



07-021 Rev B  
15 January, 2009

## **CHANGING THE VOLTAGE/FREQUENCY IN E-SERIES INSTRUMENTS**

### **I. PURPOSE:**

To inform the customer on what needs to be done in order to change the voltage and frequency of an “E” series instrument.

### **II. TOOLS:**

### **III. PARTS:**

Part numbers will vary depending on the instrument, please refer to TABLE 1 for the proper part numbers.



The electronics used in T-API analyzers are sensitive to Electrostatic Discharge (ESD). When working on any T-API device, please ensure that you are properly grounded prior to handling or touching any electronic circuitry in the analyzers! For more information on how to protect sensitive components from ESD during handling, please contact T-API customer service and ask for the ESD Service note number 03-022A.

### **IV. PROCEDURE:**

In order to change the voltage/frequency of the instrument you will need to change some configuration jumpers located on the relay board. For the E-series NOx analyzers you will also need to change the external pump to the proper voltage/frequency. For the M703E you will need to change the internal Zero Air pump to the proper voltage/frequency.

1. **M100E** - For the M100E there are three configuration jumpers (JP2, JP6 & JP7) that need to be changed. Please refer to TABLE 1.0 for the configuration jumper part numbers and FIGURE 1 for locations of the configuration jumpers.
  - The pump configuration jumper located on the relay board at JP7
  - The heater configuration jumper located on the relay board at JP6
  - The AC configuration jumper located on the relay board at JP2
  
2. **M200E** - For the M200E there are two configuration jumpers (JP2 & JP6) on the relay board and also the external pump needs to be changed to the proper voltage and frequency. Please refer to TABLE 1 for the configuration jumper part numbers and FIGURE 1 for locations of the configuration jumpers.
  - The heater configuration jumper located on the relay board at JP6.
  - The AC configuration jumper located on the relay board at JP2.
  - The external pump must be replaced to the proper voltage and frequency.
  
3. **M300E** - For the M300E there are two configuration jumpers (JP4 & JP1) on the relay board. Please refer to TABLE 1 for the configuration jumper part numbers and FIGURE 2 for the locations of the configuration jumpers.
  - The pump configuration jumper located on the relay board at JP4.
  - The AC configuration jumper located on the relay board at JP1.
  
4. **M400E** - For the M400E there is only one configuration jumper (JP7) on the relay board that needs to be changed. Please refer to TABLE 1.0 for the configuration jumper part number and FIGURE 1 for the location of the configuration jumper.
  - The pump configuration jumper located on the relay board at JP7.
  
5. **M700E** - The M700E does not require the changing of any configuration jumpers in order to change the voltage and frequency. The M700E uses universal power supplies that allow the user to change voltage and frequency with out changing jumpers.
  
6. **M703E** - For the M703E there is only one configuration jumper (JP2) on the relay board that needs to be changed. If the M703E has the internal Zero Air pump this will need to be changed to the proper voltage and frequency. Please refer to TABLE 1 for the configuration jumper part number and FIGURE 1 for the location of the configuration jumper.
  - The pump configuration jumper located on the relay board at JP2.

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# VOLTAGE/FREQUENCY CONFIGURATION CHART

TABLE 1

MODEL	VOLTAGE	PUMP JP7	HEATER JP6	AC JP2	OPTION
M100E	100V-120V 60HZ	042890100*	040300300*	040300100*	050610100
	100V-120V 50HZ	042890200*	040300300*	040300100*	050610200
	220V-240V 60HZ	042890300*	040300300*	040300200*	050610300
	220V-240V 50HZ	042890400*	040300300*	040300200*	050610400
MODEL	VOLTAGE	PUMP PACK	HEATER JP6	AC JP2	OPTION
M200E	115V/60HZ	009810300	040300300*	040300100*	050610700
	230V/50HZ	009810400	040300300*	040300200*	050610900
	110V/50HZ	009810500	040300300*	040300100*	050610700
	100V/60HZ	009810600	040300300*	040300100*	050610700
	220V-240V 50-60HZ	009810700	040300300*	040300200*	050610900
MODEL	VOLTAGE	PUMP JP4	HEATER	AC JP1	OPTION
M300E	100V-120V 60HZ	042890100*	N/A	038650100*	043250100
	100V-120V 50HZ	042890200*	N/A	038650100*	043250200
	100V/50HZ	042890200*	N/A	038650300*	043250500
	220V-240V 60HZ	042890300*	N/A	038650200*	043250400
	220V-240V 50HZ	042890400*	N/A	038650200*	043250300
MODEL	VOLTAGE	PUMP JP7	HEATER JP6	AC JP2	OPTION
M400E	100V-120V 60HZ	042890100*	N/A	N/A	050611300
	100V-120V 50HZ	042890200*	N/A	N/A	050611400
	220V-240V 60HZ	042890300*	N/A	N/A	050611600
	220V-240V 50HZ	042890400*	N/A	N/A	050611500
MODEL	VOLTAGE	PUMP	HEATER JP6	AC JP2	OPTION
M703E	100 - 115V	058330000	N/A	040300110	N/A
	220 - 240V	058330100	N/A	040300210	N/A

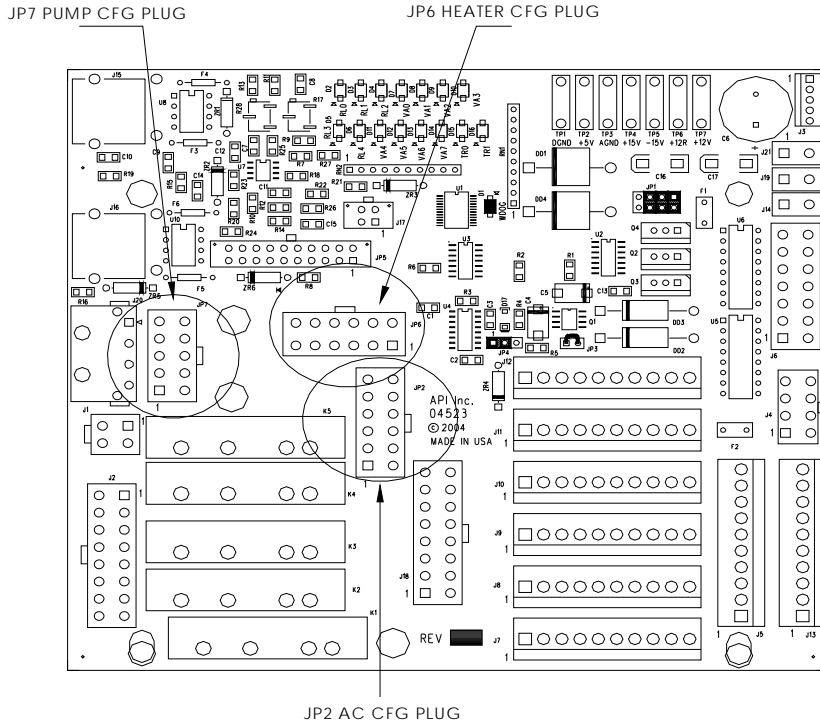
\* The option part number contains these configuration jumpers.

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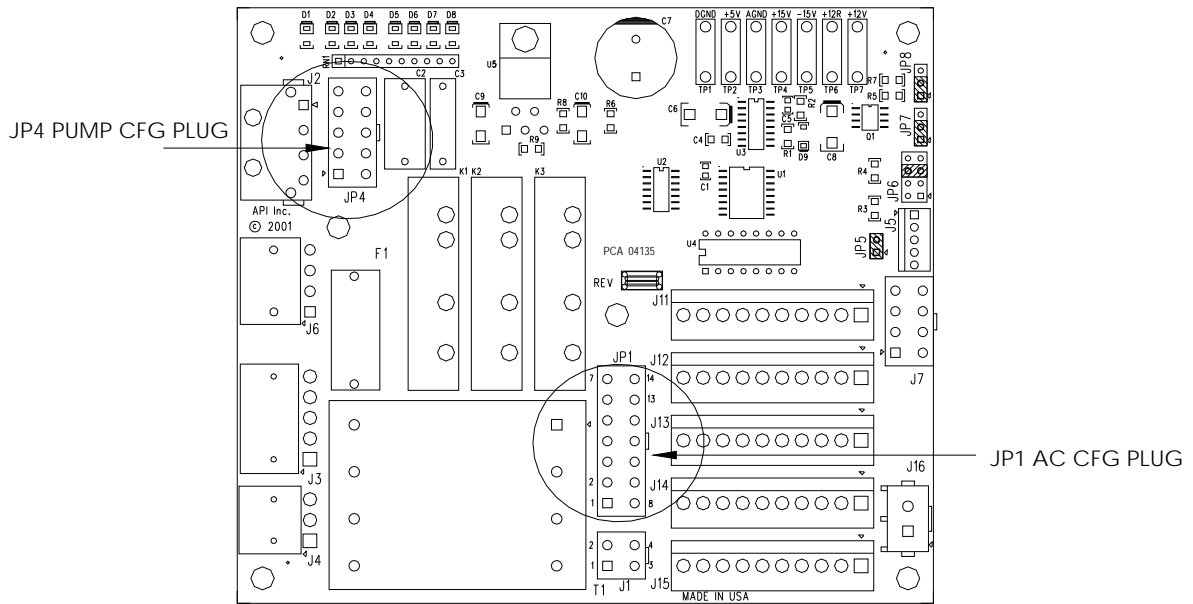
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# FIGURE 1



## RELAY BOARD M100E, M200E, M400E

# FIGURE 2



## RELAY BOARD M300E

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