Technical Bulletin, Instructions for Installing New Hardware OMNI 6000

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Scope

Users are requested to verify the jumper settings on modules before installing into a current system. This will prevent miss match I/O address and possible computer systems resetting because of address conflicts. Particular attention is required when installing an SV module into an existing system that does not contain an SV module per Figure 3 (Applications 23/27 and 21/25 only).

This Technical Bulletin is applicable to all spare part modules. The information is targeted to qualified professionals only and compliments the OMNI User Manual Volume 1, System Architecture and Installation (50-0000-0001) for detailed instructions.

NOTE: SMT is Surface Mount Technology which is the manufacturing method on circuit board assembly.

Abstract

This Technical Bulletin contains information on the I/O modules and the standard factory jumper settings on these modules when they are purchased as spare parts to add to existing system or to replace a damaged module.

WARNING: DANGER ELECTRICAL SHOCK HAZARD

Dangerous AC voltages are present on the power supply module and ribbon cable when the unit is AC powered. To avoid electrical shock, that could be fatal; it is imperative that you remove all power before opening and disassembling the flow computer and take all necessary precautions.

Only qualified Technicians should work on internal circuitry and perform flow computer upgrades. OMNI Flow Computers, Inc. is not responsible for personal injuries or accidents that may occur when working on flow computer circuitry.

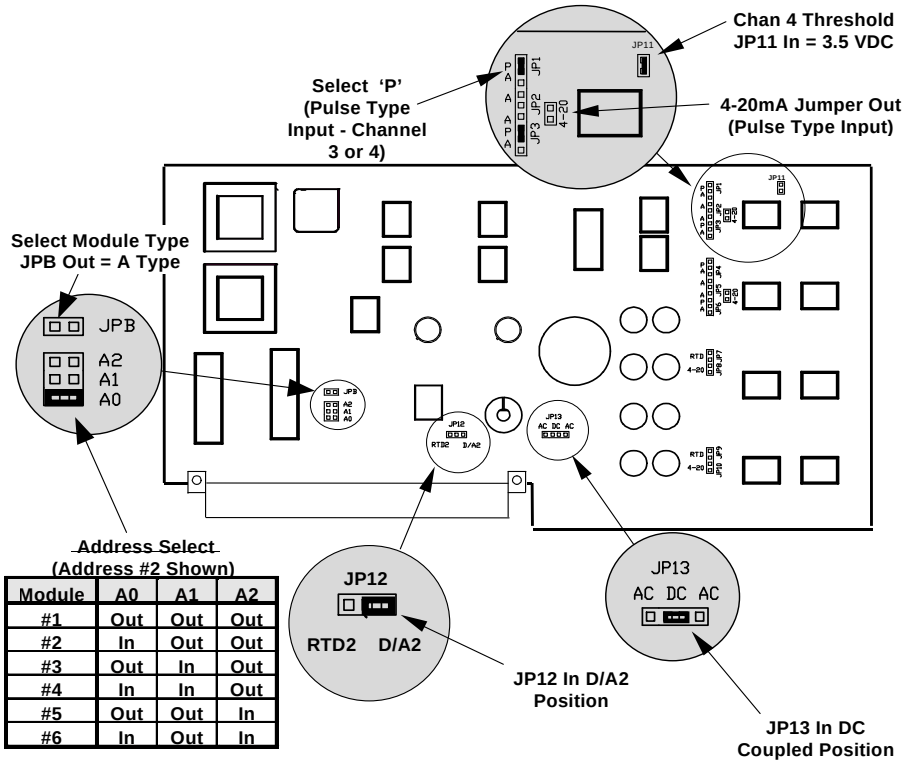
Static electricity can damage flow computer circuitry. Use approved static device handling precautions.

When removing the CPU Module, take extreme care not to bend or fold the keypad membrane ribbon cable, as this could damage the metallic traces.

Before installing your new or repaired module you will need to verify certain jumper settings for the module you are using. This is due to the fact that these modules have a selectable type address. Normally this is preset at the factory; however it is up to the user to verify/change the address simply by selecting the correct type of card and address on the selection jumpers located on the module. Failure to do so, will cause the unit not to recognize the newly installed module, lose existing data, or in some cases a system failure. Within this document we have addressed the various jumper settings required to properly install the module.

I/O A/B Combo Module 68-6006

When installing a new or repaired Combo Module (68-6006) note that the modules will also require the inputs and outputs to be calibrated (Figure 1). Under ‘Password Maintenance’ scroll down to entries, ”Input Cal Default” and “D/A Cali Default”, enter Y or the required I/O Point number on both entries to reset to the factory calibration defaults. New combo modules added will require that the ‘Check Modules’ entry is executed. Then proceed with the calibration procedure as described in User Manual, Volume 1, System Architecture and Installation Chapter 8 (50-0000-0001).



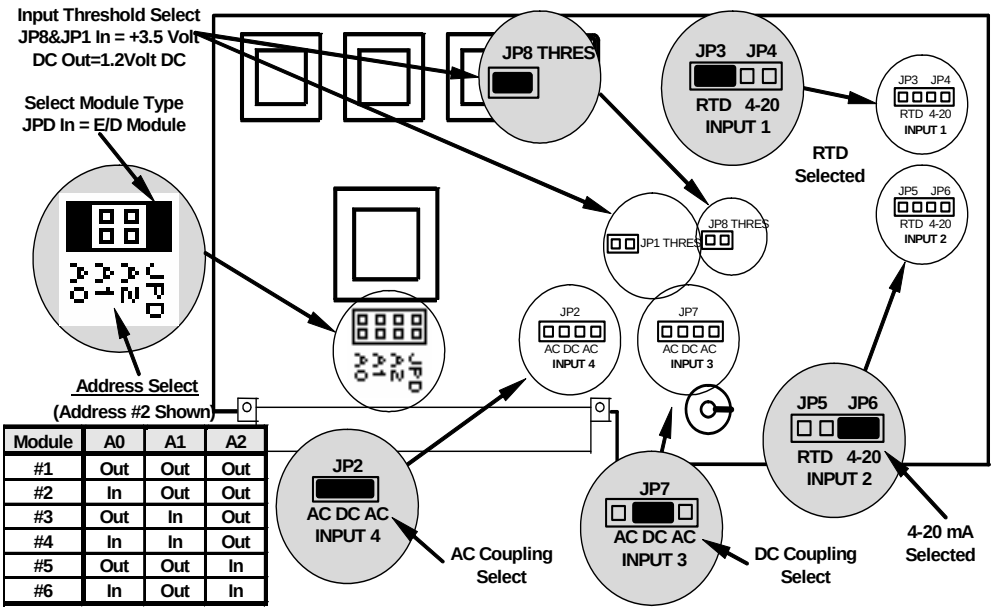
Module	A0	A1	A2
#1	Out	Out	Out
#2	In	Out	Out
#3	Out	In	Out
#4	In	In	Out
#5	Out	Out	In
#6	In	Out	In

Figure 1. I/O A/B Combo Module 68-6006 Jumper Settings

I/O E/D and E Combo Module 68-6008

When installing a new or repaired Combo Module (68-6008) note the modules will also require the inputs and outputs to be calibrated (Figure 2). Under 'Password Maintenance' scroll down to entries, "Input Cal Default" and "D/A Cali Default", enter Y or the required I/O Point number on both entries to reset to the factory calibration defaults. New combo modules added will require that the 'Check Modules' entry is executed. Then proceed with the calibration procedure as described in User Manual, Volume 1, System Architecture and Installation Chapter 8 (50-0000-0001).

For I/O E/D and E Combo Modules 68-6008 settings refer to Figure 2.



Module	A0	A1	A2
#1	Out	Out	Out
#2	In	Out	Out
#3	Out	In	Out
#4	In	In	Out
#5	Out	Out	In
#6	In	Out	In

Figure 2. I/O E/D and E Combo Module 68-6008 Jumper Settings

SV I/O Module 68-6203

Spare SV 68-6203 modules ordered from the factory are set up as address SV1 with BRD SEL jumper in, and IRQ set to 2. If you are installing a SV module into a new system where existing serial modules are installed, **you MUST change the IRQ setting on all serial cards to IRQ 3** (Figure 3). Failure to do this will cause a system failure. Calibration on all analog outputs will need to be performed.

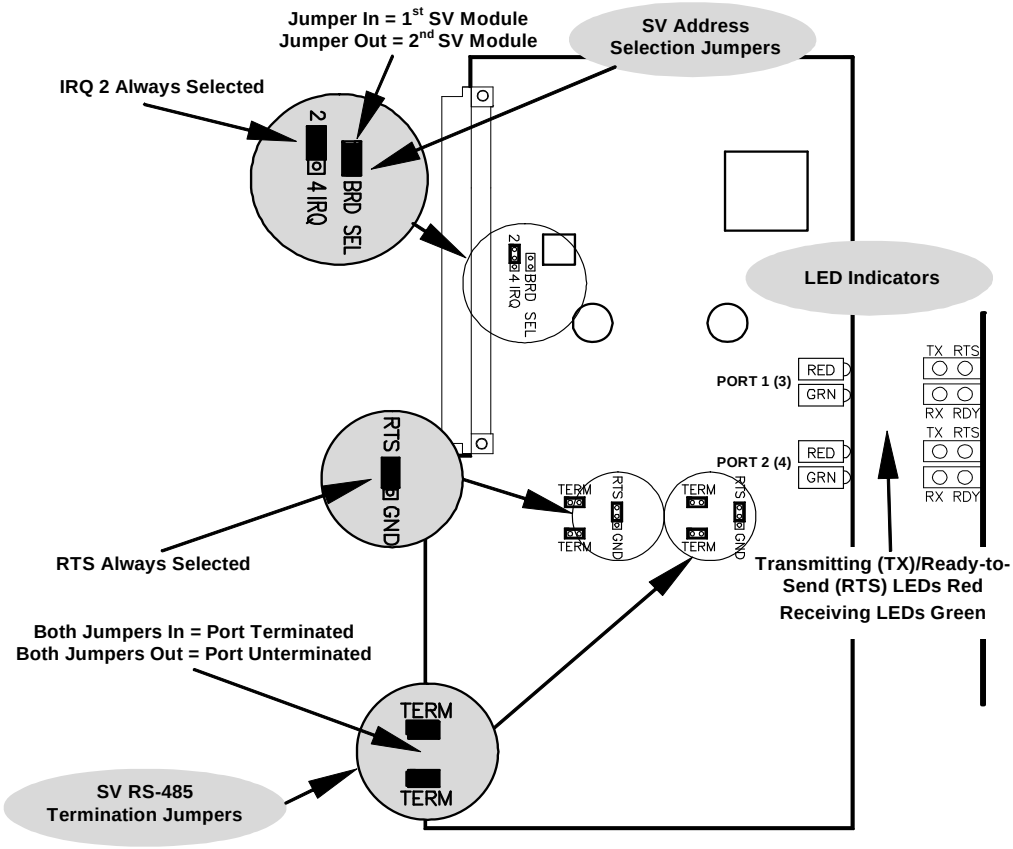


Figure 3. SV I/O Module 68-6203 Module Jumper Settings

SMT Version I/O A/B Combo Module 68-6206

Modules issued as spare parts or replacement modules will be jumpered as A1 Modules When installing a new or repaired Combo Module (68-6206) note the modules will also require the inputs and outputs to be calibrated (Figure 1). Under ‘Password Maintenance’ scroll down to entries, ”Input Cal Default” and “D/A Cali Default”, enter Y or the required I/O Point number on both entries to reset to the factory calibration defaults. New combo modules added will require that the ‘Check Modules’ entry is executed. Then proceed with the calibration procedure as described in User Manual, Volume 1, System Architecture and Installation Chapter 8 (50-0000-0001).

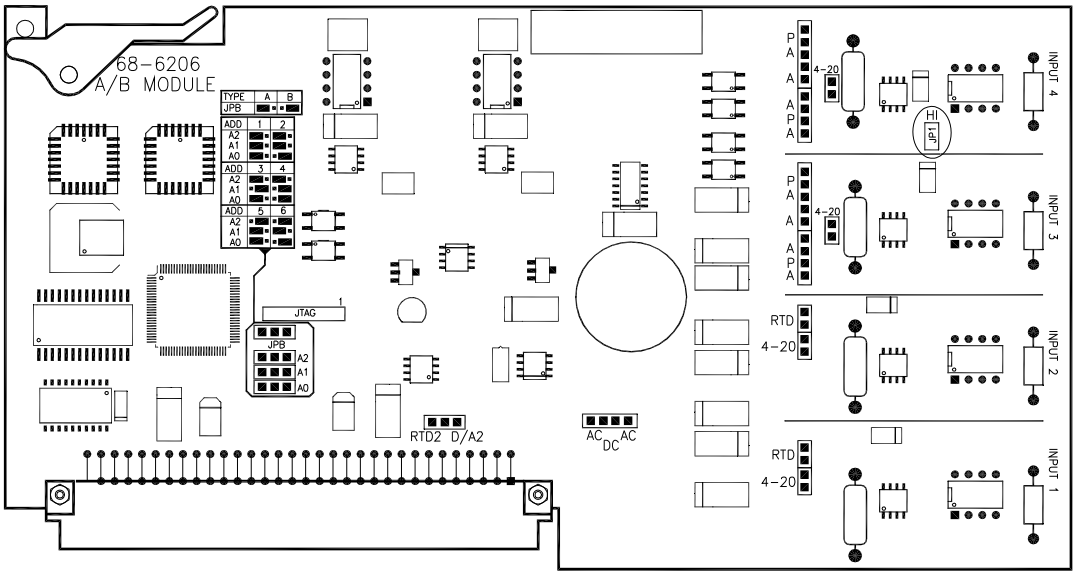


Figure 4. SMT I/O A/B Combo Module 68-6206 Jumper Settings

HART I/O Module 68-6207

Spare HART Modules must be specified as either a HT or HM Module (Figure 5). A label marked HT or HM will be applied to the module. Load resistor jumpers are provided and will be installed in the OUT position (Figure 4). Refer to Technical Bulletin 090003 (52-0000-0019) for additional information on the setup of this Module.

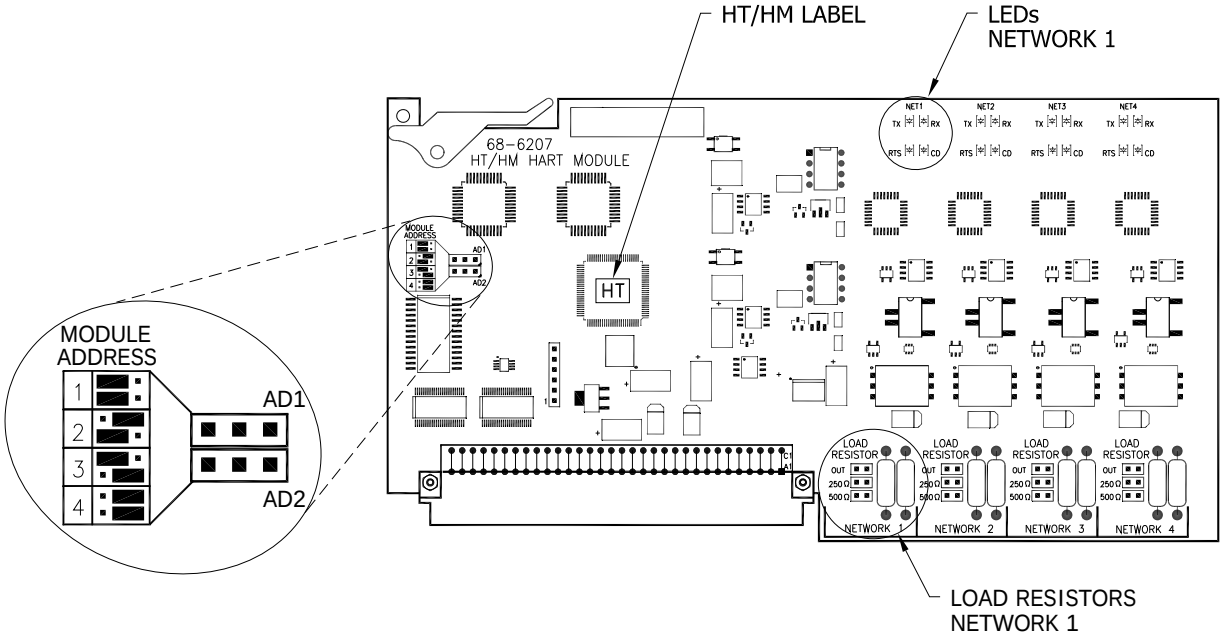


Figure 5. HART I/O Module 68-6207 Jumper Settings

SMT Version I/O E/ED Combo Module 68-6208

Modules issued as spare parts or replacement modules will be jumpered as E1 or E/D1 modules (Figure 6). When installing a new or repaired Combo Module (68-6208) note the modules will also require the inputs and outputs to be calibrated (Figure 1). Under 'Password Maintenance' scroll down to entries, "Input Cal Default" and "D/A Cali Default", enter Y or the required I/O Point number on both entries to reset to the factory calibration defaults. New combo modules added will require that the 'Check Modules' entry is executed. Refer to OMNI User Manual Volume 1 System Architecture and Installation (50-0000-0001) for detailed instructions on the jumper settings.

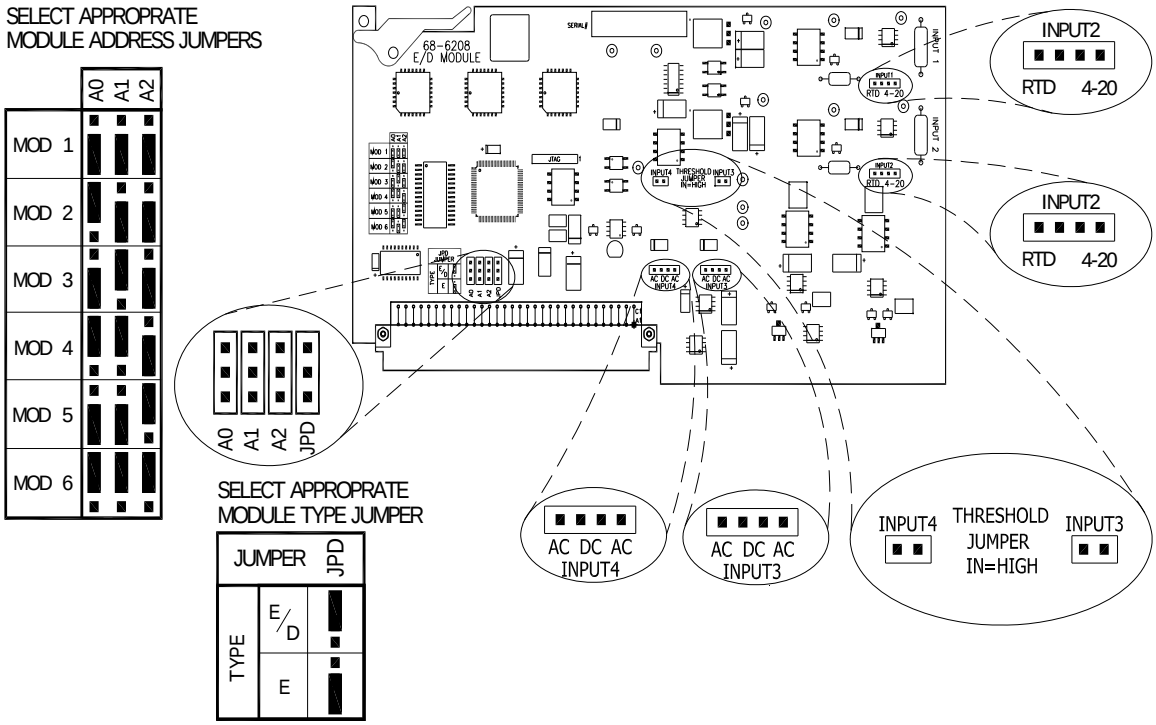


Figure 6. SMT I/O E/ED Combo Module 68-6208 Jumper Settings

SE Ethernet Module 68-6209

Spare SE Ethernet modules from the factory are set up as address S1 with no jumpers in A1 or A2 (Figure 7). If you are installing this module into an existing Flow Computer with installed serial modules make sure you set up the correct address for the SE Ethernet module before you install.

NOTE: EPROM/Flash revision for current update of xx.74 and xx.75 will you see the module address SE in the Status Screen, all other revisions below currently indicate S only. Application 21/25 currently does not support Network Printing and will display the SE module as an S module.

Refer to Technical Bulletin 980503 (52-0001-0003) for detailed instructions for installation of the Serial module and Technical Bulletin 020101 (52-0001-0006) for the SE Ethernet module.

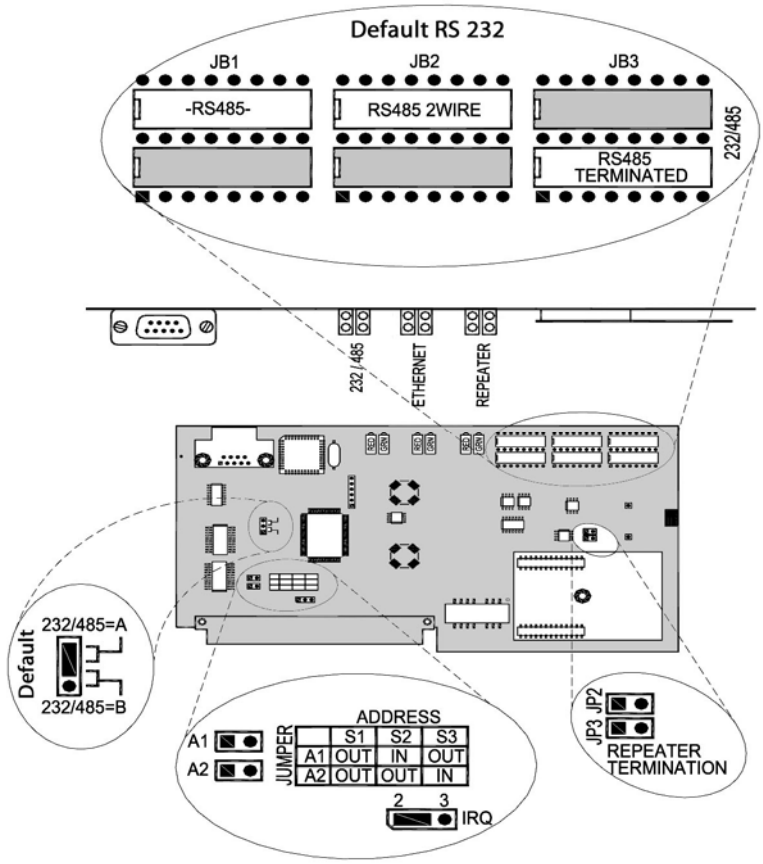


Figure 7. SE Ethernet Module 68-6209 Module Jumper Settings

IRQ SELECTION NOTE: A jumper is provided for selecting the interrupt request (IRQ) level of the module, IRQ 2 or 3 can be selected. The Jumper should be configured to use IRQ 2 unless an SV module is installed. IRQ 3 must be used if an SV module is in the flow computer.

Digital I/O Module 68-6211

Spare Digital I/O Modules from the factory are setup as address D1 with JP1 in and JP2 set to channel 1 (Figure 9). If you are installing this module as address D2 set up the address jumper on JP4, IN and JP5, OUT and remove both jumpers on JP 1 and JP2.

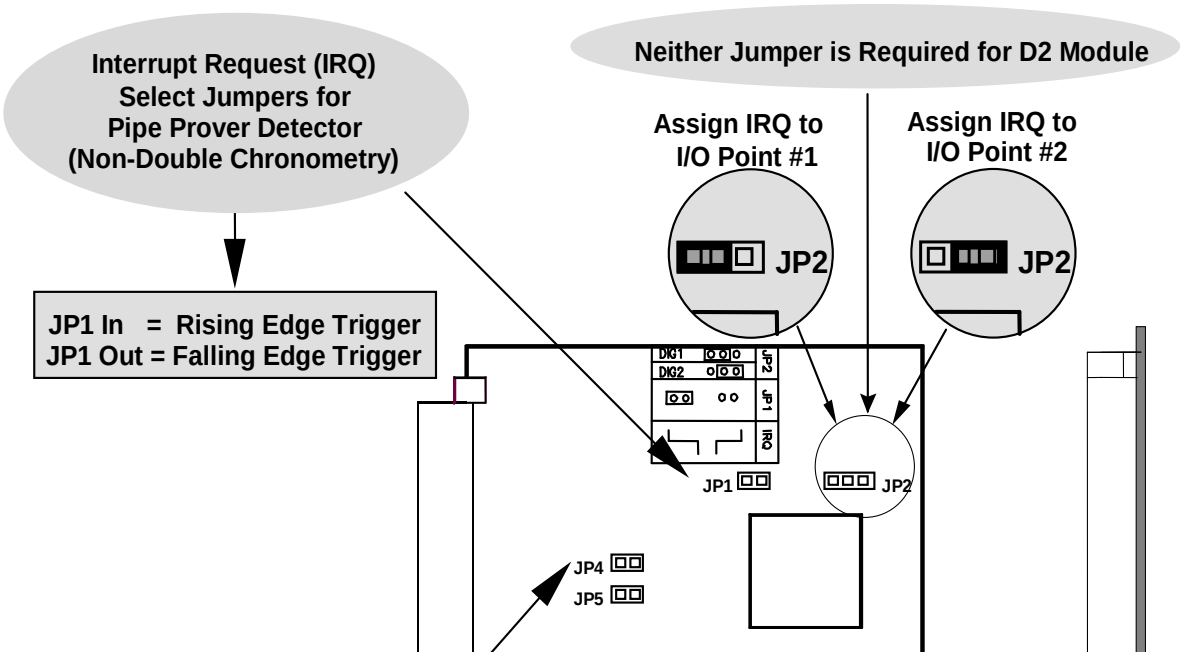


Figure 8. Digital I/O Module 68-6211 Module Jumper Settings

Universal Power Supply Module 68-6218

The Universal Power Supply can automatically accept any AC input from 110 to 250 volts at 50/60 Hz. This Universal Power Supply (Figure 10) is backwards compatible with 68-6118 PSU. It can be used in the 3000 and 6000 flow computers with the exception of very early flow computers where the AC was not connected to the power supply using a separate four conductor ribbon. The AC fuse on units previously using the older 68-6118 PSU needs to increase in amperage to handle all voltages and surge currents. Spare fuses are provided when ordering a spare Universal Power Supply.

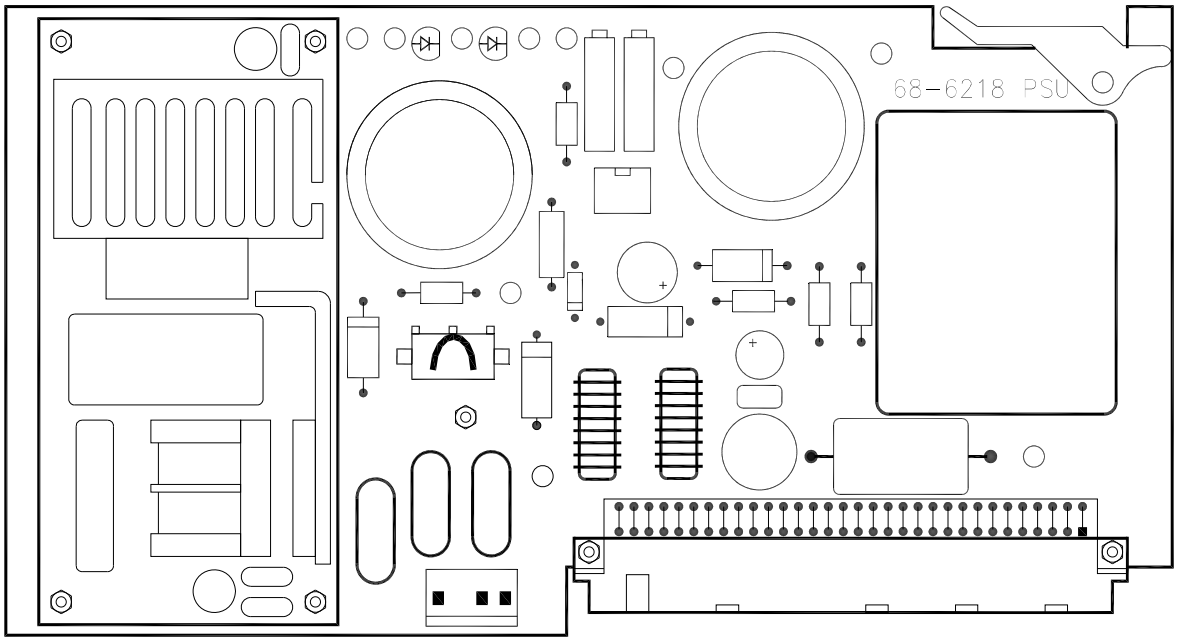


Figure 9. Universal Power Supply Module 68-6218

DOCUMENT REVISION HISTORY

DOCUMENT INITIAL RELEASE DATE **N/A-February-2007**

REVISION	DATE	PURPOSE / CHANGE REQUEST
A	N/A-February-2007	Maintained on the Web - Initial release
B	26-March-2009	DCR 090072
C	21-July-2010	DCR 100123