# Field Wire Conversion Module for Modicon B838-032 Module to Two 1756-OB16E Modules

(Cat 1492-CM800-LD012)

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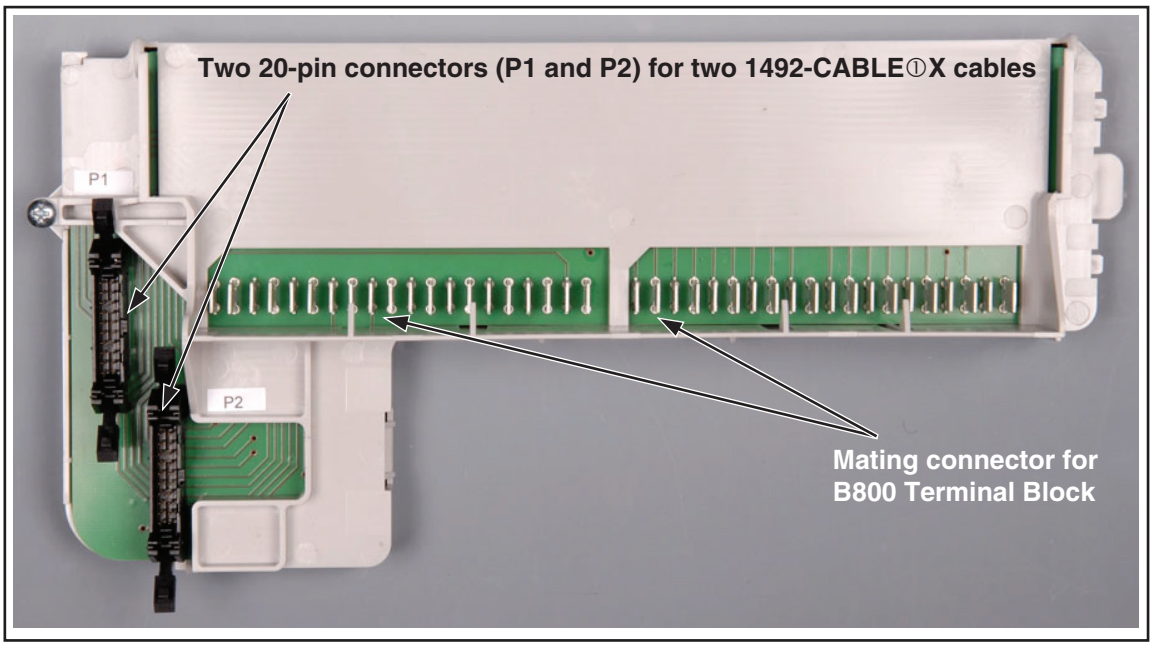
## I. Module Description

The 1492-CM800-LD012 conversion module provides field wire signal conversion from a Modicon® B838-032, 20 to 28Vdc, 32-pt output module to two ControLogix 1756-OB16E, 10 to 31.2Vdc, 16-pt output modules. The conversion module provides the mating connections to the B838-032 swing-arm (terminal block) with the attached field wires. It routes those signals, via its two 20-pin connectors and two 1492-CABLE①X pre-wired cables to compatible terminals of two 1756-OB16E modules (refer to the Wiring Diagram on page 2). NOTE: The B838-032 was mechanically fused per group. The 1756-OB16E is electronically fused per group. Refer to the 1756-OB16E Installation Manual for additional details on electronic fuse operation.




**1492-CM800-LD012 Conversion Module**

**WARNING**

De-energize and lockout any and all power to all I/O field devices connected to the Modicon 800 I/O housing, and the power to the 800 I/O housing 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.

## II. Module Installation

The 1492-CM800-LD012 conversion module must be installed in a 1492 conversion base-plate and cover-plate assembly. The installation of the module into the assembly is explained in the Installation Manual that ships with the conversion assembly. For a list of compatible assemblies refer to Appendix A.

## III. Conversion Module Compatibility Matrix

| Conversion Module | Compatible 800 Output Module | Compatible 1756 Output Module | Required 1492 Cable |
|---|---|---|---|
| 1492-CM800-LD0012 | B838-032 | Two 1756-OB16E | Two 1492-CABLE①X |

① This is the cable length in meters and tenths of meters (e.g. 015 = 1.5 meters). Recommended cable length is 003 (00.3 meters).

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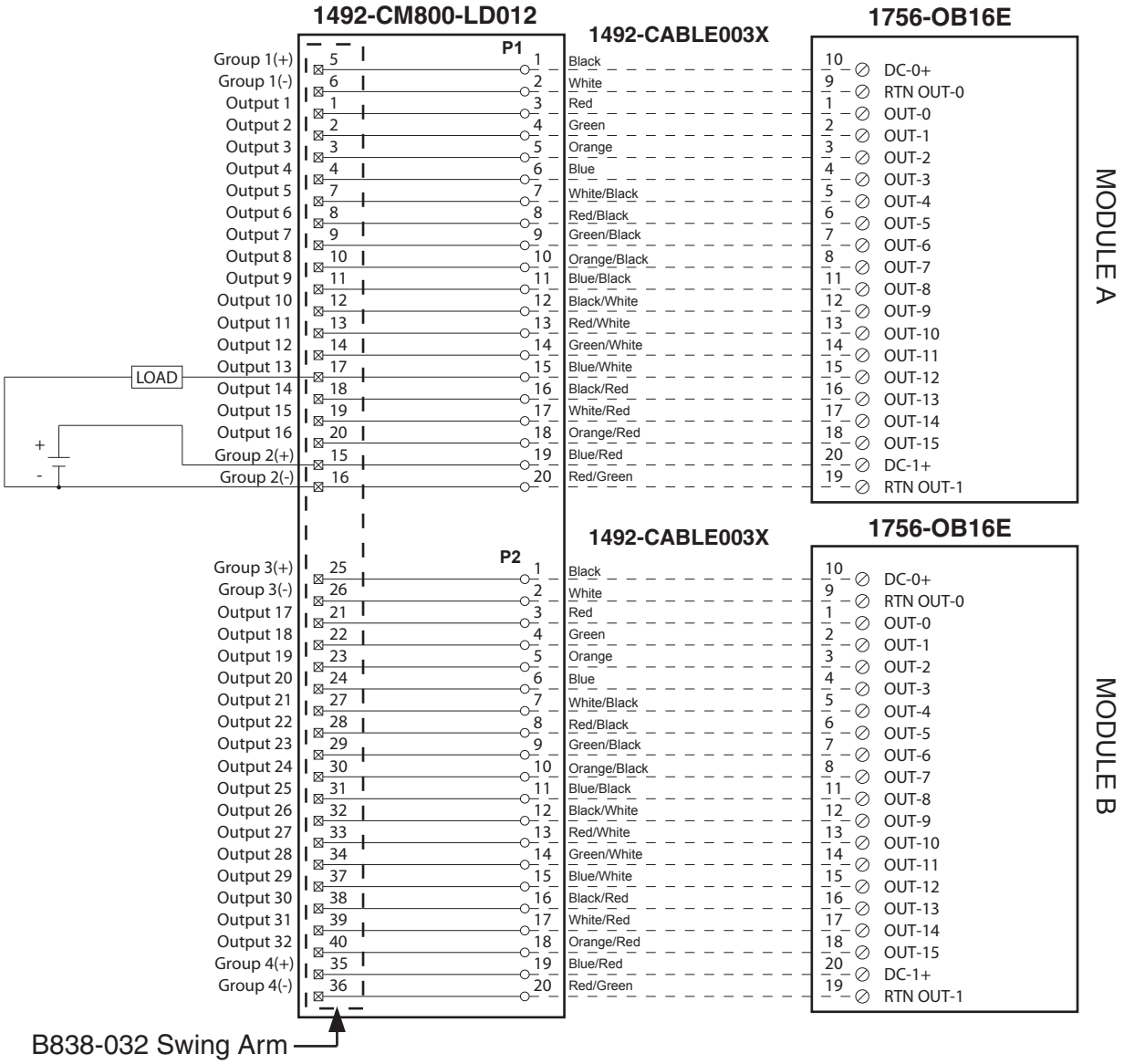
## IV. Conversion Module Wiring Diagram

The following diagram shows the connections from the existing B838-032 swing-arm, through the conversion module, two 1492 cables and to the two 1756-OB16E output modules. The diagram can be used as an aid in possible system troubleshooting.

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

### Conversion: B838-032 to 1756-OB16E Qty 2 with 1492-CM800-LD012




**Conversion Module Installation and Application Considerations**

① This configuration uses two (2) 1756-OB16E output modules to replace a single B838-032 output module. This may require the use of a larger 1756 I/O Chassis. Ensure there is sufficient panel space to allow for this possibility.

② The B838-032 module output current limits versus 1756-OB16E limits are as follows:

| | ***B838-032*** | ***1756-OB16E w/ 1492-CABLE003X*** |
|---|---|---|
| a) Current/Point | 0.5A | 1A |
| b) Current/Group | ---- | 2A |
| c) Current/Module | 16A (32 pts) | 4A (16 pts) |
| d) Surge Current/Pt | 2.5A for 0.5ms | 2A for 10ms |

③ The B838-032 module provided a single mechanical fuse per group. The 1756-OB16E is electronically fused per group. Refer to the 1756-OB16E Installation Manual for electronic fusing details.

④ The 1492-CABLE003X current is limited to 2A per pin.

⑤ Refer to your B838-032 and 1756-OB16E Installation Manual wiring schematics and diagrams for more details. Ensure 1756 output module ratings are not exceeded. [Reference Doc: 41170-762 (Version 03)]

## V. 1492-CM800-LD012 Conversion Module Specifications

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

| Specification | Value |
|---|---|
| Dimensions | 288.9 mm (height) x 139.7 mm (depth) x 44.5 mm (width)<br>11.37 in. (height) x 5.5 in. (depth) x 1.75 in. (width) |
| Approximate Shipping Weight | 300g (0.66 lbs) (includes carton) |
| Storage Temperature | -40 to +85°C (-40 to +185°F) |
| Operating Temperature | 0 to 55°C (32 to 131°F) |
| Operating Humidity | 5 to 95% at 55°C (non-condensing) |
| Shock<br>Non-operating<br>Operating | <br>50g<br>30g |
| Operating Vibration | 2g @ 10-500Hz |
| Maximum Operating Voltage | 150 Vdc |
| Max. Module Operating Current<br>Per Point:<br>Per Module: | <br>2 Amps (1492-CABLE connection pins are limited to 2A per pin)<br>12 Amps<br>***NOTICE*** Refer to the Wiring Diagram(s) for current limits for a specific configuration. |
| Agency Certifications | <br>UL Classified: Under UL File Number E113724<br>CSA<br>CE: compliant for all applicable directives |
| Pollution Degree | 2 |
| Environmental Rating | IP20 |

## VI. Appendix A - 800 Housing to 1756 Chassis Conversion System Selection Process

1) Determine the number of 800 I/O modules actually used in the 800 I/O Housing to be converted to 1756 I/O.
2) Review the data in Column 5 from the below table, and select a 1756 I/O Chassis which meets your conversion needs from Step 1. Ensure the information from the I/O Conversion module table is reviewed first since in some cases, two 1756 modules are needed to replace one 800 I/O module.
3) Once the 1756 Chassis is selected, refer to Column 7 and select the Conversion Assembly.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| **Modicon 800 I/O Housing Cat Number** | **Max. Number of 800 Housing Slots for I/O** | **800 Housing Width Dimension** | **1756 I/O Chassis Catalog Number** | **Max. Number of 1756 Chassis Slots for I/O ①** | **1756 Chassis Width ③④ Dimension** | **Conversion Assembly Catalog Number ②** |
| AS-H810-xxx | 3 | 10.25” | 1756-A4 | 3 | 10.25” | 1492-MUA4-MB3 |
| AS-H819-103 | 4 | 17.5” | 1756-A7 or 1756-A10 | A7 = 6, A10=9 | A7 = 14.49” ④ A10 = 19.02” | 1492-MUA7-A10-MB4679 ⑤ |
| AS-H819-209 | 6 | 17.5” | | A7 = 6, A10=9 | A7 = 14.49” ④ A10 = 19.02” | |
| AS-H819-100 | 7 | 17.5” | | A7 = 6, A10=9 | A7 = 14.49” ④ A10 = 19.02” | |
| AS-H827-103 | 8 | 27.1” | 1756-A10 or 1756-A13 | A10 = 9, A13=12 | A10 = 19.02” A13 = 23.15” | 1492-MUA10-A13-MB81011 ⑤ |
| AS-H827-209 | 10 | 27.1” | | A10 = 9, A13=12 | A10 = 19.02” A13 = 23.15” | |
| AS-B827-100 | 11 | 27.1” | | A10 = 9, A13=12 | A10 = 19.02” A13 = 23.15” | |

① One chassis slot required for the ControlLogix processor or a remote I/O adapter type module.
② The footprint and mounting dimensions of the 1492 Conversion Assembly (base plate and cover plate) match those of the Modicon I/O Housing.
③ Width dimension includes the 1756 Chassis power supply.
④ Surplus Chassis width as compared to the 800 I/O Housing is divided equally when mounting it on the Conversion Assembly.
⑤ Mounting holes for the 1756 I/O Chassis are pre-drilled and pre-tapped into the Conversion Assembly cover plate.



Article No. 4351960000

10000021903 **(Version 00)**
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