

UMC800 Controller Input/Output Boards Replacement Instruction

Document Number

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Kit Contents

This kit contains one of the following Input/Output Module Printed Wiring Assemblies (PWAs) and its field wiring screw terminal connector:

- Part Number 46190305-503—Analog Input PWA
- Part Number 46190314-503—Analog Output PWA
- Part Number 46190311-503—Contact Closure Digital Input PWA
- Part Number 46190347-501—24 Vdc Digital Input PWA
- Part Number 46190350-501—120/240 Vac Digital Input PWA
- Part Number 46190308-503—Digital Output PWA with Relay Output Jumpers in Normally Open Position
- Part Number 46190341-501—24 Vdc Digital Output PWA
- Part Number 46190344-501—120/240 Vac Digital Output PWA
- Part Number 46190344-502—AC 2 Amp Digital Output PWA
- Part Number 46190353-501—16 Contact Closure Digital Input PWA
- Part Number 46190360-501—Pulse/Frequency Input Card
- Part Number 51450921-501—+/- 15Vdc ph Power Module

Summary

Enclosed is a new Input/Output module for your UMC800 Controller. Use the following procedure to install the module.

Symbol Definitions

CAUTION

This **CAUTION** symbol indicates a potentially hazardous situation, which, if not avoided, **may result in property damage**.



WARNING

PERSONAL INJURY: Risk of electrical shock. This symbol warns the user of a potential shock hazard where HAZARDOUS LIVE voltages greater than 30 Vrms, 42.4 Vpeak, or 60 Vdc may be accessible. **Failure to comply with these instructions could result in death or serious injury.**



ATTENTION, Electrostatic Discharge (ESD) hazards. Observe precautions for handling electrostatic sensitive devices

Installation Procedure

Follow the procedure in Table 1 to install an I/O module in the controller.



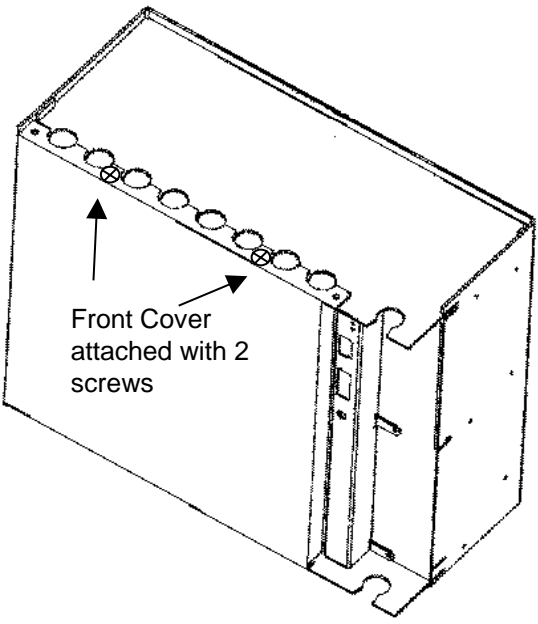
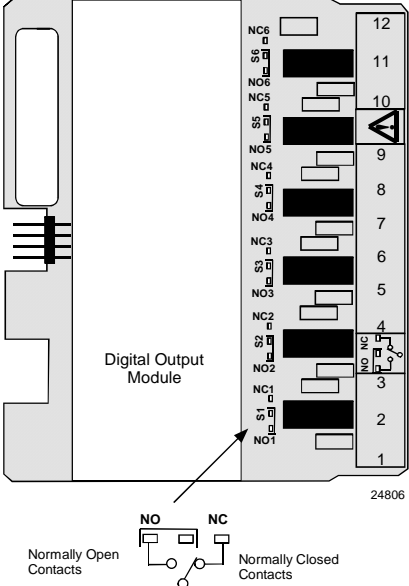
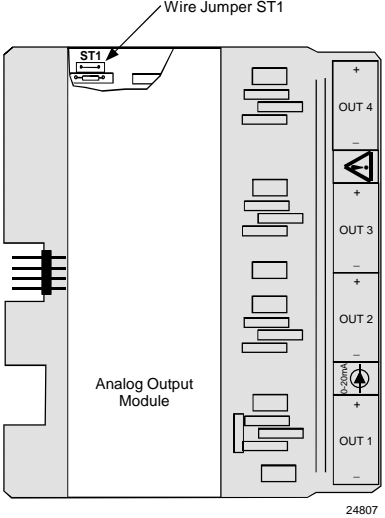
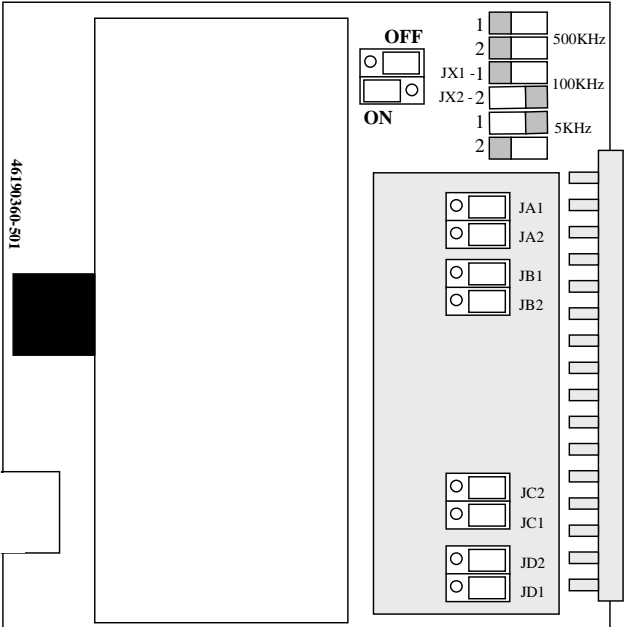
CAUTION This equipment contains devices that can be damaged by electrostatic discharge.  It is imperative that assemblies containing static-sensitive devices be carried in conductive plastic bags. When adjusting or performing any work on such assemblies, grounded work stations and wrist straps must be used.

Table 1 – I/O Module Installation

Step	Action
1	 WARNING Shock Hazard. Always disconnect power before removing the front cover. Remove power from the controller.
2	<p>Remove the front cover by removing the two screws at the top of the enclosure (Figure 1).</p>  <p style="text-align: center;">Figure 1</p>
3	<p>Notice the 16 slots inside the case. Slots 1-8 (left to right) comprise the lower slots. Slots 9-16 (left to right) comprise the upper slots.</p> <p>Referring to Table 2, locate the I/O module you want to replace or add.</p>
4	<p>If replacing, remove the terminal block from the front of the module by pressing the two locks at top and bottom of the terminal block and pulling the block straight out. Unplug the I/O module printed wiring assembly (PWA) from the controller slot by pulling the PWA straight out from its slot.</p>
5	<p>Carefully insert the new I/O module PWA into the controller slot making sure the PWA is properly aligned in the guides.</p>

Step	Action
	<p data-bbox="380 254 902 441"> <i>If the new PWA is a Digital Output module with relay outputs (ID #6), it contains jumpers that must be set for the desired de-energized state of the relay contacts. They are factory-set to normally open (NO). To change, use needle-nose pliers and move the jumper from the NO location to the normally closed (NC) location.</i> </p>  <p data-bbox="935 254 1458 441"> <i>If the new PWA is an Analog Output module (ID #2), it contains a wire jumper (ST1) that can be cut to prevent any changes to the factory calibration values and prevent any further field calibration. If better than 0.1% accuracy is needed, field calibration is required. Do NOT cut the jumper at this time.</i> </p> 
	<p data-bbox="380 1073 1422 1182"> <i>If the new PWA is a Pulse/Frequency Input board, it contains jumpers that must be set for the desired Input Filter Cutoff Frequency. All four inputs are factory set to 500KHz. To change, use needle nose pliers and move the jumper (s) to the desired position. See the figure below for the default positions and jumper settings for 100KHz and 5KHz.</i> </p> <p data-bbox="794 1209 1091 1236" style="text-align: center;">Pulse/Frequency Input Board</p> 

Step	Action
6	Plug in the terminal block to the I/O module PWA so it is securely attached—you should feel a click when the upper and lower locks snap into place.
7	Install the front cover and secure with two screws.
8	Restore power to the controller.
9	<p>Verify calibration of I/O module—AI (ID #1) or AO (ID #2) modules.</p> <p>Calibrate only if better than 0.1% accuracy is required.</p> <p>If the new module is an additional one being installed in a previously unused slot, you must program the AI or AO module at the Control Builder before calibrating.</p> <p>Calibration of analog outputs to better than 0.1% accuracy requires the specific input channel be configured to the desired operating sensor type and span before the calibration is performed.</p> <p>Refer to the AI or AO function blocks in 51-52-25-63, UMC800 Control Builder User Guide, for details.</p>
10	All controller components are factory-calibrated to $\pm 0.1\%$ accuracy. If better than 0.1% accuracy is required, refer to the UMC800 Operator Interface User Guide, 51-52-25-62, for details on field calibration.
11	Refer to UMC800 Controller Installation and User Guide 51-52-25-61 for details on wiring.

Table 2 Component Location

Module Type	ID Number (on terminal block)	Allowable slot location	Maximum Allowed	Terminal Block Color	Part Number
Analog Input (AI)	1	1 through 16	16 modules (64 points)	Black	46190305-503
Analog Output (AO)	2	1 through 10	4 modules (16 points)	Black	46190314-503
Digital Input (DI) - Logic	3	1 through 16	16 modules (96 points)*	Black	46190311-503
Digital Input (DI) - DC	4	1 through 16	16 modules (96 points)*	Black	46190347-501
Digital Input (DI) - AC	5	1 through 16	16 modules (96 points)*	Red	46190350-501
Digital Input (DI) - 16 point	B**	14 through 16	3 modules (48 points)*	Orange or Beige	46190353-501
Digital Outputs (DO) - Relay	6	1 through 8	8 modules (48 points)*	Red	46190308-503
Digital Outputs (DO) - DC	7	1 through 8	8 modules (48 points)*	Black	46190341-501
Digital Outputs (DO) - AC	8	1 through 8	8 modules (48 points)*	Red	46190344-501
Digital Outputs (DO) - Higher Current AC	A	9 through 16	2 modules (12 points)*	Red	46190344-502
±15Vdc ph Power Module	C	5,6	2 modules (8 points)*	Black	51450921-501
Pulse/Frequency Input	D	1 through 16	16 modules (64 points)	Black	46190360-501

NOTE: Total combined I/O of all types is limited by the 16 available controller I/O slots.

* Total of 96 DI/DO points allowed for all types combined.

** ID number B is not shown on the terminal block but you can identify the 16 point terminal block by its color and its 32 screws. (The other terminal blocks have 12 screws.)

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose**. Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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Sensing and Control

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