

# CLICK Stackable I/O Module Specifications

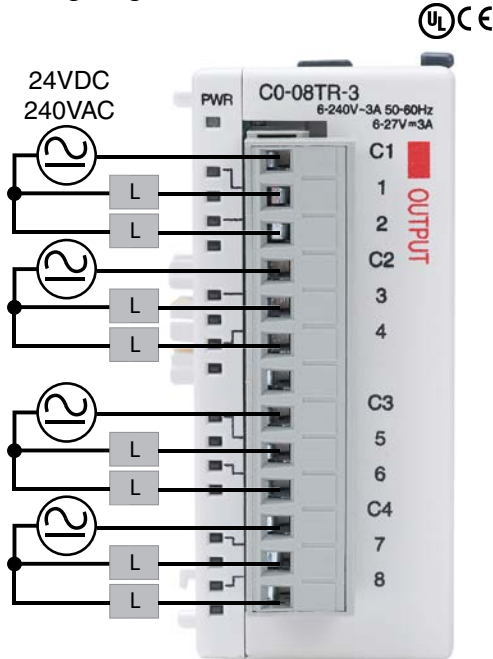
## C0-08TR-3

\$61.00

### 8-Point Relay Output Module

8-point 6-27 VDC/6-240 VAC relay output module, 8 Form A (SPST) relays, 4 commons, isolated, 3 A/point, removable terminal block included (replacement AutomationDirect p/n C0-8TB-1).

#### Wiring Diagram

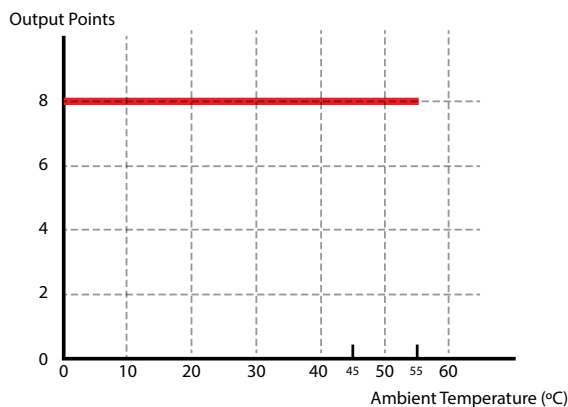


Output Specifications	
Outputs per Module	8
Operating Voltage Range	6-27 VDC / 6-240 VAC
Peak Voltage	30 VDC / 264 VAC
Output type	Relay, form A (SPST)
AC Frequency	47-63 Hz
Maximum Current (resistive)	3A/point, 6A/common
Minimum Load Current	5mA @ 5VDC
Maximum Inrush Current	5A for 10ms
OFF to ON Response	< 15ms
ON to OFF Response	< 15ms
Status Indicators	Logic Side (8 points, red LED) Power Indicator (green LED)
Commons	4 (2 points/common)
Bus Power Required (24VDC)	Max. 90mA (All Outputs On)
Protection Circuit	Not built into the module - Install protection elements such as external fuse
Terminal Block Replacement	AutomationDirect p/n C0-8TB-1
Drawing Link	PDF
Weight	4.1 oz [117g]

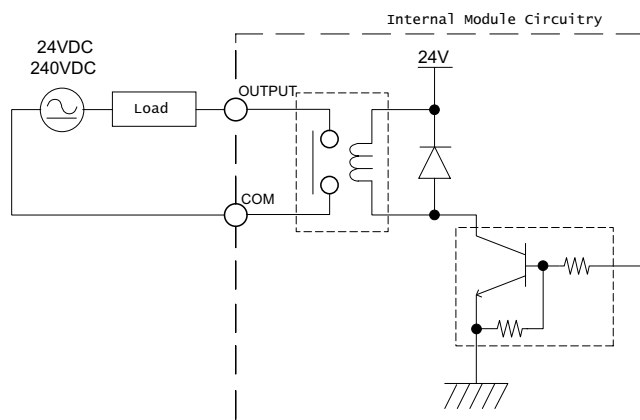
Typical Relay Life (Operations) at Room Temperature	
Voltage & Load Type	Relay Life
24VDC, 3A Resistive	100,000 cycles
24VDC, 3A Inductive	50,000 cycles
110VAC, 3A Resistive	100,000 cycles
110VAC, 3A Inductive	25,000 cycles
220VAC, 3A Resistive	100,000 cycles
220VAC, 3A Inductive	25,000 cycles

ON to OFF = 1 cycle

#### Output Temperature Derating Chart



#### Equivalent Output Circuit



# CLICK Stackable I/O Module Specifications

## General Specifications For All CLICK Stackable I/O Modules

These general specifications apply to all CLICK Stackable I/O Modules. Please refer to the appropriate I/O temperature derating charts under the PLC (CLICK PLC with built-in I/O), Option Slot module (CLICK PLUS only), and Stackable I/O module specification to determine best operating conditions based on the ambient temperature of your particular application.



**NOTE:** These modules are available to use with CLICK or CLICK PLUS systems.

General Specifications	
<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>	C0-04POT: IEC60068-2-6 (Test Fc) All other modules: MIL STD 810C, Method 514.2, EC60068-2-27, Category [f], Procedure[VIII] JIS C60068-2-27 (Sine wave vibration test)
<b>Shock</b>	MIL STD 810C, Method 516.2, IEC60068-2-27, JIS C60068-2-27, Category [f], Procedure[VIII]
<b>Noise Immunity</b>	<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)
<b>Emissions</b>	EN55011:1998 Class A; EN61000-6-4:2007+A1:2011
<b>Agency Approvals</b>	UL508 (excluding C0-04POT), UL61010-2-201 (File No. E157382); CE (EN61131-2); CUL Canadian C22.2
<b>Other</b>	RoHS 2011/65/EU Amendment (EU)2015/863

# Power Budgeting

## Power Budgeting

There are two factors to consider when determining the power required to operate a CLICK PLC system. The first is the power required by the PLC and internal logic-side power provided through the PLC. This includes the CPU's own I/O, 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 to 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. A separate calculation is required to determine 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 PLUS PLC, two I/O modules, and a **C-more** Micro. Use the total amperage values to select a suitable power supply.



**CLICK 24VDC Power Supply**  
C0-00AC or C0-01AC



**Other 24VDC Power Supply**  
Example: PSP24-060S

## Power Consumption for CLICK and CLICK PLUS PLC Units

## Power Consumption for CLICK PLUS Option Slot Modules

PLC Current Consumption (mA)		
Part Number	Power Budget 24VDC (Logic Side)	External 24VDC (Field Side)
<b>Basic PLC Units</b>		
<a href="#">C0-00DD1-D</a>	120	60
<a href="#">C0-00DD2-D</a>	120	0
<a href="#">C0-00DR-D</a>		
<a href="#">C0-00AR-D</a>		
<b>Standard PLC Units</b>		
<a href="#">C0-01DD1-D</a>	140	60
<a href="#">C0-01DD2-D</a>	140	0
<a href="#">C0-01DR-D</a>		
<a href="#">C0-01AR-D</a>		
<b>Analog PLC Units</b>		
<a href="#">C0-02DD1-D</a>	140	60
<a href="#">C0-02DD2-D</a>	140	0
<a href="#">C0-02DR-D</a>		
<b>Ethernet Basic PLC Units</b>		
<a href="#">C0-10DD1E-D</a>	120	60
<a href="#">C0-10DD2E-D</a>	120	0
<a href="#">C0-10DRE-D</a>		
<a href="#">C0-10ARE-D</a>		
<b>Ethernet Standard PLC Units</b>		
<a href="#">C0-11DD1E-D</a>	140	60
<a href="#">C0-11DD2E-D</a>	140	0
<a href="#">C0-11DRE-D</a>		
<a href="#">C0-11ARE-D</a>		

PLC Current Consumption (mA)		
Part Number	Power Budget 24VDC (Logic Side)	External 24VDC (Field Side)
<b>Ethernet Analog PLC Units</b>		
<a href="#">C0-12DD1E-D</a>	140	60
<a href="#">C0-12DD2E-D</a>		
<a href="#">C0-12DRE-D</a>	160	0
<a href="#">C0-12ARE-D</a>		
<a href="#">C0-12DD1E-1-D</a>	140	60
<a href="#">C0-12DD2E-1-D</a>		
<a href="#">C0-12DRE-1-D</a>	160	0
<a href="#">C0-12ARE-1-D</a>		
<a href="#">C0-12DD1E-2-D</a>	140	60
<a href="#">C0-12DD2E-2-D</a>		
<a href="#">C0-12DRE-2-D</a>	160	0
<a href="#">C0-12ARE-2-D</a>		
<b>CLICK PLUS PLCs</b>		
<a href="#">C2-01CPU</a>	110	0
<a href="#">C2-01CPU-2</a>	120	
<a href="#">C2-02CPU</a>	105	
<a href="#">C2-02CPU-2</a>	115	
<a href="#">C2-03CPU</a>	130	
<a href="#">C2-03CPU-2</a>	140	

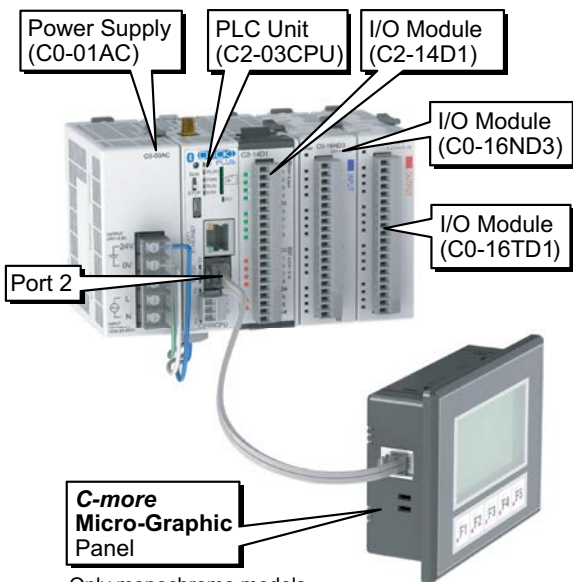
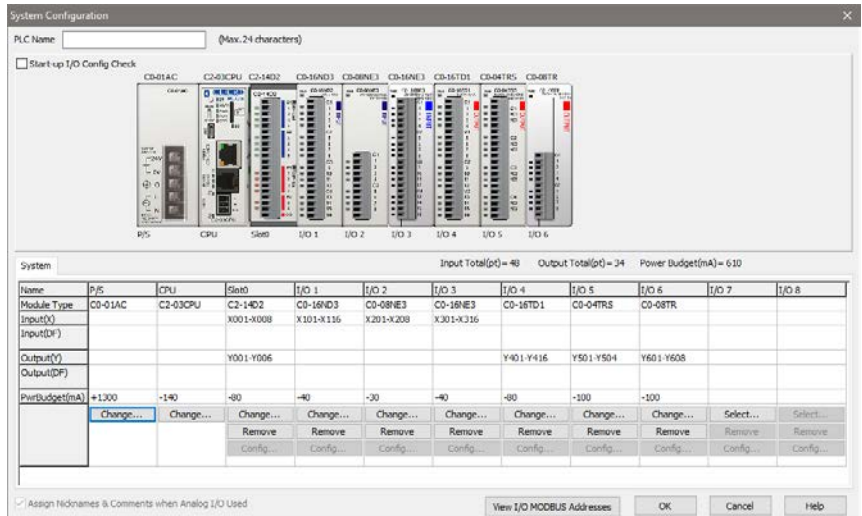
CLICK PLUS Option Slot Modules Current Consumption (mA)		
Part Number	Power Budget 24VDC (Logic Side)	External 24VDC (Field Side)
<b>Option Slot I/O Modules</b>		
<a href="#">C2-14D1</a>	50	60
<a href="#">C2-14D2</a>	50	0
<a href="#">C2-14DR</a>	75	0
<a href="#">C2-14AR</a>	75	0
<a href="#">C2-14TTL</a>	220	0
<a href="#">C2-08D1-4VC</a>	80	60
<a href="#">C2-08D2-4VC</a>	80	0
<a href="#">C2-08DR-4VC</a>	100	0
<a href="#">C2-08AR-4VC</a>	100	0
<a href="#">C2-08D1-6C</a>	80	60
<a href="#">C2-08D2-6C</a>	80	0
<a href="#">C2-08DR-6C</a>	100	0
<a href="#">C2-08AR-6C</a>	100	0
<a href="#">C2-08D1-6V</a>	80	60
<a href="#">C2-08D2-6V</a>	80	0
<a href="#">C2-08DR-6V</a>	100	0
<a href="#">C2-08AR-6V</a>	100	0
<b>Option Slot Intelligent Modules</b>		
<a href="#">C2-DCM</a>	60	0
<a href="#">C2-NRED</a>	125	0
<a href="#">C2-OPCUA</a>	125	0

# Power Budgeting

## Power Consumption for CLICK Stackable I/O Modules

I/O Module Current Consumption (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
<b>Discrete Input Modules</b>		
<a href="#">C0-08SIM</a>	50	0
<a href="#">C0-08ND3</a>	30	0
<a href="#">C0-08ND3-1</a>	30	0
<a href="#">C0-16ND3</a>	40	0
<a href="#">C0-08NE3</a>	30	0
<a href="#">C0-16NE3</a>	40	0
<a href="#">C0-08NA</a>	30	0
<b>Discrete Output Modules</b>		
<a href="#">C0-08TD1</a>	50	15
<a href="#">C0-08TD2</a>	50	0
<a href="#">C0-16TD1</a>	80	100
<a href="#">C0-16TD2</a>	80	0
<a href="#">C0-08TA</a>	80	0
<a href="#">C0-04TRS</a>	100	0
<a href="#">C0-04TRS-10</a>	120	0
<a href="#">C0-08TR</a>	100	0
<a href="#">C0-08TR-3</a>	90	0

I/O Module Current Consumption (continued) (mA)		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
<b>Discrete Combo I/O Modules</b>		
<a href="#">C0-16CDD1</a>	80	50
<a href="#">C0-16CDD2</a>	80	0
<a href="#">C0-08CDR</a>	80	0
<b>Analog Input Modules</b>		
<a href="#">C0-04AD-1</a>	20	65
<a href="#">C0-04AD-2</a>	23	65
<a href="#">C0-04POT</a>	30	0
<a href="#">C0-04RTD</a>	25	0
<a href="#">C0-04THM</a>	25	0
<b>Analog Output Modules</b>		
<a href="#">C0-04DA-1</a>	20	145
<a href="#">C0-04DA-2</a>	20	85
<b>Analog Combo I/O Modules</b>		
<a href="#">C0-4AD2DA-1</a>	25	75
<a href="#">C0-4AD2DA-2</a>	20	65
<b>C-more Micro-Graphic Panel</b>		
<b>Monochrome only</b>	90	0



Only monochrome models can be powered from port 2.

### Power Budgeting Example

Current Consumption (mA) Example		
Part Number	Power Budget 24VDC (logic side)	External 24VDC (field side)
<a href="#">C2-03CPU</a>	130	0
<a href="#">C2-14D1</a>	50	60
<a href="#">C0-16ND3</a>	40	0
<a href="#">C0-16TD1</a>	80	100
<b>C-more Micro</b>	90	0
<b>Total:</b>	390	160 *

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

# Accessories

## **C2-USER-M**     **\$0.00** **CLICK PLUS PLC Hardware User Manual**

Manual covers all CLICK PLUS PLC and I/O module installation and wiring, specifications, error codes and troubleshooting guide. The CLICK PLUS PLC Hardware User Manual can be downloaded free at the AutomationDirect Web site; [www.AutomationDirect.com](http://www.AutomationDirect.com)



## **C0-USER-M**     **\$0.00** **CLICK PLC Hardware User Manual**

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## **C0-PGMSW**     **\$12.00** **Programming Software USB**

The programming software can be downloaded free at the AutomationDirect Web site, or the USB can be purchased from the AutomationDirect online Web store. [www.AutomationDirect.com](http://www.AutomationDirect.com)



## **EA-MG-PGM-CBL**     **\$52.00** **PC to Panel Programming Cable Assembly for C-more Micro-Graphic Panels and CLICK/CLICK PLUS PLCs**

The 6-ft cable assembly connects a personal computer to any **C-more** Micro-Graphic panel, CLICK PLC, or select CLICK PLUS PLC for setup and programming.

*Note: This cable assembly uses the PC's USB port and converts the signals to serial transmissions. The USB port supplies 5VDC to the Micro-Graphic panel for configuration operations.*

Assembly includes standard USB A-type connector to B-type connector cable, custom converter, and an RS232C cable with an RJ12 modular connector on each end.



## **USB-CBL-AMICB6**     **\$5.25** **USB A to USB microB Programming Cable Assembly (CLICK PLUS Only)**

Programming cable, USB A to USB microB, 6ft (1.83 m) length. For use with CLICK PLUS PLCs and most USB devices. The USB port supplies 5VDC to the CLICK PLUS CPU for programming.



## **D2-DSCBL**     **\$35.00** **Programming Cable for CLICK/CLICK PLUS and DirectLOGIC PLCs**

12ft. (3.66 m) RS232 shielded PC programming cable for CLICK, select CLICK PLUS PLCs, DL05, DL06, DL105, DL205, D3-350, D4-450, D4-454, and Do-more H2 and T1H series CPUs. 9-pin D-shell female connector to an RJ12 6P6C connector.



*Note: If your PC has a USB port but does not have a serial port, you must use programming cable EA-MG-PGM-CBL to connect to CLICK PLCs. For CLICK PLUS PLCs, you may also use USB-CBL-AMICB6*

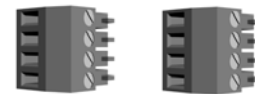
## **C0-3TB**     **\$10.00** **Spare 3-Pole Terminal Block**

Replacement 3-pole terminal block for the 3-wire RS-485 Port 3 on CLICK Standard and Analog PLCs as well as the CLICK PLUS C2-03CPU. Sold in packs of 2.



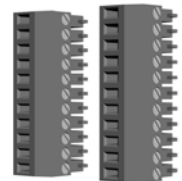
## **C0-4TB**     **\$10.00** **Spare 24VDC Power Terminal Block**

Replacement terminal block for the 24VDC supply power to the PLC. Sold in packs of 2.



## **C0-8TB**     **\$16.50** **Spare 8-Point I/O Terminal Block**

Replacement terminal block for the 8-point I/O modules. Sold in packs of 2.



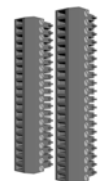
## **C0-8TB-1**     **\$19.50** **Spare 13-Point I/O Terminal Block**

Replacement terminal block for the 8-point I/O relay modules. Sold in packs of 2.



## **C0-16TB**     **\$23.00** **Spare 16-Point I/O Terminal Block**

Replacement terminal block for the 16-point I/O modules and PLC built-in I/O. Sold in packs of 2.



## **C2-6TB**     **\$16.50** **Spare 6-pt Terminal Block**

Replacement terminal block for the C2-DCM serial ports. Sold in packs of 2.

