

C2-14TTL OPTION SLOT MODULE

- 8 discrete TTL sinking/sourcing inputs
- 6 discrete TTL sourcing 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	5-9 Hz: 3.5 mm amplitude; 9-150 Hz: 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 [1.69 oz.]
Bus Power Required	220mA max (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



For programming and operations, see the [CLICK PLUS User Manual](#).
 For additional technical support or questions, call our Technical Support team at 1-800-633-0405 or 770-844-4200.

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!

Input Specifications	
Inputs Per Module	8 (Sink/Source)
Nominal Voltage	5VDC
Input Voltage Range	4.5-5.5 VDC
Input Current	5.7 mA @ 5VDC, typical
Max. Input Current	7.4 mA @ 5.5 VDC
Input Impedance	360Ω @ 5VDC
Input Frequency (Max)	X1-X8: 100 kHz (3m cable)
ON Voltage Level	> 4.0 VDC
OFF Voltage Level	< 2.0 VDC
Minimum ON Current	4.0 mA
Maximum OFF Current	0.5 mA
OFF to ON Response	3μs typical, 5μs maximum
ON to OFF Response	1μs typical, 5μs maximum
Status Indicators	8 green LEDs
Commons	2 (4 points/common) Isolated

Output Specifications	
Outputs per Module	6 (Source)
Nominal Voltage	5VDC
Output Voltage Range	4.5-5.5 VDC
Max. Output Current	0.1A/point, 0.6 A/common
Min. Output Current	0.2 mA
Max. Leakage Current	0.1 mA @ 5.5 VDC
ON Voltage Drop	0.1 VDC @ 0.1 A
Max. Inrush Current	150mA for 10ms
Maximum Switching Frequency	100kHz (3m cable)
OFF to ON Response	< 5μs (Duty 40-60%, Load current 20mA)
ON to OFF Response	< 5μs (Duty 40-60%, Load current 20mA)
Status Indicators	6 red LEDs
Commons	1 (6 points/common)

Symbols listed on the equipment are shown below.

Name	Description	Symbol	
DC	DC power supply		IEC60417 No. 5031
CAUTION	• Refer to QR code link for product handling • Use Copper Conductor Only		ISO 7000 No.0434B

Safety Warnings

Please follow these instructions for personal and operational safety.

WARNING Notes marked WARNING indicate hazardous conditions that may result in severe injury or death.

CAUTION Notes marked CAUTION indicate hazardous conditions that may result in medium or slight injury, or may cause equipment damage.

WARNING

- Don't use this equipment in a flammable or explosive environment; accidental injury or fire may occur.
- 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 must come 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; electric shock, equipment damage or fire may occur.
- 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 metal objects (e.g. screwdriver) into vent holes or drop trash or foreign objects (e.g. wire cut-offs) into the device; electric shock or equipment damage may occur.
- 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; this avoids 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 in internal temperature, resulting in equipment damage or fire.
- Don't disassemble or modify equipment; electric shock, equipment damage, or fire may occur.
- Cut off all phases of the external power source before maintenance work, thus avoiding electric shock or equipment damage.

System Requirements

HARDWARE

- In order to use high-speed I/O features, the C2-14TTL module must be installed in option slot 0 of the CLICK PLUS PLC.

SOFTWARE

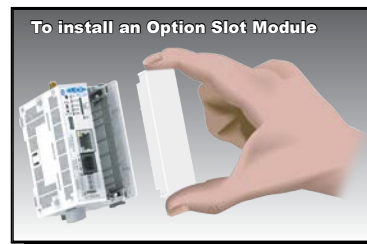
- Requires CLICK Programming software version 3.70 or above.

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.

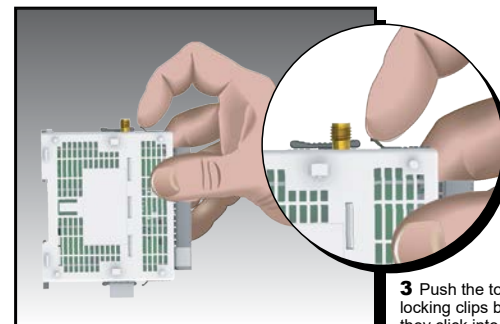
INSTALL OR REMOVE THE OPTION SLOT MODULE



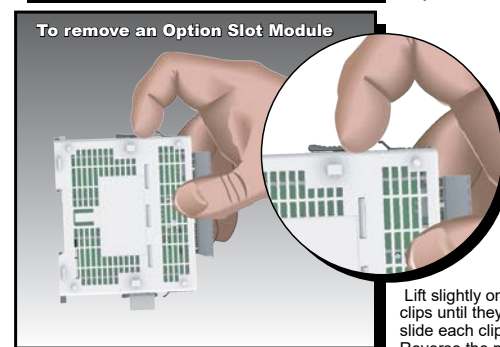
1 Remove the Option Slot Cover (#C2-FILL) if it was installed in the CPU, by grasping its top and bottom front edges, squeezing and pulling it forward.



2 Hold the Option Slot Module by the top and bottom front edges, align the PCB card edge with the guide slots in the CPU, and slide the module into its slot. Press the module into place until it is fully seated.



3 Push the top and bottom locking clips backward until they click into place.



Lift slightly on the locking clips until they release, then slide each clip forward. Reverse the procedure.

Hardware Installation, continued

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.

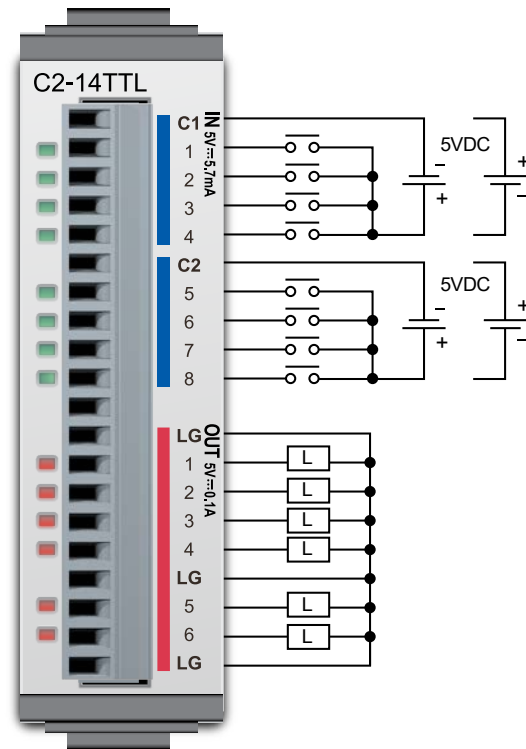
Company	Type	Model No.	Compliant Wire
AutomationDirect	Ferrule	V30AE000009 V30AE000041	0.2–0.5 mm ² (22–26AWG)

* Rated torque is 0.22 to 0.25 N·m.

Take care not to contact adjacent terminals.

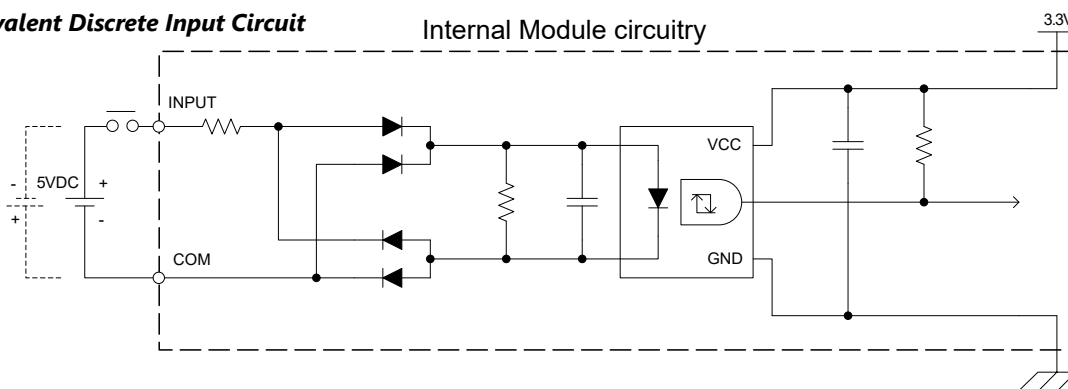
Terminal Block Specifications	
Connector Type	Pluggable Terminal Block
Number of Pins	20
Pitch	3.50 mm
Wire Size Range	16–28 AWG
Stripping Length	7.0 mm
Wire Specification	Lead-free, heat resistant, polyvinyl chloride insulated copper wire, rated over 80°C
Screw Thread	M2.0
Tightening Torque	2.0–2.2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

WIRING DIAGRAM



EQUIVALENT CIRCUITS

Equivalent Discrete Input Circuit



Equivalent Discrete Output Circuit

