

Converting One Rockwell 1746-IV32 Module to Two Spectrum Controls 5069-IV16F-SC Modules

Component requirement: Quantity 1 Rockwell 1492-CM1746-M12 I/O Conversion System

This conversion module may be used to connect signals from 1746 modules to 5069 modules.

The conversion module uses two, 18-point removable terminal blocks which connect directly to the 5069 modules. The other end is a female removable connector to connect directly to the 1746 removable terminal block.

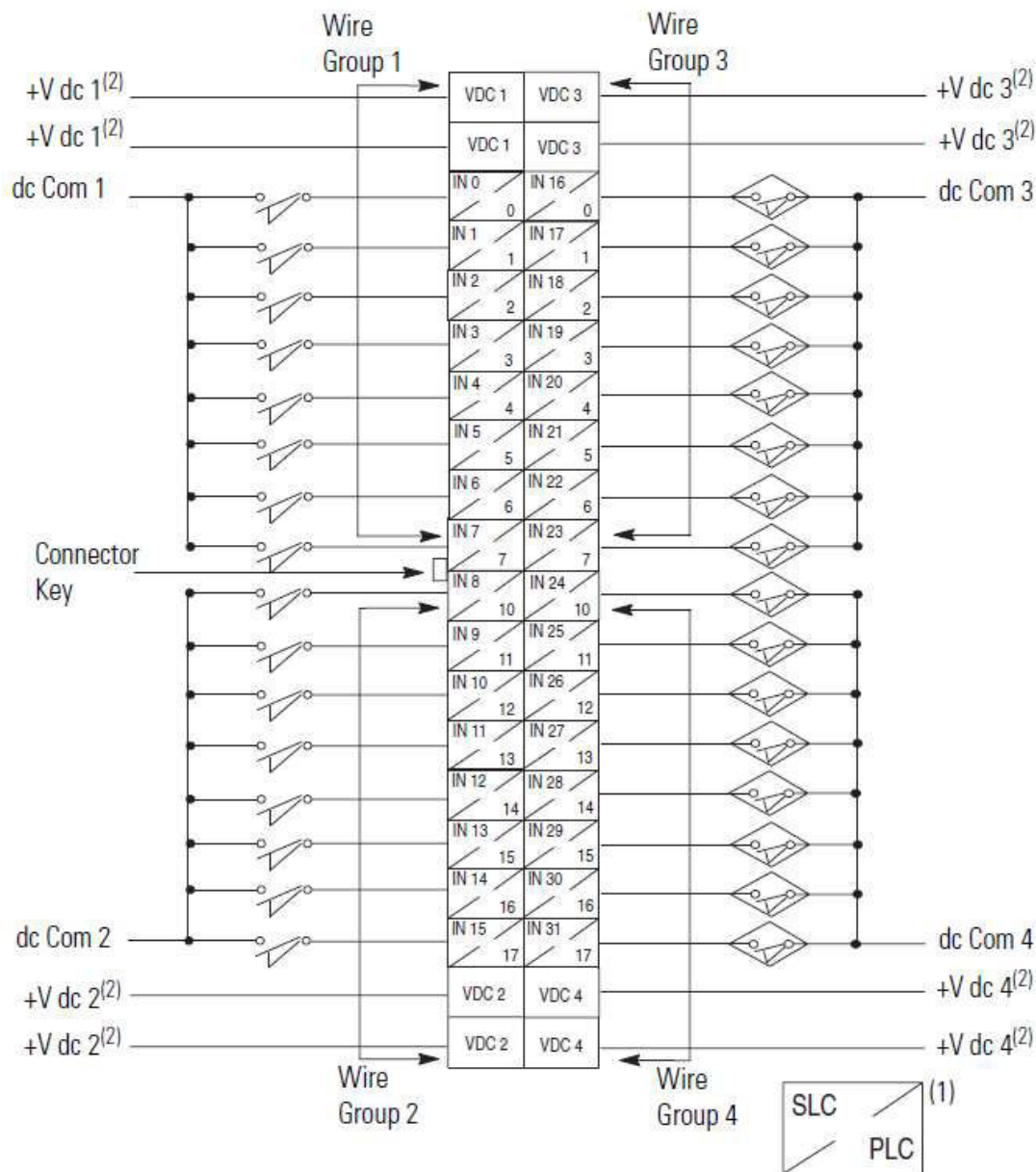
Figure 1. Removable Terminal Blocks



Reference Documents:

- Rockwell document [1492-in149 Installation Instructions](#) for information on the 1492-CM1746-M12
- Rockwell document [1492-sg010 I/O Conversion System Selection Guide](#) for information on the entire 1492 line of 1746-to-5069 I/O Conversion System products

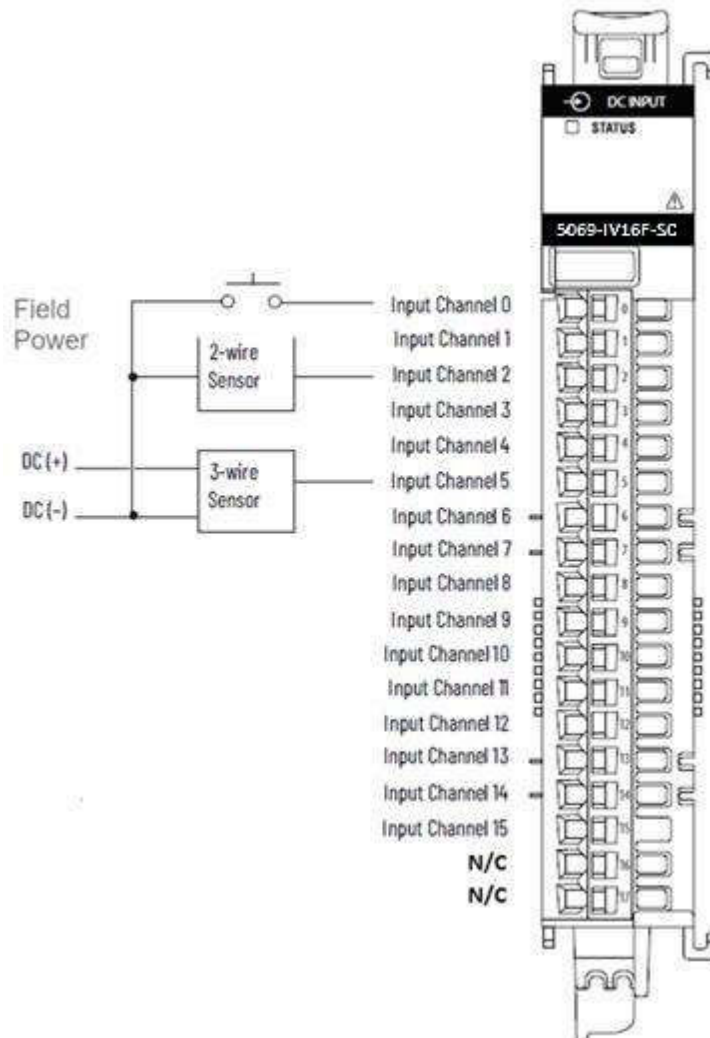
Figure 2. Input Module 1746-IV32 (24 VDC Sourcing)



(1) See decimal and octal coding information on page 16.

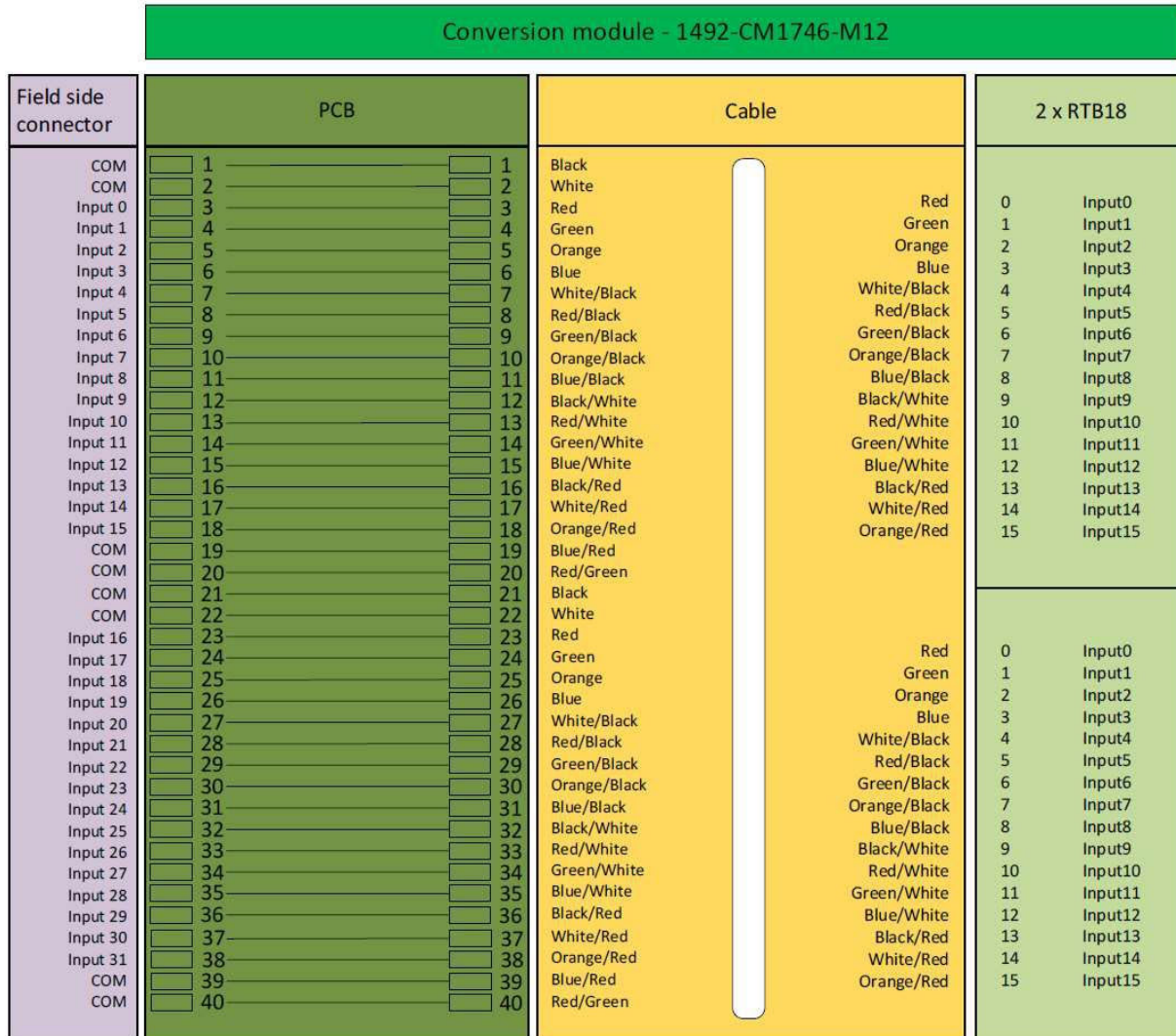
(2) The V dc pins on the 1746-IV32 input module are isolated between the four groups and the two V dc pins in each group are connected internally. To maintain group isolation provided by 32-point I/O modules, use a 1492 terminal block that provides group isolation. Consult 1492 documentation or your Allen-Bradley Sales Office for additional information.

Figure 3. 5069-IV16F-SC 16 High-Speed Discrete Inputs (Sourcing)



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Figure 4. Rockwell Diagram Showing Connection Flow for the Conversion Module 1492-CM1746-M12



The 40-pin Field Side Connector on the 1746 side converts to a PCB inside the housing where the ends of two multiconductor cables get soldered. The 16 required conductors on the 5069 side then get routed to the correct terminals on the 5069-RTB18 removeable terminal block. The COM terminals on the 1746 Field Side Connector do not terminate on the 5069 side.

The 2 cables between the 1746 side and the 5069 side are marked with labels:

- **Cable A** Pins 1-20 (Connections only to 1746 pins 3-18, inputs 0-15)

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- **Cable B** Pins 21-40 (Connections only to 1746 pins 23-38, inputs 16-31)



- Figure 5 is a view of the Conversion module 40-pin Field Connector on the 1746 side. The hold down fasteners, pin 1 marking, and keyway are visible, as is the PCB inside the housing. The 40-pin header on the 1746 conversion module plugs directly into the existing Field Side Connector.
- For the 1746-IV32, the connecting field side cable is the Allen-Bradley 1492-CABLExxxN3 which comes in 1.0, 2.5 and 5.0 meter lengths. This cable has a 40-pin connector on one end and flying leads on the other. Example: 1.0-meter cable 1492-CABLE010N3. See Figure 6.

Figure 5. Conversion Module 40-Pin Field Connector on the 1746 Side



Figure 6. Cable 010N3

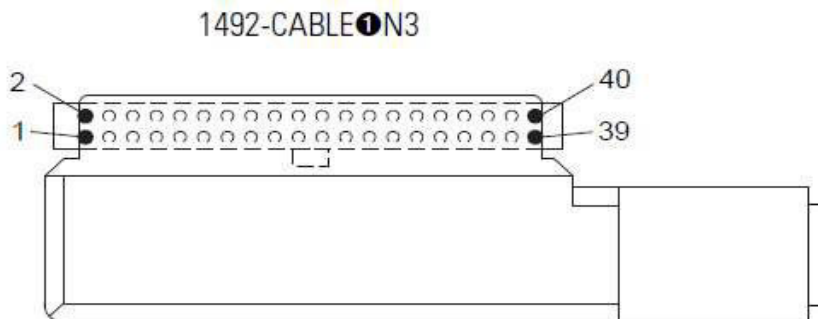


Figure 6 is a view of one of the two conversion module 18 pin connectors on the 5069 side. No

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rewiring of any kind is required to use the Rockwell 1492-CM1746-M012 to convert a 1746-IV32 to the Spectrum Controls 5069-IV16F-SC modules.

Figure 7. One of Two Conversion Module 18-Pin Connectors on the 5069 Side

