

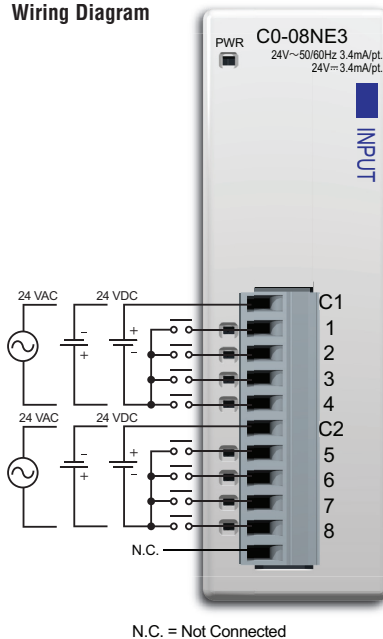
# CLICK I/O Module Specifications

## C0-08NE3 \$35.00

### 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

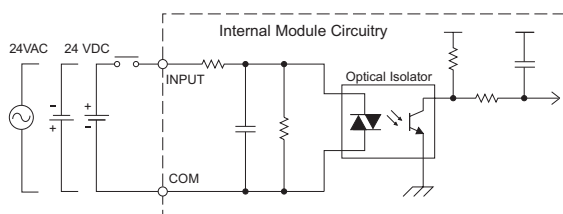


C0-08NE3 Input Specifications

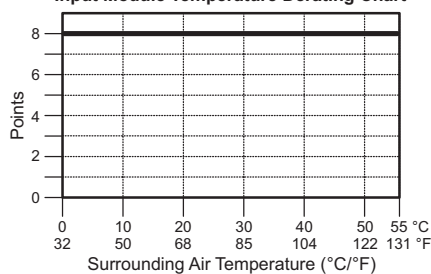
<b>Inputs per Module</b>	8 (Sink/Source)
<b>Operating Voltage Range</b>	24 VAC/VDC
<b>Input Voltage Range</b>	20.4 - 27.6 VAC/VDC
<b>Peak Voltage</b>	27.6 VAC/VDC
<b>AC Frequency</b>	47-63 Hz
<b>Input Current</b>	Typ 3.4 mA @ 24 VAC/VDC
<b>Maximum Input Current</b>	5.0 mA @ 27.6 VAC/VDC
<b>Input Impedance</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)

# Power Budgeting

## Power Budgeting

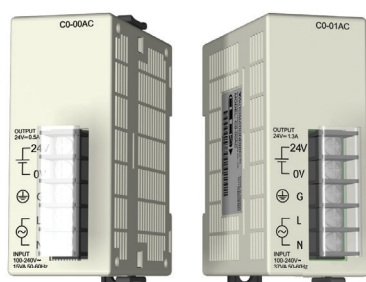
There are two areas to be considered when determining the power required to operate a CLICK PLC system. The first area is the power required by the CLICK PLC, along with the internal logic side power that the CPU provides to its own I/O and any connected I/O modules that are powered through the PLC expansion 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 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.

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



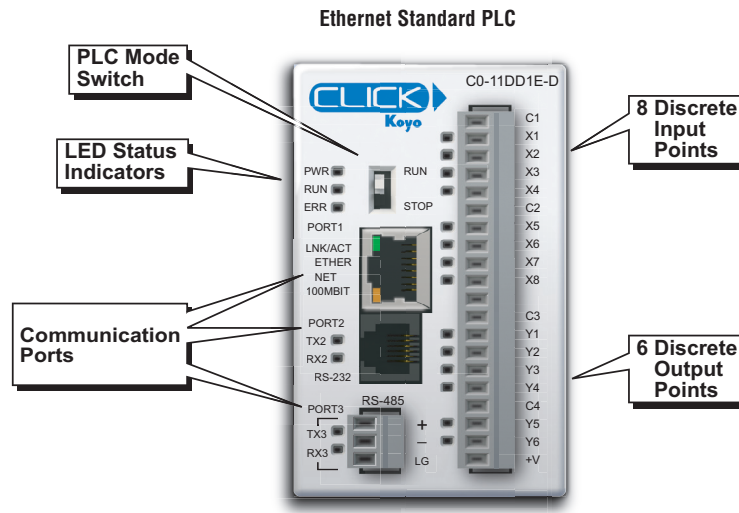
Other 24 VDC Power Supply  
Example: PSP24-60S

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

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

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

# Choosing a PLC Unit



Ethernet Standard PLCs			
Part Number	Discrete Input Type	Discrete Output Type	External Power
<b>CO-11DD1E-D</b>	8 DC (sink/source)	6 DC (sink)	24V DC (required for all PLCs)
<b>CO-11DD2E-D</b>		6 DC (source)	
<b>CO-11DRE-D</b>		6 Relay	
<b>CO-11ARE-D</b>	8 AC		

# Choosing Expansion I/O Modules

## I/O Modules

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

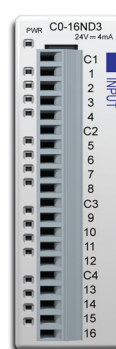
## Discrete Input Modules



CO-08ND3



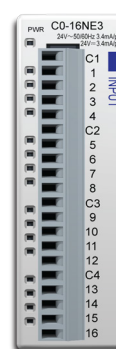
CO-08ND3-1



CO-16ND3



CO-08NE3



CO-16NE3



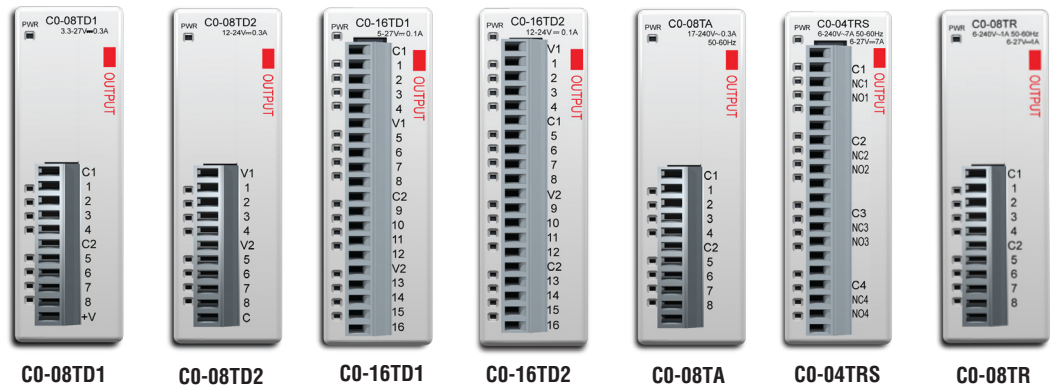
CO-08NA

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

# Choosing Expansion I/O Modules

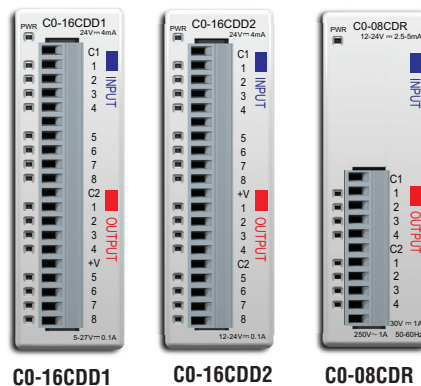
## Discrete I/O Modules (continued)

### Discrete Output Modules



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

### Discrete Combo I/O Modules

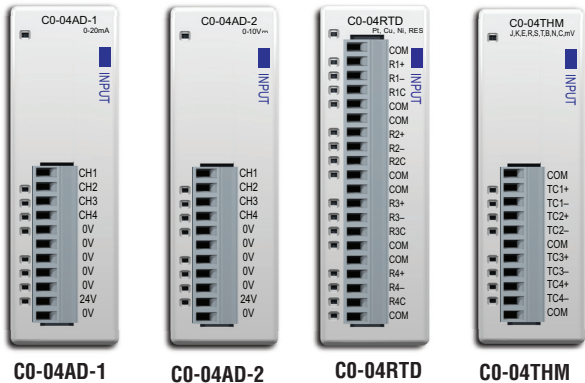


Discrete Combo I/O Modules				
Part Number	Input Type	Input Voltage	Output Type	Output Voltage / Current Ratings
<b>CO-16CDD1</b>	8 DC (source/sink)	24 VDC	8 DC (sink)	5-27 VDC / 0.1 A
<b>CO-16CDD2</b>	8 DC (source/sink)	24 VDC	8 DC (source)	12-24 VDC / 0.1 A
<b>CO-08CDR</b>	4 DC (source/sink)	12-24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

# Choosing Expansion I/O Modules

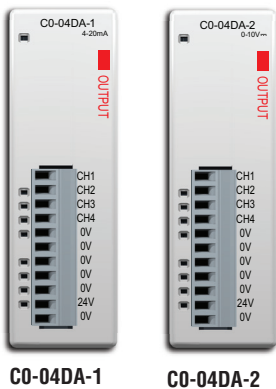
## Analog I/O Modules

### 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

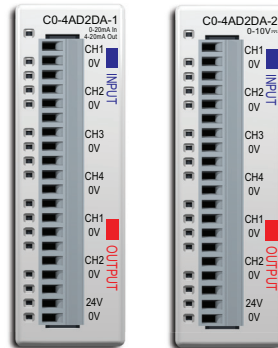


Analog Output Modules		
Part Number	Analog Output Types	External Power Required
CO-04DA-1	4 channel, current sourcing (4-20 mA), 12 bit	24 VDC
CO-04DA-2	4 channel, voltage (0-10 V), 12 bit	24 VDC

# Choosing Expansion I/O Modules

## Analog I/O Modules (continued)

### Analog Combo I/O Modules



C0-4AD2DA-1

C0-4AD2DA-2

Analog Combo I/O Modules			
Part Number	Analog Input Type	Analog Output Type	External Power Required
<b>C0-4AD2DA-1</b>	4 channel, current (0-20 mA), 13 bit	2 channel, current sourcing (4-20 mA), 12 bit	24 VDC
<b>C0-4AD2DA-2</b>	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 PLCs, optional I/O modules, and optional power supply products. Please refer to the appropriate I/O temperature derating charts under both the PLC and I/O module specifications to determine best operating conditions based on the ambient temperature of your particular application.

General Specifications	
<b>Power Input Voltage Range</b>	20-28 VDC
<b>Maximum Power Consumption</b>	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>	Analog, analog combo I/O modules only: 32°F to 140°F (0°C to 60°C); All other modules: 32°F to 131°F (0°C to 55°C), IEC 60068-2-14 (Test Nb, Thermal Shock)
<b>Storage Temperature</b>	-4°F to 158°F (-20°C to 70°C) IEC 60068-2-1 (Test Ab, Cold) IEC 60068-2-2 (Test Bb, Dry Heat) IEC 60068-2-14 (Test Na, Thermal Shock)
<b>Ambient Humidity</b>	30% to 95% relative humidity (non-condensing)
<b>Environmental Air</b>	No corrosive gases. Environmental pollution level is 2 (UL840)
<b>Vibration</b>	MIL STD 810C, Method 514.2, EC60068-2-6 JIS C60068-2-6 (Sine wave vibration test)
<b>Shock</b>	MIL STD 810C, Method 516.2, IEC60068-2-27, JIS C60068-2-27
<b>Noise Immunity</b>	Comply with NEMA ICS3-304, Impulse noise 1µs, 1000V EN61000-4-2 (ESD), EN61000-4-3 (RFI), EN61000-4-4 (FTB) EN61000-4-5 (Surge), EN61000-4-6 (Conducted) EN61000-4-8 (Power frequency magnetic field immunity) RFI: No interference measured at 150 and 450 MHz (5w/15cm)
<b>Emissions</b>	EN55011:1998 Class A
<b>Agency Approvals</b>	UL508 (File No. E157382, E316037); CE (EN61131-2)
<b>Other</b>	RoHS





# 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

Company  
InformationControl Systems  
Overview

CLICK PLC

Do-More  
PLCs OverviewDo-More H2  
PLCDo-More T1H  
PLCDirectLOGIC  
PLCs OverviewDirectLOGIC  
DL05/06DirectLOGIC  
DL105DirectLOGIC  
DL205DirectLOGIC  
DL305DirectLOGIC  
DL405Productivity  
2000Productivity  
3000Universal  
Field I/O

Software

C-More  
HMIC-More Micro  
HMIViewMarq  
Industrial  
Marquees

Other HMI

Communications

Appendix  
Book 1Terms and  
Conditions

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-10DD1E-D				
CO-10DD2E-D				
CO-10DRE-D				
CO-10ARE-D				
CO-11DD1E-D				
CO-11DD2E-D				
CO-11DRE-D				
CO-11ARE-D				
CO-02DD1-D	20	No ZIPLinks are available for analog PLC Units.		
CO-02DD2-D				
CO-02DR-D				

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

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

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

CLICK PLC Discrete Output Module ZIPLink Selector				
I/O Module		ZIPLink		
Output Module	# of Terms	Component	Module Part No.	Cable Part No.
CO-08TD1	11	Feedthrough	ZL-RTB20	ZL-CO-CBL11 *
CO-08TD2				
CO-08TR				
CO-08TA				
CO-16TD1	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
		Fuse	ZL-RFU20 <sup>2</sup>	
		Relay (sinking)	ZL-RL16-24-1	
CO-16TD2	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *
		Fuse	ZL-RFU20 <sup>2</sup>	
		Relay (sourcing)	ZL-RL16-24-2	
CO-04TRS <sup>1</sup>	20	Feedthrough	ZL-RTB20	ZL-CO-CBL20 *

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

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

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