

Converting One Rockwell 1746-OV32 Module to Two Spectrum Controls 5069-OV16F-SC Modules

Component requirement: Quantity 1 Rockwell 1492-CM1746-M13 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.

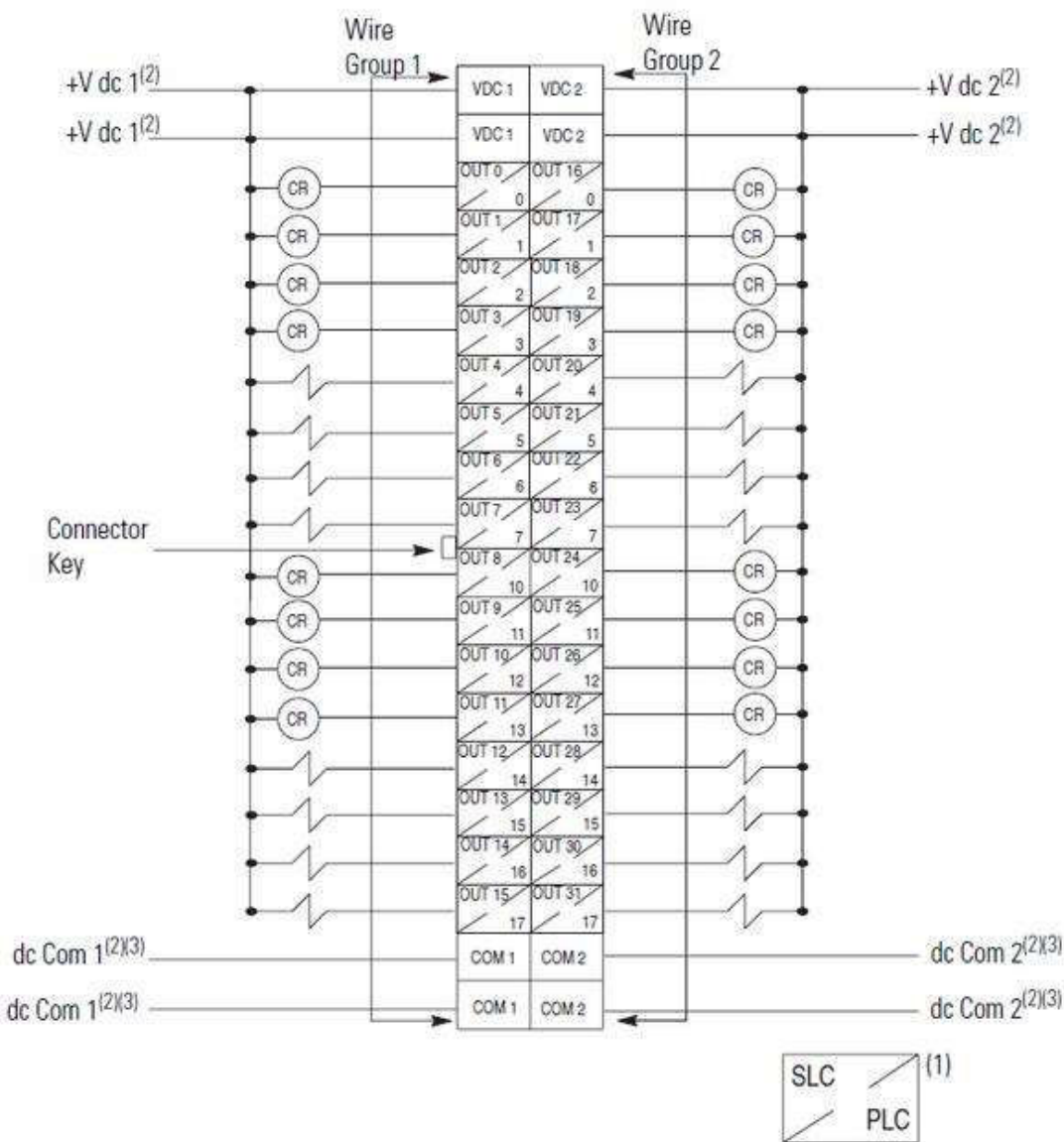
Figure 1. Removable Terminal Blocks



Reference Documents:

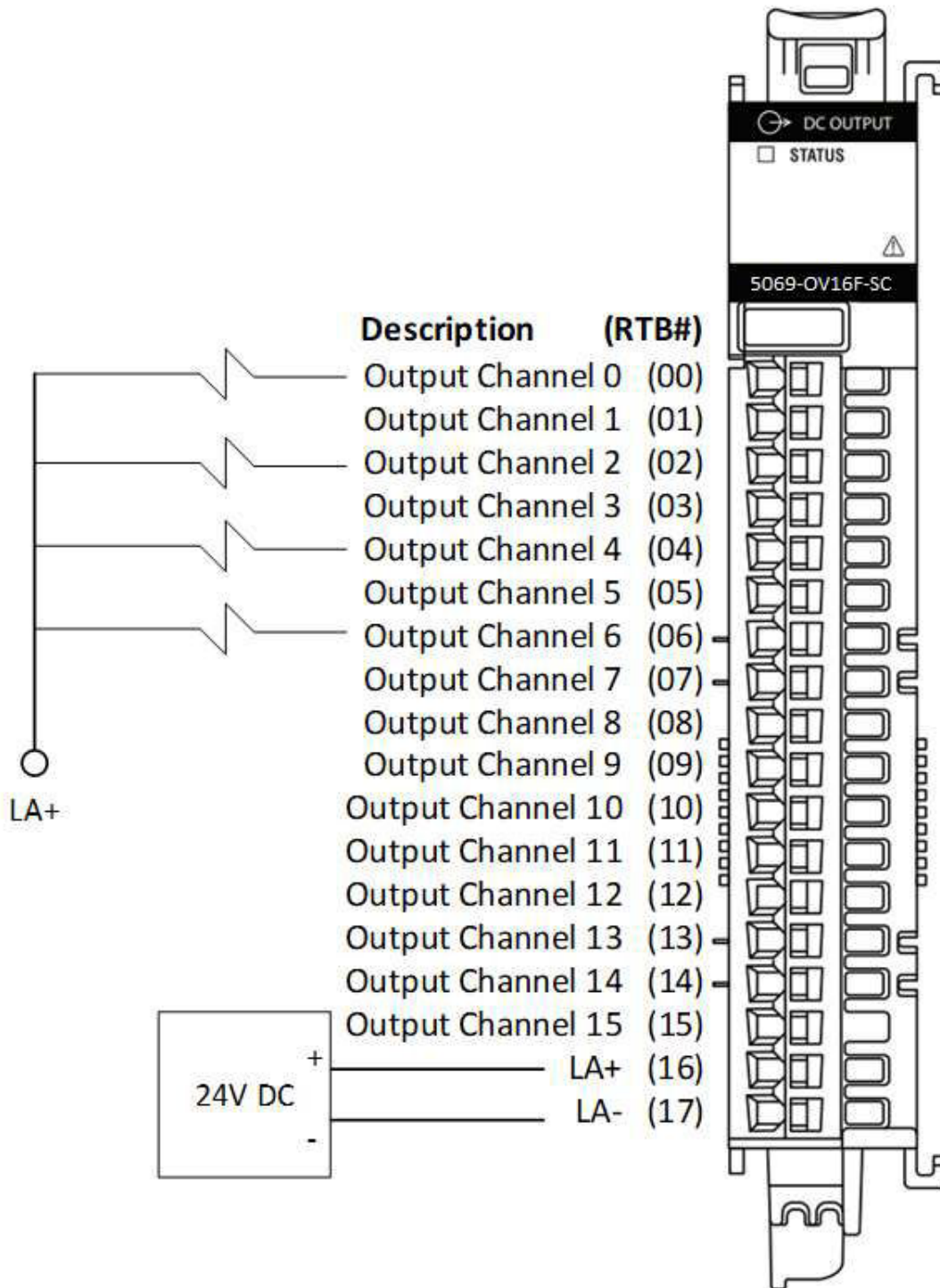
- Rockwell document [1492-in137 Installation Instructions](#) for information on the 1492-CM1746-M13
- Rockwell document [1492-sg010 I/O Conversion System Selection Guide](#) for information on the entire 1492 line of 1746-to-5069 I/O Conversion System products

Figure 2. Output Module 1746-OV32 (5 to 50 VDC Transistor Output Sinking)



- (1) See decimal and octal coding information on page 16.
- (2) The V dc and dc Com pins on the 1746-OV32 output module are isolated between the two groups and the two V dc and two dc Com pins in each group are connected internally.
- (3) Both dc Com pins must be connected to the dc power source if current for a common group is expected to exceed 2 amps. 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-OV16F-SC 16 High-Speed Discrete Outputs (Sinking)



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Figure 4. Rockwell Diagram Showing Connection Flow for the Conversion Module 1492-CM1746-M13



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 required conductors on the 5069 side then get routed to the correct terminals on the 5069-RTB18 removeable terminal blocks. The VCC and VSS terminals on the 1746 Field Side Connector terminate on the 5069 side to the LA+ and LA- terminals.

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

- **Cable A** Pins 1-20:
 - VCC Connections from 1746 pins 1 and 2 to 5069 pin 16 (LA+).
 - 10 Connections only to 1746 pins 3 to 18 (outputs 0-15).
 - VSS Connections from 1746 pins 19 and 20 to 5069 pin 17 (LA-).

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- **Cable B** Pins 21-40 (Connections only to 1746 pins 23-38):
 - VCC Connections from 1746 pins 21 and 22 to 5069 pin 16 (LA+).
 - 10 Connections only to 1746 pins 23-38 (outputs 16-31).
 - VSS Connections from 1746 pins 39 and 40 to 5069 pin 17 (LA-).
- Figure 5A 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-OV32, the connecting field side cable is the Allen-Bradley 1492-CABLEnnnN3 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 5B.

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



Figure 5B. Cable 010N3

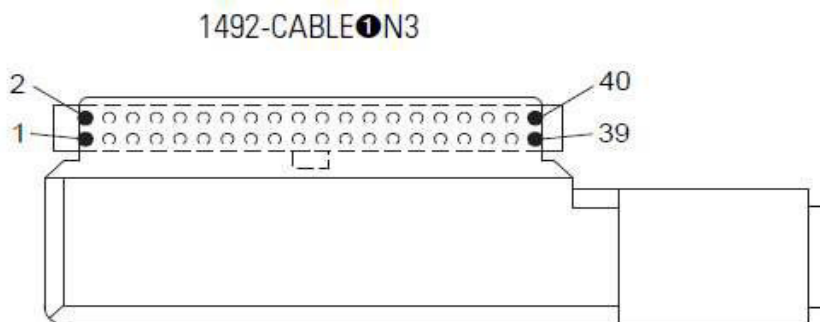


Figure 6 is a view of one of the two conversion module 18-pin connectors on the 5069 side. No rewiring of any kind is required to use the Rockwell 1492-CM1746-M013 to convert a 1746-OV32 to the Spectrum Controls 5069-OV16F-SC modules.

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Figure 6. One of Two Conversion Module 18-Pin Connectors on the 5069 Side

