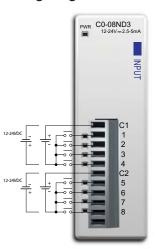
# **CLICK I/O Module Specifications**

## C0-08ND3

## 8-Point Sink/Source DC Input Module

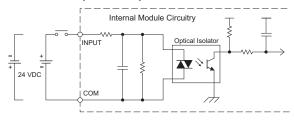
8-pt 12-24 VDC current sinking or sourcing input module, 2 commons, isolated, removable terminal block included (replacement ADC p/n C0-08TB).

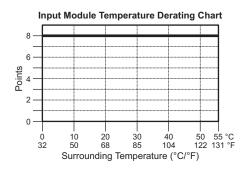
### **Wiring Diagram**



CO-08ND3 Input	<b>Specifications</b>
Inputs per Module	8 (Sink/Source)
Operating Voltage Range	12-24 VDC
Input Voltage Range	10.8-26.4 VDC
Input Current	Typ 5.5 mA @ 24 VDC
Maximum Input Current	7 mA @ 26.4 VDC
Input Impedance	4.7 k <b>Ω</b> @ 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**





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





A-22 PLC Products 0 1 7 3 7 - 8 2 4 6 0 0

# **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

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 from all devices operating from the field side of the PLC system.

See the Power Budgeting example shown to the right, which includes tables listing the CLICK CPU and I/O module current requirements.

## **Power Budgeting Using the CLICK Programming Software**

The following example shows the logic side current consumption as calculated in the CLICK Programming software. Based on the amperage rating of the power supply selected in the first column, your power budget is calculated by subtracting each consecutive module's power consumption from the total available power budget. If you exceed the maximum allowable power consumption the power budget row is highlighted in red.

> Power budget row turns red if maximum allowable power consumption is exceeded for your power supply.



**CLICK 24 VDC Power Supply** CO-OOAC or CO-O1AC

Curre	Current Consumption (mA)					
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (field side)				
<b>CPU Modules</b>						
CO-00DD1-D	120	60				
CO-00DD2-D	120	0				
CO-OODR-D	120	0				
CO-OOAR-D	120	0				
Input Modules						
CO-08ND3	30	0				
CO-08ND3-1	30	0				
CO-16ND3	40	0				
CO-08NA	30	0				

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CLICK PLC

DI 205 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/ Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Process

Relays/ Timers

Comm.

TB's & Wiring

Power

Circuit

Enclosures

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Pushbuttons/ Lights

Other 24 VDC Power Supply Example: PSP24-60S

Current Consumption (mA)					
Part Number	Power Budget 24 VDC (logic side)	External 24 VDC (field side)			
Output Modul	es				
CO-08TD1	50	15			
CO-08TD2	50	0			
CO-16TD1	80	100			
CO-16TD2	80	0			
CO-08TA	80	0			
CO-04TRS	100	0			
C0-08TR	100	0			
C-more Micro-Graphic Panel					
All p/n	90	0			

#### (Example)

Current Consumption (mA) Example						
Part Number Power Budget 24 VDC 24 VDC (logic side) (field side)						
CO-00DD1-D	120	60				
CO-16ND3	40	0				
CO-16TD1	80	100				
<b>C-more Micro</b> 90 0						
<i>Total:</i> 330 160 *						
* Plus calculated load of connected I/O devices.						



Use this I/O			0-00AC C0-000	- A P	Maria ca amera	CO-SINA CO-SITI	DI CONTES CO			
		ĭ	11+m CO-00	Mark treese has	HUMMIN - HUMMIN	- 4/9, - 4/9	75 4LPPP	HART.		
			3:1		100					
			100			.em:   811		100		
			(A) NO     1/4							
				_6   3   6	8 .8 .					
			100					100		
		P)	100	1/0		1/03 1/04	tios tio	100		
stem			100			1/03 1/04	1/05 1/0	100	34 Power Bu	dget(mA)= 520
vstem Name	P/S	[GPU	S CPU	1/02	1 1/02	I/O 4 Input To	1/05 1/0 tal(pt)=40 (	Output Total(pt)=	34 Power Bu	dget(mA)= 520
Name Module Type	P/5 C0-00AC	CP-000R-D	1/0 1 C0-16ND3	1/0 2 C0-08ND3	1 1/02 1/03 C0-08NA	I/O 3 I/O 4	1/0 5 1/0 tal(pt)=40	Output Total(pt)-		
Name Module Type Input		CPU C0-000R-D X001-X008	S CPU	1/02	1 1/02	1/0.4 CO-16TD1	1/0 5 1/0 tal(pt)=40 ( 1/0 5 C0-04TRS	Output Total(pt)-		
Vame Module Type Input Dutput	C0-00AC	CPU C0-000R-D X001-X008 Y001-Y006	1/0 1 C0-16ND3 X101-X116	1/0 2 C0-08ND3	1 1/02 1/03 C0-08NA	I/O 4 Input To	1/0 5 1/0 kal(pt)=40 0 1/0 5 C0-04TRS Y501-Y504	0.6 Output Total(pt)- 1/0.6 CO-08TR Y601-Y608		
Vame Module Type Input Dutput	C0-00AC	CPU C0-000R-D X001-X008	1/0 1 C0-16ND3 X101-X116	1/0 2 C0-08ND3 ×201-×208	1 I/O 3 C0-08NA X301-X308	1/0 4 1/0 4 1/0 4 C0-16TD1 Y401-Y416	1/0 5 1/0 tal(pt)=40 0 1/0 5 C0-04TRS Y501-Y504 -100	06 Output Total(pt)= 1/06 CO-08TR Y601-Y608	1/0 7	1/08
Vame Module Type Input Dutput	C0-00AC	CPU C0-000R-D X001-X008 Y001-Y006	1/0 1 C0-16ND3 X101-X116	1/0 2 CO-08ND3 X201-X208	1 1/0 2 1/0 3 C0-08NA X301-X308	I/O 3 I/O 4 Input To I/O 4 CO-16TD1 Y401-Y416 -80 Insert	L/O 5 L/O kal(pt)=40 ( L/O 5 CO-04TRS YS01-YS04 -100 Insert	1/0 6 CO-08TR V601-Y608	1/0 7	I/O 8
Name Module Type	C0-00AC	CPU C0-000R-D X001-X008 Y001-Y006	1/0 1 C0-16ND3 X101-X116	1/0 2 C0-08ND3 ×201-×208	1 I/O 3 C0-08NA X301-X308	1/0 4 1/0 4 1/0 4 C0-16TD1 Y401-Y416	1/0 5 1/0 tal(pt)=40 0 1/0 5 C0-04TRS Y501-Y504 -100	06 Output Total(pt)= 1/06 CO-08TR Y601-Y608	1/0 7	1/08

PLC Products A-13



# Five-second PLC wiring system



PLC

CLICK PLC

DL105 PLC

> DL205 PLC

DL305

DL405 PLC

Field I/O

Software

C-more

Other HMI

AC Drives

Motors

Steppers/ Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pushbuttons/ Lights

Process

Relays/ Timers

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Enclosures

Appendix

Part Index

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

The *ZIP*Link wiring system eliminates the normally tedious process of wiring PLC I/O to terminal blocks. Simply plug one end of a *ZIP*Link pre-wired terminal block cable into your CLICK module and the other end into a *ZIP*Link connector module. It's that easy. *ZIP*Links use half the space, at a fraction of the total cost of 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 CLICK CPU modules and all discrete input and output modules.

\*Note: only the feedthrough module ZIPlink currently available.

## Specify your **ZIP**Link system

Use the Compatibility Matrix table below:

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

	ZipLink Wiring Syste	m Compatibility	Matrix for CLICK PLCs
	Step 2: Connector Module Type		Feedthrough Module
	Chan 1: I/O unit	Number of	ZL-RTB20
	Step 1: I/O unit	Terminals	Step 3: Cables
<u>e</u>	CO-00DD1-D	20	ZL-C0-CBL20#
	CO-OODD2-D	20	ZL-C0-CBL20#
CPU Module	CO-OODR-D	20	ZL-C0-CBL20#
C	CO-00AR-D	20	ZL-C0-CBL20#
	CO-08ND3	11	ZL-C0-CBL11#
	CO-08NA	11	ZL-C0-CBL11#
	CO-08TD1	11	ZL-C0-CBL11#
<u>a</u>	CO-08TD2	11	ZL-C0-CBL11#
/O Module	CO-08TR	11	ZL-C0-CBL11#
Ž	CO-08TA	11	ZL-C0-CBL11#
<b>=</b>	CO-16ND3 CO-16TD1	20	ZL-C0-CBL20#
		20	ZL-C0-CBL20#
	CO-16TD2	20	ZL-C0-CBL20#
	CO-04TRS*	20	ZL-C0-CBL20#

\*Note: The CO-04TRS relay output is derated to 2A per point max. when used with the ZipLink wiring system