Installation Guide, EPC-100E enhanced feature firmware Kit 5-16-2006

REQUIRED ITEMS:
> EPC-100E Enhanced Feature Firmware Kit
> I.C. Extraction Tool
> Personal Computer with RS232 or RS485 serial port
> RS232 cable / or / RS485 Converter with cables
> Small sized clip lead.

REMOVE POWER FROM THE EPC-100:
> This can be done at the power source, or by disconnecting the 4 position terminal block T2SA that provides power to the EPC-100.

INSTALL THE DISPLAY BOARD FIRMWARE:
> On the display board of the EPC-100 locate the 40-pin I.C. that is located in the 40-pin blue or black socket. Using an I.C. extraction tool, remove and save the 40-pin I.C. and replace it with new part labeled 611???-1, EPC100E DSP.
> (orientation notch of this part should be installed **UP**)

INSTALL THE LOGIC/TERMINAL BOARD FIRMWARE:
> On the logic/terminal board of the EPC-100 locate the 40-pin I.C. that is located in the blue or black socket. Using an I.C. extraction tool, remove and retain the 40-pin I.C. and replace it with new part labeled 611???-1, EPC100E LOG.
> (orientation notch of this part should be installed **DOWN**)

INSTALL THE 20 POSITION EXPANSION TERMINAL BLOCK:
> The 20 position plug-in terminal block provided in the kit provides access to the expanded I/O functions of the logic board. These include two thermocouples, two O2 sensor inputs, four generic 0-5v analog inputs and four digital outputs.

INSTALL THE LOGIC BOARD LABEL:
> A replacement adhesive label is provided which includes a legend of the expanded connections of the new connector. Peel off the old label and apply the new one if required.

PRE-LOAD DEFAULTS ON FIRST POWER-UP OF EPC-100E:
> Locate the EPC100E LOG 40-pin IC on the logic board. Connect a clip lead between pin 20 and pin 12 of the IC to force a reload of defaults on power-up. With the pins connected together, apply power and verify operation of the display. The stepper motor position will read 999 when the initialization process has been completed. Remove power and disconnect the clip lead. At this point, the EPC-100E has be loaded with default values and will operate like a standard EPC-100 with the addition of catalyst protection features which can be configured from the Key-pad using setup screens. Other enhanced features can only be activated and configured using the terminal program

INSTALL THE TERMINAL PROGRAM ON THE PC TO BE USED FOR SETUP
NOTE: Configuration of advanced features can only be performed using a PC and the terminal program. Install the program from the CD-ROM included in the kit. It is possible to communicate using a standard RS232 connection or an RS485 connection which also requires an RS232 to RS485 converter (B&B Electronics Model 4WSD9R with switches set as follows (RS-485, EchoOFF, 2wire,2wire).

CONFIGURE THE EPC-100E FOR COMMUNICATION:
With the new firmware installed and initialized, apply power and verify operation of the display. Enter the setup mode (F1,F3,F2,F4) then press F1 to locate the screens to select the communication parameters. Select the port and protocol (RS232 9600N81 is recommended), then select the MODBUS node ID (100 is recommended).

CONNECT TO THE EPC-100E WITH THE TERMINAL PROGRAM:
Connect the cable from the PC to the EPC-100 (RS-232 DB9 recommended). Run the program (EPC100E) and choose the appropriate MODBUS ID# and CONNECTION menu parameters and the program should begin to communicate. A description on the bottom right can be useful in troubleshooting communication errors.

ENABLE DESIRED ENHANCED FEATURES:
From the MENU bar click the FEATURES menu and click any feature you would like to enable. A check mark will identify enabled features, and configuration TABS will be added to provide access to configuration values of various features.

CONFIGURE DESIRED ENABLED ENHANCED FEATURES:
At this point, referencing the (OPERATING MANUAL – EPC-100E), configure the EPC-100E operation to suit the application enhancements as required. This would be done in conjunction with the installation and wiring of additional IO signals to be used with the new features. Various TABS provide access to the features which have been turned on my means of the FEATURES menu.