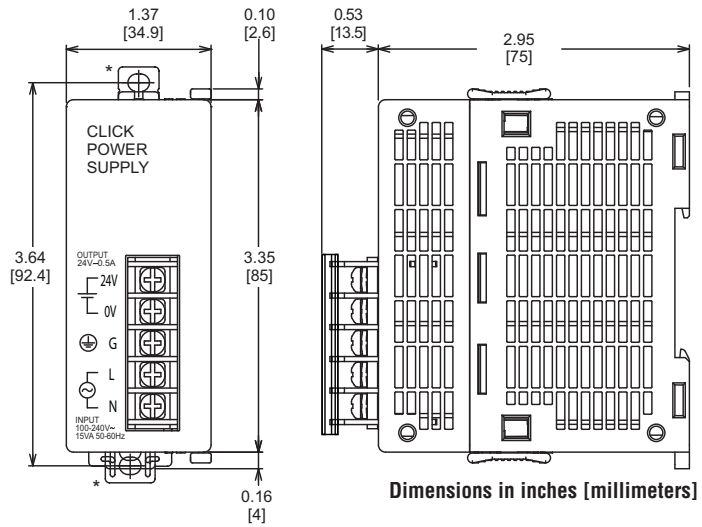
Power Supply + CPU + 8 I/O modules.



# Product Dimensions and Installation

## Unit Dimensions

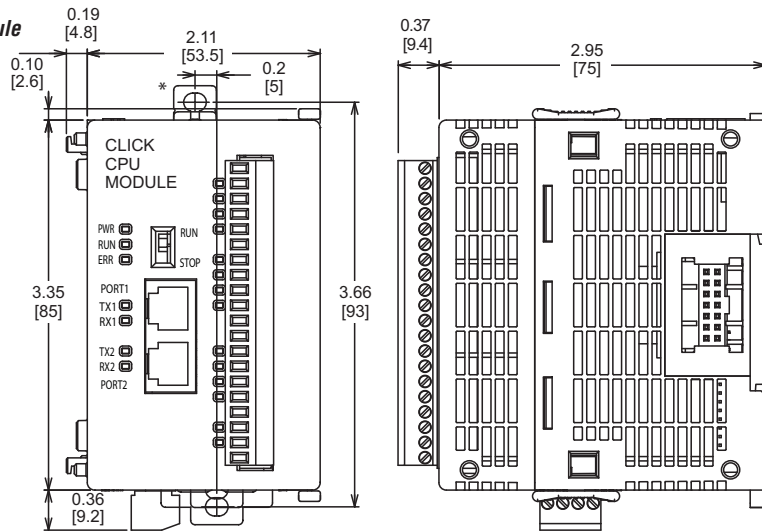
### Power Supply



Dimensions in inches [millimeters]

\* Use size M4 screws for top and bottom mounting tab holes.

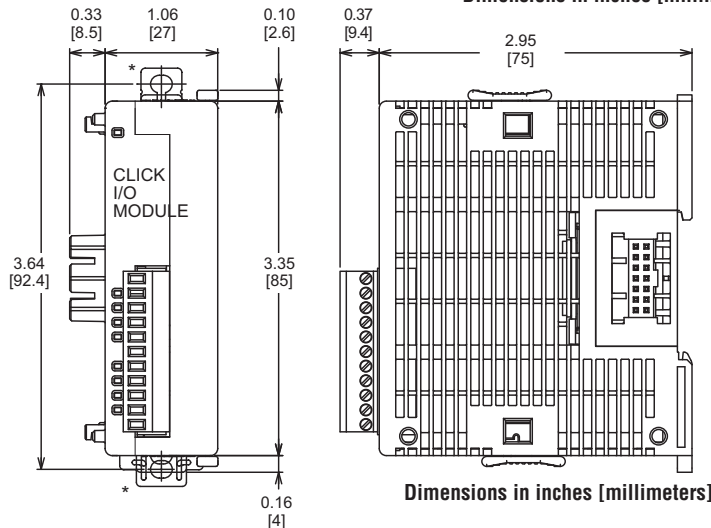
### CPU Module



Dimensions in inches [millimeters]

\* Use size M4 screws for top and bottom mounting tab holes.

### I/O Module



Dimensions in inches [millimeters]

\* Use size M4 screws for top and bottom mounting tab holes.

# Networking the CLICK PLC

## Built-in Communications Ports

All CPUs have two built-in RS-232 communications ports. Standard and Analog CPUs 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 5 VDC, 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.

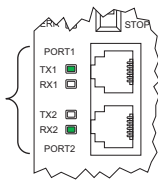
### Basic CPUs

#### Port 1 & 2 LED Status Indicators

TX1 and TX2 (Green)	
On	The Comm Port is sending data.
Off	The Comm Port is not sending data.

RX1 and RX2 (Green)	
On	The Comm Port is receiving data.
Off	The Comm Port is not receiving data.



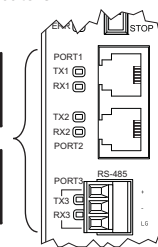
### Standard and Analog CPUs

#### Port 1, 2, & 3 LED Status Indicators

TX1, TX2 and TX3 (Green)	
On	The Comm Port is sending data.
Off	The Comm Port is not sending data.

RX1, RX2 and RX3 (Green)	
On	The Comm Port is receiving data.
Off	The Comm Port is not receiving data.



Com Port 1

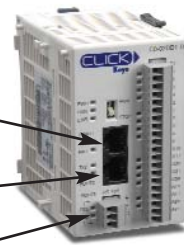
Com Port 2


**Basic CPU**

Com Port 1

Com Port 2

Com Port 3

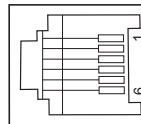

**Standard and Analog CPUs**

### Com Port 1 Specifications

Use: Programming Port
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

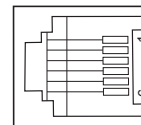
1	0V	Power (-) connection (GND)
2	5V	Power (+) connection
3	RXD	Receive data (RS-232)
4	TXD	Transmit data (RS-232)
5	NC	No connection
6	0V	Power (-) connection (GND)

### Com Port 2 Specifications

Use: Serial Communication
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

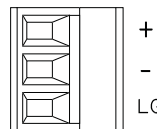
1	0V	Power (-) connection (GND)
2	5V	Power (+) connection
3	RXD	Receive data (RS-232)
4	TXD	Transmit data (RS-232)
5	RTS	Request to send
6	0V	Power (-) connection (GND)

### Com Port 3 Specifications

Use: Serial Communication
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

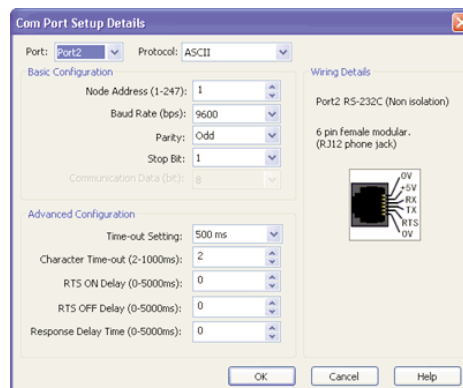


### Port 3 Pin Descriptions

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

## Port Setup

Use CLICK programming software to easily configure the communication ports.

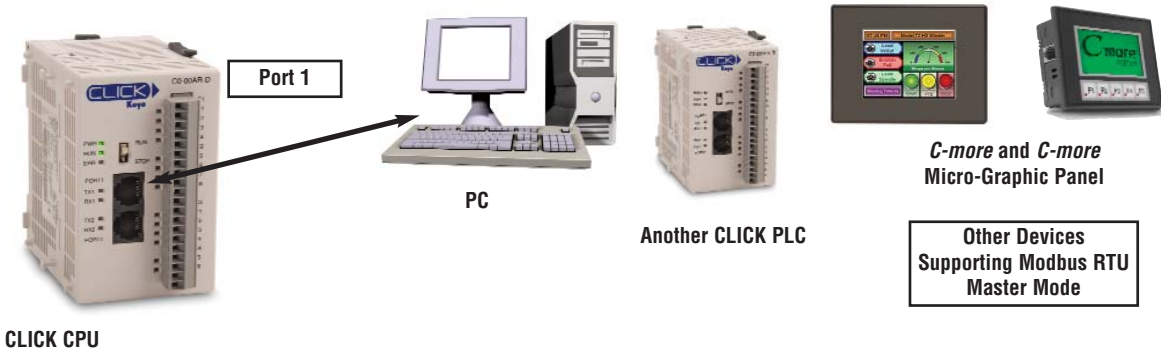


# Networking the CLICK PLC

## Typical Serial Communication Applications

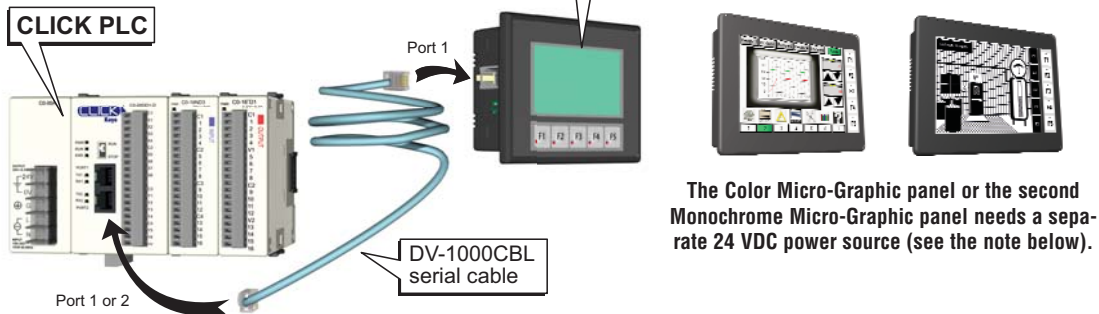
The diagrams on these two pages illustrate the typical uses for the CLICK CPU's communication ports.

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



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

Example



**NOTE:** CLICK'S PORT 1 AND PORT 2 CAN PROVIDE 5 VDC TO POWER 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-SPI, OR ANOTHER 24 VDC POWER SOURCE. COLOR C-MORE MICRO-GRAPHIC PANELS MUST ALSO BE POWERED FROM A SEPARATE 24 VDC 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 CPU's Port 1 or Port 2:  
 Handheld Programmer for DL05, DL06, DL105, DL205 & D3-350 CPUs, p/n D2-HPP  
 Handheld Programmer for DL405 CPUs, p/n D4-HPP-1  
 Timer/Counter Access for DL05, DL06, DL105, DL205, DL405 & D3-350 CPUs, p/n DV-1000



D2-HPP



D4-HPP-1



DV-1000

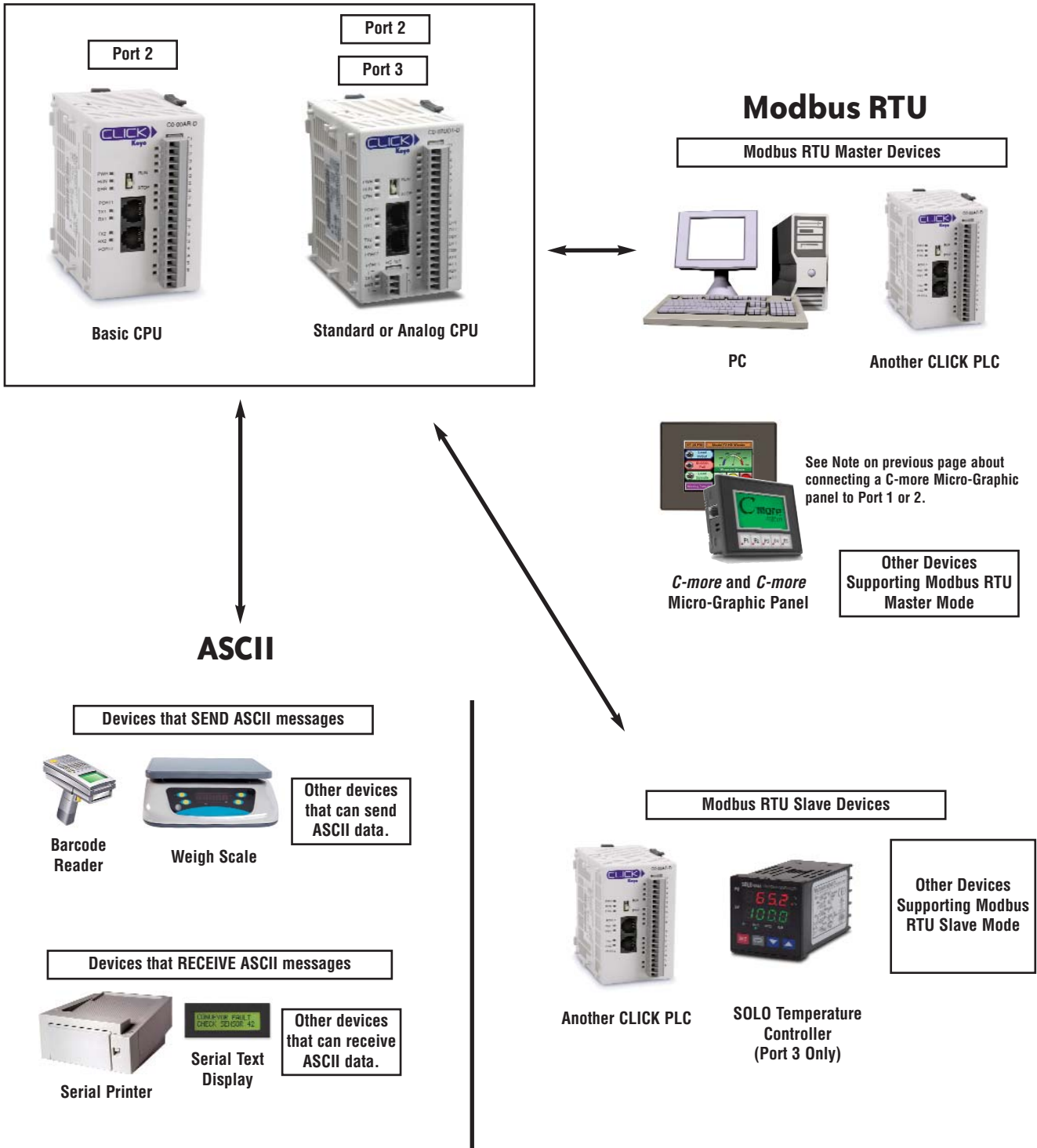
# Networking the CLICK PLC

## Port 2 (RS-232) – Modbus RTU or ASCII

## Port 3 (RS-485; Standard and Analog CPUs Only) – Modbus RTU or ASCII

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

Ports 2 and 3 allow networking to similar devices.



# Power Supplies

## Power Supplies

The CLICK PLC family offers two 24 VDC 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 24 VDC power supply that Automationdirect.com offers.

### CO-00AC Power Supply

Limited auxiliary AC power supply allows you to power the 24 VDC CLICK C0 series CPUs with 100-240 VAC supply power. The 0.5A DC power supply is capable of controlling the CPU 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 24 VDC CLICK C0 series CPUs with 100-240 VAC supply power. The 1.3A 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.

CLICK 24 VDC Power Supply Ratings	
Part Number	Output Current
CO-00AC	0.5 A
CO-01AC	1.3 A

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 @ 100 VAC, 0.2 A @ 200 VAC
<b>Inrush Current</b>	30 A
<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 Specification	
<b>Input Voltage Range</b>	85-264 VAC
<b>Input Frequency</b>	47-63 Hz.
<b>Input Current (typical)</b>	0.9 A @ 100 VAC, 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)



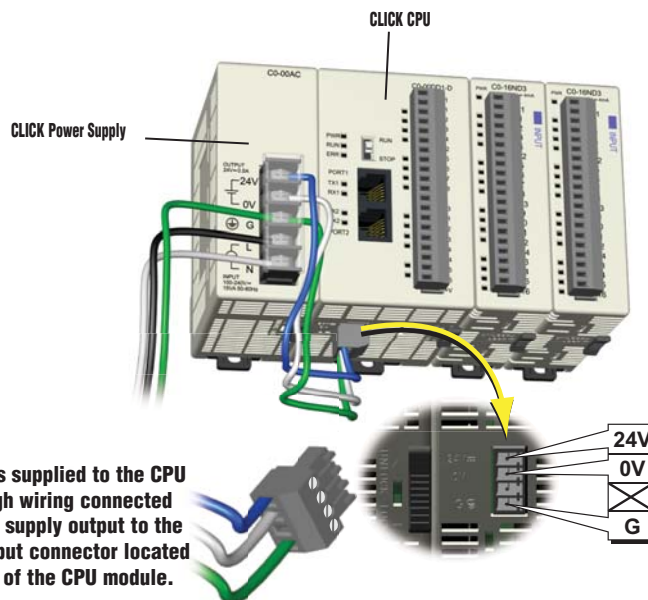
24 VDC Output Power Terminals (for CLICK PLC, I/O or field device, etc.)

85-264 VAC Power Source Input Terminals



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

85-264 VAC Power Source Input Terminals



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

# 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 CPU, 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 CPU's expansion port; plus any device, such as a C-more Micro-Graphic panel, that is powered through one of the CPU's communication 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 that the 24 VDC 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.

See the Power Budgeting Example shown to the right. The table shows current requirements for a CLICK CPU, two I/O modules, and a C-more Micro. Use the total amperage values to select a proper sized power supply.

### Power Budgeting Using the CLICK Programming Software

The following example shows the logic side current consumption as calculated in the CLICK Programming software. 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 budget row turns red if maximum allowable power consumption is exceeded for the power supply selected.



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



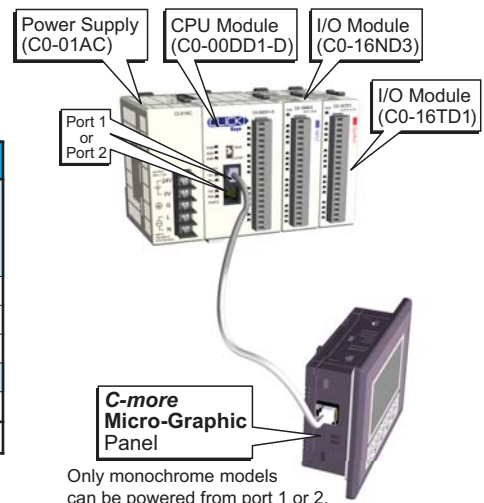
Other 24 VDC Power Supply  
Example: PSP24-60S

Current Consumption (mA)		
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (field side)
<b>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>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
<b>C-more Micro-Graphic Panel (Monochrome models only)</b>		
All p/n	90	0

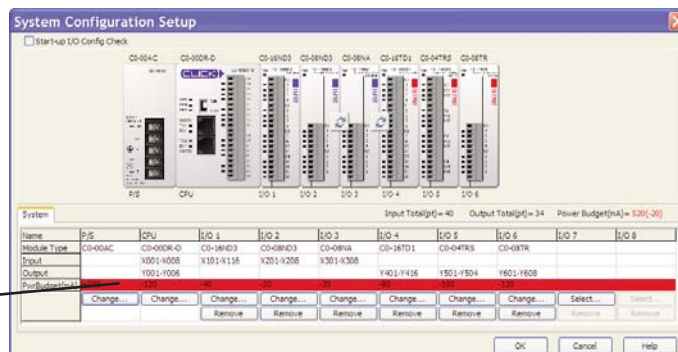
### Power Budgeting Example

Current Consumption (mA) Example		
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (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>

\* Plus calculated load of connected I/O devices.



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



# Choosing the I/O Type

Three types of CPU modules are available:

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

All CLICK CPU modules offer the same performance, use the same instruction set, and support all optional I/O modules.

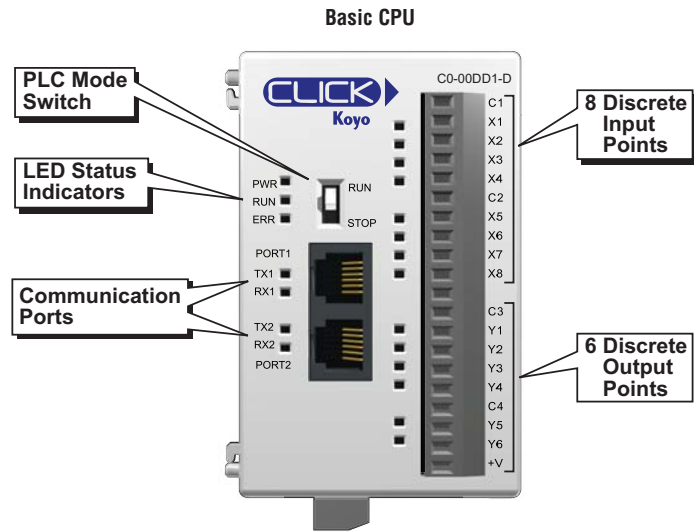
## Basic and Standard CPU Modules

The Basic and Standard CLICK CPU modules 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 CPU can be used as a ready-to-go PLC control system without any additional I/O modules. The CPU module just needs 24 VDC, but it can be expanded in the future if the need arises.

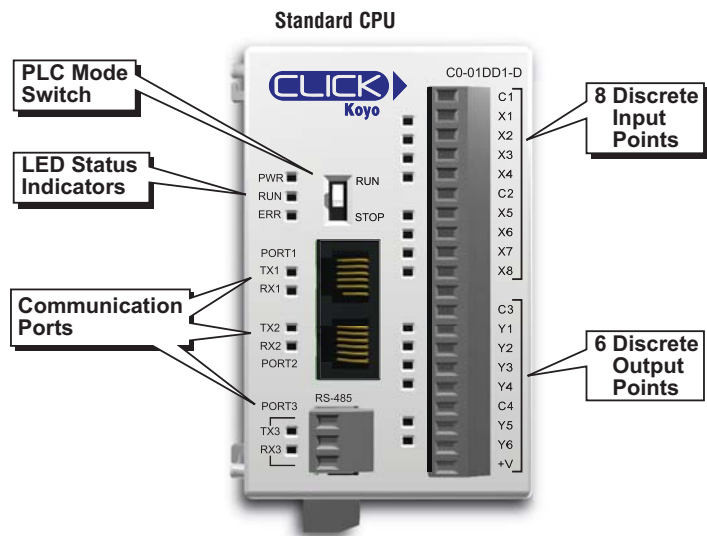
The tables list the part numbers showing the various I/O type combinations.

### Standard CPU Modules Only

Standard CPU modules also have an RS-485 port for Modbus and ASCII communications, and the battery backup feature which will retain the data in SRAM for 5 years (battery sold separately; part no. D2-BAT-1).



Basic CLICK CPUs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
<i>C0-00DD1-D</i>	8 DC (sink/source)	6 DC (sink)	24V DC (required for all CPUs)
<i>C0-00DD2-D</i>		6 DC (source)	
<i>C0-00DR-D</i>		6 Relay	
<i>C0-00AR-D</i>	8 AC		



Standard CLICK CPUs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
<i>C0-01DD1-D</i>	8 DC (sink/source)	6 DC (sink)	24V DC (required for all CPUs)
<i>C0-01DD2-D</i>		6 DC (source)	
<i>C0-01DR-D</i>		6 Relay	
<i>C0-01AR-D</i>	8 AC		



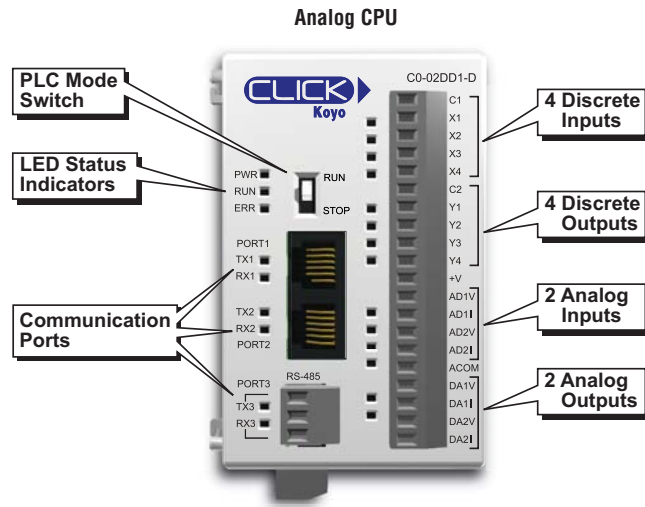
# Choosing the I/O Type

## Analog CPU Modules

The Analog CLICK CPU modules 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 5 years (battery sold separately; part no. D2-BAT-1).

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



Analog CLICK CPUs					
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	2 channel; voltage (0-5 VDC) / current (4-20 mA); selectable separately per channel	24 VDC (required for all CPUs)
<b>CO-02DD2-D</b>		4 DC (source)			
<b>CO-02DR-D</b>		4 relay			

## Discrete I/O Modules

A variety of I/O modules are available for the CLICK PLC system. Up to 8 I/O modules can be connected to a CLICK CPU module 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.

## Input Modules

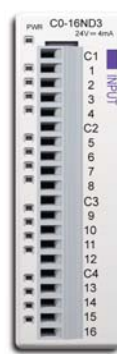
Discrete Input I/O Modules					
Part Number	I/O Type	I/O Number	I/O Commons	Sink or Source	Voltage Ratings
<b>CO-08ND3</b>	DC	8	2	Sink or Source	12-24 VDC
<b>CO-08ND3-1</b>	DC	8	2	Sink or Source	3.3-5 VDC
<b>CO-16ND3</b>	DC	16	4	Sink or Source	24 VDC
<b>CO-08NE3</b>	AC/DC	8	2	Sink or Source	24 VAC/VDC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



CO-08ND3



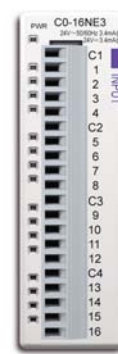
CO-08ND3-1



CO-16ND3



CO-08NE3



CO-16NE3



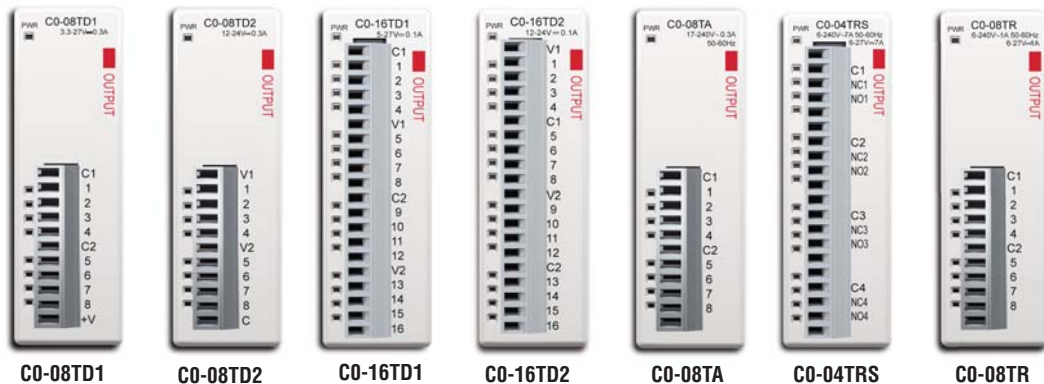
CO-08NA

# Choosing the I/O Type / Specifications

## Discrete I/O Modules (continued)

## Output Modules

Discrete Output I/O Modules					
Part Number	I/O Type	I/O Number	I/O 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, 7 A 6-240 VAC, 7 A
<b>CO-08TR</b>	Relay	8	2	N/A	6-27 VDC, 1 A 6-240 VAC, 1 A



## General Specifications For All CLICK PLC Products

These general specifications apply to all CLICK CPUs, optional I/O modules, and optional power supply products. Please refer to the appropriate I/O temperature derating charts under both the CPU 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>	5 W (No 5 V use from communication port)
<b>Maximum Inrush Current</b>	30 A (less than 1ms)
<b>Acceptable External Power Drop</b>	Max 10 ms
<b>Operating Temperature</b>	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

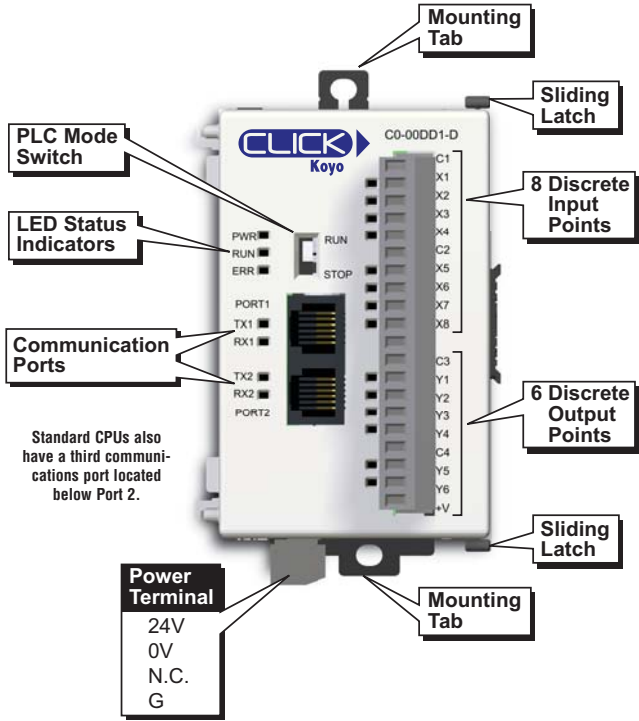
## CPU Module Specifications

CPU Module Specifications			
	Basic CPU	Standard CPU	Analog CPU
<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>	< 0.6us	< 0.6us	< 0.6us
<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>FLASH Memory</b>	Standard on CPU	Standard on CPU	Standard on CPU
<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 C0-03TB	ADC p/n C0-03TB
<b>24 VDC Power Terminal Block Replacement</b>	ADC p/n C0-4TB	ADC p/n C0-4TB	ADC p/n C0-4TB

# CLICK Specifications

## CPU Features

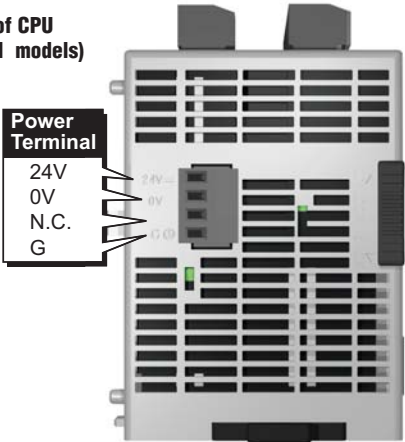
**Basic and Standard CPUs**



**Analog CPUs**

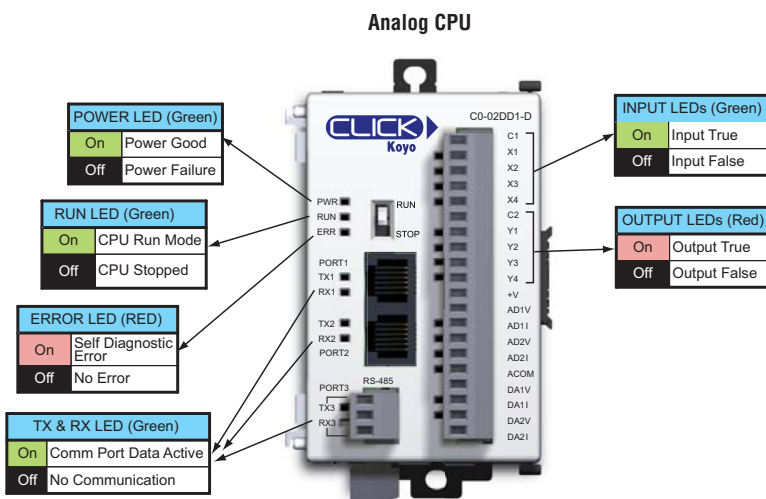
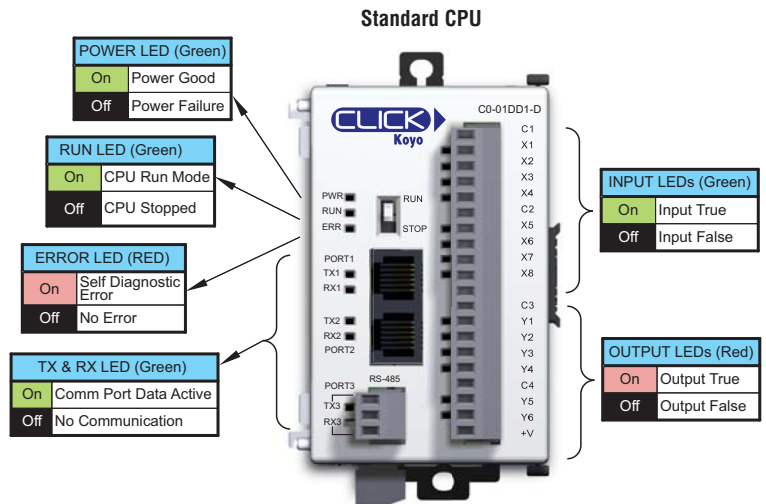
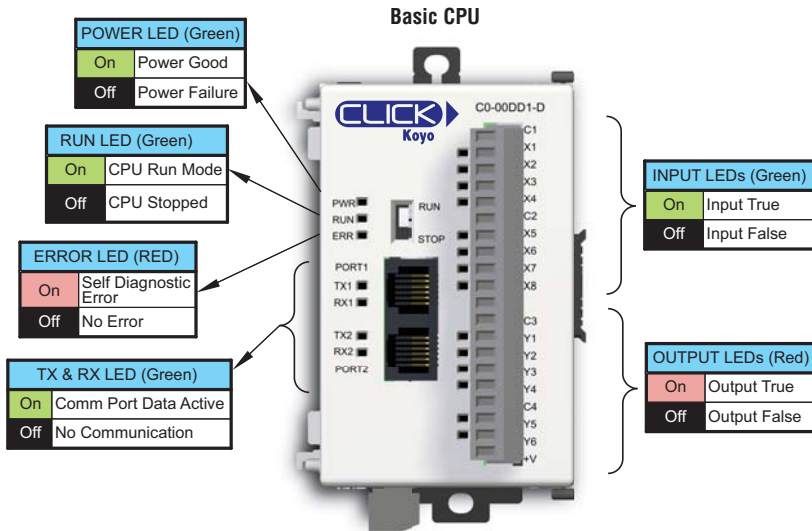


**Bottom of CPU**  
(Same on all models)



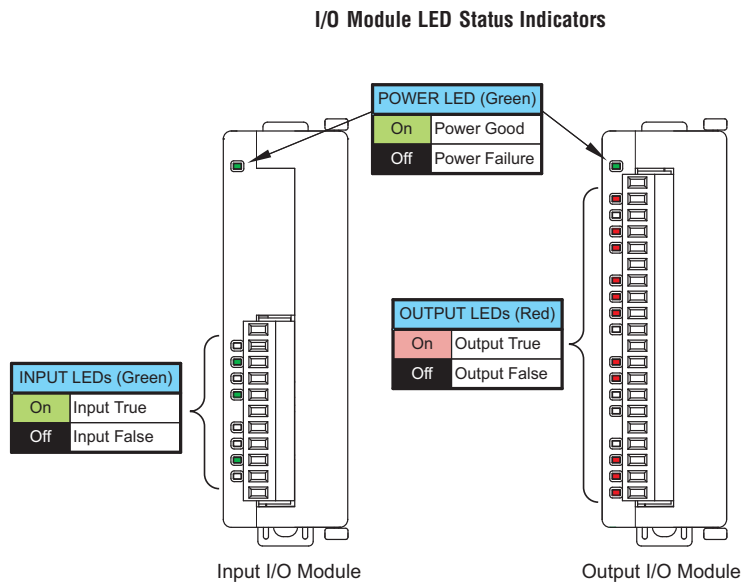
# CLICK Specifications

## CPU LED Status Indicators



# CLICK Specifications

## I/O Module LED Status Indicators

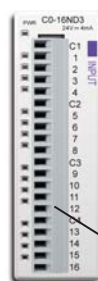


## I/O Terminal Block Specifications for CPUs and I/O Modules



11-Pin Terminal Block,  
CO-8TB

11-pin Terminal Block Specifications	
<b>Connector Type</b>	Pluggable Terminal Block
<b>Number of Pins</b>	11 pt
<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>	2.0 to 2.2 lb-inch
<b>ADC Part Number</b>	CO-8TB



20-Pin Terminal Block,  
CO-16TB

20-pin Terminal Block Specifications	
<b>Connector Type</b>	Pluggable Terminal Block
<b>Number of Pins</b>	20 pt
<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>	2.0 to 2.2 lb-inch
<b>ADC Part Number</b>	CO-16TB

## Cut your PLC wiring time down to minutes instead of hours

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 CLICK 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.

ZIPLinks are available in a variety of styles to suit your needs, including feedthrough connector module. ZIPLinks are available for all Basic and Standard CLICK CPU modules and all discrete input and output modules.

## Specify your ZIPLink system

Use the Compatibility Matrix table below:



**NOTE: ZIPLINKS ARE ONLY AVAILABLE FOR BASIC AND STANDARD CPU MODULES; THEY ARE NOT AVAILABLE FOR ANALOG CPU MODULES.**



<b>Step 1</b>	Locate the CLICK CPU module or I/O module part number.
<b>Step 2</b>	Locate compatible connector module type.
<b>Step 3</b>	Select the cable length by replacing the # symbol with: Blank = 0.5m, -1 = 1.0m, -2 = 2.0m

ZIPLink Wiring System Compatibility Matrix for CLICK PLCs						
Step 2: Connector Module Type		Feedthrough Module	Fuse Module	Relay Modules	Sensor Input Module	
Step 1: I/O unit	Number of Terminals	ZL-RTB20	ZL-RFU20	ZL-RRL16-24	ZL-LTB16-24	
Step 3: Cables						
CPU Module	CO-00DD1-D	20	ZL-CO-CBL20#			
	CO-00DD2-D	20	ZL-CO-CBL20#			
	CO-00DR-D	20	ZL-CO-CBL20#			
	CO-00AR-D	20	ZL-CO-CBL20#			
	CO-01DD1-D	20	ZL-CO-CBL20#			
	CO-01DD2-D	20	ZL-CO-CBL20#			
	CO-01DR-D	20	ZL-CO-CBL20#			
	CO-01AR-D	20	ZL-CO-CBL20#			
I/O Module	<b>Inputs</b>					
	CO-08ND3	11	ZL-CO-CBL11#			
	CO-08ND3-1	11	ZL-CO-CBL11#			
	CO-08NE3	11	ZL-CO-CBL11#			
	CO-08NA	11	ZL-CO-CBL11#			
	CO-16ND3	20	ZL-CO-CBL20#			ZL-CO-CBL20#
	CO-16NE3	20	ZL-CO-CBL20#			ZL-CO-CBL20#
	<b>Outputs</b>					
	CO-08TD1	11	ZL-CO-CBL11#			
	CO-08TD2	11	ZL-CO-CBL11#			
	CO-08TR	11	ZL-CO-CBL11#			
	CO-08TA	11	ZL-CO-CBL11#			
	CO-16TD1	20	ZL-CO-CBL20#	ZL-CO-CBL20#	ZL-CO-CBL20#	
	CO-16TD2	20	ZL-CO-CBL20#	ZL-CO-CBL20#		
CO-04TRS*	20	ZL-CO-CBL20#				

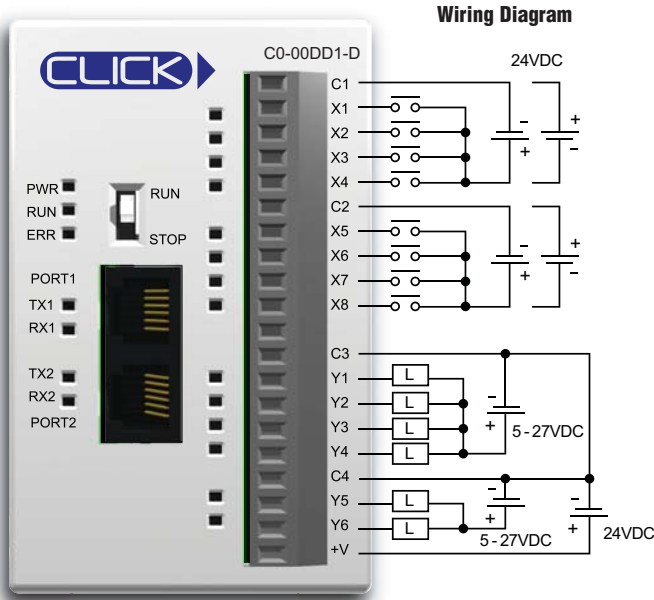
\*Note: The CO-04TRS relay output is derated not to exceed 2 Amps per point max. when used with the ZIPLink wiring system

ZIPLink Connector Modules and Cable specifications bfound in Terminal Blocks and Wiring section

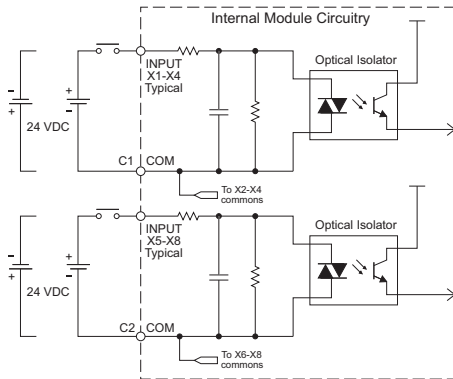
# Basic CPU Module Specifications

C0-00DD1-D <--->

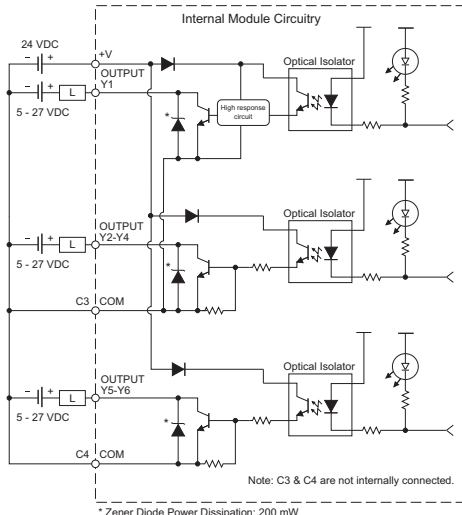
8 DC Input/6 Sinking DC Output Micro PLC



Equivalent Input Circuit



Equivalent Output Circuit



Note: C3 & C4 are not internally connected.

\* Zener Diode Power Dissipation: 200 mW

## C0-00DD1-D Built-in I/O Specifications - Inputs

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

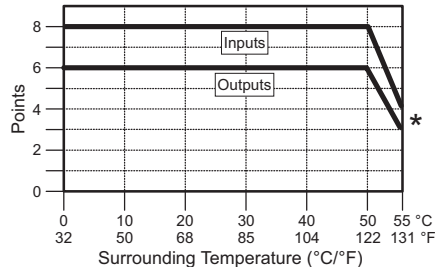
## C0-00DD1-D Built-in I/O Specifications - Outputs

<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>	150 mA for 10 ms
<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 @ 60 mA (All Points On)

## General Specifications

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

C0-00DD1-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)

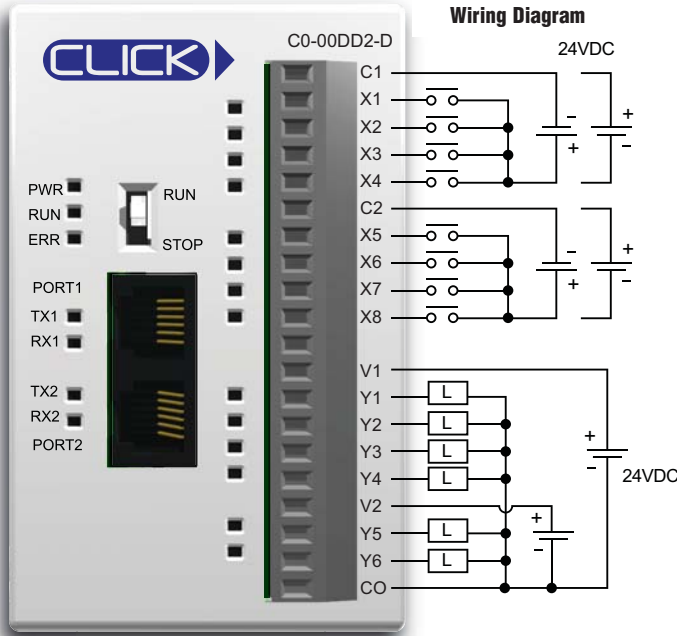


# Basic CPU Module Specifications

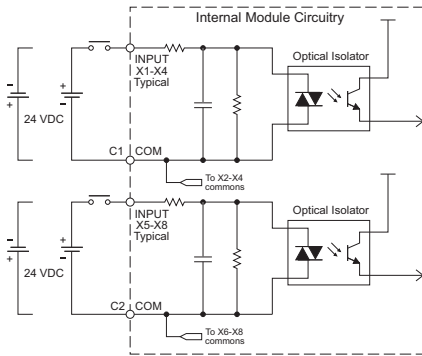
## CO-00DD2-D



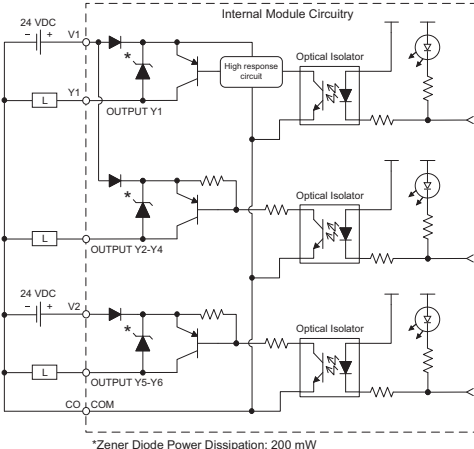
### 8 DC Input/6 Sourcing DC Output Micro PLC



**Equivalent Input Circuit**



**Equivalent Output Circuit**



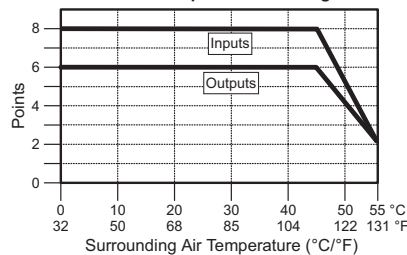
\*Zener Diode Power Dissipation: 200 mW

CO-00DD2-D Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24 VDC
<b>Input Voltage Range</b>	21.6 - 26.4 VDC
<b>Input Current</b>	X1-2: Typ 5 mA @ 24 VDC X3-8: Typ 4 mA @ 24 VDC
<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 @ 24 VDC X3-8: 6.8 kΩ @ 24 VDC
<b>ON Voltage Level</b>	X1-2: > 19 VDC X3-8: > 19 VDC
<b>OFF Voltage Level</b>	X1-2: < 4 VDC X3-8: < 7 VDC
<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 5 μs Max 20 μs X3-8: Typ 2 ms Max 10 ms
<b>ON to OFF Response</b>	X1-2: Typ 5 μs Max 20 μs X3-8: Typ 3 ms Max 10 ms
<b>Status Indicators</b>	Logic Side (8 points, green LED)
<b>Commons</b>	1 (6 points/common)

CO-00DD2-D Built-in I/O Specifications - Outputs	
<b>Outputs per Module</b>	6 (Source)
<b>Operating Voltage Range</b>	24 VDC
<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 @ 30 VDC
<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>	150 mA for 10 ms
<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>	1 (6 points/common)

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

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



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



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



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

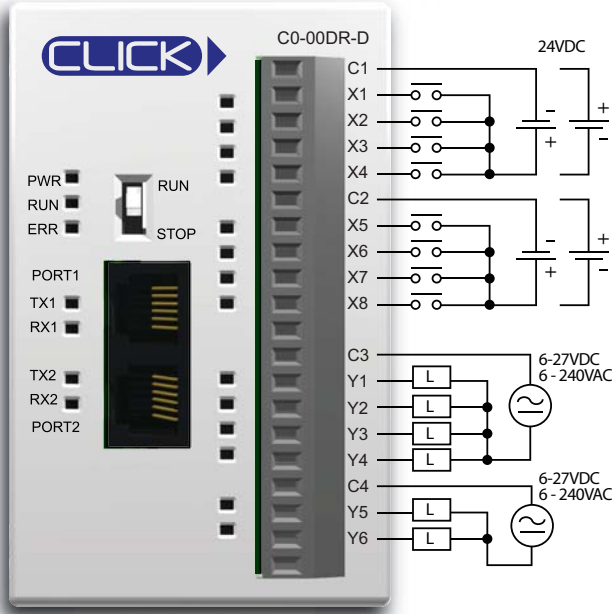
# Basic CPU Module Specifications

CO-00DR-D

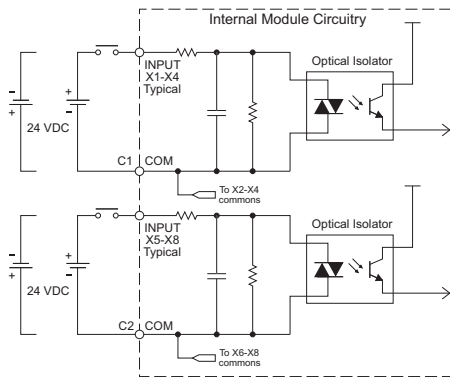


8 DC Input/6 Relay Output Micro PLC

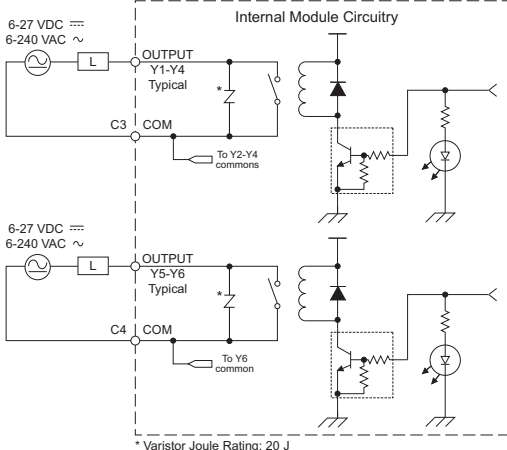
Wiring Diagram



Equivalent input circuit



Equivalent Output Circuit

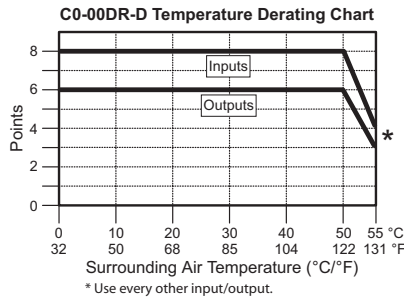


\* Varistor Joule Rating: 20 J

CO-00DR-D Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24 VDC
<b>Input Voltage Range</b>	21.6-26.4VDC
<b>Input Current</b>	X1-2: Typ 5 mA @ 24 VDC X3-8: Typ 4 mA @ 24 VDC
<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 @ 24 VDC X3-8: 6.8 kΩ @ 24 VDC
<b>ON Voltage Level</b>	X1-2: > 19 VDC X3-8: > 19 VDC
<b>OFF Voltage Level</b>	X1-2: < 4 VDC X3-8: < 7 VDC
<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 5 μs Max 20 μs X3-8: Typ 2 ms Max 10 ms
<b>ON to OFF Response</b>	X1-2: Typ 5 μs Max 20 μs X3-8: Typ 3 ms Max 10 ms
<b>Status Indicators</b>	Logic Side (8 points, green LED)
<b>Commons</b>	2 (4 points/common) Isolated

CO-00DR-D 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>	5 mA @ 5 VDC
<b>Maximum Inrush Current</b>	3 A for 10 ms
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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>	120 mA
<b>Terminal Block Replacement Part No.</b>	CO-16TB
<b>Weight</b>	5.6 oz (160 g)



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

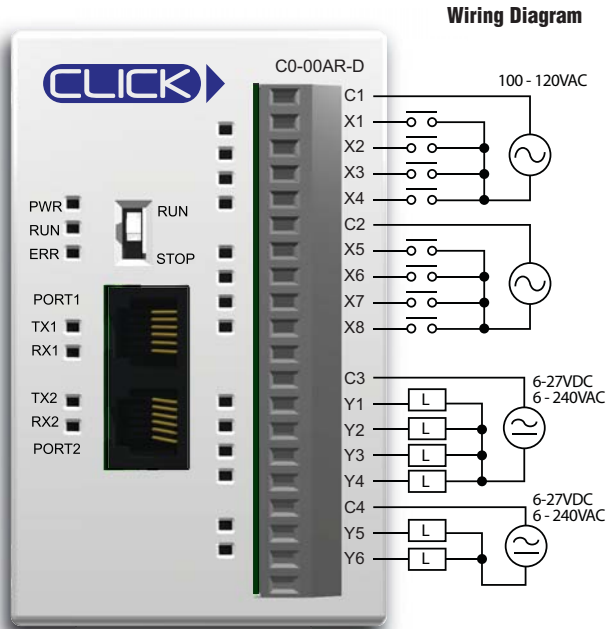
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)

# Basic CPU Module Specifications

## CO-00AR-D



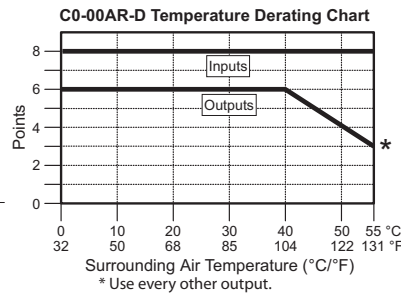
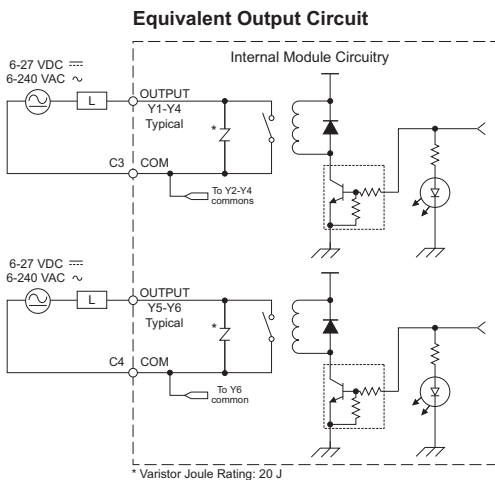
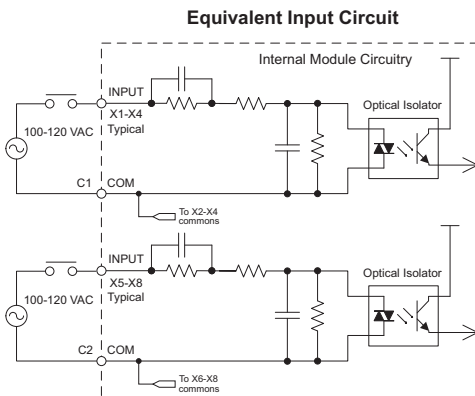
### 8 AC Input/6 Relay Output Micro PLC



CO-00AR-D 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 @ 100 VAC at 50 Hz 10 mA @ 100 VAC at 60 Hz
<b>Maximum Input Current</b>	16 mA @ 144 VAC at 55°C or 131°F
<b>Input Impedance</b>	15 kΩ @ 50 Hz 12 kΩ @ 60 Hz
<b>ON Voltage Level</b>	> 60 VAC
<b>OFF Voltage Level</b>	< 20 VAC
<b>Minimum ON Current</b>	5 mA
<b>Maximum OFF Current</b>	2 mA
<b>OFF to ON Response</b>	< 40 ms
<b>ON to OFF Response</b>	< 40 ms
<b>Status Indicators</b>	Logic Side (8 points, green LED)
<b>Commons</b>	2 (4 points/common) Isolated

CO-00AR-D 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>	5 mA @ 5 VDC
<b>Maximum Inrush Current</b>	3 A for 10 ms
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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>	120 mA
<b>Terminal Block Replacement Part No.</b>	CO-16TB
<b>Weight</b>	5.6 oz (160 g)



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

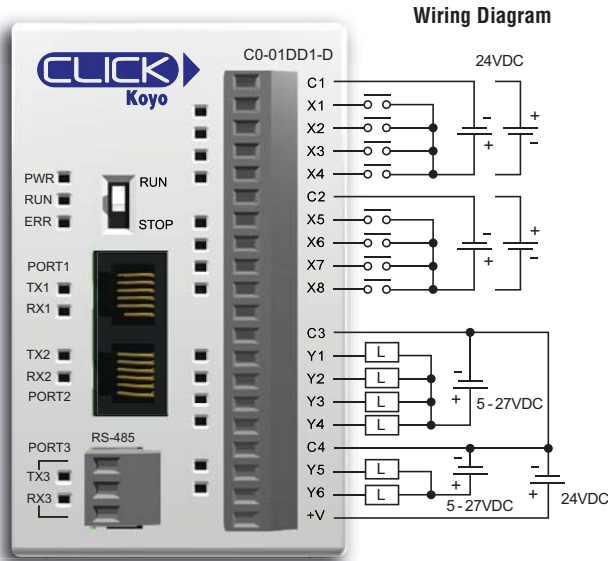


20-pin connector cable  
ZL-CO-CBL20 (0.5 m length)  
ZL-CO-CBL20-1 (1.0 m length)  
ZL-CO-CBL20-2 (2.0 m length)

# Standard CPU Module Specifications

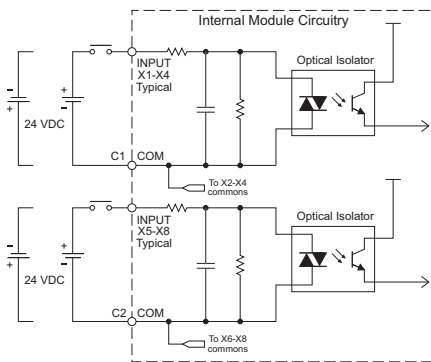
C0-01DD1-D <--->

8 DC Input/6 Sinking DC Output Micro PLC

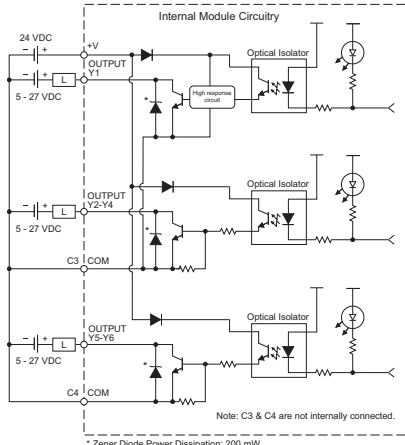


**NOTE:** When using Standard CPUs, you must use CLICK programming software version V1.20 or later.

### Equivalent Input Circuit



### Equivalent Output Circuit



\* Zener Diode Power Dissipation: 200 mW

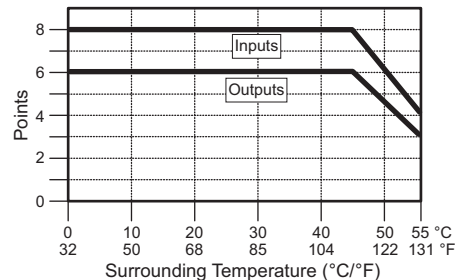
C0-01DD1-D Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24 VDC
<b>Input Voltage Range</b>	21.6 - 26.4 VDC
<b>Input Current</b>	X1-2: Typ 5 mA @ 24 VDC X3-8: Typ 4 mA @ 24 VDC
<b>Maximum Input Current</b>	X1-2: 6.0 mA @ 26.4 VDC X3-8: 5.0 mA @ 26.4 VDC
<b>Input Impedance</b>	X1-2: 4.7 kΩ @ 24 VDC X3-8: 6.8 kΩ @ 24 VDC
<b>ON Voltage Level</b>	X1-2: > 19 VDC X3-8: > 19 VDC
<b>OFF Voltage Level</b>	X1-2: < 4 VDC X3-8: < 7 VDC
<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 5 μs Max 20 μs X3-8: Typ 2 ms Max 10 ms
<b>ON to OFF Response</b>	X1-2: Typ 5 μs Max 20 μs X3-8: Typ 3 ms Max 10 ms
<b>Status Indicators</b>	Logic Side (8 points, green LED)
<b>Commons</b>	2 (4 points/common) Isolated

C0-01DD1-D 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>	150 mA for 10 ms
<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)
<b>External DC Power Required</b>	20-28 VDC Maximum @ 60 mA (All Points On)

### General Specifications

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

### C0-01DD1-D Temperature Derating Chart



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

ZL-RTB20 20-pin feed-through connector module



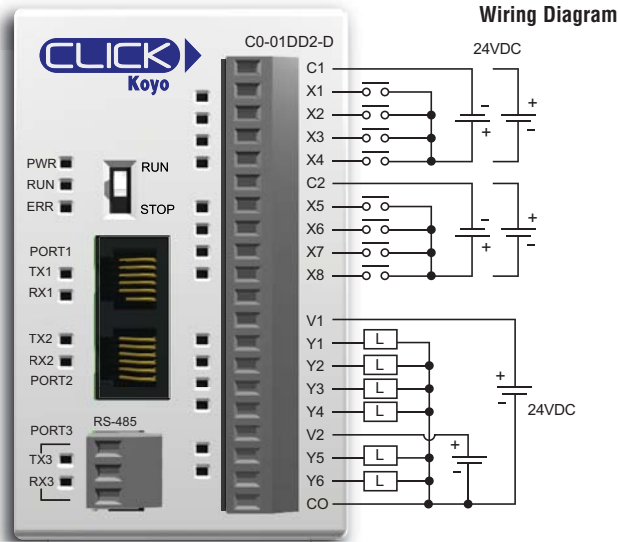
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



# Standard CPU Module Specifications

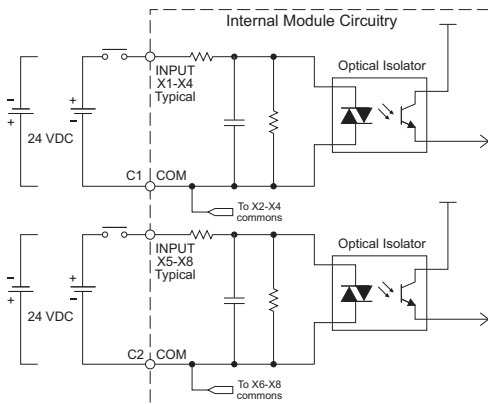
## C0-01DD2-D <--->

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

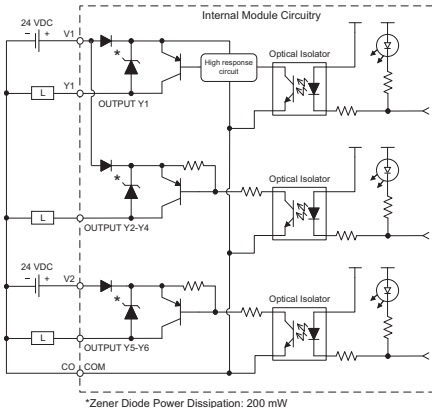


**NOTE:** When using Standard CPUs, you must use CLICK programming software version V1.20 or later.

#### Equivalent Input Circuit



#### Equivalent Output Circuit



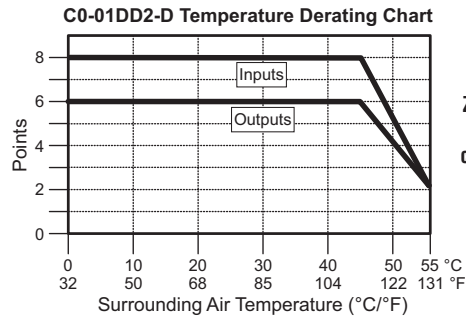
\*Zener Diode Power Dissipation: 200 mW

C0-01DD2-D Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24 VDC
<b>Input Voltage Range</b>	21.6 - 26.4 VDC
<b>Input Current</b>	X1-2: Typ 5 mA @ 24 VDC X3-8: Typ 4 mA @ 24 VDC
<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 @ 24 VDC X3-8: 6.8 kΩ @ 24 VDC
<b>ON Voltage Level</b>	X1-2: > 19 VDC X3-8: > 19 VDC
<b>OFF Voltage Level</b>	X1-2: < 4 VDC X3-8: < 7 VDC
<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 5 μs Max 20 μs X3-8: Typ 2 ms Max 10 ms
<b>ON to OFF Response</b>	X1-2: Typ 5 μs Max 20 μs X3-8: Typ 3 ms Max 10 ms
<b>Status Indicators</b>	Logic Side (8 points, green LED)
<b>Commons</b>	2 (4 points/common) Isolated

C0-01DD2-D Built-in I/O Specifications - Outputs	
<b>Outputs per Module</b>	6 (Source)
<b>Operating Voltage Range</b>	24 VDC
<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 @ 30 VDC
<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>	150 mA for 10 ms
<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>	1 (6 points/common)

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

#### ZipLink 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)

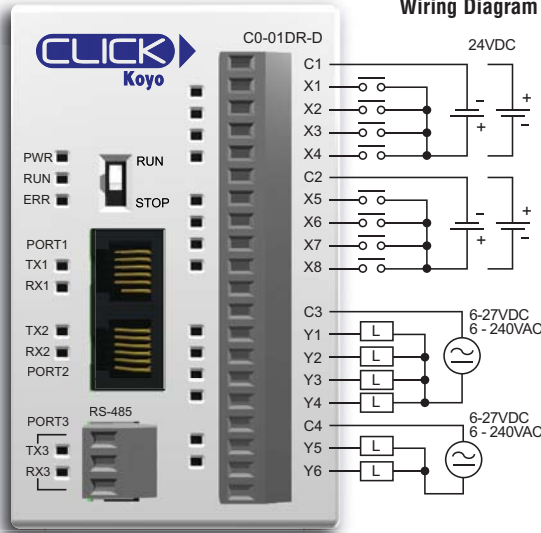


# Standard CPU Module Specifications

C0-01DR-D

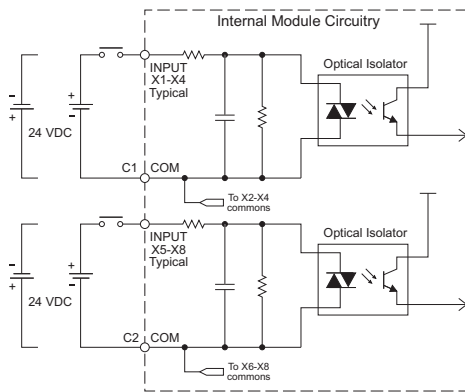


8 DC Input/6 Relay Output Micro PLC

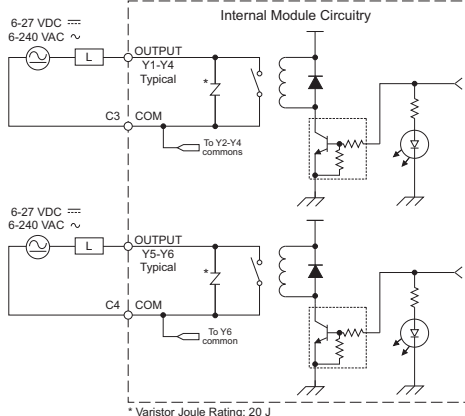


**NOTE:** When using Standard GPUs, you must use CLICK programming software version V1.20 or later.

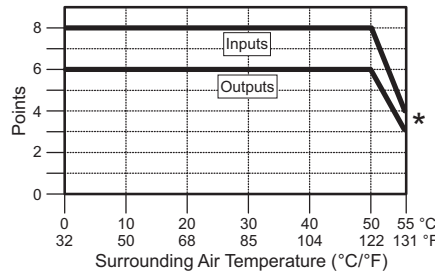
### Equivalent Input Circuit



### Equivalent Output Circuit



C0-01DR-D Temperature Derating Chart



\* Use every other input/output.

### C0-01DR-D Built-in I/O Specifications - Inputs

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

### C0-01DR-D 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>	5 mA @ 5 VDC
<b>Maximum Inrush Current</b>	3 A for 10 ms
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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>	140 mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.6 oz (160 g)

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

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



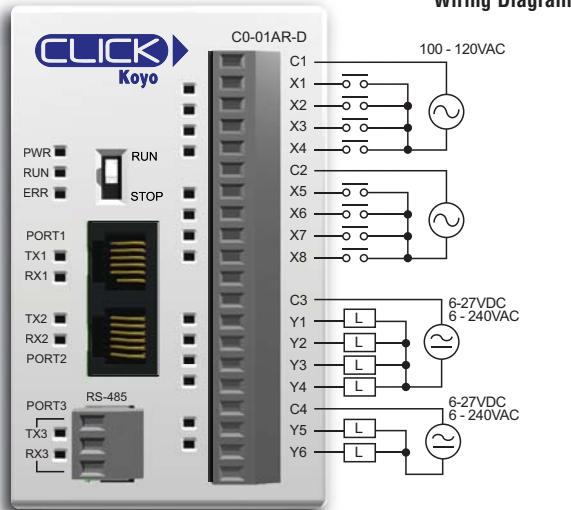
20-pin connector cable  
ZL-C0-CBL20 (0.5 m length)  
ZL-C0-CBL20-1 (1.0 m length)  
ZL-C0-CBL20-2 (2.0 m length)



# Standard CPU Module Specifications

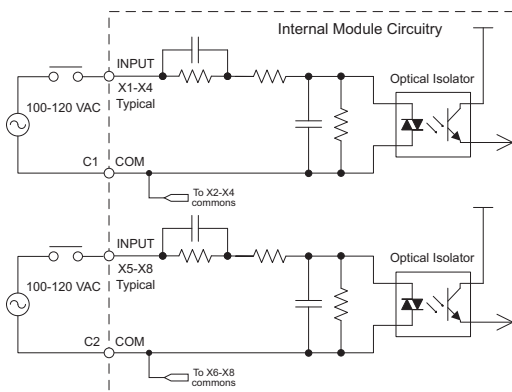
C0-01AR-D <--->

8 AC Input/6 Relay Output Micro PLC

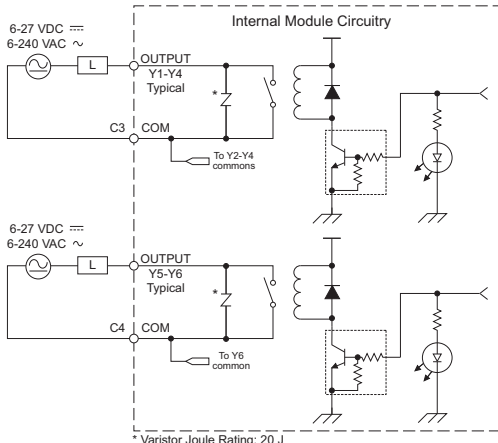


**NOTE:** When using Standard CPUs, you must use CLICK programming software version V1.20 or later.

## Equivalent Input Circuit



## Equivalent Output Circuit



\* Varistor Joule Rating: 20 J

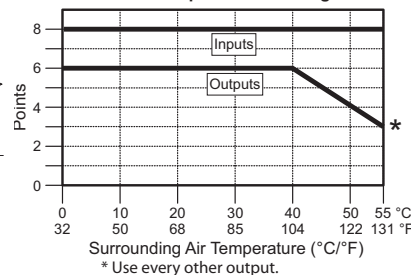
C0-01AR-D Built-in I/O Specifications - Inputs	
<b>Inputs per Module</b>	8
<b>Operating Voltage Range</b>	100-120 VAC
<b>Input Voltage Range</b>	80-144 VAC
<b>AC Frequency</b>	47-63 Hz
<b>Input Current</b>	8.5 mA @ 100 VAC at 50 Hz 10 mA @ 100 VAC at 60 Hz
<b>Maximum Input Current</b>	16 mA @ 144 VAC
<b>Input Impedance</b>	15 kΩ @ 50 Hz 12 kΩ @ 60 Hz
<b>ON Voltage Level</b>	> 60 VAC
<b>OFF Voltage Level</b>	< 20 VAC
<b>Minimum ON Current</b>	5 mA
<b>Maximum OFF Current</b>	2 mA
<b>OFF to ON Response</b>	< 40 ms
<b>ON to OFF Response</b>	< 40 ms
<b>Status Indicators</b>	Logic Side (8 points, green LED)
<b>Commons</b>	2 (4 points/common) Isolated

C0-01AR-D 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>	5 mA @ 5 VDC
<b>Maximum Inrush Current</b>	3 A for 10 ms
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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>	140 mA
<b>Terminal Block Replacement Part No.</b>	C0-16TB
<b>Weight</b>	5.6 oz (160 g)

C0-01AR-D Temperature Derating Chart



\* Use every other output.

## Typical Relay Life (Operations) at Room Temperature

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

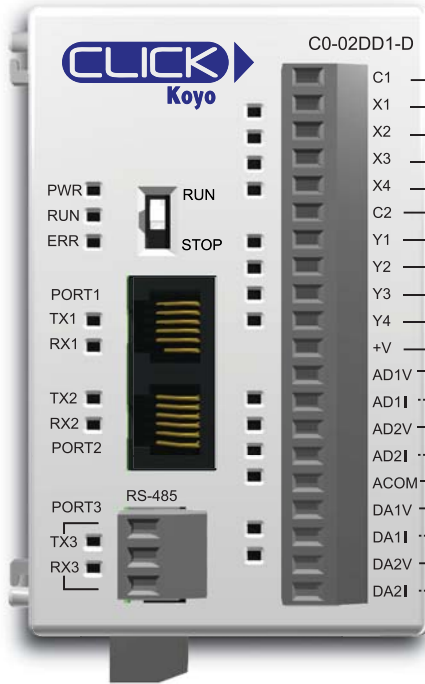


# Analog CPU Module Specifications

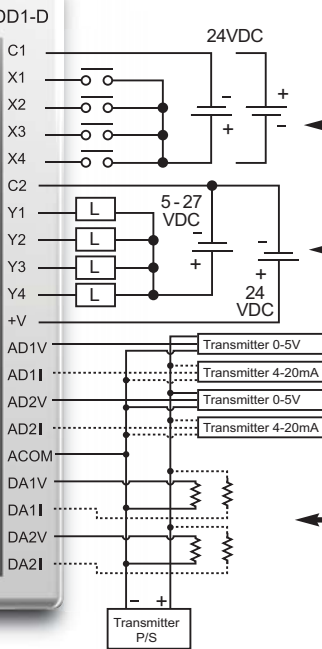
C0-02DD1-D



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 Specifications - Voltage & Current Input (AD1V through AD2I)

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

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



**NOTE: WHEN USING ANALOG CPUs, YOU MUST USE CLICK PROGRAMMING SOFTWARE VERSION V1.12 OR LATER.**



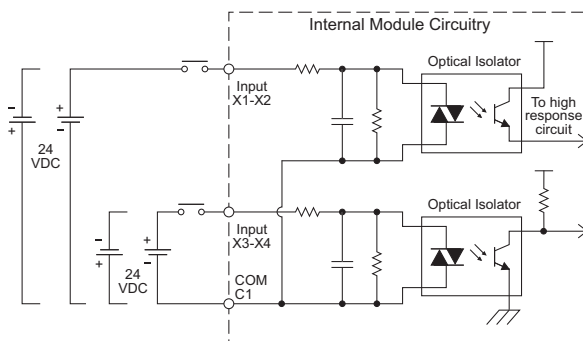
**IMPORTANT: YOU CAN USE ONLY ONE TERMINAL (VOLTAGE OR CURRENT) PER CHANNEL. YOU MUST ALSO SELECT THE ANALOG TYPE (VOLTAGE OR CURRENT) IN THE CPU BUILT-IN I/O SETUP IN THE CLICK PROGRAMMING SOFTWARE (PULL-DOWN MENU SETUP > CPU BUILT-IN I/O SETUP).**

## X1 - X4

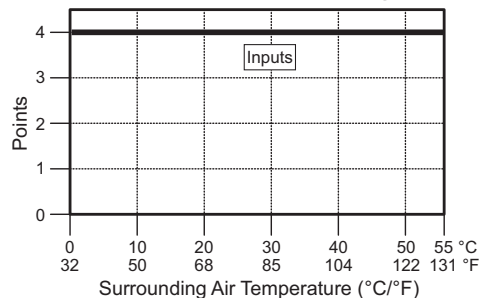
C0-02DD1-D Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24 VDC
Input Voltage Range	21.6 - 26.4 VDC
Input Current	X1-2: Typ 5 mA @ 24 VDC X3-4: Typ 4 mA @ 24 VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24 VDC X3-4: 6.8 kΩ @ 24 VDC
ON Voltage Level	X1-2: > 19 VDC X3-4: > 19 VDC
OFF Voltage Level	X1-2: < 4 VDC X3-4: < 7 VDC
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 5 μs Max 20 μs* X3-4: Typ 2 ms Max 10 ms
ON to OFF Response	X1-2: Typ 5 μs Max 20 μs* X3-4: Typ 3 ms Max 10 ms
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



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



# Analog CPU Module Specifications

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

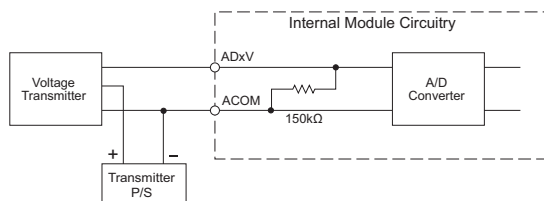
### Y1 - Y4

CO-02DD1-D 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>	150 mA for 10 ms
<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)
<b>External DC Power Required</b>	20-28 VDC Maximum @ 60 mA (all points on)

### AD1V - AD2I

CO-02DD1-D Analog Specifications - Voltage Input	
<b>Number of Channels</b>	2 (voltage/current selectable)
<b>Input Range</b>	0 - 5 VDC
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	150 k $\Omega$
<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

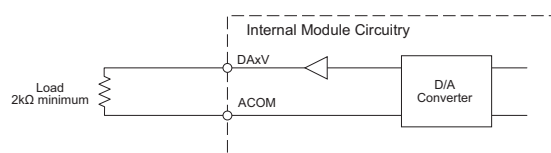
#### Analog Voltage Input



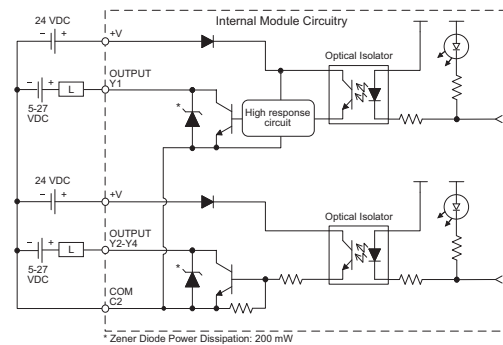
### DA1V - DA2I

CO-02DD1-D 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>	1 ms
<b>Load Impedance</b>	2 k $\Omega$ 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

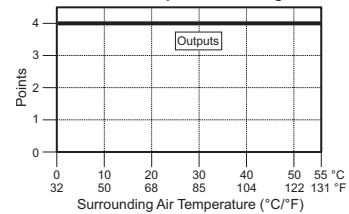
#### Analog Voltage Output Circuit



#### Equivalent Discrete Output Circuit

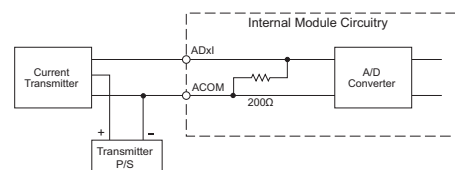


#### CO-02DD1-D Temperature Derating Chart



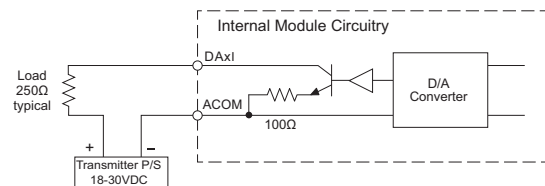
CO-02DD1-D Analog Specifications - Current Input	
<b>Inputs per Module</b>	2 (voltage/current selectable)
<b>Input Range</b>	4 - 20 mA
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	200 $\Omega$
<b>Input Stability</b>	$\pm 2$ LSB
<b>Full-Scale Calibration Error</b>	$\pm 1\%$ 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



CO-02DD1-D Analog Specifications - Current Output	
<b>Outputs per Module</b>	2 (voltage/current selectable)
<b>Output Range</b>	4 - 20 mA
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	1 ms
<b>Loop Supply Voltage</b>	DC 18 - 30 V
<b>Load Impedance</b>	250 ohms 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

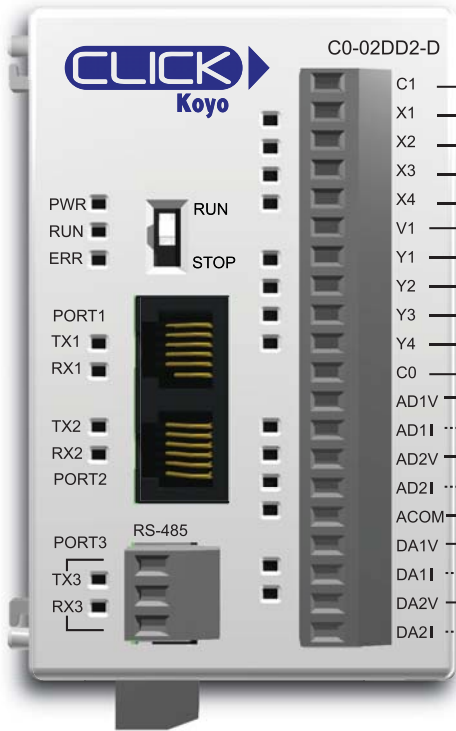


# Analog CPU Module Specifications

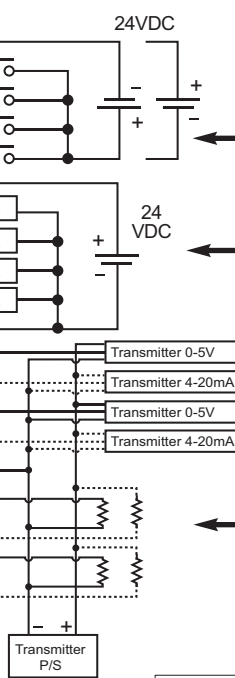
C0-02DD2-D



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



Wiring Diagram



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

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

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

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

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



**NOTE:** WHEN USING ANALOG CPUs, YOU MUST USE CLICK PROGRAMMING SOFTWARE VERSION V1.12 OR LATER.



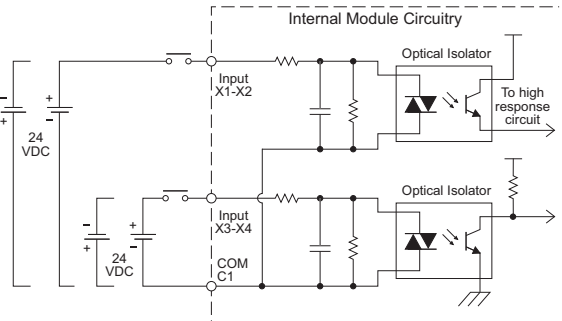
**IMPORTANT:** YOU CAN USE ONLY ONE TERMINAL (VOLTAGE OR CURRENT) PER CHANNEL. YOU MUST ALSO SELECT THE ANALOG TYPE (VOLTAGE OR CURRENT) IN THE CPU BUILT-IN I/O SETUP IN THE CLICK PROGRAMMING SOFTWARE (PULL-DOWN MENU SETUP > CPU BUILT-IN I/O SETUP).

X1 - X4

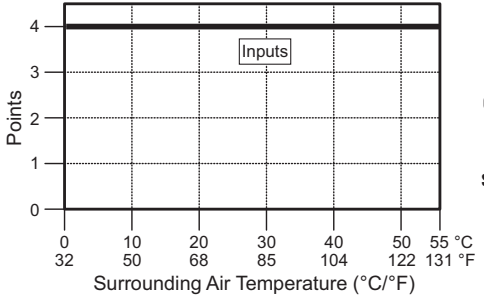
C0-02DD2-D Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Sink/Source)
Operating Voltage Range	24 VDC
Input Voltage Range	21.6 - 26.4 VDC
Input Current	X1-2: Typ 5 mA @ 24 VDC X3-4: Typ 4 mA @ 24 VDC
Maximum Input Current	X1-2: 6.0 mA @ 26.4 VDC X3-4: 5.0 mA @ 26.4 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24 VDC X3-4: 6.8 kΩ @ 24 VDC
ON Voltage Level	X1-2: > 19 VDC X3-4: > 19 VDC
OFF Voltage Level	X1-2: < 4 VDC X3-4: < 7 VDC
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 5 μs Max 20 μs* X3-4: Typ 2 ms Max 10 ms
ON to OFF Response	X1-2: Typ 5 μs Max 20 μs* X3-4: Typ 3 ms Max 10 ms
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



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

# Analog CPU Module Specifications

## C0-02DD2-D (cont'd)

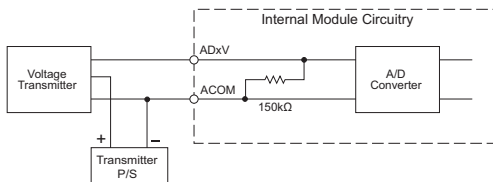
### Y1 - Y4

C0-02DD2-D Discrete I/O Specifications - Outputs	
<b>Outputs per Module</b>	4 (Source)
<b>Operating Voltage Range</b>	24 VDC
<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 : 0.1mA @ 30VDC; Y2-4 : 0.1mA @ 30VDC
<b>On Voltage Drop</b>	Y1: 1 VDC @ 0.1A; Y2-4 : 0.5VDC@ 0.1mA
<b>Maximum Inrush Current</b>	150 mA for 10 ms
<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

C0-02DD2-D Analog Specifications - Voltage Input	
<b>Number of Channels</b>	2 (voltage/current selectable)
<b>Input Range</b>	0 - 5 VDC
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	150 k $\Omega$
<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

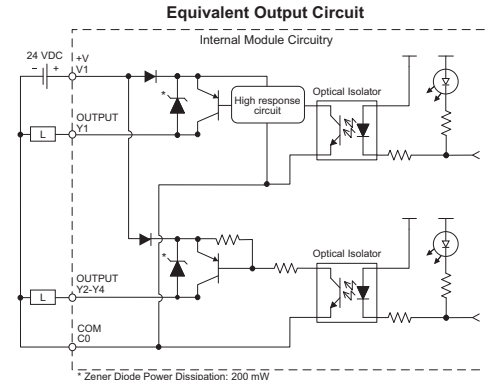
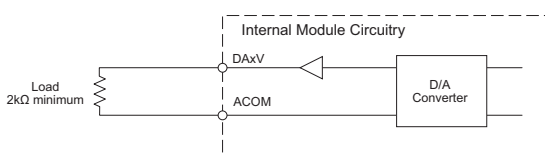
Analog Voltage Input Circuit



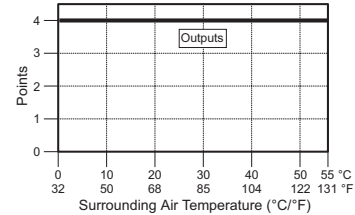
### DA1V - DA2I

C0-02DD2-D 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>	1 ms
<b>Load Impedance</b>	2 k $\Omega$ 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

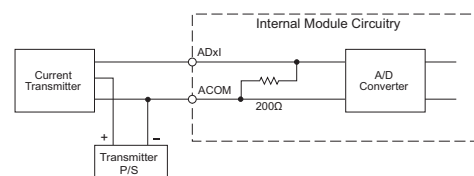


C0-02DD2-D Temperature Derating Chart



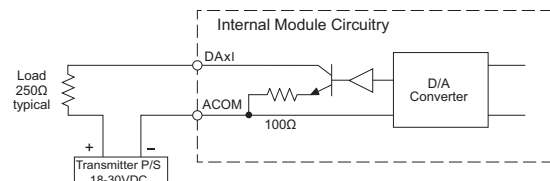
C0-02DD2-D Analog Specifications - Current Input	
<b>Inputs per Module</b>	2 (voltage/current selectable)
<b>Input Range</b>	4 - 20 mA
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	200 $\Omega$
<b>Input Stability</b>	$\pm 2$ LSB
<b>Full-Scale Calibration Error</b>	$\pm 1\%$ 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
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	1 ms
<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

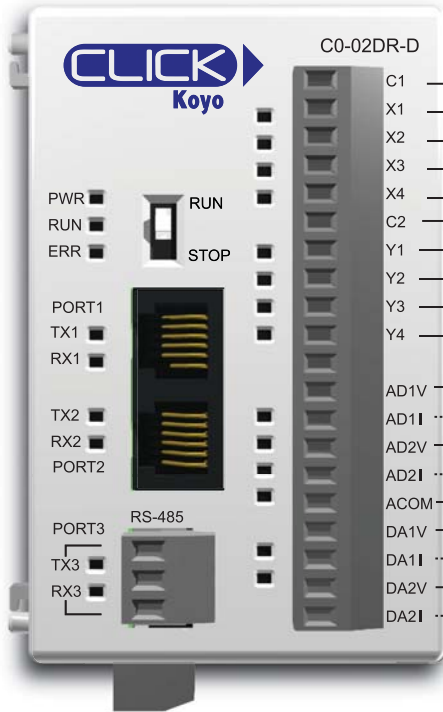


# Analog CPU Module Specifications

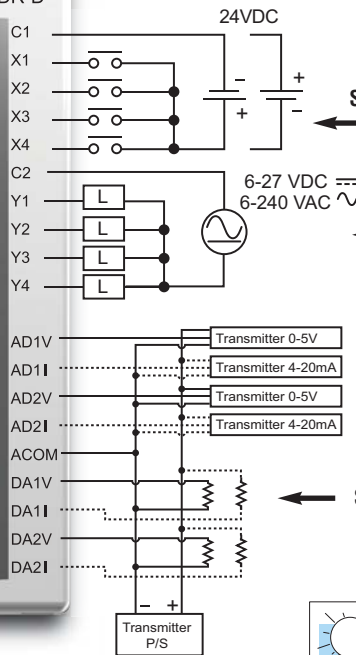
C0-02DR-D <--->

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

CLICK PLC CPU, 4 DC in / 4 relay out, 2-Ch Analog In / 2-Ch Analog out (current/voltage selectable), requires a 24 VDC power supply,



Wiring Diagram



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

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

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

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

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

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



**NOTE:** WHEN USING ANALOG CPUs, YOU MUST USE CLICK PROGRAMMING SOFTWARE VERSION V1.12 OR LATER.

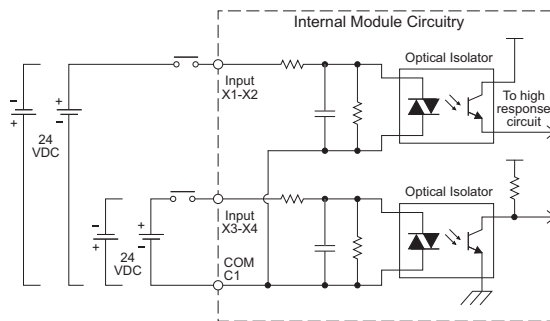
**IMPORTANT:** YOU CAN USE ONLY ONE TERMINAL (VOLTAGE OR CURRENT) PER CHANNEL. YOU MUST ALSO SELECT THE ANALOG TYPE (VOLTAGE OR CURRENT) IN THE CPU BUILT-IN I/O SETUP IN THE CLICK PROGRAMMING SOFTWARE (PULL-DOWN MENU SETUP > CPU BUILT-IN I/O SETUP).

### X1 - X4

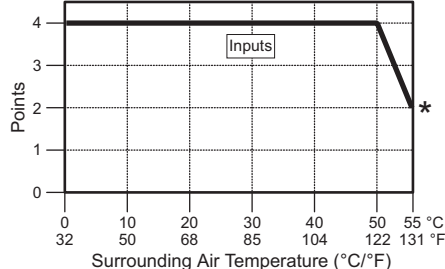
C0-02DR-D Discrete I/O Specifications - Inputs	
Inputs per Module	4 (Source/Sink)
Operating Voltage Range	24 VDC
Input Voltage Range	21.6 - 26.4 VDC
Input Current	X1-2: Typ 5 mA @ 24 VDC X3-4: Typ 4 mA @ 24 VDC
Input Impedance	X1-2: 4.7 kΩ @ 24 VDC X3-4: 6.8 kΩ @ 24 VDC
ON Voltage Level	X1-2: > 19 VDC X3-4: > 19 VDC
OFF Voltage Level	X1-2: < 4 VDC X3-4: < 7 VDC
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 5 μs Max 20 μs* X3-4: Typ 2 ms Max 10 ms
ON to OFF Response	X1-2: Typ 5 μs Max 20 μs* X3-4: Typ 3 ms Max 10 ms
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.

There are no ZipLink pre-wired PLC connection cables and modules for the analog CPUs. (Cannot mix discrete I/O and analog I/O signals in a ZIPLink cable.)

# Analog CPU Module Specifications

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

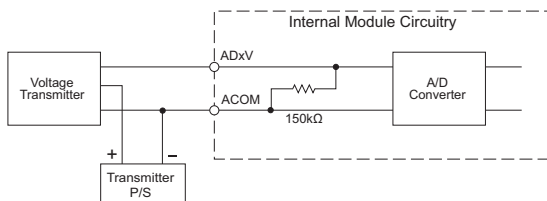
### Y1 - Y4

C0-02DR-D 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>	1 A/point (resistive)
<b>Minimum Load Current</b>	5 mA @ 5 VDC
<b>Maximum Inrush Current</b>	3 A for 10 ms
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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

C0-02DR-D Analog Specifications - Voltage Input	
<b>Number of Channels</b>	2 (voltage/current selectable)
<b>Input Range</b>	0 - 5 VDC
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	150 kΩ
<b>Input Stability</b>	±2 LSB maximum
<b>Full-Scale Calibration Error</b>	±1.2% maximum
<b>Offset Calibration Error</b>	±5 mV maximum
<b>Accuracy vs. Temperature Error</b>	±100 ppm / °C maximum

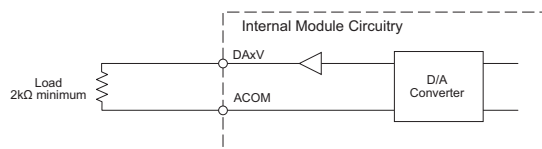
Analog Voltage Input Circuit



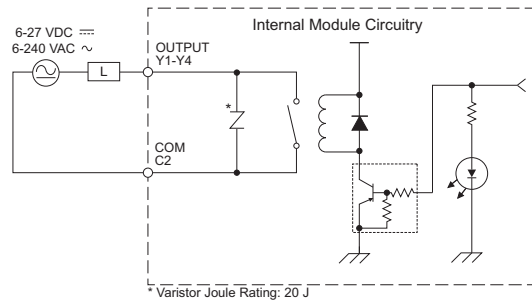
### DA1V - DA2I

C0-02DR-D 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>	1 ms
<b>Load Impedance</b>	2 kΩ minimum (output current 2.5 mA maximum)
<b>Full-Scale Calibration Error</b>	±0.8% maximum
<b>Offset Calibration Error</b>	±5 mV maximum
<b>Accuracy vs. Temperature Error</b>	±100 ppm / °C maximum

Analog Voltage Output Circuit

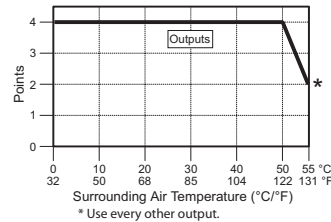


Equivalent Output Circuit



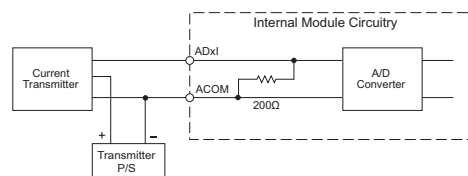
This circuit does not contain built-in protection. Install protection elements such as a fuse outside the module if necessary.

C0-02DR-D Temperature Derating Chart



C0-02DR-D Analog Specifications - Current Input	
<b>Inputs per Module</b>	2 (voltage/current selectable)
<b>Input Range</b>	4 - 20 mA
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	50 ms
<b>Input Impedance</b>	200 Ω
<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>	±100 ppm / °C maximum

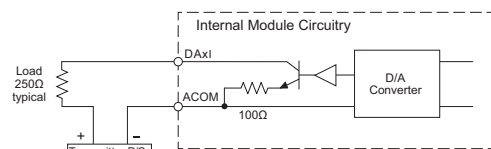
Analog Current Input Circuit



### C0-02DR-D Analog Specifications - Current Output

<b>Outputs per Module</b>	2 (voltage/current selectable)
<b>Output Range</b>	4 - 20 mA
<b>Resolution</b>	12 bit
<b>Conversion Time</b>	1 ms
<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>	±100 ppm / °C maximum

Analog Current Output Circuit



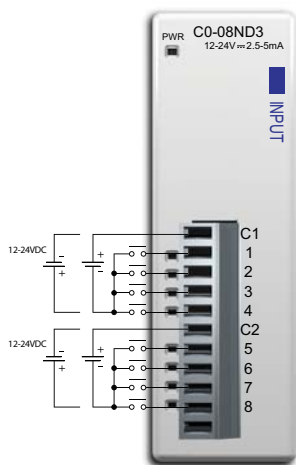
# CLICK I/O Module Specifications

## C0-08ND3 <--->

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

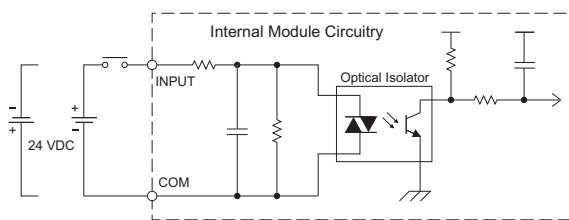
8-pt 12-24 VDC current sinking or sourcing input module, 2 commons, isolated, removable terminal block included (replacement ADC p/n C0-08TB).

#### Wiring Diagram

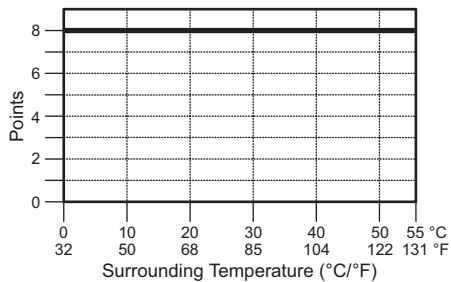


C0-08ND3 Input Specifications	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	12-24 VDC
<b>Input Voltage Range</b>	10.8-26.4 VDC
<b>Input Current</b>	Typ 5 mA @ 24 VDC
<b>Maximum Input Current</b>	7 mA @ 26.4 VDC
<b>Input Impedance</b>	4.7 kΩ @ 24 VDC
<b>ON Voltage Level</b>	> 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 (24 VDC)</b>	Max. 30 mA (All Inputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-8TB
<b>Weight</b>	2.8 oz (80 g)

#### 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)

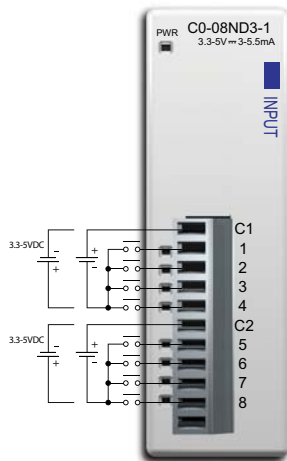
# CLICK I/O Module Specifications

## CO-08ND3-1 <--->

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

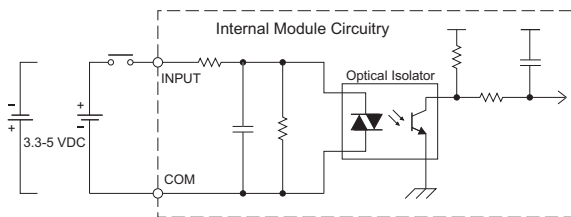
8-pt 3.3-5 VDC current sinking or sourcing input module, 2 commons, isolated, removable terminal block included (replacement ADC p/n CO-08TB).

#### Wiring Diagram

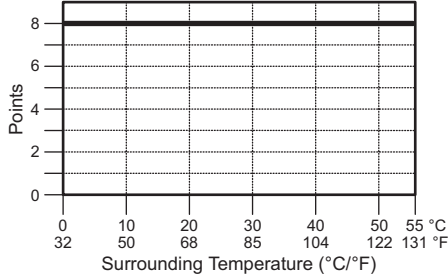


CO-08ND3-1 Input Specifications	
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	3.3-5 VDC
<b>Input Voltage Range</b>	2.8-5.5 VDC
<b>Input Current</b>	Typ 5 mA @ 5 VDC
<b>Maximum Input Current</b>	7.5 mA @ 5.5 VDC
<b>Input Impedance</b>	680Ω
<b>ON Voltage Level</b>	> 2.2 VDC
<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. 3 ms Typ. 1.6 ms
<b>ON to OFF Response</b>	Max. 4 ms 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 (24 VDC)</b>	Max. 30 mA (All Inputs On)
<b>Terminal Block Replacement</b>	ADC p/n CO-8TB
<b>Weight</b>	2.8 oz (80 g)

#### 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-CO-CBL11 (0.5 m length)  
 ZL-CO-CBL11-1 (1.0 m length)  
 ZL-CO-CBL11-2 (2.0 m length)

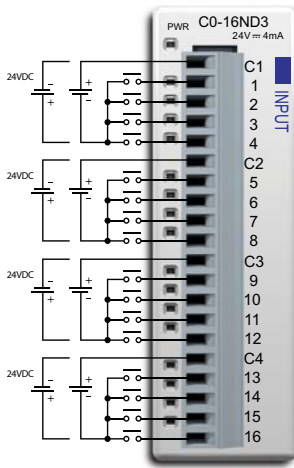
# CLICK I/O Module Specifications

## C0-16ND3 <--->

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

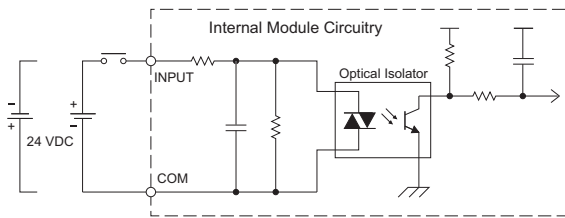
16-pt 24 VDC current sinking or sourcing input module, 4 commons, isolated, removable terminal block included (replacement ADC p/n C0-16TB).

#### Wiring Diagram

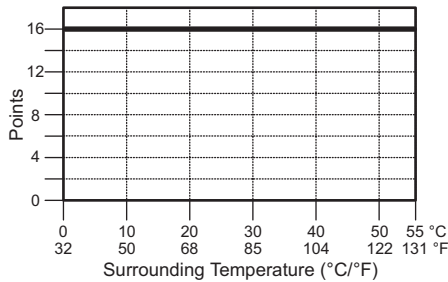


C0-16ND3 Input Specifications	
<b>Inputs per Module</b>	16 (Sink/Source)
<b>Input Voltage Range</b>	21.6-26.4 VDC
<b>Operating Voltage Range</b>	24 VDC
<b>Input Current</b>	Typ 4.0 mA @ 24 VDC
<b>Maximum Input Current</b>	5.0 mA @ 26.4 VDC
<b>Input Impedance</b>	6.8 kΩ @ 24 VDC
<b>ON Voltage Level</b>	> 19 VDC
<b>OFF Voltage Level</b>	< 7 VDC
<b>Minimum ON Current</b>	3.5 mA
<b>Maximum OFF Current</b>	0.5 mA
<b>OFF to ON Response</b>	Max. 10 ms Typ. 2 ms
<b>ON to OFF Response</b>	Max. 10 ms Typ. 3 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 (24 VDC)</b>	Max. 40 mA (All Inputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-16TB
<b>Weight</b>	3.2 oz (90 g)

#### 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



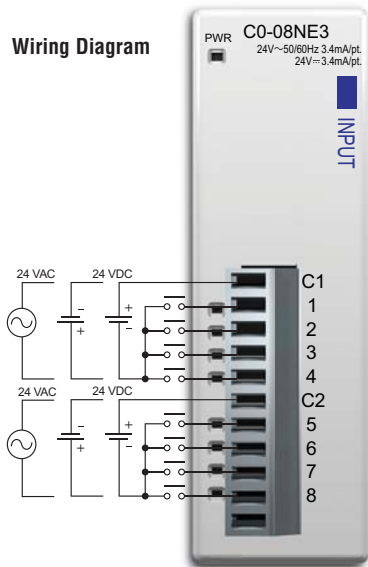
# CLICK I/O Module Specifications

## C0-08NE3 <--->

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

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

Wiring Diagram



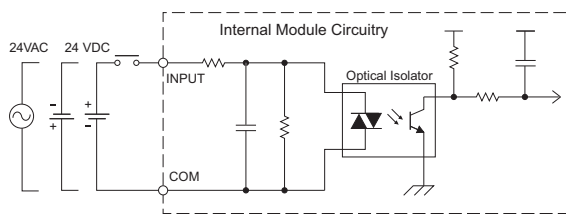
C0-08NE3 Input Specifications

<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 (24 VDC)</b>	Max. 30 mA (All Inputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-8TB
<b>Weight</b>	2.9 oz (82 g)

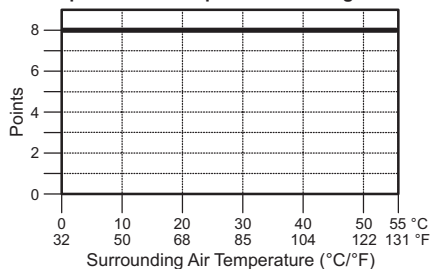


**NOTE:** When using this module you must also use CLICK programming software version V1.20 or later.

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

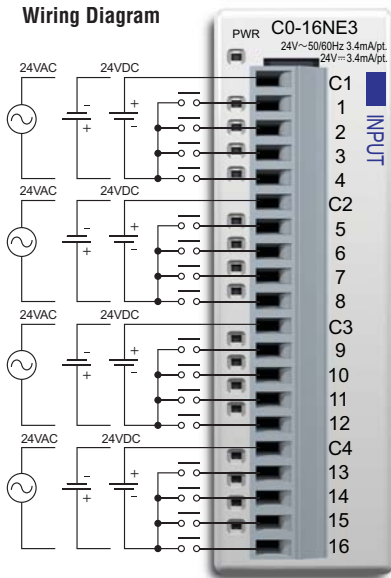
## C0-16NE3



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

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

Wiring Diagram



C0-16NE3 Input Specifications

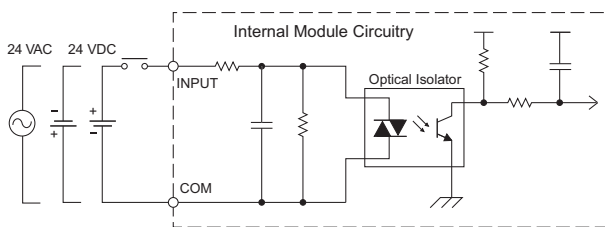
<b>Inputs per Module</b>	16 (Sink/Source)
<b>Operating Voltage Range</b>	24 VAC/VDC
<b>Input Voltage Range</b>	20.4 - 27.6 VAC/VDC
<b>Peak Voltage</b>	27.6 VAC/VDC
<b>AC Frequency</b>	47-63 Hz
<b>Input Current</b>	Typ 3.4 mA @ 24 VAC/VDC
<b>Maximum Input Current</b>	5.0 mA @ 27.6 VAC/VDC
<b>Input Impedance</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 (24 VDC)</b>	Max. 40 mA (All Inputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-16TB
<b>Weight</b>	3.2 oz (90 g)



**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

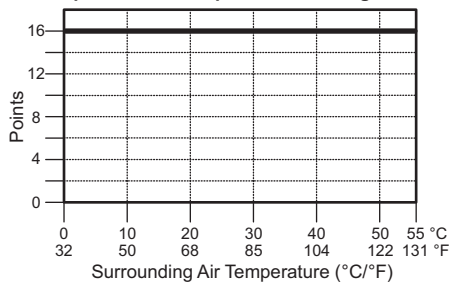
#### Equivalent Input Circuit



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

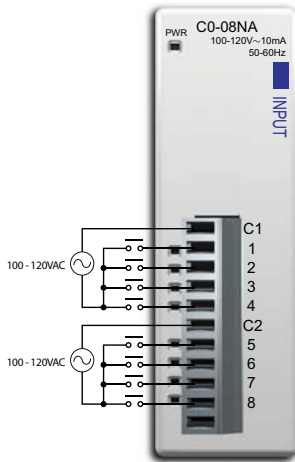
## CO-08NA



### 8-Point AC Input Module

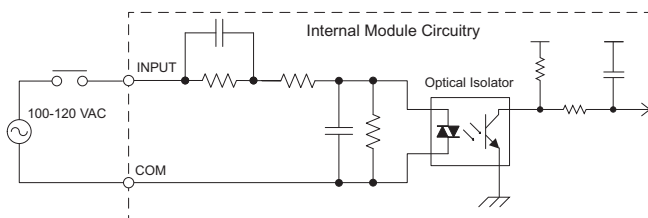
8-pt 100-120 VAC input module, 2 commons, isolated, removable terminal block included (replacement ADC p/n CO-08TB).

#### Wiring Diagram

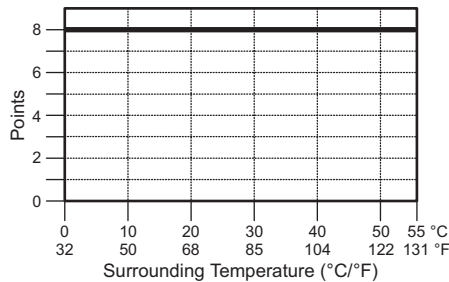


CO-08NA Input Specifications	
<b>Inputs per Module</b>	8
<b>Operating Voltage Range</b>	100-120 VAC
<b>Input Voltage Range</b>	80-144 VAC
<b>AC Frequency</b>	47-63 Hz
<b>Input Current</b>	Typ 8.5 mA @ 100 VAC (50Hz) Typ 10 mA @ 100 VAC (60Hz)
<b>Maximum Input Current</b>	16 mA @ 144 VAC
<b>Input Impedance</b>	15 kΩ (50 Hz), 12 kΩ (60 Hz)
<b>ON Voltage Level</b>	> 70 VAC
<b>OFF Voltage Level</b>	< 20 VAC
<b>Minimum ON Current</b>	5 mA
<b>Maximum OFF Current</b>	2 mA
<b>OFF to ON Response</b>	< 40 ms
<b>ON to OFF Response</b>	< 40 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 (24 VDC)</b>	Max. 30mA (All Inputs On)
<b>Terminal Block Replacement</b>	ADC p/n CO-8TB
<b>Weight</b>	2.8 oz (80 g)

#### 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-CO-CBL11 (0.5 m length)  
 ZL-CO-CBL11-1 (1.0 m length)  
 ZL-CO-CBL11-2 (2.0 m length)

# CLICK I/O Module Specifications

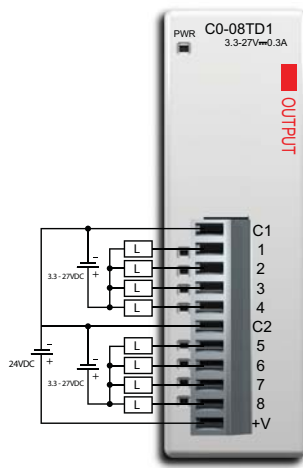
## C0-08TD1



### 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).

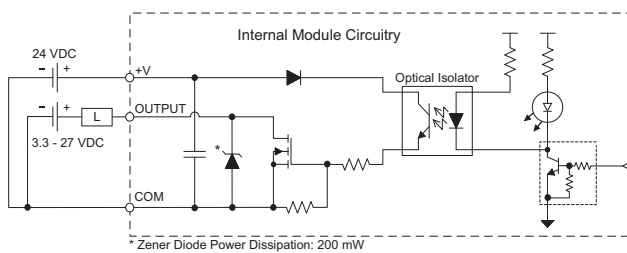
#### Wiring Diagram



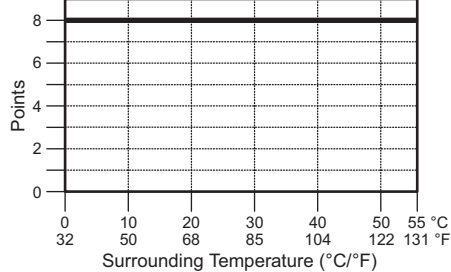
#### C0-08TD1 Output Specifications

<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 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) Power Indicator (green LED)
<b>Commons</b>	2 (4 points/common)
<b>External DC Power Required</b>	21.6-26.4 VDC Max 15 mA (All Outputs On)
<b>Bus Power Required (24 VDC)</b>	Max. 50 mA (All Outputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-8TB
<b>Weight</b>	2.8 oz (80 g)

#### 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

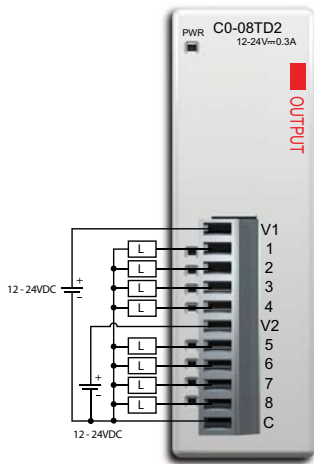
## C0-08TD2



### 8-Point Sourcing DC Output Module

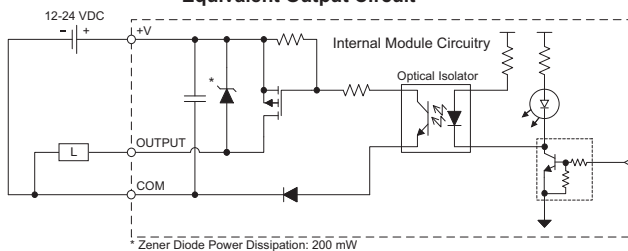
8-pt 12-24 VDC current sourcing output module, 1 common, 0.3 A/pt, removable terminal block included (replacement ADC p/n C0-08TB).

#### Wiring Diagram

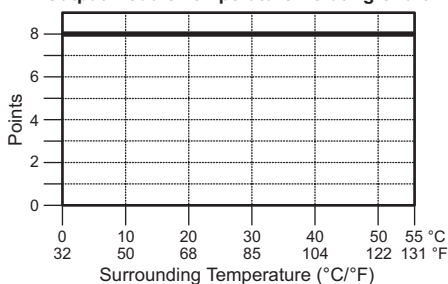


C0-08TD2 Output Specifications	
<b>Outputs per Module</b>	8 (Source)
<b>Operating Voltage Range</b>	12-24 VDC
<b>Output Voltage Range</b>	9.6-30 VDC
<b>Maximum Output Current</b>	0.3 A/point, 1.2 A/common
<b>Minimum Output Current</b>	0.5 mA
<b>Maximum Leakage Current</b>	0.1 mA @ 30.0 VDC
<b>On Voltage Drop</b>	1.5 VDC @ 0.3 A
<b>Maximum Inrush Current</b>	1 A for 10 ms
<b>OFF to ON Response</b>	< 1 ms
<b>ON to OFF Response</b>	< 1 ms
<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 (24 VDC)</b>	Max. 50 mA (All Outputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-8TB
<b>Weight</b>	2.8 oz (80 g)

#### 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

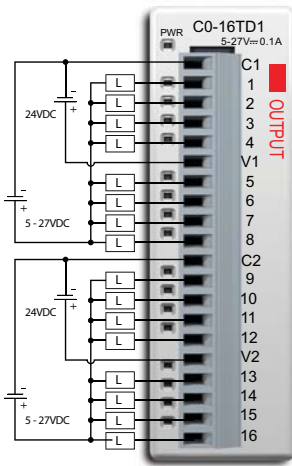
## C0-16TD1



### 16-Point Sinking DC Output Module

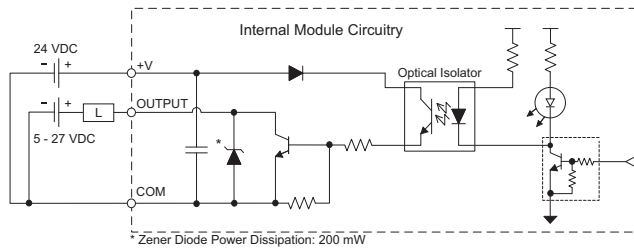
16-pt 5-27 VDC current sinking output module, 2 commons, isolated, 0.1 A/pt, removable terminal block included (replacement ADC p/n C0-16TB).

#### Wiring Diagram



C0-16TD1 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>	150 mA 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 (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 100 mA (All Outputs On)
<b>Bus Power Required (24 VDC)</b>	Max. 80 mA (All Outputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-16TB
<b>Weight</b>	3.2 oz (90 g)

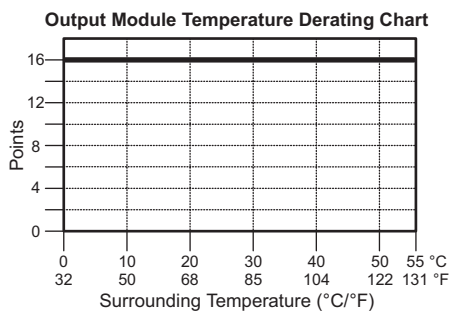
#### Equivalent Output Circuit



#### 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



ZL-RFU20 fuse module



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

# CLICK I/O Module Specifications

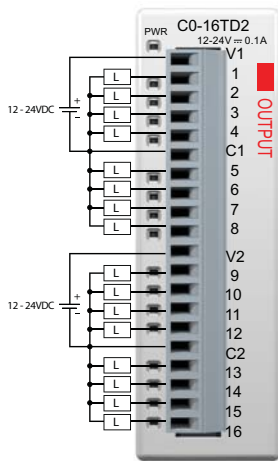
## C0-16TD2



### 16-Point Sourcing DC Output Module

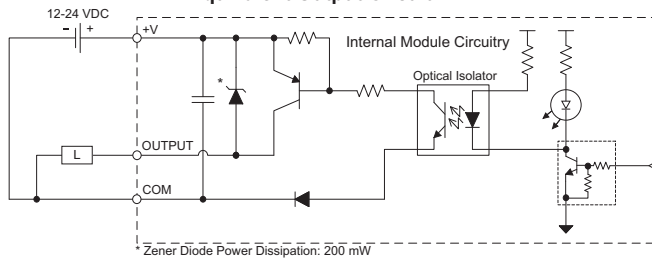
16-pt 12-24 VDC current sourcing output module, 2 commons, isolated, 0.1 A/pt, removable terminal block included (replacement ADC p/n C0-16TB).

#### Wiring Diagram



C0-16TD2 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>	150 mA 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 (16 points, red LED) Power Indicator (green LED)
<b>Commons</b>	2 (8 points/common) Isolated
<b>Bus Power Required (24 VDC)</b>	Max. 80 mA (All Outputs On)
<b>Terminal Block Replacement</b>	ADC p/n C0-16TB
<b>Weight</b>	3.2 oz (90 g)

#### Equivalent Output Circuit

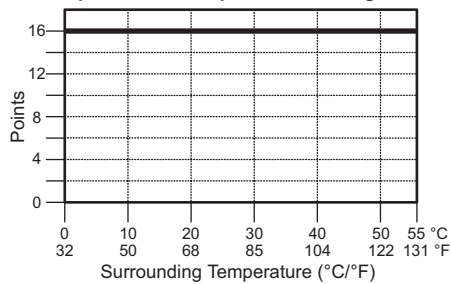


#### ZipLink Pre-Wired PLC Connection Cables and Modules for CLICK PLC

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

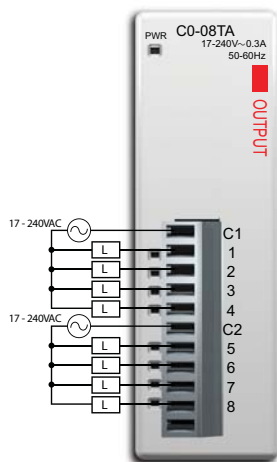
# CLICK I/O Module Specifications

## CO-08TA <--->

### 8-POINT AC OUTPUT MODULE

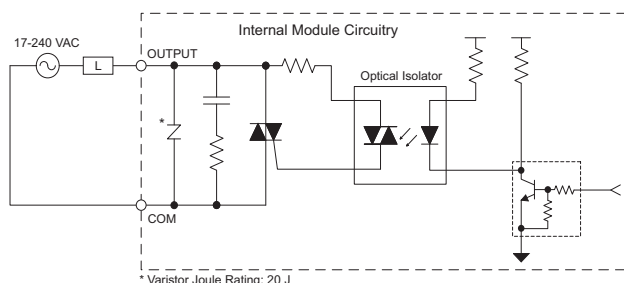
8-pt 17-240 VAC triac output module, 2 commons, isolated, 0.3 A/pt, removable terminal block included (replacement ADC p/n CO-08TB).

#### Wiring Diagram

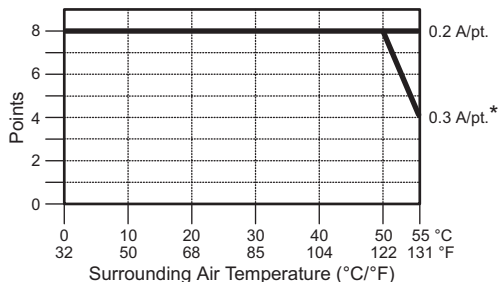


CO-08TA Output Specifications	
<b>Outputs per Module</b>	8
<b>Operating Voltage Range</b>	17-240 VAC
<b>Output Voltage Range</b>	13.5-288 VAC
<b>AC Frequency</b>	47-63 Hz
<b>Maximum Output Current</b>	0.3 A/point, 1.2 A/common
<b>Minimum Load</b>	10 mA
<b>Maximum Leakage Current</b>	4 mA @ 288 VAC
<b>On 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 (24 VDC)</b>	Max. 80 mA (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 CO-8TB
<b>Weight</b>	3.5 oz (100 g)

#### 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-CO-CBL11 (0.5 m length)  
ZL-CO-CBL11-1 (1.0 m length)  
ZL-CO-CBL11-2 (2.0 m length)



# CLICK I/O Module Specifications

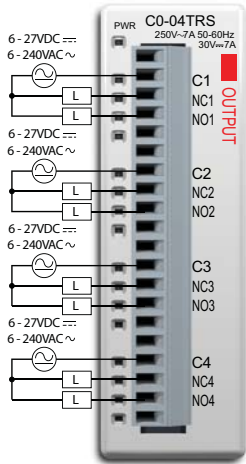
## CO-04TRS



### 4-Point Relay Output Module

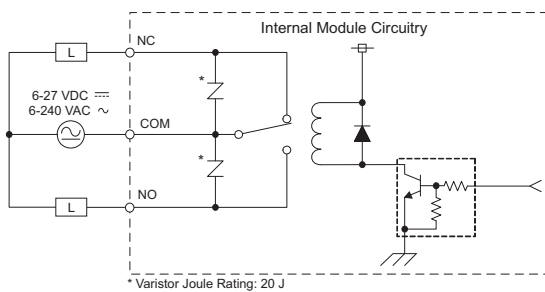
4-pt 6-240 VAC/6-27 VDC Isolated relay output module, 4 Form C (SPDT) relays, 4 isolated commons, 7 A/point, removable terminal block included (replacement ADC p/n CO-16TB).

#### Wiring Diagram



CO-04TRS 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>	100 mA @ 5 VDC
<b>Maximum Leakage Current</b>	0.1 mA @ 264 VAC
<b>Maximum Inrush Current</b>	12 A
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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 (24 VDC)</b>	Max. 100 mA (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 CO-16TB
<b>Weight</b>	4.4 oz (125 g)

#### Equivalent Output Circuit

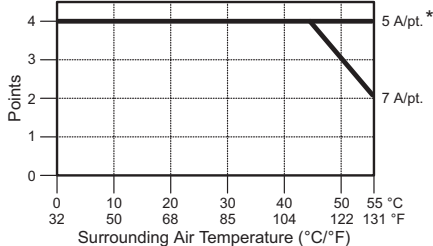


#### Typical Relay Life (Operations) at Room Temperature

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

ON to OFF = 1 cycle

#### Output Module Temperature Derating Chart



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

#### ZipLink 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)



**NOTE:** THE CO-04TRS RELAY OUTPUT MODULE IS DERATED TO 2A PER POINT MAXIMUM WHEN USED WITH THE ZIPLINK WIRING SYSTEM.

# CLICK I/O Module Specifications

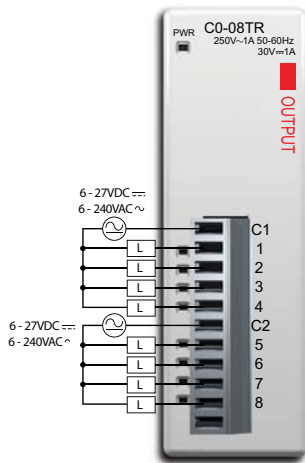
CO-08TR



## 8-Point Relay Output Module

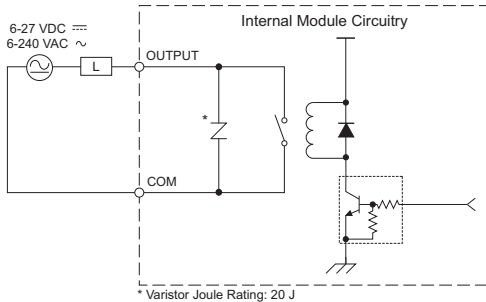
8-point 6-240 VAC/6-27 VDC relay output module, 8 Form A (SPST) relays, 2 commons, isolated, 1 A/point, removable terminal block included (replacement ADC p/n CO-08TB).

### Wiring Diagram



CO-08TR 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>	5 mA @ 5 VDC
<b>Maximum Leakage Current</b>	0.1 mA @ 264 VAC
<b>Maximum Inrush Current</b>	3 A for 10 ms
<b>OFF to ON Response</b>	< 15 ms
<b>ON to OFF Response</b>	< 15 ms
<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 (24 VDC)</b>	Max. 100 mA (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 CO-8TB
<b>Weight</b>	3.9 oz (110 g)

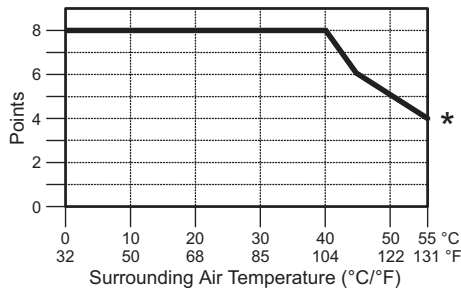
### Equivalent Output Circuit



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

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

### 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)