2

Installation & Wiring

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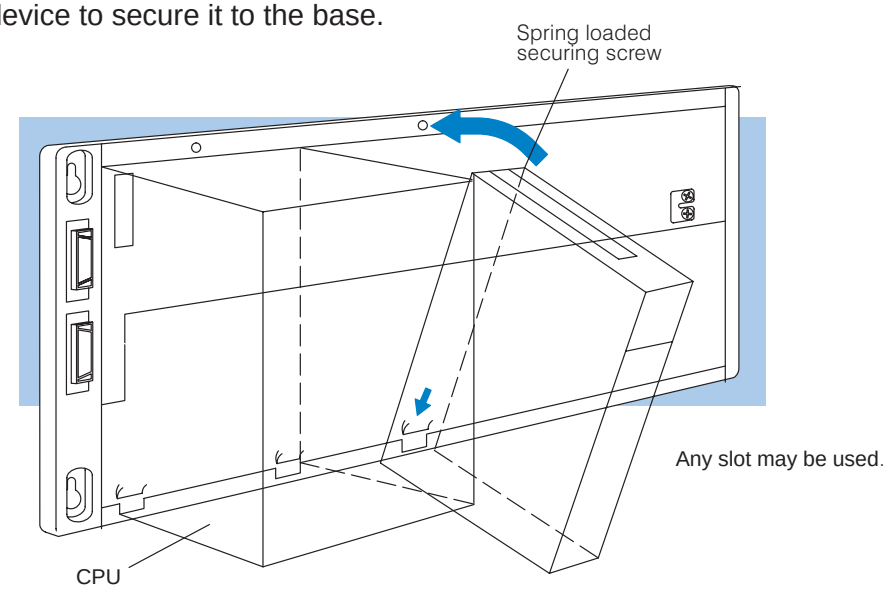
How to Install the D4-HSC

WARNING: To minimize the risk of electrical shock, personal injury, or equipment damage, always disconnect the system power before installing or removing any system component.

The D4-HSC High Speed Counter module can be placed in any slot of the CPU base or an expansion base. It will not, however, work in a remote I/O base.

The following steps show you how to install the module.

1. Notice the D4-HSC has a plastic tab at the bottom and a screw at the top.
2. With the device tilted slightly forward, hook the plastic tab into the notch on the base.
3. Then gently push the top of the module back toward the base until it is firmly installed into the base.
4. Now tighten the screw at the top of the device to secure it to the base.



NOTE: D4-454 CPU will only support D4-HSC module firmware v2.3

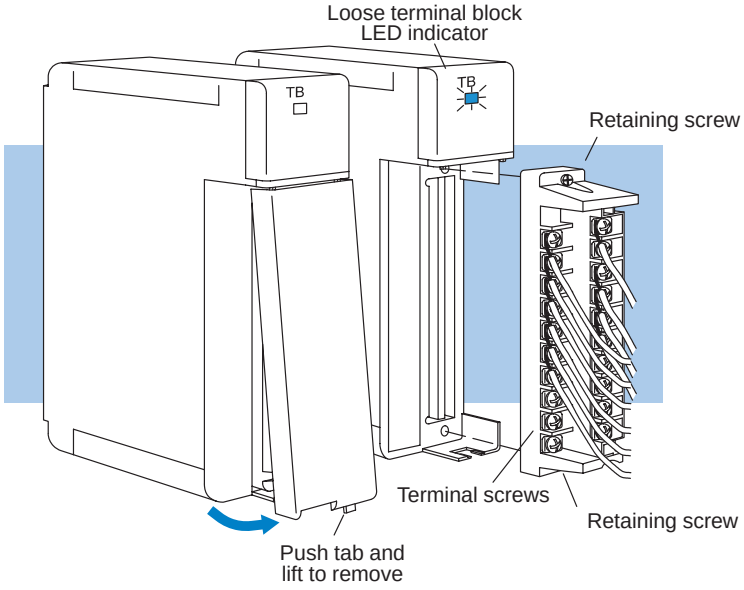
Connecting the Wiring

Wiring the D4-HSC Terminal Block

You must first remove the front cover of the module prior to wiring. To remove the cover press the bottom tab of the cover and tilt the cover up to loosen it from the module.

All DL405 I/O module terminal blocks are removable for your convenience. To remove the terminal block loosen the retaining screws and pull the terminal block away from the module. When you return the terminal block to the module make sure the terminal block is tightly seated. Be sure to tighten the retaining screws. You should also verify the loose terminal block LED is off when system power is applied.

WARNING: Field device power may still be present on the terminal block even though the PLC system is turned off. To minimize the risk of electrical shock, disconnect all field device power *before* you remove the connector.



Wiring Guidelines

Use the following guidelines when you connect the wiring:

1. There is a limit to the size of wire the module can accept. The maximum size allowable for the D4-HSC is 14 AWG (Type TFFN or MTW). Other wire sizes may be acceptable--it really depends on the thickness of the insulation. If the insulation is too thick, the cover will not close properly.
2. Always use a continuous length of wire, do not combine wires to attain a needed length.
3. Use the shortest possible wire length.
4. Where possible use wire trays for routing .
5. Avoid running wires near high energy wiring.
6. To minimize voltage drops when wires must run a long distance , consider using multiple wires for the return line.
7. Avoid creating sharp bends in the wires.

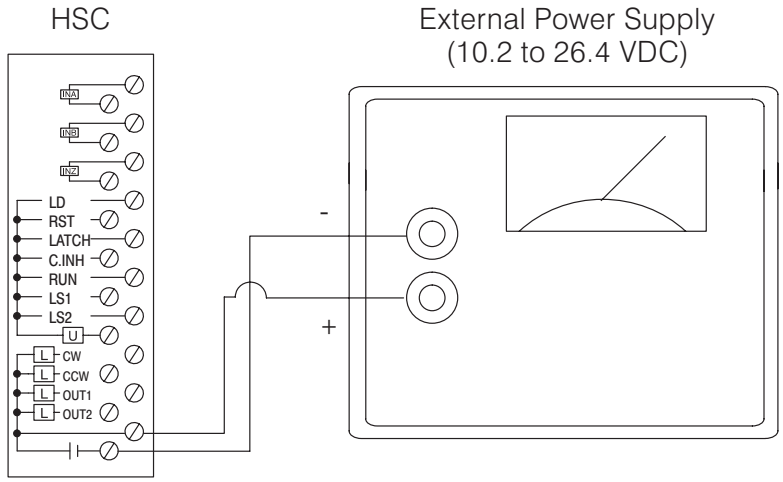
Connecting the Power Supply

If you plan to use any of the HSC's outputs,in addition to the power supplied over the backplane of the CPU base or expansion base, you must have a power supply connected to the bottom two terminals of the D4-HSC (marked 12/24VDC). *If you do not use an external power supply in your application of the HSC, all functions except the outputs will operate normally but you will have a non-fatal error reported by the CPU.*

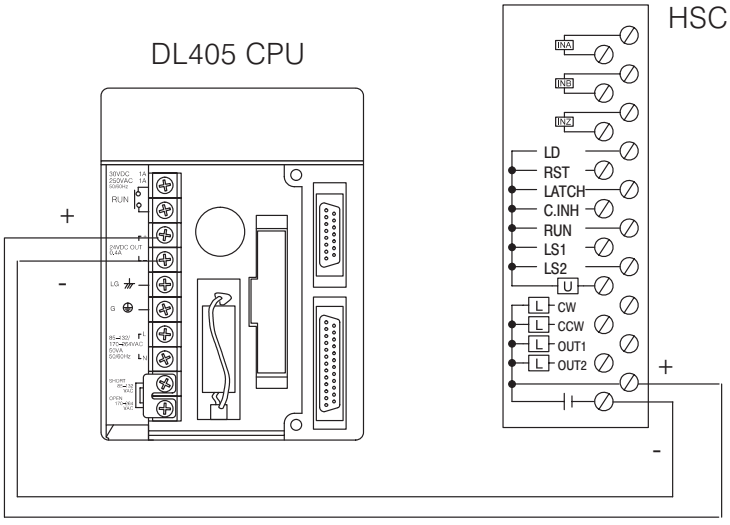
The power supply should be between 10.2 and 26.4 VDC and at least 400 mA (100 mA per output point) or more. We recommend 1 A. Your application will dictate the voltage and current requirements. Do not exceed the specifications shown in the tables of Chapter 1.

The CPU/Power Supply module of the DL-405 system has an *internal* 24VDC, 400mA power supply that can be used if it meets the specifications of your application.

Using an External Power Supply

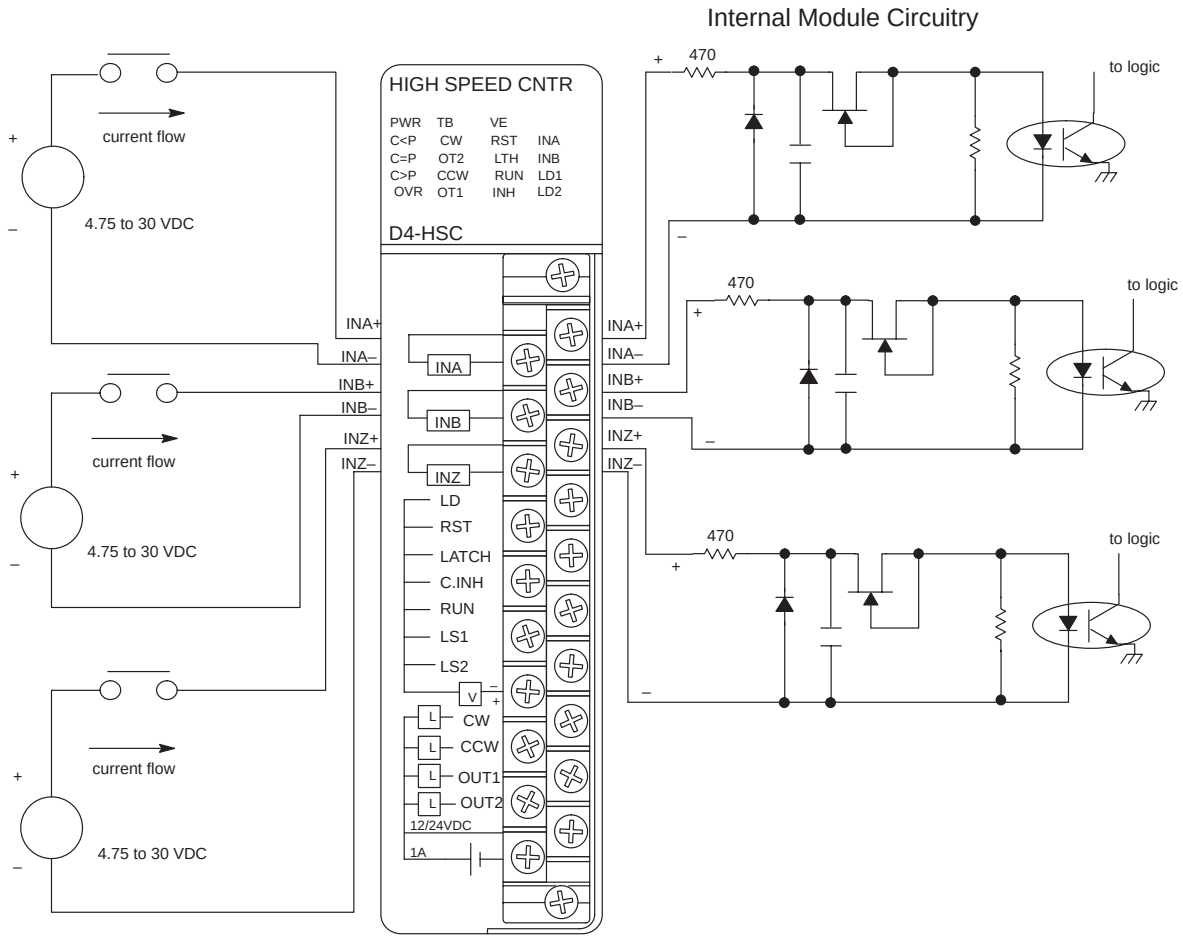


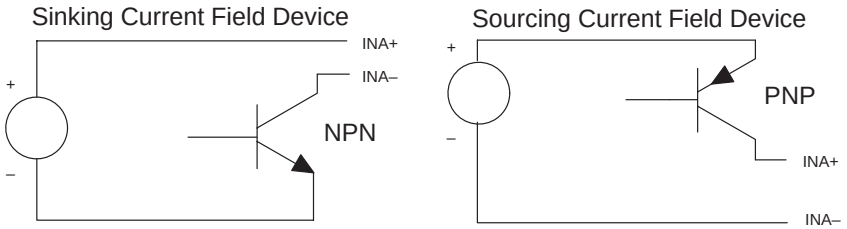
Using the Internal DL-405 System Power Supply



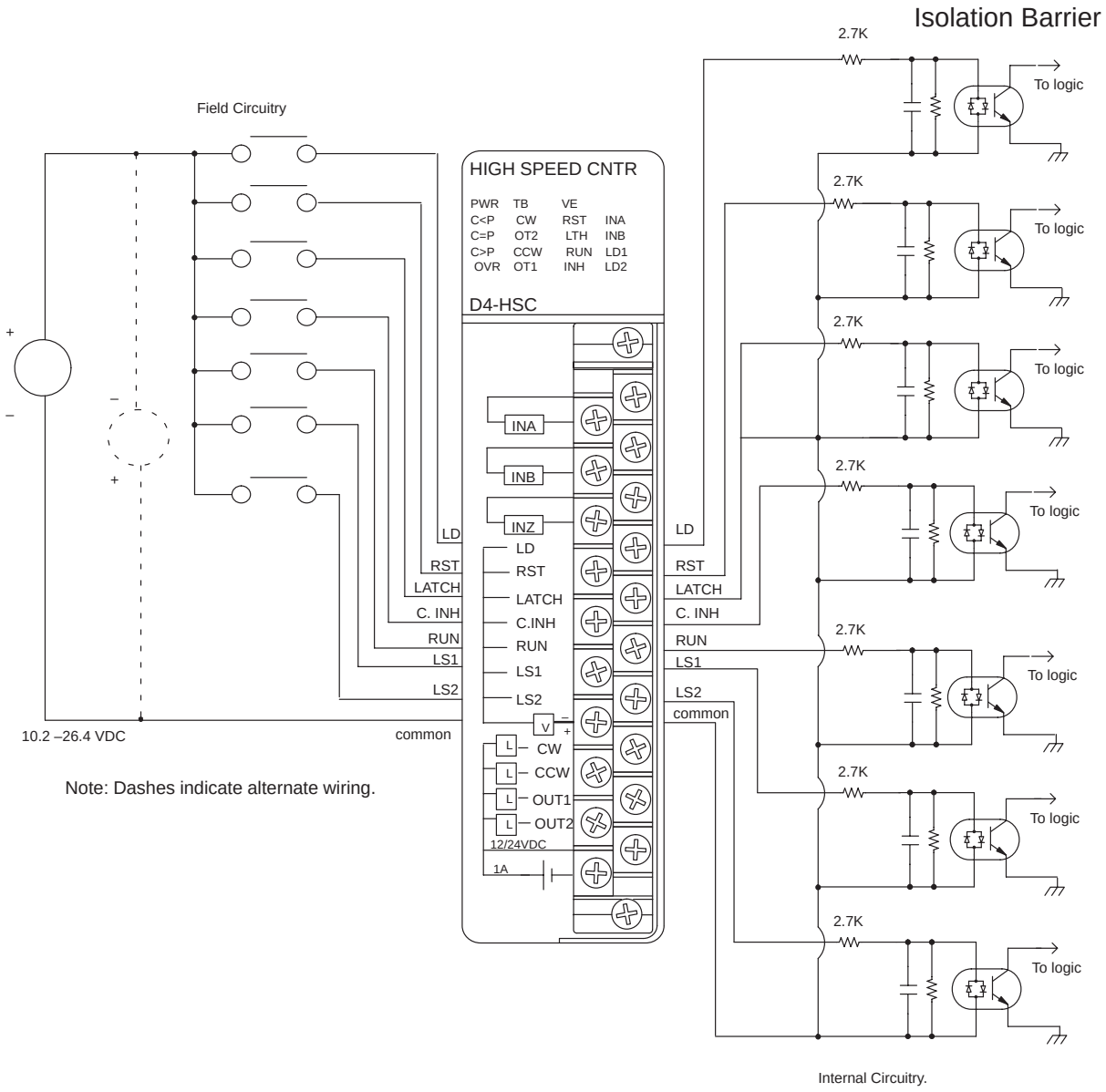
NOTE: When using the internal power supply, make sure your application does not draw more current than the rated 400mA.

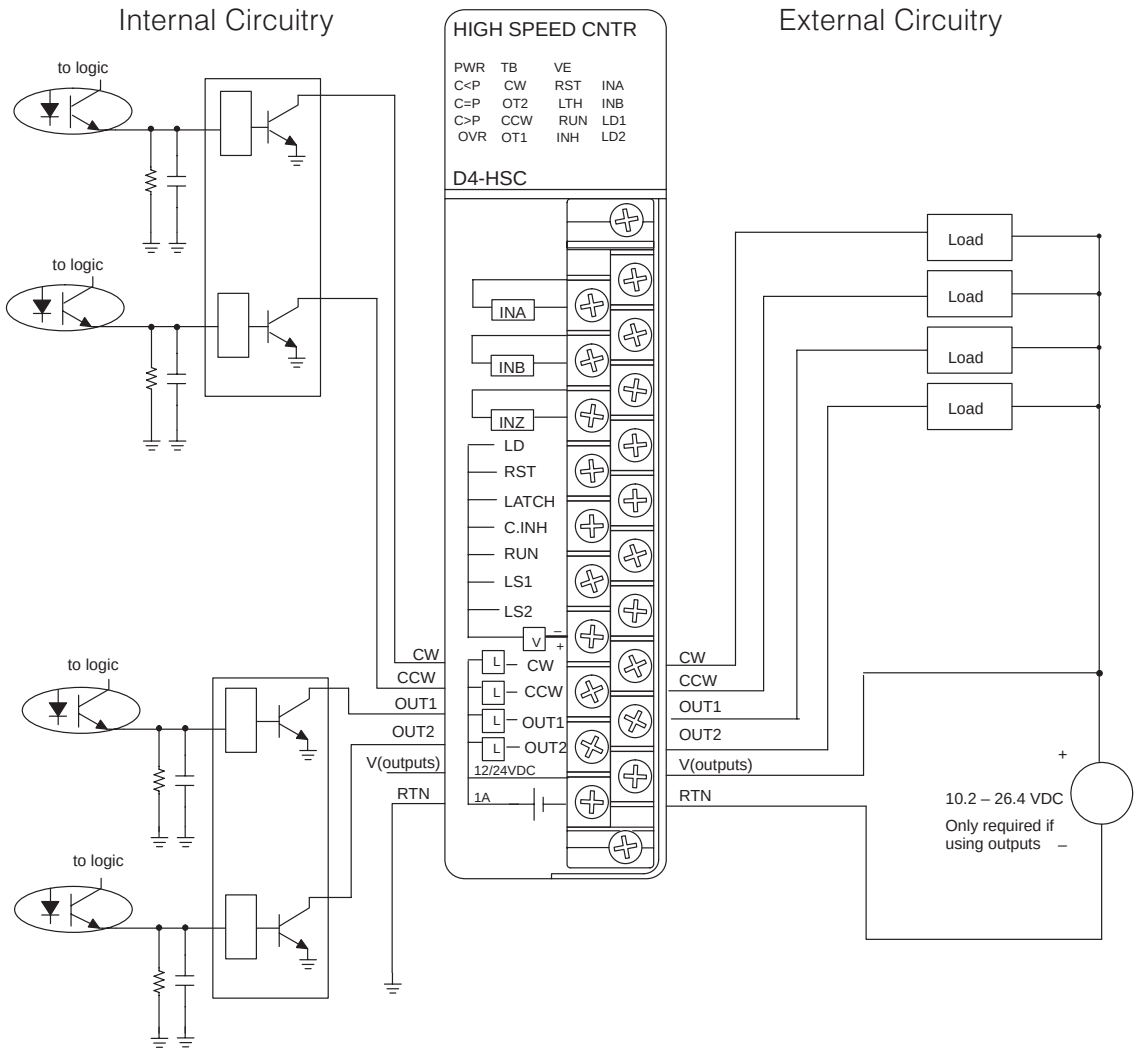
Count Input Wiring Diagram





Control Input Wiring Diagram



Note: Dashes indicate alternate wiring.

Control Output Wiring Diagram