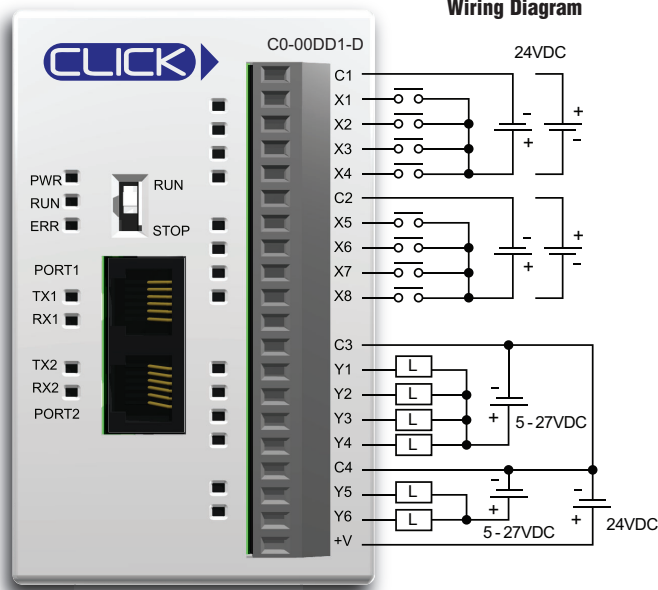


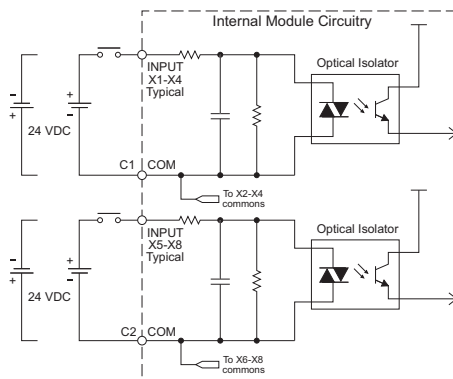
Basic PLC

C0-00DD1-D \$69.00

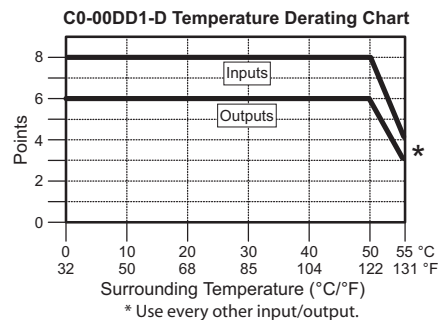
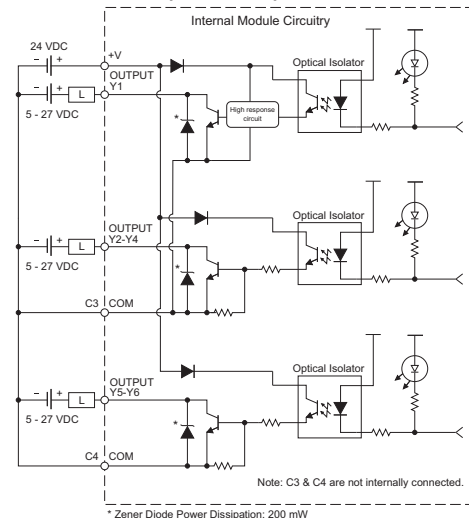
8 DC Input/6 Sinking DC Output Micro PLC



Equivalent Input Circuit



Equivalent Output Circuit



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

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

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

ZIPLink Pre-Wired PLC
Connection Cables and Modules



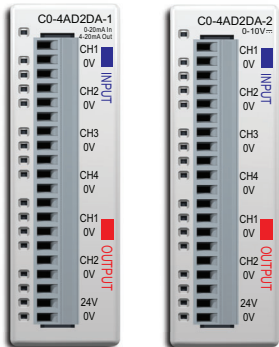
ZL-RTB20 20-pin feed-through connector module

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

Choosing Expansion I/O Modules

Analog I/O Modules (continued)

Analog Combo I/O Modules



CO-4AD2DA-1 CO-4AD2DA-2

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

Specialty Module



CO-08SIM

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

CLICK Specifications

General Specifications For All CLICK PLC Products

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

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

CLICK Specifications

PLC Unit Specifications

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

CLICK Specifications

PLC Unit Specifications (continued)

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

CLICK Specifications

CLICK PLC Hardware/Software Compatibility

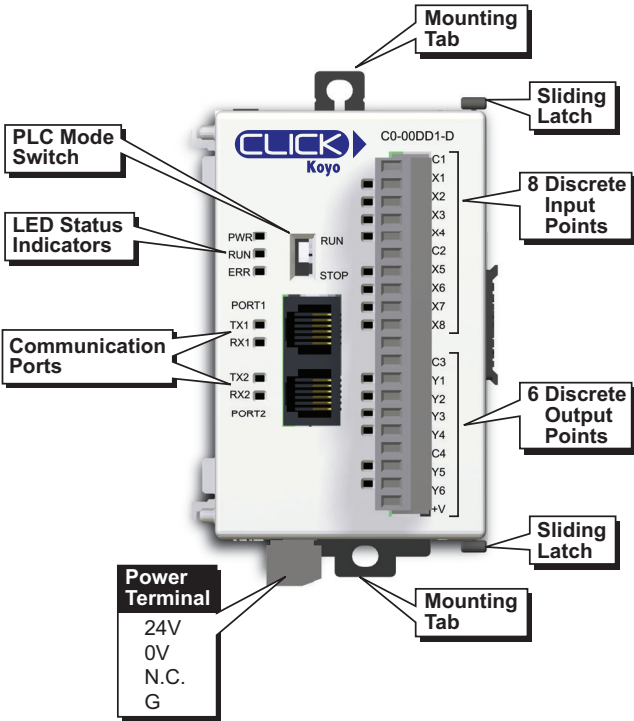
CLICK PLCs require a minimum software version of v2.50 for the PID function. The table below shows the most recent software and hardware versions required for the High-Speed input operation capability to be accessible.

CLICK PLC Features Software Compatibility						
CPU Type	Part Number	Minimum CLICK Software Version				
		Hardware	High-Speed Inputs	EtherNet/IP	PID	
Basic	C0-00DD1-D	v1.00	N/A	N/A	N/A	
	C0-00DD2-D					
	C0-00DR-D					
	C0-00AR-D					
Standard	C0-01DD1-D	v1.20	N/A	N/A	N/A	
	C0-01DD2-D					
	C0-01DR-D					
	C0-01AR-D					
Analog	C0-02DD1-D (before SN 171208001)	v1.12	N/A	N/A	N/A	
	C0-02DD1-D (after SN 171208001)	v2.10				
	C0-02DD2-D (before SN 174018001)	v1.12				
	C0-02DD2-D (after SN 174018001)	v2.10				
	C0-02DR-D (before SN 173158001)	v1.12				
	C0-02DR-D (after SN 173158001)	v2.10				
Ethernet CPUs	Ethernet CPUs require v2.40 for EtherNet/IP communications					
Ethernet Basic	C0-10DD1E-D	v2.00	v2.30	v2.40	v2.50	
	C0-10DD2E-D		N/A			
	C0-10DRE-D					
	C0-10ARE-D					
Ethernet Standard	C0-11DD1E-D	v2.00	v2.30	v2.40	v2.50	
	C0-11DD2E-D		N/A			
	C0-11DRE-D					
	C0-11ARE-D					
Ethernet Analog	C0-12DD1E-D	v2.20	v2.30	v2.40	v2.50	
	C0-12DD2E-D		N/A			
	C0-12DRE-D					
	C0-12ARE-D		v2.30			
	C0-12DD1E-1-D					N/A
	C0-12DD2E-1-D		v2.30			
	C0-12DRE-1-D					N/A
	C0-12ARE-1-D		v2.30			
	C0-12DD1E-2-D					N/A
	C0-12DD2E-2-D		v2.30			
	C0-12DRE-2-D					N/A
	C0-12ARE-2-D					
I/O Modules	C0-08NE3	v1.20	N/A	N/A	N/A	
	C0-16NE3	v1.40				
	C0-04AD-1					
	C0-04AD-2					
	C0-04DA-1					
	C0-04DA-2					
	C0-4AD2DA-1					
	C0-4AD2DA-2					
	C0-04RTD					
	C0-04THM					
	C0-05CDR					
	C0-16CDD1					
	C0-16CDD2					
	Other modules					v1.00

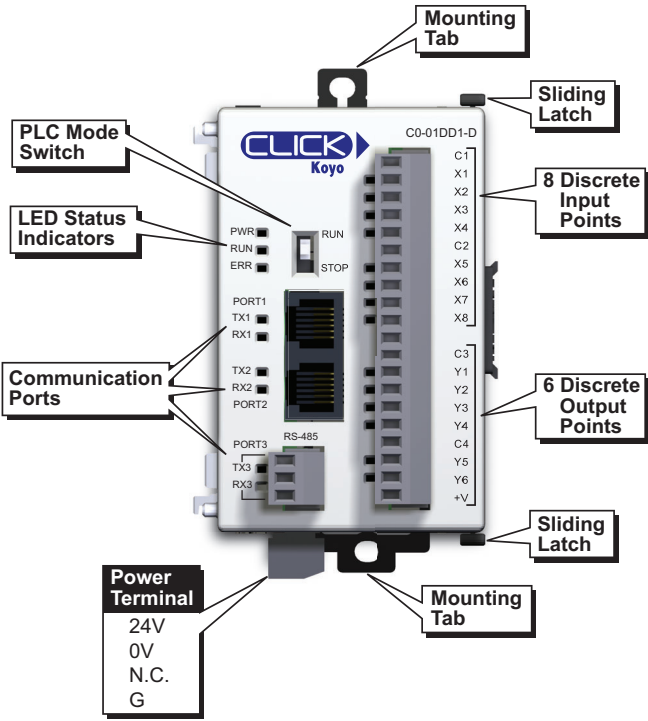
CLICK Specifications

PLC Features

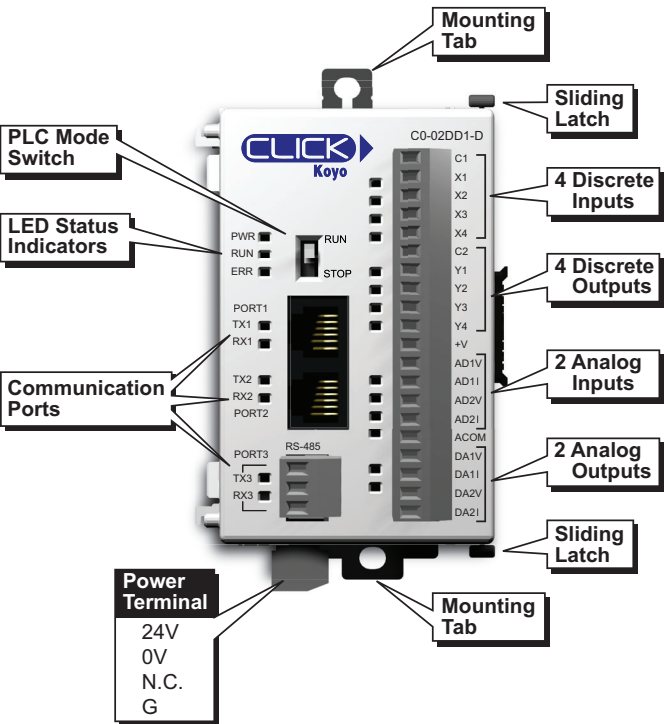
Basic PLCs



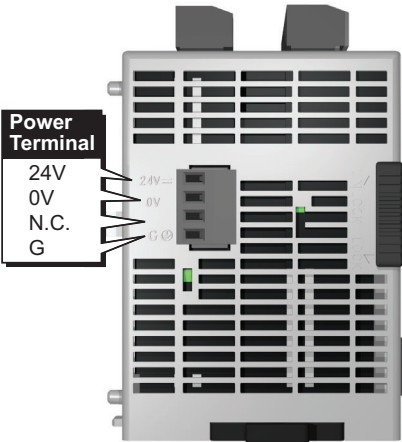
Standard PLCs



Analog PLCs

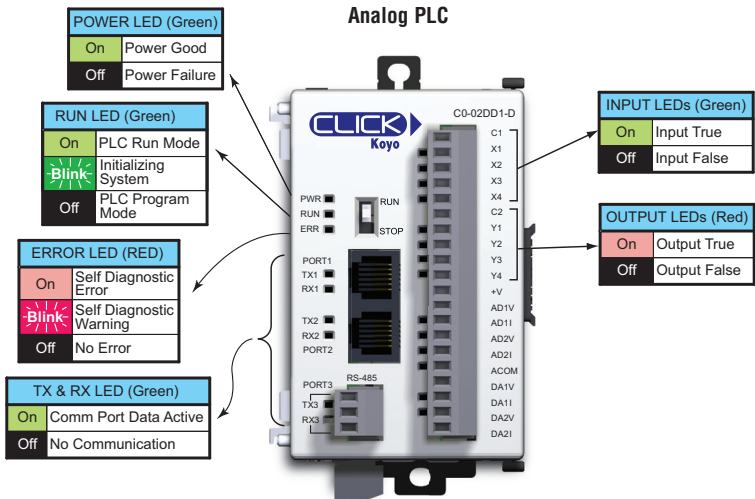
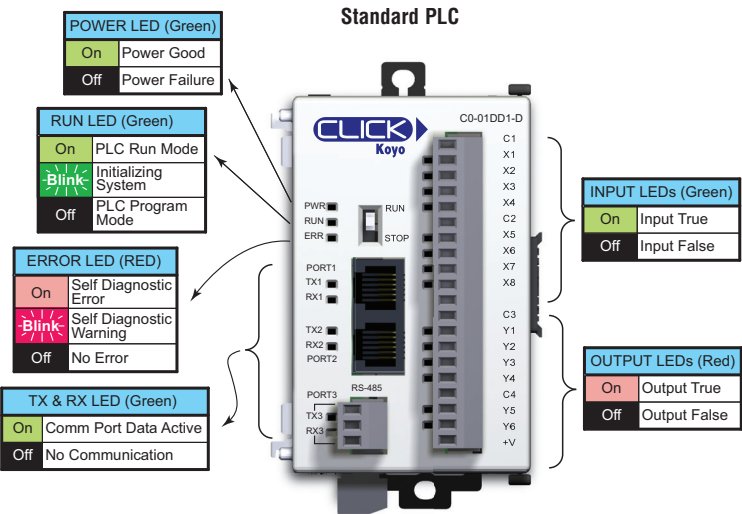
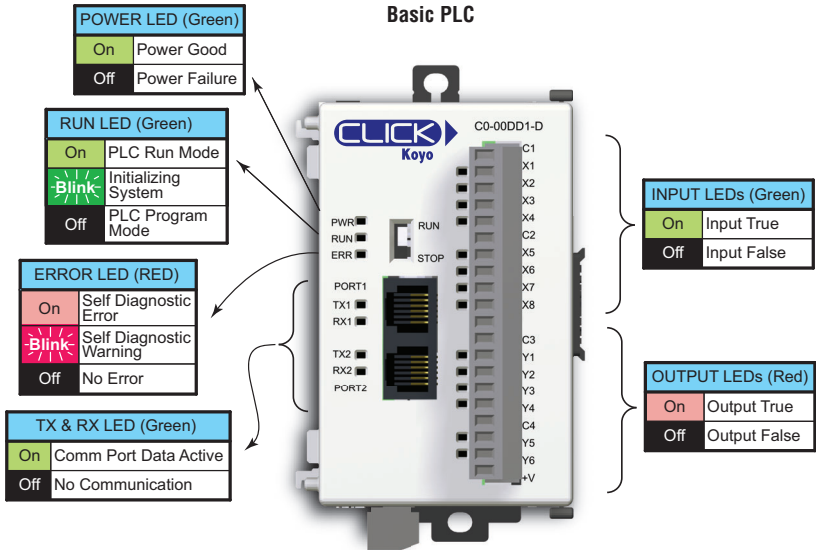


Bottom of PLC
(Same on all models)



CLICK Specifications

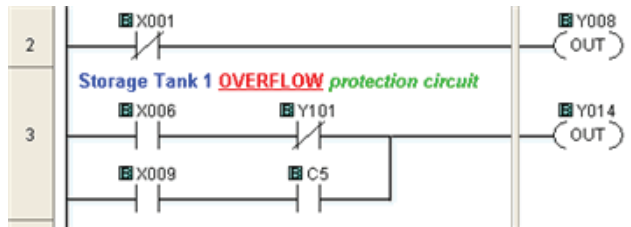
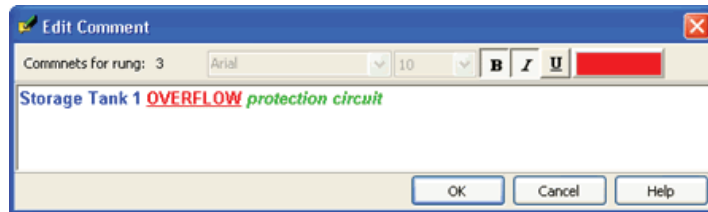
PLC LED Status Indicators



CLICK Programming Software

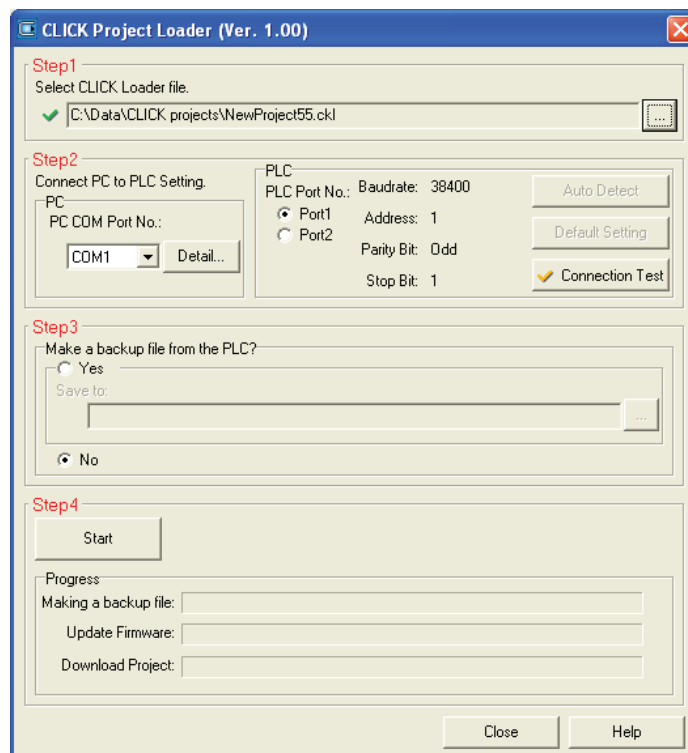
Color Rung Comment

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



Project Loader

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



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

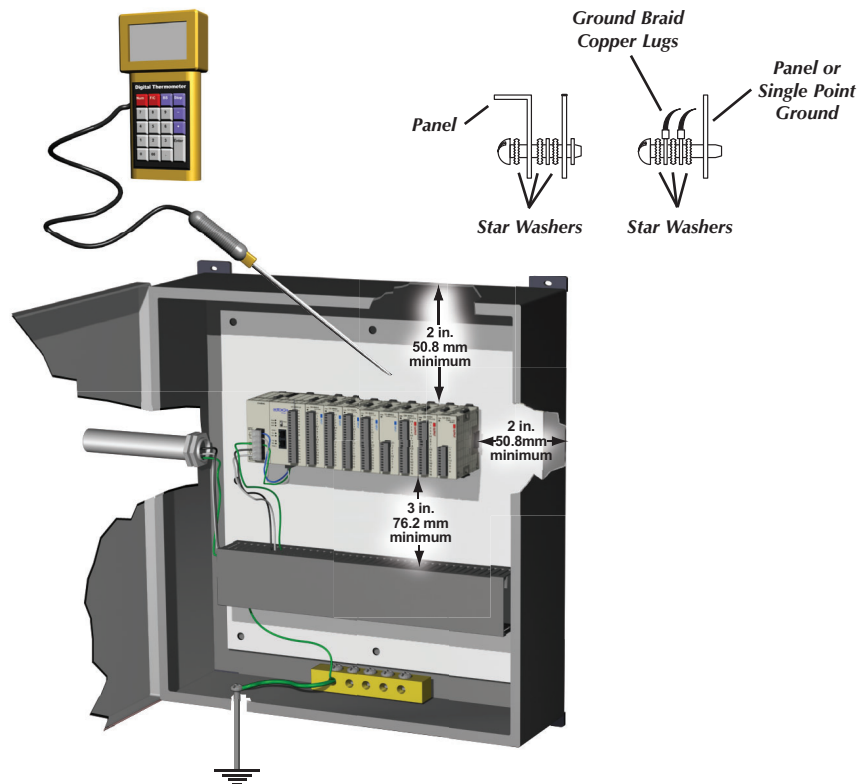
Product Dimensions and Installation

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

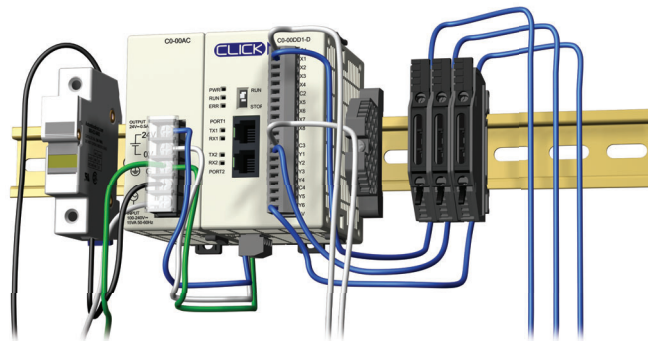
Plan for Safety

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

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

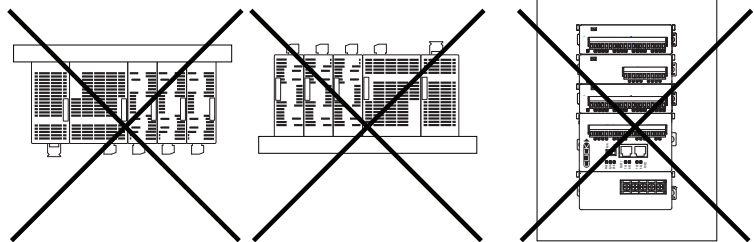
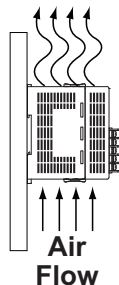


NOTE: THERE IS A MINIMUM CLEARANCE REQUIREMENT OF 2 INCHES (51MM) BETWEEN THE CLICK PLC AND THE PANEL DOOR OR ANY DEVICES MOUNTED IN THE PANEL DOOR. THE SAME CLEARANCE IS REQUIRED BETWEEN THE PLC AND ANY SIDE OF THE ENCLOSURE. A MINIMUM CLEARANCE OF 3 INCHES (76MM) IS REQUIRED BETWEEN THE PLC AND A WIREWAY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



Mounting Orientation

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

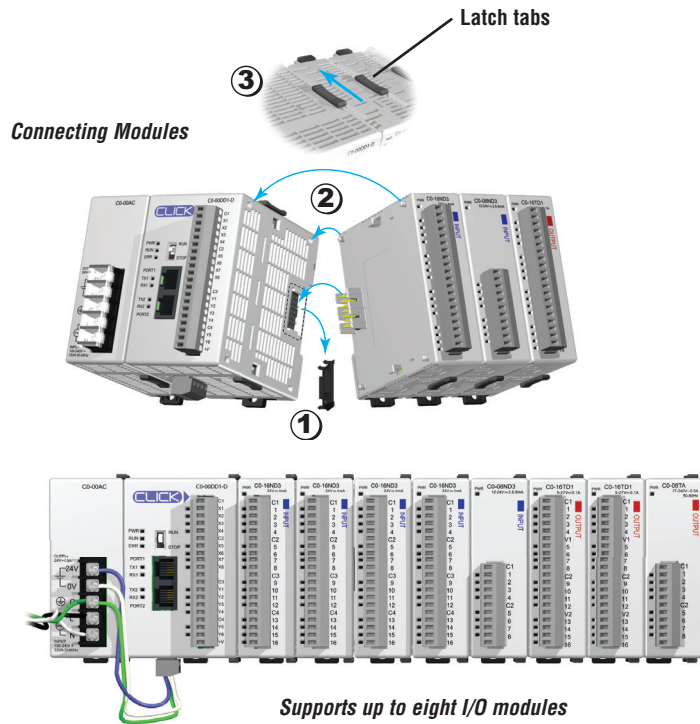


Product Dimensions and Installation

Connecting the Modules Together

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

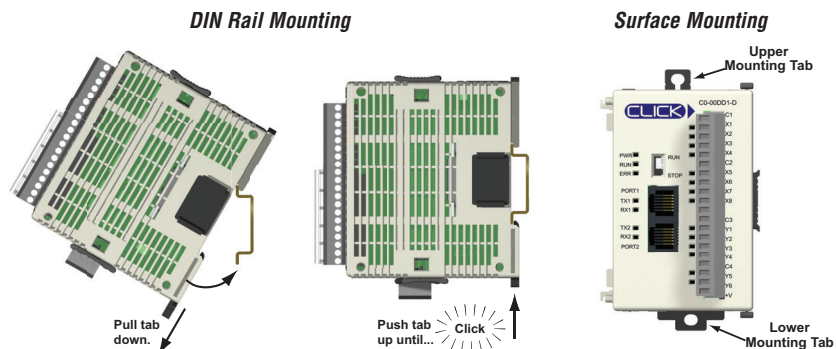
1. Remove extension port covers and slide the latch tabs forward.
2. Align the module pins and connection plug, and press the I/O module onto the right side of the PLC.
3. Slide the latch tabs backward to lock the modules together.



Mounting

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

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



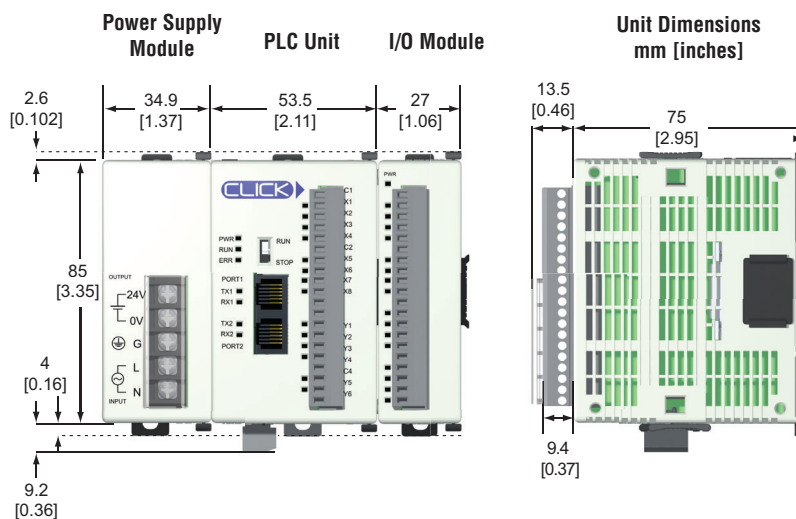
Unit Dimensions

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

Allow proper spacing from other components within an enclosure.

Maximum system:

Power Supply + PLC + 8 I/O modules.

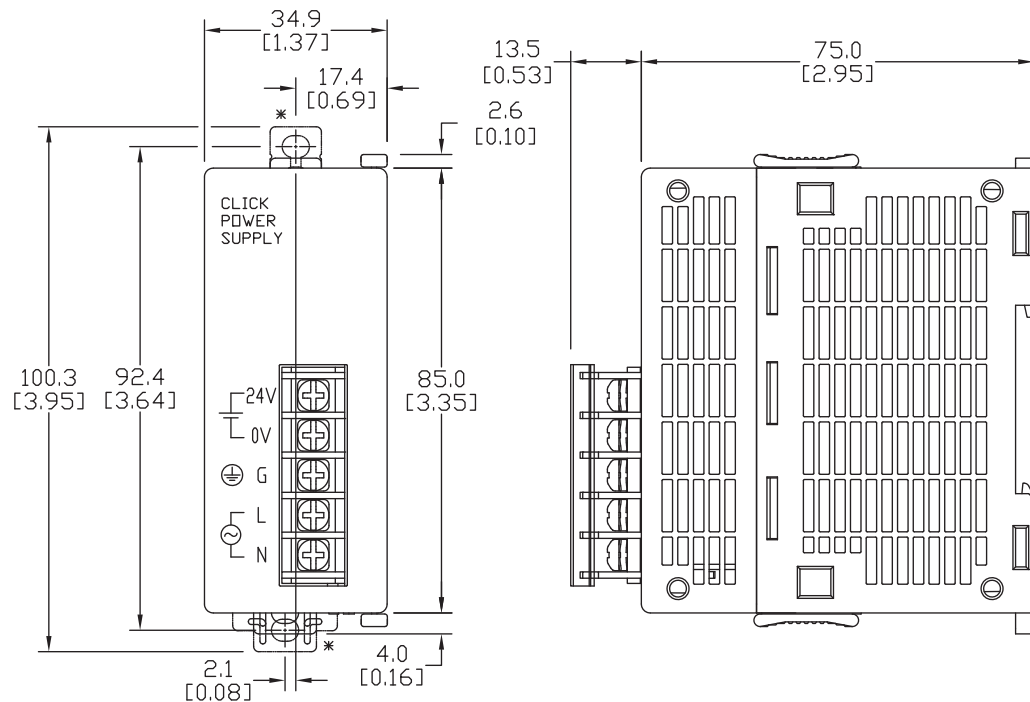


Product Dimensions and Installation

Unit Dimensions

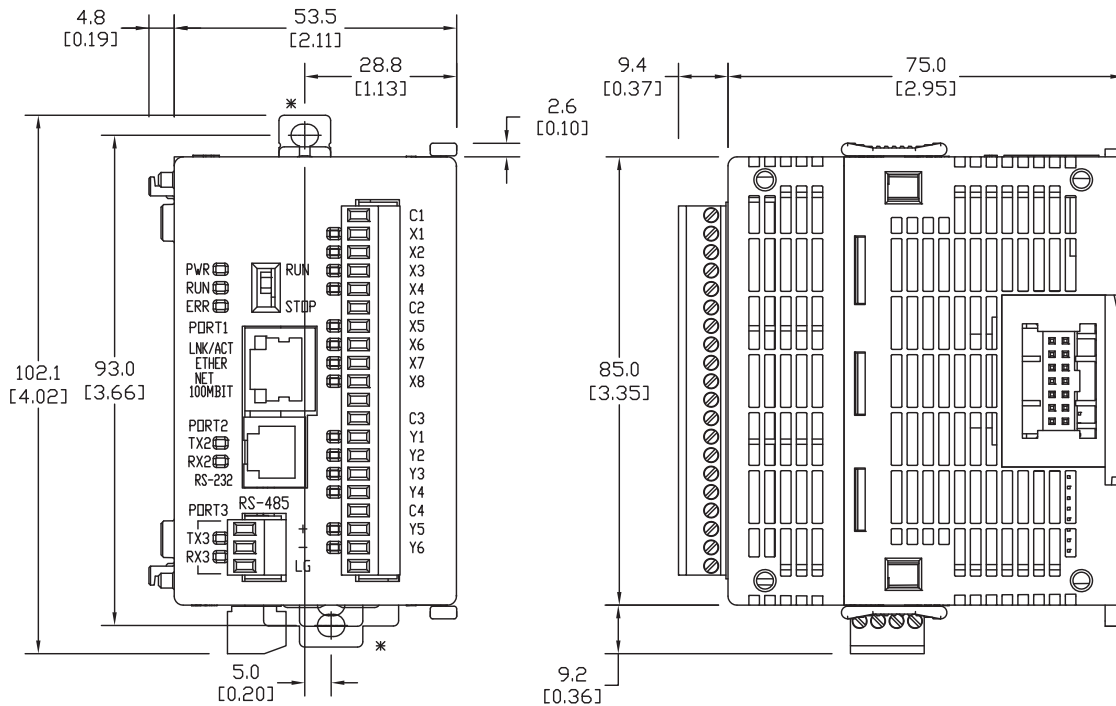
mm [inches]

Power Supply



*Use size M4 screws for tab mounting.

PLC Units



*Use size M4 screws for tab mounting.

Networking the CLICK PLC

Built-in Communications Ports

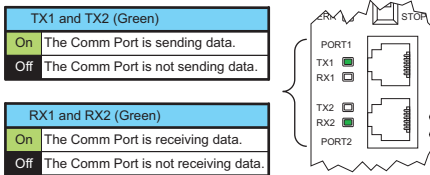
Basic, Standard and Analog PLCs have two built-in RS-232 communications ports. Standard and Analog PLCs also have one built-in RS-485 communications port. One RS-232 port supports the Modbus RTU protocol only and can be used as the programming port. The other ports support either Modbus RTU or ASCII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

LED Status Indicators

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

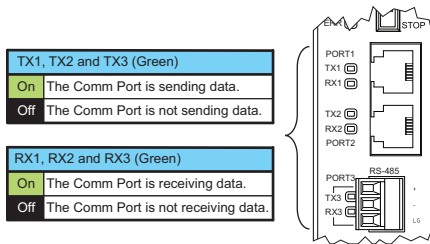
Basic PLCs

Port 1 & 2 LED Status Indicators



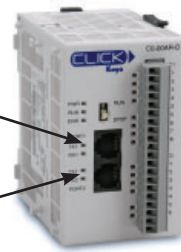
Standard and Analog PLCs

Port 1, 2, & 3 LED Status Indicators



Com Port 1

Com Port 2



Basic PLC

Com Port 1

Com Port 2

Com Port 3



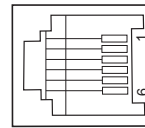
Standard and Analog PLCs

Com Port 1 Specifications

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

Port 1

6 pin RJ12 Phone Type Jack



Port 1 Pin Descriptions

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

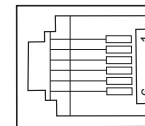
Com Port 2 Specifications

Default

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

Port 2

6 pin RJ12 Phone Type Jack



Port 2 Pin Descriptions

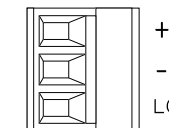
1	0V	Power (-) connection (GND)
2	5V	Power (+) connection
3	RXD	Receive data (RS-232)
4	TXD	Transmit data (RS-232)
5	RTS	Request to send
6	0V	Power (-) connection (GND)

Com Port 3 Specifications

Default

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

Port 3
RS-485

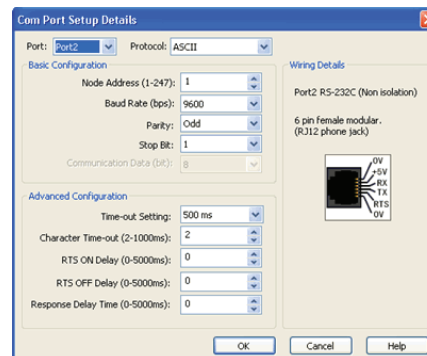


Port 3 Pin Descriptions

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

Port Setup

Use CLICK programming software to easily configure the communications ports.



Networking the CLICK PLC

For the latest prices, please check AutomationDirect.com.

Built-in Communications Ports

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

LED Status Indicators

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

Ethernet Basic PLCs

- Port 1 & 2 LED Status Indicators

LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network
100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network

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

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

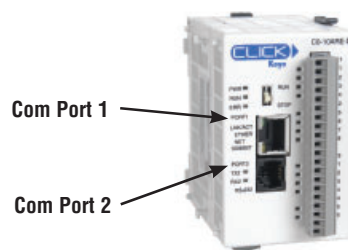
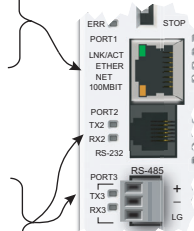
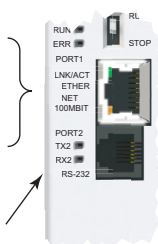
Ethernet Standard and Ethernet Analog PLCs

- Port 1, 2 & 3 LED Status Indicators

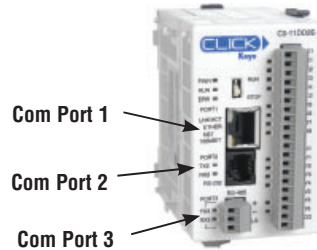
LNK/ACT LED (Green)	
On	Connected to the network
Blink	Communicating
Off	Disconnected from the network
100MBIT LED (Orange)	
On	Communicating at 100Mbps
Off	Communicating at 10Mbps or disconnected from the network

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

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



Ethernet Basic PLC



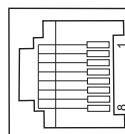
Ethernet Standard and Ethernet Analog PLCs

Com Port 1 Specifications

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

Port 1

8 pin RJ45



Port 1 Pin Descriptions

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

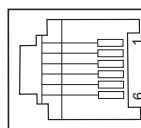
Com Port 2 Specifications

Default

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

Port 2

6 pin RJ12 Phone Type Jack



Port 2 Pin Descriptions

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

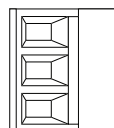
Com Port 3 Specifications

Default

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

Port 3

RS-485



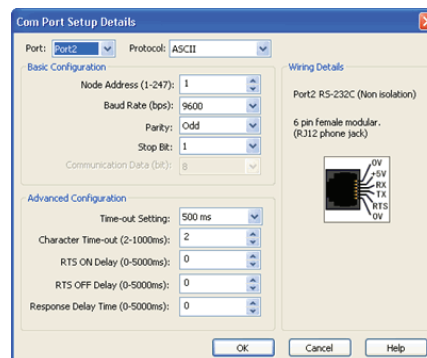
+
-
LG

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 Communication Applications

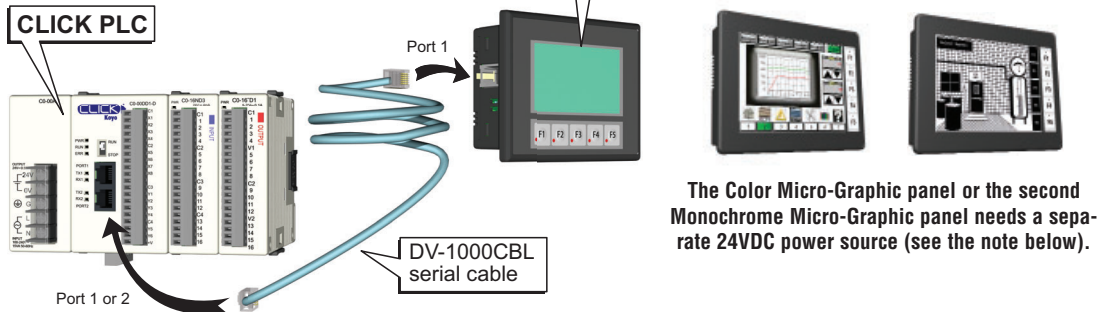
The diagrams on these three pages illustrate the typical uses for the CLICK PLC's communication ports.

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



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

Example



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

Do not use the following *Direct*LOGIC devices with CLICK's Port 1 or 2:



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



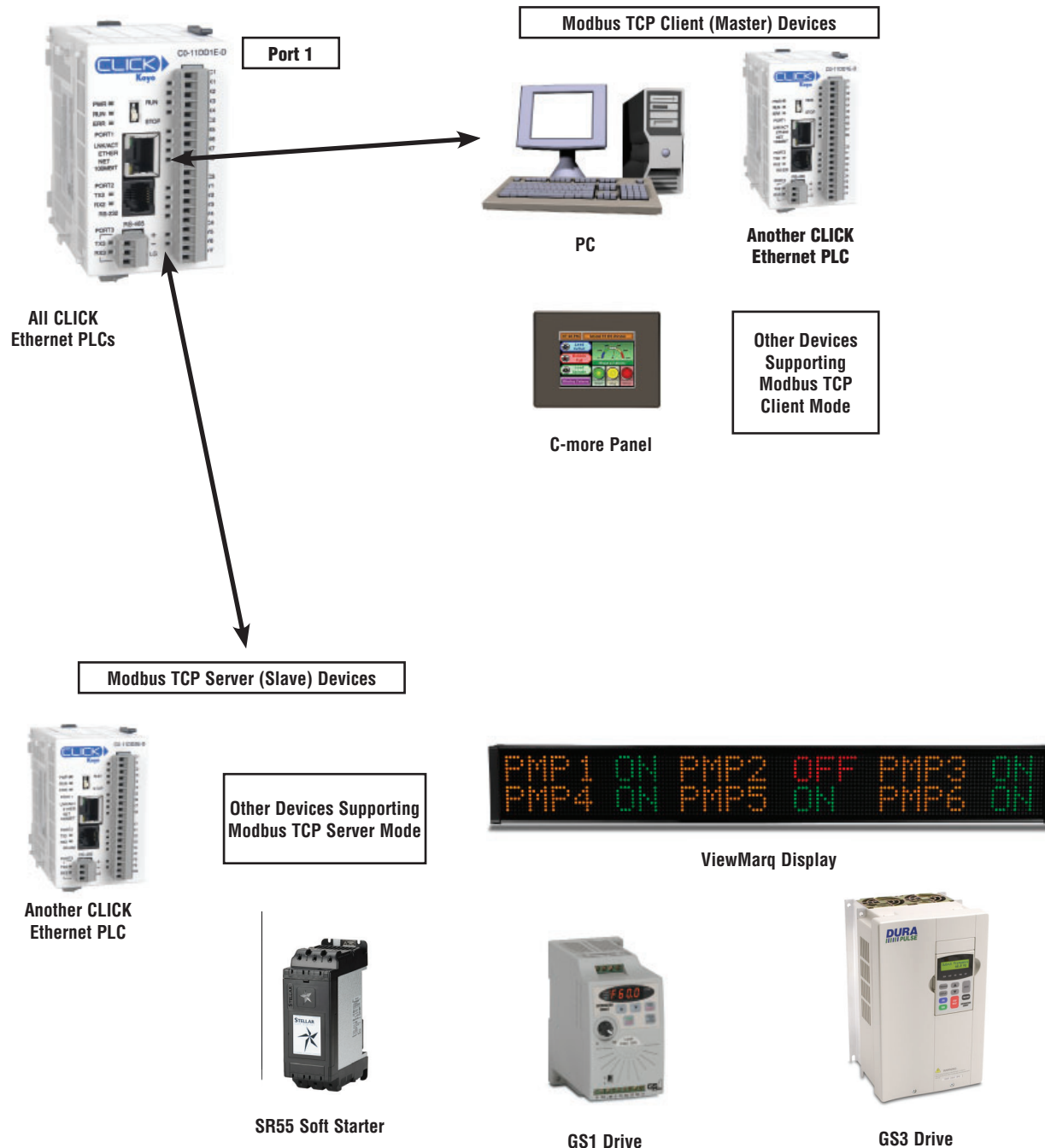
D2-HPP



D4-HPP-1

Networking the CLICK PLC

Port 1 (Ethernet) – Modbus TCP



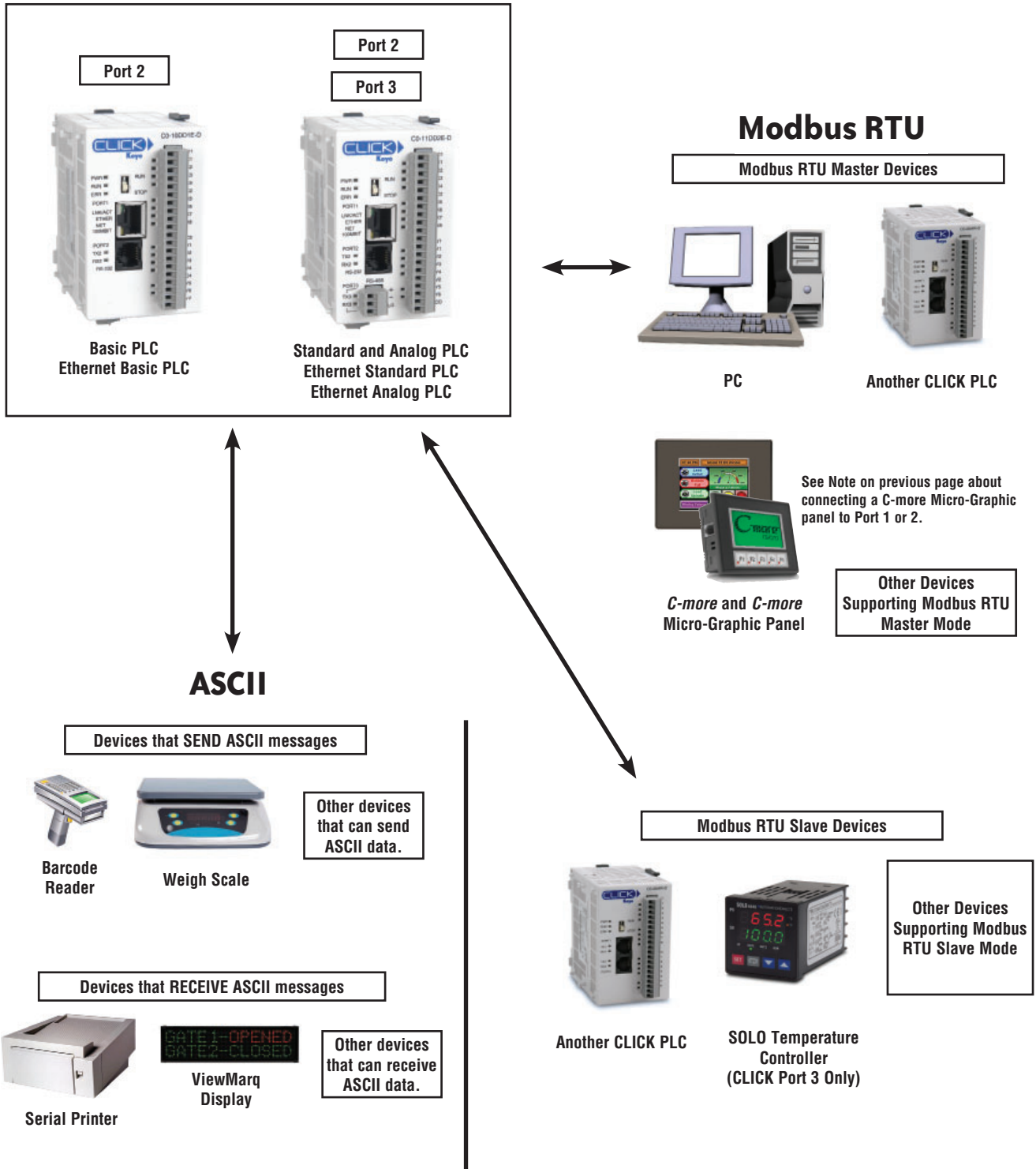
Networking the CLICK PLC

Port 2 (RS-232) – Modbus RTU or ASCII

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

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

Ports 2 and 3 allow networking to similar devices.



Power Supplies

Power Supplies

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

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

C0-00AC Power Supply

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

C0-01AC Power Supply

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

PSP24-DC12-1 DC-DC Converter

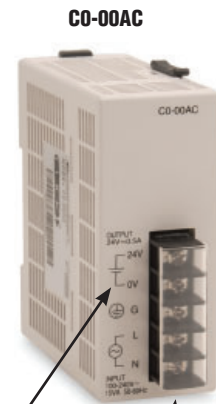
With this DC-DC converter you can operate the CLICK PLC with 12VDC input power.

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

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

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

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



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

85-264 VAC Power Source Input Terminals

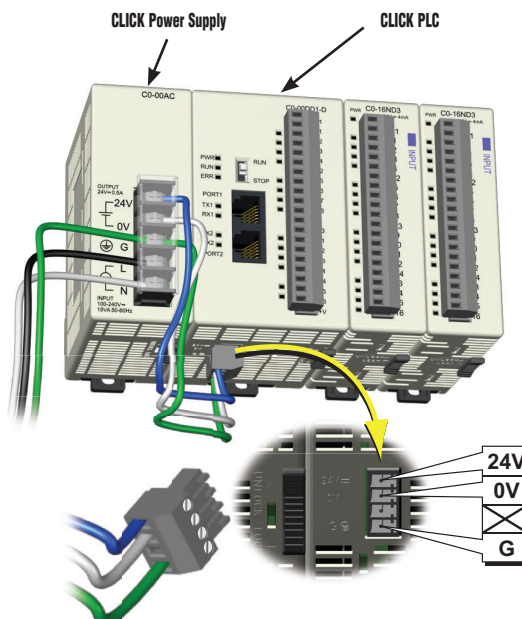


24VDC Output Power Terminals
(for CLICK PLC, I/O or field device, etc.)

85-264 VAC Power Source Input Terminals



PSP24-DC12-1



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

Power Budgeting

Power Budgeting

There are two areas to be considered when determining the power required to operate a CLICK PLC system. The first area is the power required by the CLICK PLC, along with the internal logic side power that the CPU provides to its own I/O and any connected I/O modules that are powered through the PLC expansion port; plus any device, such as a C-more Micro-Graphic panel, that is powered through one of the communications ports.

The second area is the power required by all externally connected I/O devices. This should be viewed as the field side power required. The field side power is dependent on the voltage used for a particular input or output device as it relates to the wired I/O point, and the calculated load rating of the connected device.

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

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

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



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



Other 24VDC Power Supply
Example: PSP24-60S

Power Consumption for CLICK PLC Units

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

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

Power Budgeting

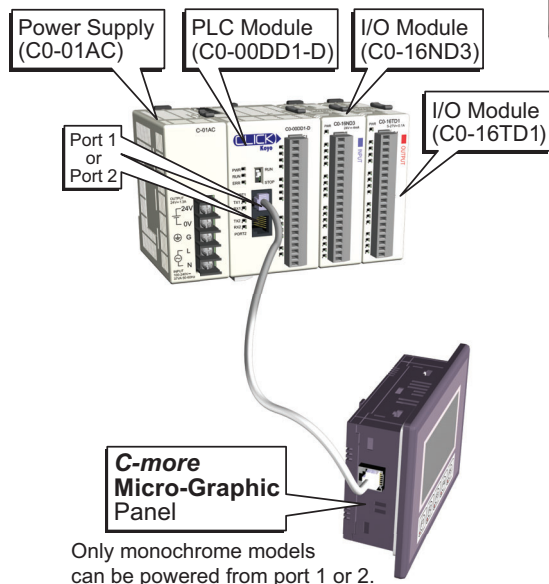
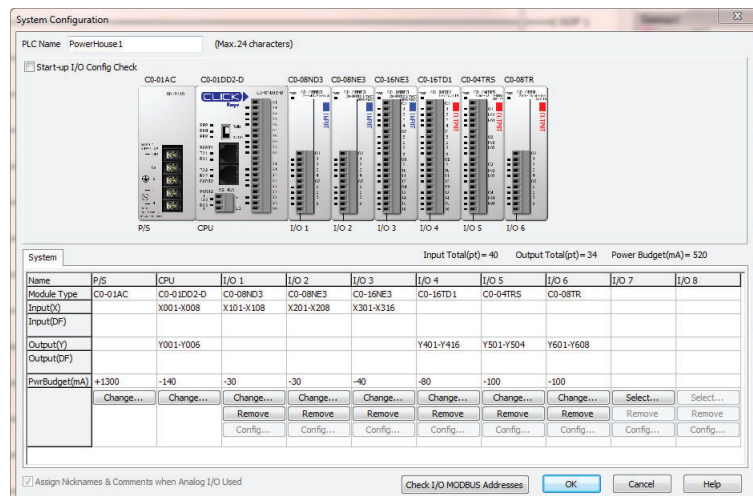
Power Consumption for CLICK I/O Expansion Modules

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

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

Power Budgeting Using the CLICK Programming Software

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



Power Budgeting Example

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

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



Wiring System for CLICK PLCs

Wiring Solutions using the ZIPLink Wiring System

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



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

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

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

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

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

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

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

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

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



Solution 3: GS Series and DuraPulse Drives Communication Cables

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

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

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

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



Solution 4: Serial Communications Cables

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

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

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





Wiring System for CLICK PLCs

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

Table Notes:

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

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

² Note: Fuses (5 x 20 mm) are not included. See Edison Electronic Fuse section for (5 x 20 mm) fuse. S500 and GMA electronic circuit protection for fast-acting maximum protection. S506 and GMC electronic circuit protection for time-delay performance. Ideal for inductive circuits. To ensure proper operation, do not exceed the voltage and current rating of ZIPLink module. ZL-RFU20 = 2A per circuit.

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

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

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

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