

C2-08D1-6V OPTION SLOT MODULE

- 4 discrete DC sinking/sourcing inputs
- 4 discrete DC sinking outputs
- 4 analog voltage inputs
- 2 analog voltage outputs

| General Specifications | |
|------------------------|---|
| Operating Temperature | 32°F to 131°F [0°C to 55°C] |
| Storage Temperature | −4°F to 158°F [−20°C to 70°C] |
| Ambient Humidity | 30% to 95% relative humidity (non-condensing) |
| Altitude | Up to 2,000m |
| Environmental Air | No corrosive gases Pollution Degree 2 (UL840) |
| Environment | For Indoor Use Only |
| Vibration | 5–9Hz: 3.5 mm amplitude; 9–150Hz: 1.0 G 10 sweep cycles per axis on each of 3 mutually perpendicular axes. |
| Shock | 15G peak, 11ms duration, 3 shocks in each direction per axis, on 3 mutually perpendicular axes. |
| Weight | 48g |
| Bus Power Required | Max 80mA (all points ON) |
| Agency Approvals | UL61010 (File No. E157382); CE (EN61131-2); CUL Canadian C22.2 |
| Other | RoHS 2011/65/EU Amendment (EU)2015/863 |

Please read and understand the information in these installation instructions prior to installation, operation, or servicing this equipment. This module is intended to be used with a CLICK PLUS CPU. Ensure the CPU is installed in accordance with its installation and safety instructions.

PLEASE REVIEW SAFETY WARNINGS ON PAGE 2!

DISCRETE I/O SPECIFICATIONS

| Discrete Input Specifications | |
|-------------------------------|---------------------------------|
| Inputs per Module | 4 (Source/Sink) |
| Nominal Voltage | 24.0 VDC |
| Input Voltage Range | 21.6–26.4 VDC |
| Input Current | 6.5 mA @ 24VDC, typical |
| Max. Input Current | 7mA @ 26.4 VDC |
| Input Impedance | 3.9 kΩ @ 24VDC |
| ON Voltage Level | > 19.0 VDC |
| OFF Voltage Level | < 2.0 VDC |
| Minimum ON Current | 4.5 mA |
| Maximum OFF Current | 0.5 mA |
| OFF to ON Response | 3μs typical, 5μs maximum |
| ON to OFF Response | 1μs typical, 5μs maximum |
| Input Filter | 1ms unit (set from 1 to 99 ms)* |
| Status Indicators | 4 Green LEDs |
| Commons | 1 (4 points/common) |

* Set from CLICK Tool.

| Discrete Output Specifications | |
|--------------------------------|--|
| Outputs per Module | 4 (Sink) |
| Operating Voltage Range | 5–27 VDC |
| Output Voltage Range | 4–30 VDC |
| Max. Output Current | 0.1 A/point, 0.4 A/common (C2) |
| Min. Output Current | 0.2 mA |
| Max. Leakage Current | 0.1 mA @ 30VDC |
| ON Voltage Drop | 0.5 VDC @ 0.1 A |
| Max. Inrush Current | 150mA for 10ms |
| OFF to ON Response | < 5μs (Duty 40–60%, Load current 20mA) |
| ON to OFF Response | < 5μs (Duty 40–60%, Load current 20mA) |
| Status Indicators | 4 Red LEDs |
| Commons | 1 (4 points/common) Isolated |
| External DC Power Required | 20–28 VDC, Max 60mA (all points on) |

Technical Specs, continued

ANALOG I/O

| Analog Input Specifications | |
|---|---------------------|
| Number of Channels | 4 |
| Input Type | Voltage |
| Input Range | 0–10VDC |
| Resolution | 12 bit |
| Conversion Time | 50ms |
| Input Impedance | 40kΩ |
| Input Stability | ±2 LSB, maximum |
| Full-scale Calibration Error | ±2%, maximum |
| Offset Calibration Error | ±25mV, maximum |
| Accuracy vs Temperature Error | ±100ppm/°C, maximum |
| Largest Instant Deviation During Noise Test | ±20% of full scale |

| Analog Output Specifications | |
|---|--|
| Number of Channels | 2 |
| Output Type | Voltage |
| Output Range | 0–10VDC |
| Resolution | 12 bit |
| Conversion Time | 1ms |
| Load Impedance | 4kΩ minimum (output current 2.5 mA maximum) |
| Full-scale Calibration Error | ±2%, maximum |
| Offset Calibration Error | ±25mV, maximum |
| Accuracy vs Temperature Error | ±100ppm/°C, maximum |
| Largest Instant Deviation During Noise Test | ±20% of full scale |

Safety Warnings

Please follow these instructions for personal and operational safety.



WARNING Assumes that incorrect handling may cause hazardous conditions, resulting in severe injury or death.



CAUTION Assumes that incorrect handling may cause hazardous conditions, resulting in medium or slight injury, or may cause equipment damage.



WARNING

- Don't use this equipment in a flammable or explosive environment in order to avoid accidental injury or fire.
- You should use external electromechanical devices that are independent of the PLC (Programmable Logic Controller) system to provide protection for any part of the system; otherwise malfunction or output failures may result in a hazardous accident.
- 24VDC power is required from a secondary circuit or a specific power supply unit only.
- Ensure the Ground Terminal of the Power Supply (C0-00AC/ C0-01AC) for the CLICK PLUS CPU is connected to Earth Ground to avoid electric shock or equipment damage during a short circuit.
- Don't operate the equipment with a nonconforming external power supply to avoid electric shock, equipment damage or fire.
- Don't intentionally fault the wiring; this may cause equipment damage or fire.
- To avoid electric shock or malfunctions which might result in an accident, don't touch any terminal while the PLC power is on.
- Don't put metals (e.g. screwdriver) into vent holes, or drop trash or foreign objects (e.g. wire cut-offs) into the device, in order to avoid electric shock or equipment damage.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be invalidated.



CAUTION

- For use in Pollution Degree 2 Environment. Use and store the equipment in an environment described in the specifications (regarding temperature, humidity, vibrations, shock, etc.) in order to avoid equipment damage or fire.
- Ensure all wiring has strain reliefs in order to avoid damage to insulation that might result in electric shock or fire.
- Ensure secondary external power circuits are only live after PLC control program is started; otherwise a malfunction or output failure may result in a hazardous accident.
- Don't block the vent holes. This may cause an increase of internal temperature resulting in equipment damage or fire.
- Don't disassemble or modify equipment so as to avoid electric shock, equipment damage, or fire.
- Cut off all phases of the external power source before maintenance work, thus avoiding electric shock or equipment damage.

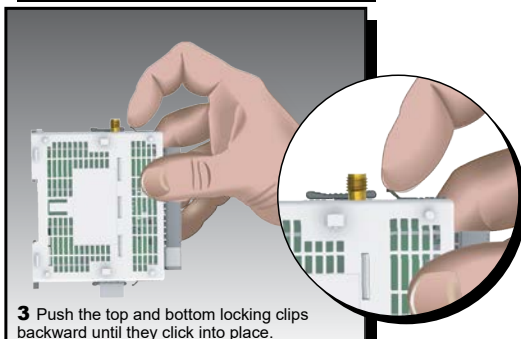
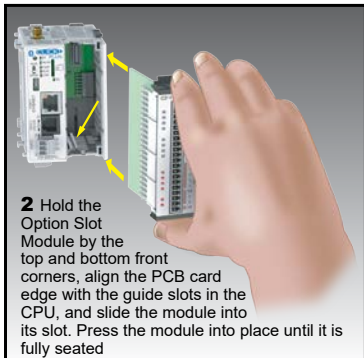
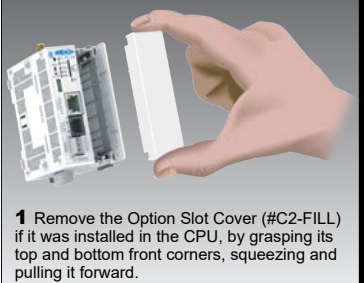
Hardware Installation

CAUTION Discharge static electricity before installation or wiring to avoid electric equipment damage.

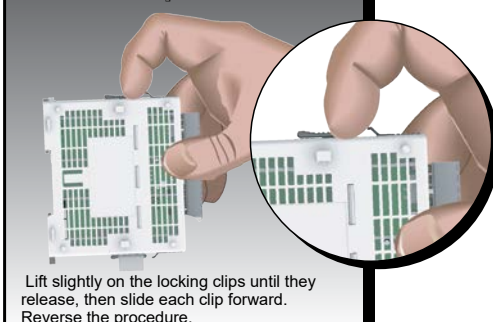
CAUTION Cut off all phases of the power source externally and wait **5 seconds** before installing or removing the Option Slot Module of a running system.

INSTALL OR REMOVE THE OPTION SLOT MODULE

To install an Option Slot Module



To remove an Option Slot Module



WIRING

16–28 AWG wiring is supported. We recommend using crimping ferrules on all wire terminations for a more secure connection. The following crimping ferrules are recommended for the I/O terminals.

| Company | Type | Model No. | Compliant Wire |
|------------------|---------|----------------------------|------------------------------------|
| AutomationDirect | Ferrule | V30AE000009 V30AE000041 | 0.2–0.5 mm ² (22–26AWG) |

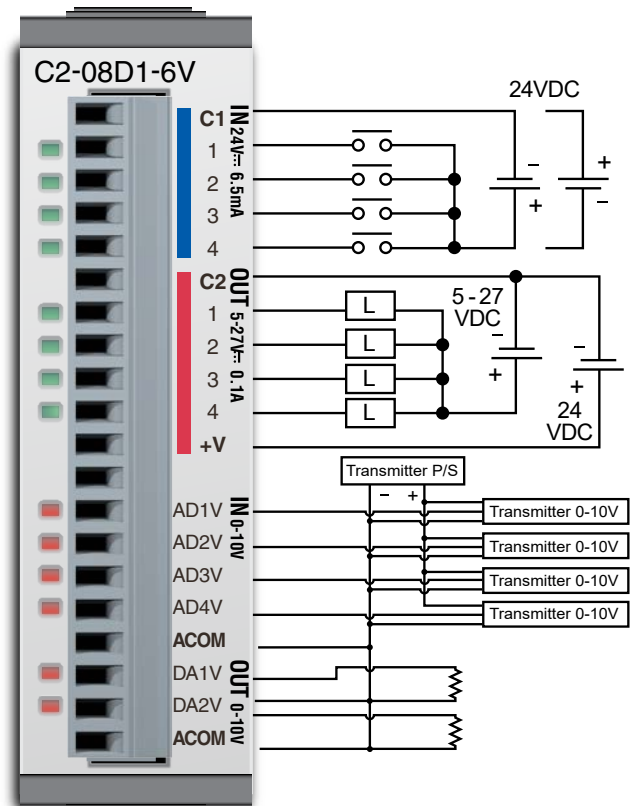
* Rated torque is 0.22 to 0.25 N·m.

Take care not to contact adjacent terminal.

Terminal Block Specifications

| Connector Type | Pluggable Terminal Block |
|--------------------|--|
| Number of Pins | 20 |
| Pitch | 3.50 mm |
| Wire Size Range | 16–28 AWG |
| Stripping Length | 7.0 mm |
| Wire Specification | Lead-free, heat resistant, polyvinyl chloride insulated copper wire, rated over 80°C |
| Screw Thread | M2.0 |
| Tightening Torque | 2.0–2.2 inch-lb [0.22–0.25 N·m] |

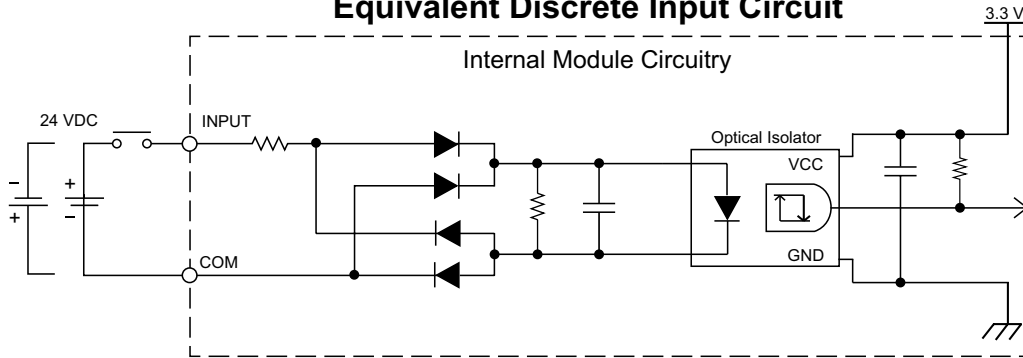
WIRING DIAGRAM



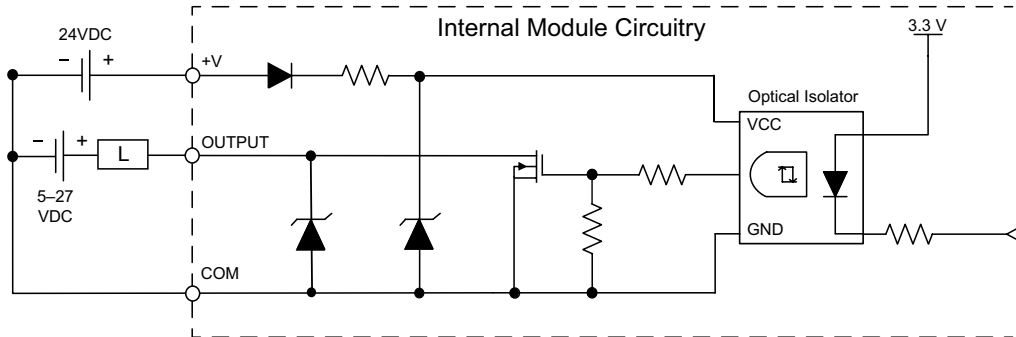
Hardware Installation, continued

EQUIVALENT CIRCUITS

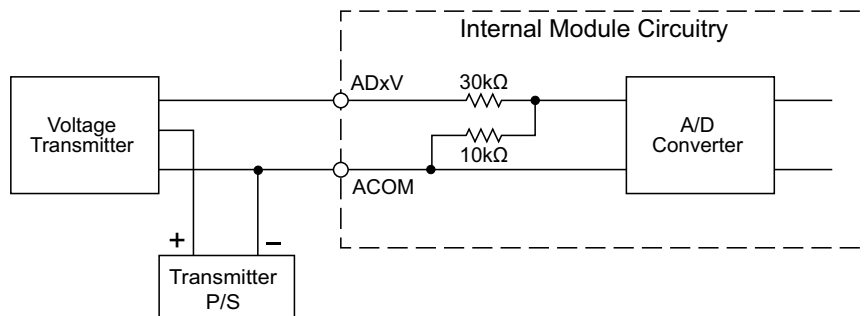
Equivalent Discrete Input Circuit



Equivalent Discrete Output Circuit



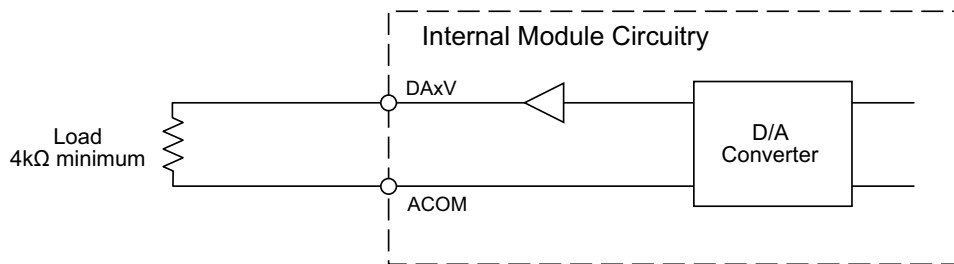
Analog Voltage Input Circuit



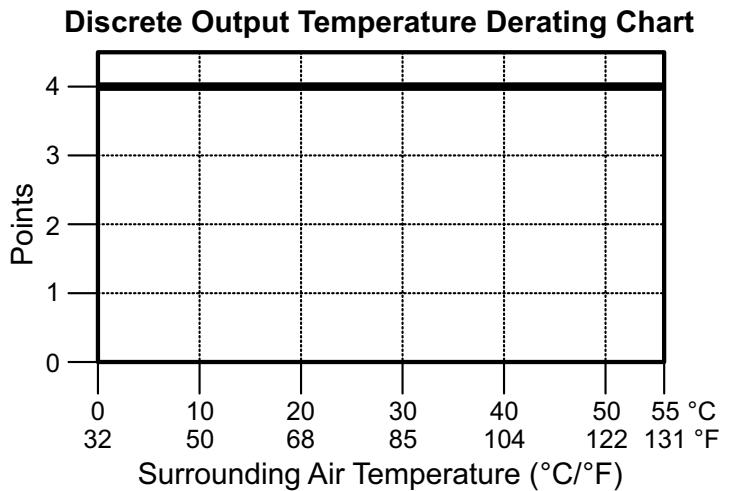
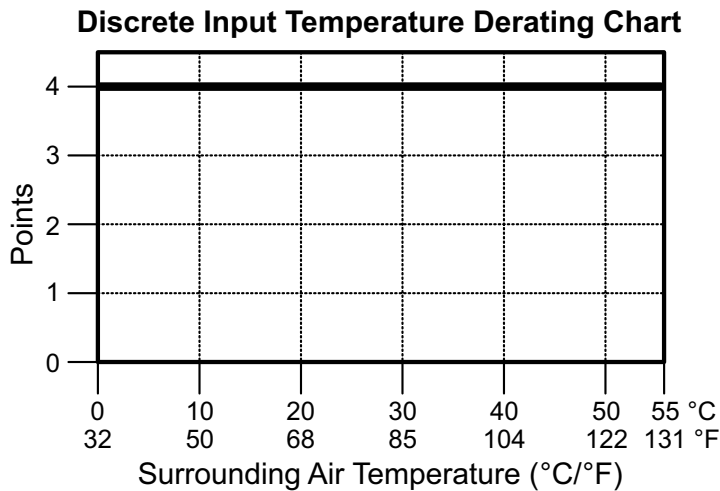
Hardware Installation, continued

EQUIVALENT CIRCUITS, CONTINUED



Analog Voltage Output Circuit



DERATING CHARTS



Symbols listed on the equipment are shown below.

| Name | Description | Symbol |
|---------|---|---|
| DC | DC power supply |  IEC60417 No. 5031 |
| CAUTION | <ul style="list-style-type: none"> Refer to QR code link for product handling Use Copper Conductor Only |  ISO 7000 No.0434B |



For additional technical support or questions, call our Technical Support team at 1-800-633-0405 or 770-844-4200.