

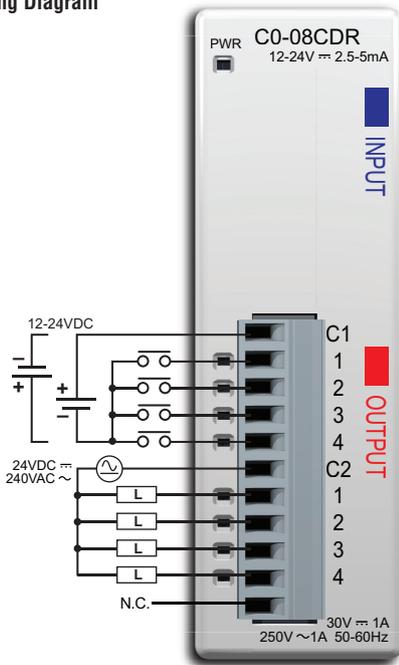
CLICK I/O Module Specifications

CO-08CDR \$49.00

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

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

Wiring Diagram



N.C. = Not Connected



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

CO-08CDR Input Specifications	
Inputs per Module	4 (source/sink)
Operating Voltage Range	CE: 12-24 VDC (-10%/+10%) UL: 12-24 VDC (-10%/+10%)
Input Voltage Range	10.8 - 26.4 VDC
Input Current	Typ 5.0 mA @ 24 VDC
Maximum Input Current	7.0 mA @ 26.4 VDC
Input Impedance	4.7 kΩ @ 24 VDC
ON Voltage Level	>8.0 VDC
OFF Voltage Level	<3.0 VDC
Minimum ON Current	1.4 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	Max. 3.5 ms Typ. 2 ms
ON to OFF Response	Max. 4 ms Typ. 2.5 ms
Status Indicators	Logic Side (4 points, green LED) Power Indicator (green LED)
Commons	1 (4 points/common)

CO-08CDR Output Specifications	
Outputs per Module	4 (Relay)
Operating Voltage Range	CE: 6.25 - 24 VDC (-15%/+10%) / 6 - 240 VAC (-15%/+10%) UL: 24 VDC (-15%/+10%) / 240 VAC (-10%/+10%)
Peak Voltage	30 VDC / 264 VAC
Output Type	Relay, Form A (SPST)
AC Frequency	47-63 Hz
Maximum Current	1 A/point, 4 A/common
Minimum Load Current	5mA @ 5VDC
Maximum Leakage Current	0.1 mA @ 264 VAC
Maximum Inrush Current	3 A for 10 ms
OFF to ON Response	<15 ms
ON to OFF Response	<15 ms
Status Indicators	Logic Side (4 points, red LED)
Commons	1 (4 points/common)

CO-08CDR General Specifications	
Bus Power Required (24 VDC)	Max. 80 mA (all points on)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	ADC p/n CO-8TB
Weight	3.2 oz (90 g)

CO-08CDR Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type*	Relay Life (ON to OFF = 1 cycle)
30 VDC, 1A, Resistive	80,000 cycles
30 VDC, 1A, Solenoid	80,000 cycles
250 VAC, 1A, Resistive	80,000 cycles
250 VAC, 1A, Solenoid	80,000 cycles

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

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

ZL-RTB20 20-pin feed-through connector module



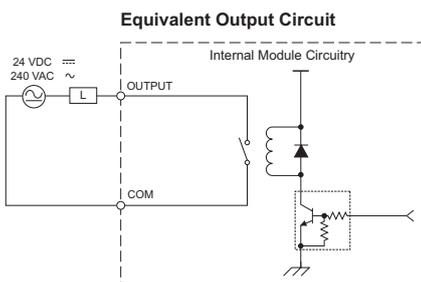
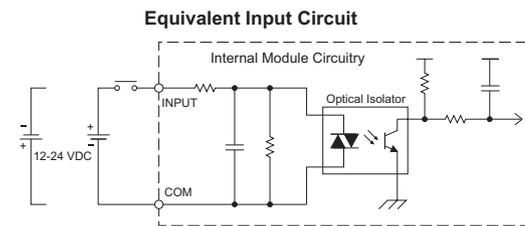
11-pin connector cable
ZL-CO-CBL11 (0.5 m length)
ZL-CO-CBL11-1 (1.0 m length)
ZL-CO-CBL11-2 (2.0 m length)



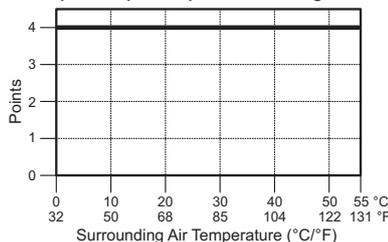
Book 1 (14.1)

CLICK PLCs

eCL-71



Input / Output Temperature Derating Chart



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 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.



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



Other 24 VDC Power Supply
Example: PSP24-60S

CPU Current Consumption (mA)		
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (field side)
Basic CPU Modules		
CO-00DD1-D	120	60
CO-00DD2-D	120	0
CO-00DR-D	120	0
CO-00AR-D	120	0
Standard CPU Modules		
CO-01DD1-D	140	60
CO-01DD2-D	140	0
CO-01DR-D	140	0
CO-01AR-D	140	0
Analog CPU Modules		
CO-02DD1-D	140	60
CO-02DD2-D	140	0
CO-02DR-D	140	0

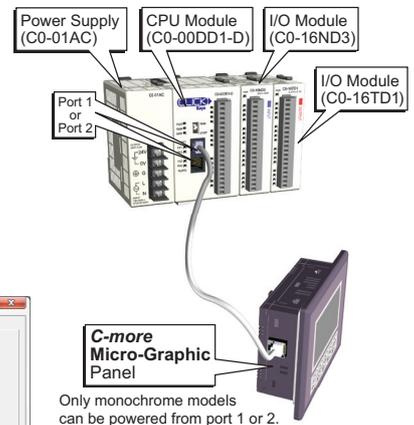
I/O Module Current Consumption (mA)		
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (field side)
Discrete Input Modules		
CO-08ND3	30	0
CO-08ND3-1	30	0
CO-16ND3	40	0
CO-08NE3	30	0
CO-16NE3	40	0
CO-08NA	30	0
Discrete Output Modules		
CO-08TD1	50	15
CO-08TD2	50	0
CO-16TD1	80	100
CO-16TD2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

I/O Module Current Consumption (continued) (mA)		
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (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

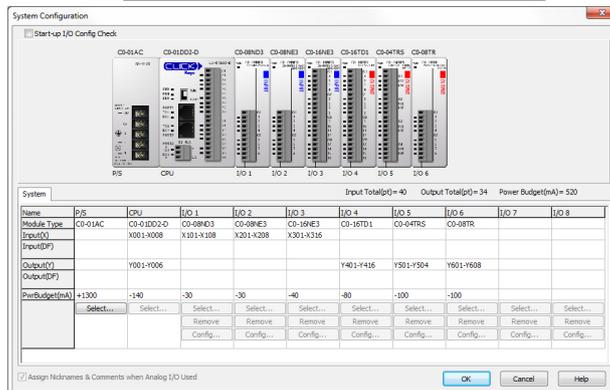
Power Budgeting Example

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
Total:	330	160 *

* Plus calculated load of connected I/O devices.



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



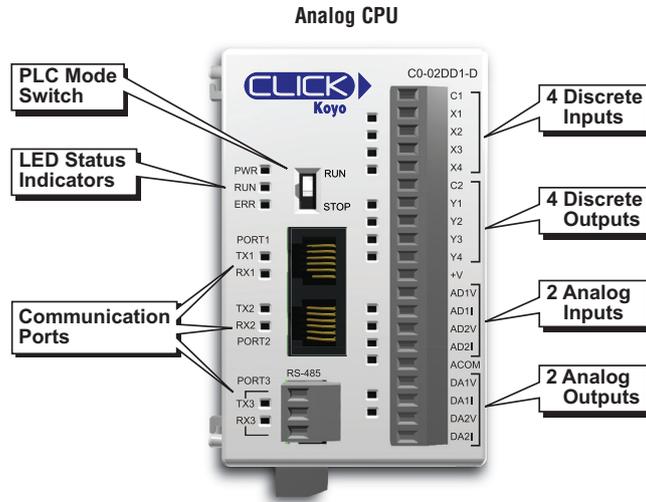
Choosing the I/O Type

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.

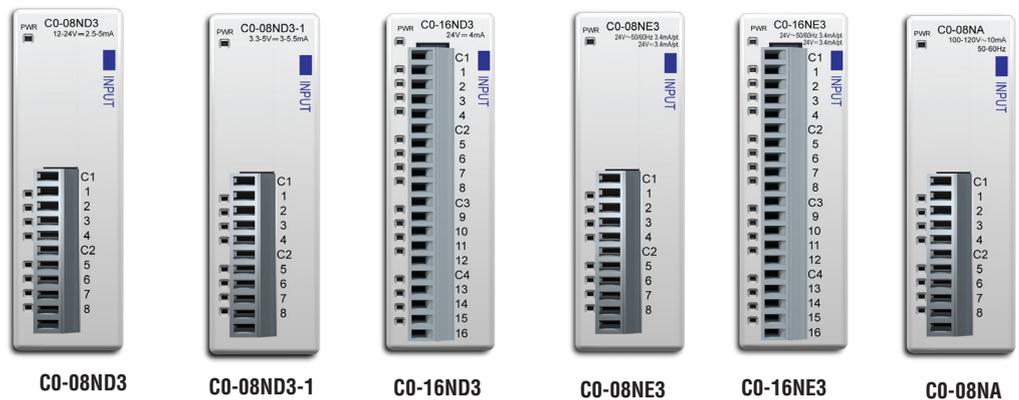


Analog CLICK CPUs					
Part Number	Discrete Input Types	Discrete Output Types	Analog Input Types	Analog Output Types	External Power
<i>CO-02DD1-D</i>	4 DC (sink/ source)	4 DC (sink)	2 channel; voltage (0-5 VDC) / current (4-20 mA); selectable separately per channel; 12 bit	2 channel; voltage (0-5 VDC)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

I/O Modules

A variety of discrete, combo, and analog I/O modules are available for the CLICK PLC system. Up to eight I/O modules can be connected to a CLICK 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.

Discrete Input Modules

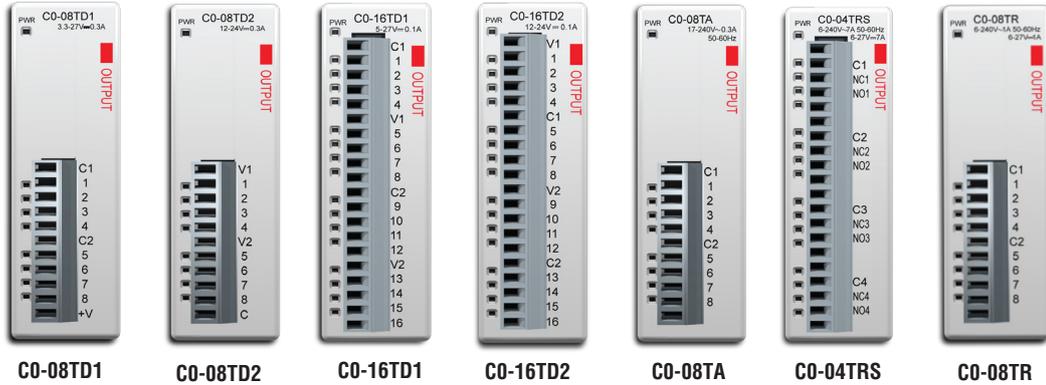


Discrete Input Modules			
Part Number	I/O Type/ Number/Commons	Sink or Source	Voltage Ratings
<i>CO-08ND3</i>	DC/8/2	Sink or Source	12-24 VDC
<i>CO-08ND3-1</i>	DC/8/2	Sink or Source	3.3-5 VDC
<i>CO-16ND3</i>	DC/16/4	Sink or Source	24 VDC
<i>CO-08NE3</i>	AC/DC / 8/2	Sink or Source	24 VAC/VDC
<i>CO-16NE3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

Choosing the I/O Type

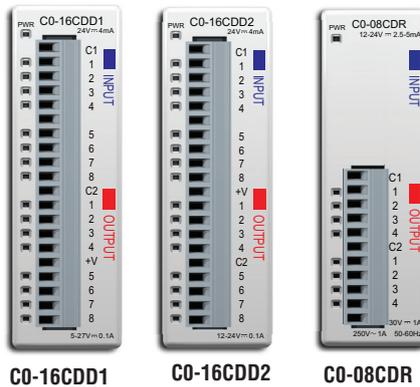
Discrete I/O Modules (continued)

Discrete Output Modules



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

Discrete Combo I/O Modules

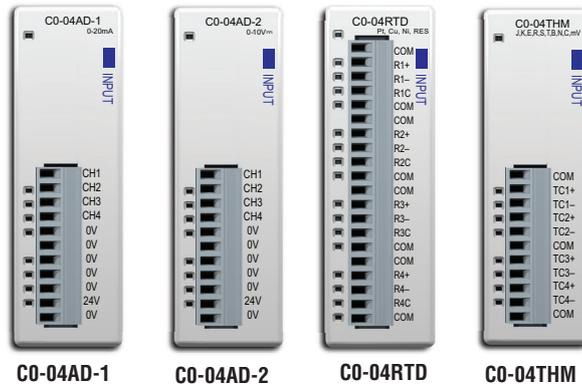


Discrete Combo I/O Modules				
Part Number	Input Type	Input Voltage	Output Type	Output Voltage / Current Ratings
CO-16CDD1	8 DC (source/sink)	24 VDC	8 DC (sink)	5-27 VDC / 0.1 A
CO-16CDD2	8 DC (source/sink)	24 VDC	8 DC (source)	12-24 VDC / 0.1 A
CO-08CDR	4 DC (source/sink)	12-24 VDC	4 (relay)	6.25-24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

Choosing the I/O Type

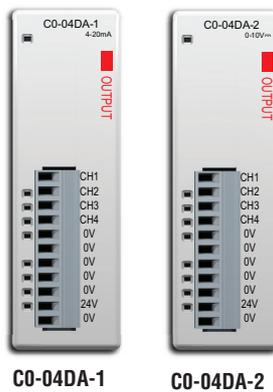
Analog I/O Modules

Analog Input Modules



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

Analog Output Modules

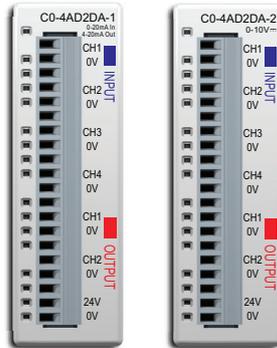


Analog Output Modules		
Part Number	Analog Output Types	External Power Required
CO-04DA-1	4 channel, current sourcing (4-20 mA), 12 bit	24 VDC
CO-04DA-2	4 channel, voltage (0-10 V), 12 bit	24 VDC

Choosing the I/O Type / Specifications

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
CO-4AD2DA-1	4 channel, current (0-20 mA), 13 bit	2 channel, current sourcing (4-20 mA), 12 bit	24 VDC
CO-4AD2DA-2	4 channel, voltage (0-10 V), 13 bit	4 channel, voltage (0-10 V), 12 bit	24 VDC

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	
Power Input Voltage Range	20-28 VDC
Maximum Power Consumption	5 W (No 5 V use from communication port)
Maximum Inrush Current	30 A (less than 1ms)
Acceptable External Power Drop	Max 10 ms
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, EC60068-2-6 JIS C60068-2-6 (Sine wave vibration test)
Shock	MIL STD 810C, Method 516.2, IEC60068-2-27, JIS C60068-2-27
Noise Immunity	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)
Emissions	EN55011:1998 Class A
Agency Approvals	UL508 (File No. E157382, E316037); CE (EN61131-2)
Other	RoHS



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 and Standard CLICK CPU modules 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 CPU 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.

Using the PLC CPU and I/O Modules to ZIPLink Connector Modules selector tables located in this section,

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

Solution 2: CLICK CPU 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.

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

1. Locate your CPU 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.

Using 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 CPUs 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.



Using 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



Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

DirectLOGIC PLCs Overview

DirectLOGIC DL05/06

DirectLOGIC DL105

DirectLOGIC DL205

DirectLOGIC DL305

DirectLOGIC DL405

Productivity Controller Overview

Productivity 3000

Universal Field I/O

Software

C-More HMI

C-More Micro HMI

ViewMarq Industrial Marquees

Other HMI

Communications

Appendix Book 1

Terms and Conditions

CLICK PLC CPU Module ZIPLink Selector				
PLC		ZIPLink		
CPU Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-00DD1-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-00DD2-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-00DR-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-00AR-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-01DD1-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-01DD2-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-01DR-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-01AR-D	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-02DD1-D	20	No ZIPLinks are available for analog CPU modules.		
CO-02DD2-D	20			
CO-02DR-D	20			

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	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
CO-08CDR	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*

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

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

CLICK PLC Discrete Input Module ZIPLink Selector				
I/O Module		ZIPLink		
Input Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-08ND3	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-08ND3-1	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-08NE3	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-08NA	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-16ND3	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
		Sensor	ZL-LTB16-24	ZL-CO-CBL20*
CO-16NE3	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
		Sensor	ZL-LTB16-24	ZL-CO-CBL20*

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	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-08TR	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-08TA	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11*
CO-16TD1	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
		Fuse	ZL-RFU20 ²	ZL-CO-CBL20*
		Relay (sinking)	ZL-RRL16-24-1	ZL-CO-CBL20*
CO-16TD2	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*
		Fuse	ZL-RFU20 ²	ZL-CO-CBL20*
		Relay (sourcing)	ZL-RRL16-24-2	ZL-CO-CBL20*
CO-04TRS ¹	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20*

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.