Digital I/O Conversion Module

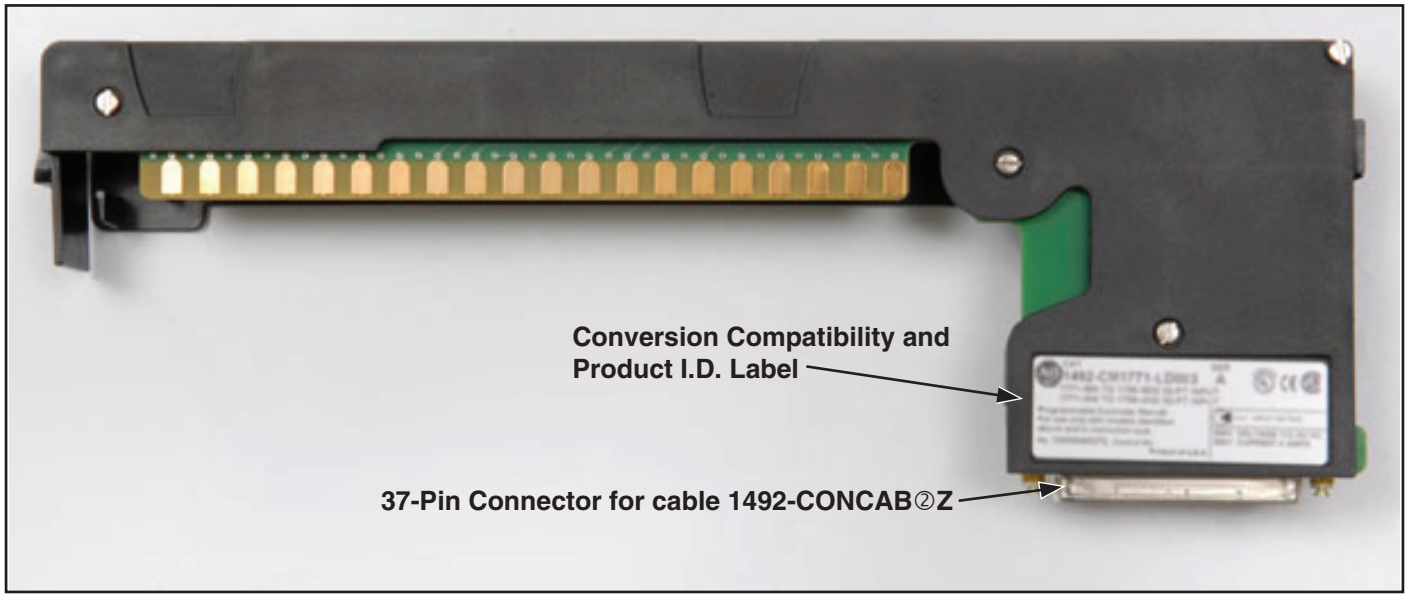
(Cat 1492-CM1771-LD009F)

I. Description

This Digital I/O Conversion Module provides for the conversion of (1) 1771, 32 point I/O modules to be converted to (1) 1756, 32 point I/O module and consists of the following:

(1) 1771 Module (32pt) to (1) 1756 Module (32pt)
(2) Conversion Module: 1492-CM1771-LD009F
(1) Cable: 1492-CONCAB005Z (Table 2, Section III)
(1) Conversion Mounting Assembly: 1492-MUA… (Table 1, Section II)

This conversion is accomplished without the removal of any field wires from the existing 1771 Swing Arm. The existing 1771 Swing Arm fits directly onto the edge connector of the 1492 Conversion Module. On one end of the 1492 Cable is (1) connector for the Conversion Module. On the other end is the Removable Terminal Block (RTB) for the 1756 I/O module, as shown in the photo below. The I/O signals are routed through the 1492 Conversion Module and the 1492 Cable to the appropriate terminals on the 1756 I/O module per the Wiring Diagrams in Section V. As standard, both portions of the 1492 Cables are 0.5M long, but we also offer a 1.0M cable length. Refer to the footnotes in Table 2, Section III for further details.



1492-CM1771-LD009F Conversion Module

WARNING

De-energize and lockout any and all power to all I/O field devices connected to the A-B 1771 I/O chassis, and the power to the 1771 I/O chassis itself. Ensure all power is de-energized and locked out to any device in the control cabinet where the conversion is to be performed. Ensure work is performed by qualified personnel.

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II. Installation

The 1492 Conversion Modules must be installed in a 1492 Conversion Mounting Assembly (see Table 1 below). A complete System Installation Manual ships with the 1492 Conversion Mounting Assembly.

1) Determine the quantity of each type of 1771 I/O modules used in the 1771 I/O Chassis to be converted.
2) Select the applicable 1492 Conversion Modules from Table 2, Section III.
3) Review the Max Slots for I/O and Chassis Width data from the Table 1 below.
4) Select a 1756 I/O Chassis which has enough I/O Slots.
NOTE: (2) I/O slots are required in the 1756 Chassis for conversions where (1) 1771 I/O module converts to (2) 1756 I/O modules.
5) Select the 1492 Conversion Mounting Assembly which has enough Conversion Module slots.
NOTE: (2) Conversion Module slots are required in the 1492 Conversion Mounting Assembly for conversions where (2) 1771 I/O module convert to (1) 1756 I/O modules.
NOTE: The 1492 Conversion Mounting Assembly has the same Height & Width foot-print as the 1771 Chassis and is designed to use the same mounting hardware. The combined Depth of the 1492 Conversion Mounting Assembly with the 1756 Chassis mounted on top is 10.25 inches (Controller w/key) or 10.0 inches (Controller w/o key). Dimension drawings are included in the System Installation Manual that ships with the 1492 Conversion Mounting Assembly.

Table 1: Bulletin 1771 to 1756 Chassis Conversion

1771 Chassis				1756 Chassis			Conversion Mounting Assembly		
Cat. No.	Max Slots for I/O	Chassis Width ②		Cat. No.	Max Slots for I/O	Chassis Width	Cat. No.	Max Slots for Conversion Modules	Chassis Width
		without Power Supply	with Power Supply						
1771-A1B	4	9.01	12.61	1756-A4	3	10.35	1492-MUA1B-A4-A7	4	9.01
				1756-A7	6	14.49			
1771-A2B	8	14.01	17.61	1756-A7	6	14.49	1492-MUA2B-A7-A10	8	14.01
				1756-A10	9	19.02			
1771-A3B1 ①	12	19.01		1756-A10	9	19.02	1492-MUA3-A10-A13	12	19.01
				1756-A13	12	23.15			
1771-A4B	16	24.01		1756-A13	12	23.15	1492-MUA4-A13-A17	16	24.01
				1756-A17	16	29.06			

Foot Notes:

① 1771-A3B is not listed as it is used for 19 inch wide instrumentation panels.

② Notice that the 1756 Chassis Width sometimes exceeds the 1771 Chassis Width, with or without the Power Supply. The Cover-Plate of the 1492 Conversion Mounting Assembly allows the 1756 Chassis to be Left justified, Right justified or Centered. A complete System Installation Manual ships with the 1492 Conversion Mounting Assembly.

III. Compatiblity

Table 2: Bulletin 1771 to 1756 Conversion Modules and Cables

1771 Digital I/O Module①	1756 Digital I/O Module①	1492 Conversion Module	1492 Cable②
1771-OBN	1756-OB32	1492-CM1771-LD009F③	1492-CONCAB005Z

Foot Notes:

① To understand any issues concerning I/O module compatibility, refer to the Installation Manuals for the specific 1771 and 1756 I/O modules involved.

② The 3 numbers indicate the cable length of each portion of the 1492 Cable. Recommended cable lengths of 0.5M are shown. Additional cable lengths are as follows:
1.0M = 1492-CONCAB010Z

③ To maintain the functionality of the 1771-OBN module the Conversion Module provides 4 mechanical fuses, 1 for each DC+. Refer to the Wiring Diagram for further details.

IV. Conversion Module Specifications

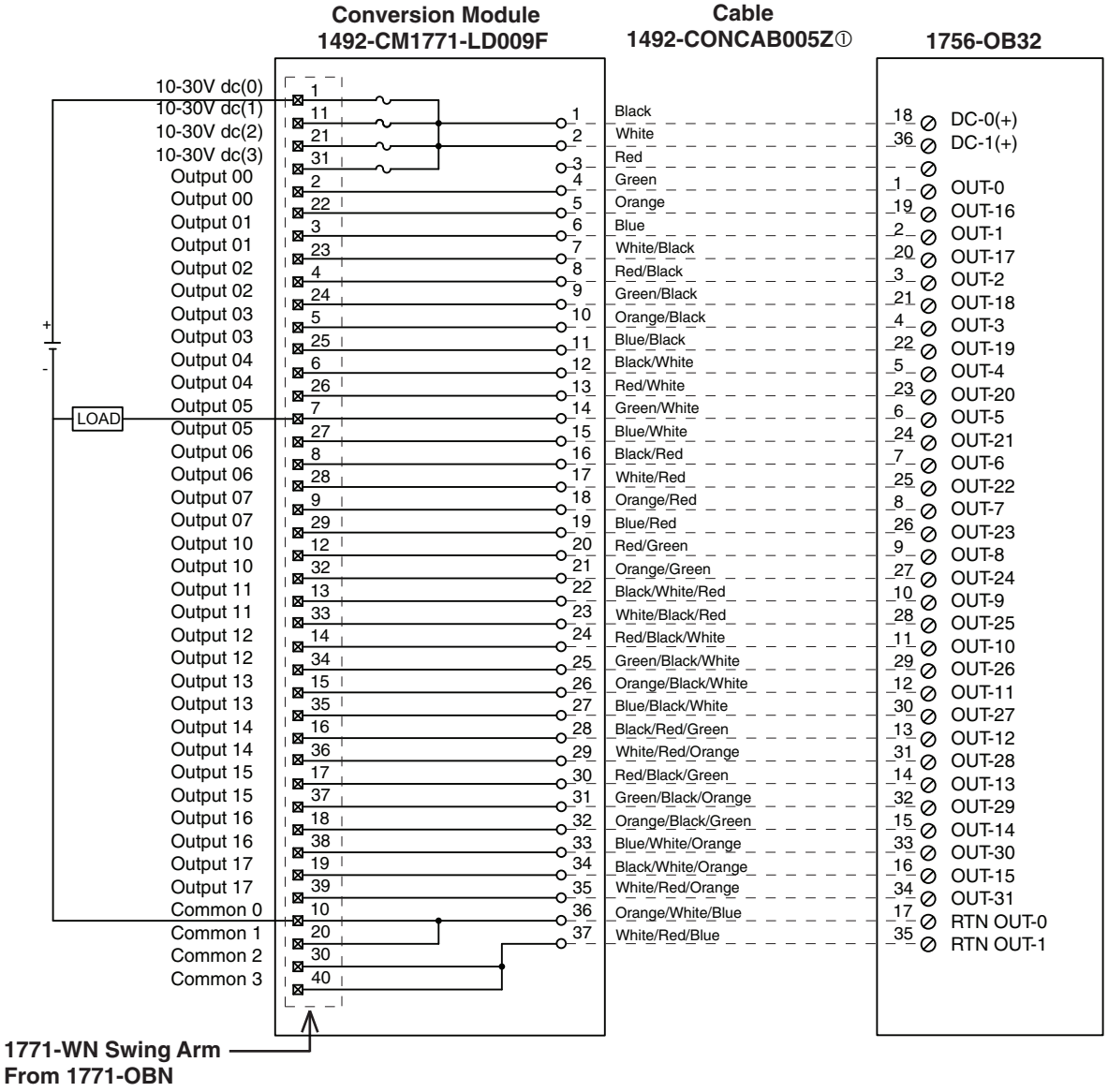
(Operating specifications are when installed in the Conversion System base / cover-plate assembly)

Specification	Value
Dimensions	11.81 in. (height) x 4.38 in. (depth) x 1.5 in. (width) 300 mm. (height) x 111.25 mm (depth) x 38.1 mm (width)
Approximate Shipping Weight	246.9 g (0.54 lbs) (includes carton)
Storage Temperature	-40 to +85°C (-40 to +185°F)
Operating Temperature	0 to 60°C (32 to 140°F)
Operating Humidity	5 to 95% at 60°C (non-condensing)
Shock Non operating Operating	 50g 30g
Operating Vibration	2g at 10 to 500Hz (Agrees with 1756 I/O module specifications)
Maximum Operating Voltage	32 Vdc
Max. Module Operating Current Per Point: Per Module:	 2 Amps 6 Amps ***NOTICE*** Refer to the Wiring Diagram(s) for current limits for a specific configuration.
Fusing	Four, 4 Amps (maximum current based on conversion components)
Agency Certifications	UL Classified: Under UL File Number E113724 CSA CE: compliant for all applicable directives
Pollution Degree	2
Environmental Rating	IP20

V. Wiring Diagrams

Conversion: 1771-OBN to 1756-OB32

WARNING There are several key application considerations and system specifications (bottom of drawing) when using these components (conversion module, cable and input module). Read and understand these considerations before installation.



Conversion Module Installation and Application Considerations

①The 1771-OBN module output current limits versus 1756-OB32 limits are as follows:

	1771-OBN	***1756-OB32w/1492-CONCAB005Z***
a) Current/Point	0.5A	0.35A @ 60˚C
b) Current/Module	8A	6A @ 60˚C
c) Surge Current/Point	2A for 10ms	1A for 10ms

② The 1771-OBN has four (4) 4A, 250V rectifier fuses. The 1756-OB32 is NOT fused, as such four (4) 2AG fuse clips and 4A fuses are provided on the 1492-CM1771-LD009F conversion module.

③ The 1492-CONAB005Z is limited to 3A per pin.

④ The 1771-OBN has 4 groups (allowing 4 separate power supplies) and the 1756-OB32 has 2 groups. This module/cable combination ties Groups 0 & 1 from the 1771-OBN to Group 0 on the 1756-OB32 and Groups 2 & 3 from the 1771-OBN to Group 1 on the 1756-OB32. Field wiring modification must be made to accommodate this if multiple supplies were used. If 4 supplies were used, 2 must be removed.

⑤ Refer to your 1771-OBN and 1756-OB32 Installation Manual wiring schematics and diagrams for more details. Ensure 1756 output module ratings are not exceeded. [Reference Doc: 41170-938 (Version 01)]

VI. Fuse Installation and Replacement

The 1492-CM1771-LD009F conversion module has four (4) mechanical fuse holders with fuses located on the circuit board inside the modules plastic case. The following explains how to replace the fuses.

1) Remove the 4 screws that hold both halves of the conversion module case together (refer to the following Figure A).

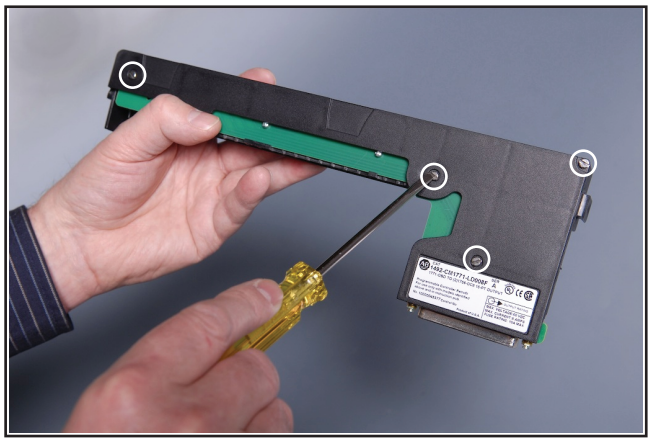


FIGURE A

2) Disassemble both case halves so you can access the module's circuit board. Remove and replace the fuse or fuses (refer to the below Figure B).

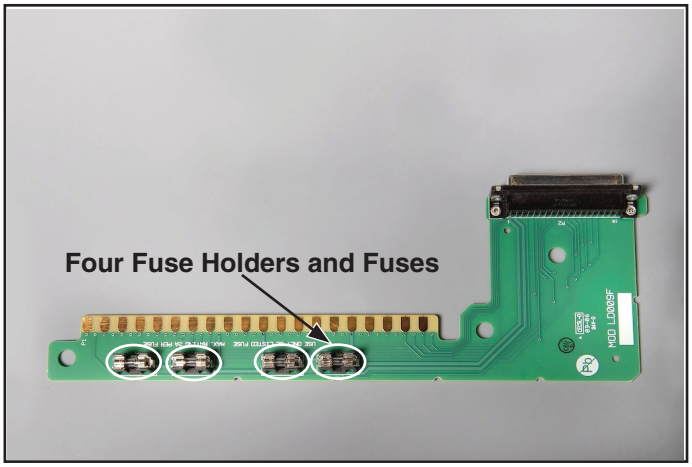


FIGURE B

3) Reassemble the two case halves to the circuit board and replace the four screws that hold the case together (Do NOT over torque the screws (Maximum torque is 5.0 in-lbs.)

NOTES:

1) For module operation a fuse must be inserted into the fuse holder
2) Physical Fuse Size: 2AG
3) Possible Fuse Supplier: LittelFuse (Part Number: 225004P)
4) Maximum Fuse Current rating based on Conversion System Components: 4.0 Amps

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