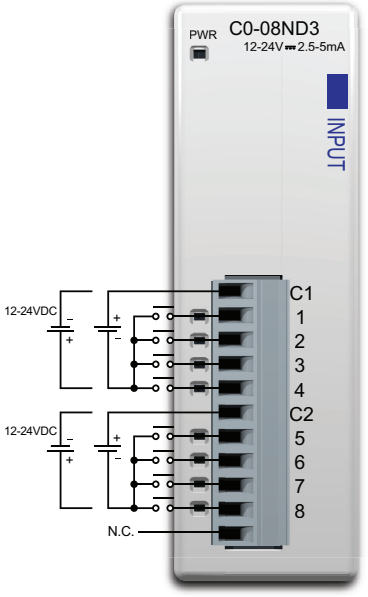
CLICK I/O Module Specifications

C0-08ND3 $33.00

8-Point Sink/Source DC Input Module

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

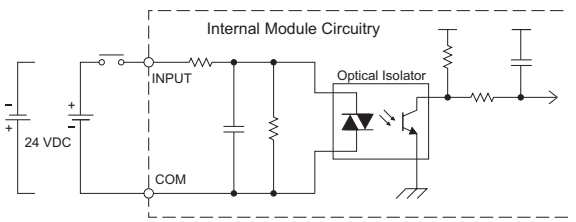
Wiring Diagram



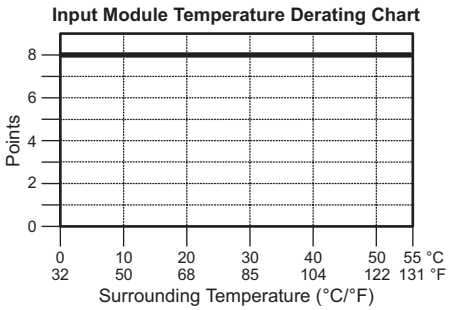
N.C. = Not Connected

C0-08ND3 Input Specifications	
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	12-24 VDC
Input Voltage Range	10.8-26.4 VDC
Input Current	Typ 5 mA @ 24 VDC
Maximum Input Current	7 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 (8 points, green LED) Power Indicator (green LED)
Commons	2 (4 points/common) Isolated
Bus Power Required (24 VDC)	Max. 30 mA (All Inputs On)
Terminal Block Replacement	ADC p/n C0-8TB
Weight	2.8 oz (80 g)

Equivalent Input Circuit



Input Module Temperature Derating Chart



*ZIP*Link 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

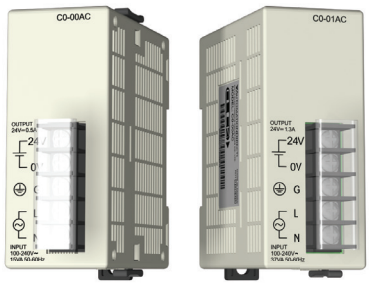
There are two areas to be considered when determining the power required to operate a CLICK PLC system. The first area is the power required by the CLICK PLC, along with the internal logic side power that the CPU provides to its own I/O and any connected I/O modules that are powered through the PLC expansion 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
C0-00AC or C0-01AC

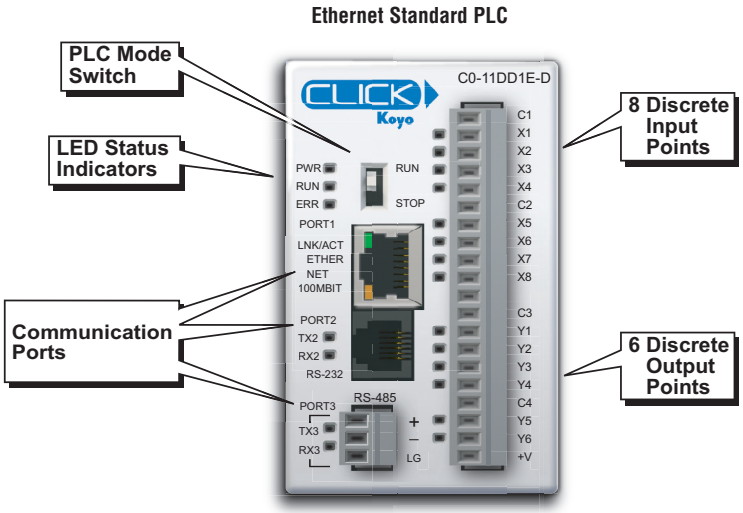
Other 24 VDC Power Supply
Example: PSP24-60S

PLC Current Consumption (mA)		
Part Number	**Power Budget 24 VDC (logic side)**	**External 24 VDC (field side)**
Basic PLC Units		
C0-00DD1-D	120	60
C0-00DD2-D	120	0
C0-00DR-D		
C0-00AR-D		
Standard PLC Units		
C0-01DD1-D	140	60
C0-01DD2-D	140	0
C0-01DR-D		
C0-01AR-D		
Analog PLC Units		
C0-02DD1-D	140	60
C0-02DD2-D	140	0
C0-02DR-D		
Ethernet Basic PLC Units		
C0-10DD1E-D	120	60
C0-10DD2E-D	120	0
C0-10DRE-D		
C0-10ARE-D		
Ethernet Standard PLC Units		
C0-11DD1E-D	140	60
C0-11DD2E-D	140	0
C0-11DRE-D		
C0-11ARE-D		

I/O Module Current Consumption (mA)		
Part Number	**Power Budget 24 VDC (logic side)**	**External 24 VDC (field side)**
Discrete Input Modules		
C0-08ND3	30	0
C0-08ND3-1	30	0
C0-16ND3	40	0
C0-08NE3	30	0
C0-16NE3	40	0
C0-08NA	30	0
Discrete Output Modules		
C0-08TD1	50	15
C0-08TD2	50	0
C0-16TD1	80	100
C0-16TD2	80	0
C0-08TA	80	0
C0-04TRS	100	0
C0-08TR	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		
C0-16CDD1	80	50
C0-16CDD2	80	0
C0-08CDR	80	0
Analog Input Modules		
C0-04AD-1	20	65
C0-04AD-2	23	65
C0-04RTD	25	0
C0-04THM	25	0
Analog Output Modules		
C0-04DA-1	20	145
C0-04DA-2	20	85
Analog Combo I/O Modules		
C0-4AD2DA-1	25	75
C0-4AD2DA-2	20	65
C-more Micro-Graphic Panel		
Monochrome only	90	0

Choosing a PLC Unit



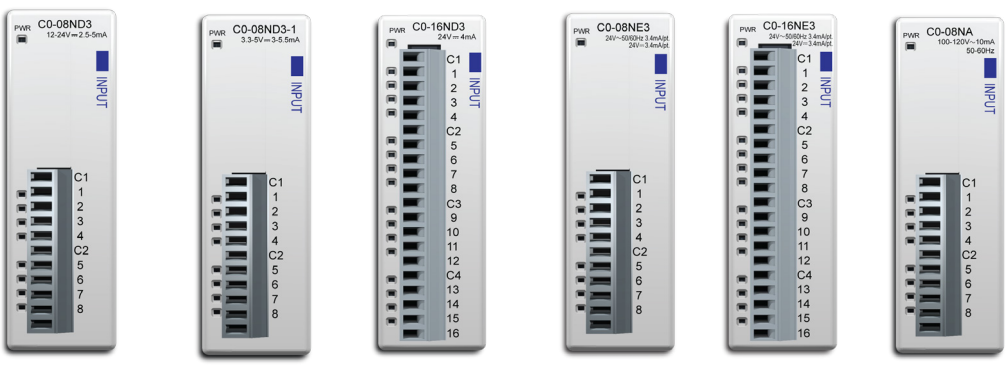
Ethernet Standard PLCs			
Part Number	**Discrete Input Type**	**Discrete Output Type**	**External Power**
C0-11DD1E-D	8 DC (sink/source)	6 DC (sink)	24V DC (required for all PLCs)
C0-11DD2E-D		6 DC (source)	
C0-11DRE-D		6 Relay	
C0-11ARE-D	8 AC		

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



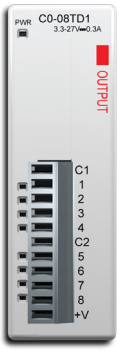
C0-08ND3 **C0-08ND3-1** **C0-16ND3** **C0-08NE3** **C0-16NE3** **C0-08NA**

Discrete Input Modules			
Part Number	**I/O Type/ Number/Commons**	**Sink or Source**	**Voltage Ratings**
C0-08ND3	DC/8/2	Sink or Source	12-24 VDC
C0-08ND3-1	DC/8/2	Sink or Source	3.3-5 VDC
C0-16ND3	DC/16/4	Sink or Source	24 VDC
C0-08NE3	AC/DC / 8/2	Sink or Source	24 VAC/VDC
C0-16NE3	AC/DC / 16/4	Sink or Source	24 VAC/VDC
C0-08NA	AC/8/2	N/A	100-120 VAC

Choosing Expansion I/O Modules

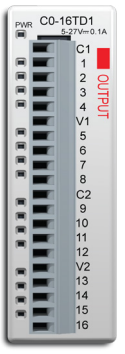
Discrete I/O Modules (continued)

Discrete Output Modules

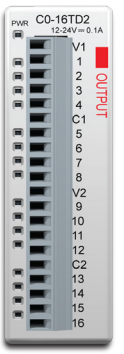


C0-08TD1

C0-08TD2



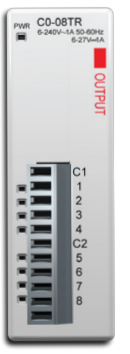
C0-16TD1



C0-16TD2

C0-08TA

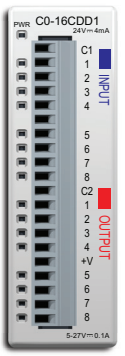
C0-04TRS



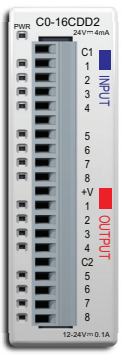
C0-08TR

Discrete Output Modules			
Part Number	I/O Type/ Number/ Commons	Sink or Source	Voltage/Current Ratings
C0-08TD1	DC/8/2	Sink	3.3-27 VDC, 0.3 A
C0-08TD2	DC/8/1	Source	12-24 VDC, 0.3 A
C0-16TD1	DC/16/2	Sink	5-27 VDC, 0.1 A
C0-16TD2	DC/16/2	Source	12-24 VDC, 0.1 A
C0-08TA	AC/8/2	N/A	17-240 VAC, 0.3 A
C0-04TRS	Relay/4/4	N/A	6-27 VDC, 7 A 6-240 VAC, 7 A
C0-08TR	Relay/8/2	N/A	6-27 VDC, 1 A 6-240 VAC, 1 A

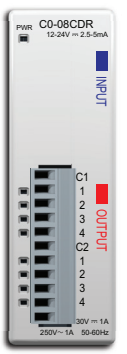
Discrete Combo I/O Modules



C0-16CDD1



C0-16CDD2



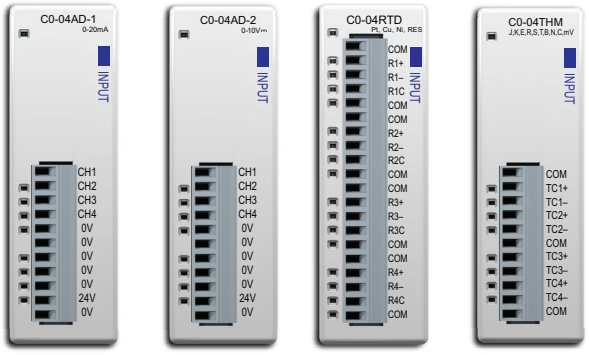
C0-08CDR

Discrete Combo I/O Modules				
Part Number	Input Type	Input Voltage	Output Type	Output Voltage / Current Ratings
C0-16CDD1	8 DC (source/sink)	24 VDC	8 DC (sink)	5-27 VDC / 0.1 A
C0-16CDD2	8 DC (source/sink)	24 VDC	8 DC (source)	12-24 VDC / 0.1 A
C0-08CDR	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

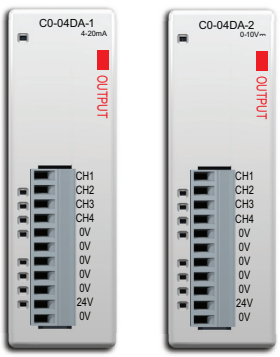
Analog Input Modules



C0-04AD-1 C0-04AD-2 C0-04RTD C0-04THM

Analog Input Modules		
Part Number	**Analog Input Types**	**External Power Required**
C0-04AD-1	4 channel, current (0-20 mA), 13 bit	24 VDC
C0-04AD-2	4 channel, voltage (0-10 V), 13 bit	24 VDC
C0-04RTD	4 channel RTD input (0.1 degree °C/°F resolution), or resistive input (0 to 3125 ohms)	None
C0-04THM	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



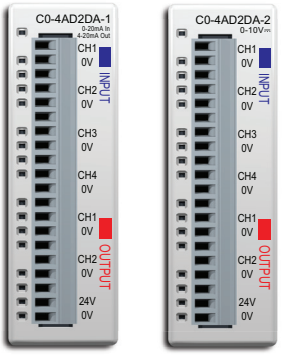
C0-04DA-1 C0-04DA-2

Analog Output Modules		
Part Number	**Analog Output Types**	**External Power Required**
C0-04DA-1	4 channel, current sourcing (4-20 mA), 12 bit	24 VDC
C0-04DA-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**
C0-4AD2DA-1	4 channel, current (0-20 mA), 13 bit	2 channel, current sourcing (4-20 mA), 12 bit	24 VDC
C0-4AD2DA-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 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	
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 *ZIP*Link Wiring System

*ZIP*Links 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.

*ZIP*Links are available in a variety of styles to suit your needs, including feedthrough connector module. *ZIP*Links 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 *ZIP*Link modules are provided with *ZIP*Link cables.

Solution 1: CLICK PLC and I/O Modules to *ZIP*Link Connector Modules

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

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

1. Locate your PLC or I/O module.
2. Select a *ZIP*Link Module.
3. Select a corresponding *ZIP*Link 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 *ZIP*Link Pigtail Cables. *ZIP*Link 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 *ZIP*Link section:

1. Locate your PLC or I/O module.
2. Select a *ZIP*Link 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?

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

Use the Drives Communication selector tables located in the *ZIP*Link section:

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

Solution 4: Serial Communications Cables

*ZIP*Link 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 *ZIP*Link section:

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

ZIPLink Wiring System for CLICK PLCs

CLICK PLC *ZIP*Link Selector				
PLC		***ZIP*Link**		
PLC Unit	***# of Terms***	***Component***	***Module Part No.***	***Cable Part No.***
C0-00DD1-D	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *
C0-00DD2-D				
C0-00DR-D				
C0-00AR-D				
C0-01DD1-D				
C0-01DD2-D				
C0-01DR-D				
C0-01AR-D				
C0-10DD1E-D				
C0-10DD2E-D				
C0-10DRE-D				
C0-10ARE-D				
C0-11DD1E-D				
C0-11DD2E-D				
C0-11DRE-D				
C0-11ARE-D				
C0-02DD1-D	20	No *ZIP*Links are available for analog PLC Units.		
C0-02DD2-D				
C0-02DR-D				

CLICK PLC Discrete Input Module *ZIP*Link Selector				
I/O Module		***ZIP*Link**		
Input Module	***# of Terms***	***Component***	***Module Part No.***	***Cable Part No.***
C0-08ND3	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *
C0-08ND3-1				
C0-08NE3				
C0-08NA				
C0-16ND3	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *
		Sensor	ZL-LTB16-24	
C0-16NE3	20	Feedthrough	ZL-RTB20	
		Sensor	ZL-LTB16-24	

1 Note: The C0-04TRS 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 Output Module *ZIP*Link Selector				
I/O Module		***ZIP*Link**		
Output Module	***# of Terms***	***Component***	***Module Part No.***	***Cable Part No.***
C0-08TD1	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *
C0-08TD2				
C0-08TR				
C0-08TA				
C0-16TD1	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20*
		Fuse	ZL-RFU20 [2]	
		Relay (sinking)	ZL-RRL16-24-1	
C0-16TD2	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *
		Fuse	ZL-RFU20 [2]	
		Relay (sourcing)	ZL-RRL16-24-2	
C0-04TRS[1]	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *

CLICK PLC Combo I/O Module *ZIP*Link Selector				
I/O Module		***ZIP*Link**		
Combo Module	***# of Terms***	***Component***	***Module Part No.***	***Cable Part No.***
C0-16CDD1	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *
C0-16CDD2				
C0-08CDR	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *

CLICK PLC Analog I/O Module *ZIP*Link Selector				
I/O Module		***ZIP*Link**		
Analog Module	***# of Terms***	***Component***	***Module Part No.***	***Cable Part No.***
C0-04AD-1	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *
C0-04AD-2	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *
C0-04RTD	20	No *ZIP*Links are available for RTD and thermocouple modules.		
C0-04THM	11			
C0-04DA-1	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *
C0-04DA-2	11	Feedthrough	ZL-RTB20	ZL-C0-CBL11 *
C0-4AD2DA-1	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *
C0-4AD2DA-2	20	Feedthrough	ZL-RTB20	ZL-C0-CBL20 *

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

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 2000
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