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EDAC720DE

and

EDAC708PM

Expansion Units

Issue 1.3

EDAC 720DE / 708PM Expansion Unit

The 32-bit Pulse/Run Meter Unit is an optional extra for the EDAC 700. This unit features 8 Pulse Accumulator Inputs and 8 Run-Time Meter Inputs or alternatively an additional 20 digital Inputs. The unit fits inside the EDAC 700 Case and derives its power supply from the EDAC 700. When configured for Pulse/Run Meter Inputs it will give reports, but will not generate alarms. When configured as Digital Inputs, the EDAC 700 will generate alarm notification calls

- Input Voltage Range: 0-20V
- Input Trigger Voltage: 0V
- Power Supply: 12V (derived from the EDAC 700)
- Current Consumption: 30mA
- 8 Pulse Accumulator Inputs:
 - Input Frequency: 5kHz
 - Maximum Count: 4294967296
- 8 Run-Time Meter Inputs:
 - Resolution: 0.1 Hour

Electrical Characteristics

Power Supply: 8-15V AC or DC
Current: 30mA max (at 12V)
Inputs: 0-20V
All Inputs are Active Low and have pullup resistors on the board.

Pulse Accumulator

Pulse Accumulator Inputs are on CN4 of the Expansion Unit and they map to inputs 21-28 of the EDAC 700. These inputs share a common ground with the EDAC 700 COM terminals.

The pulse inputs will count the number of accumulated pulses (momentary contact closures). A maximum of 8 input channels are available. The sampling rate is 1kHz.

The pulse Totaliser will count to 2^{32} (4,294,967,296)

Run Time Meter

Run-Timer Meters are on CN3 of the Expansion Unit and they map to inputs 29-36 of the EDAC 700. These inputs share a common ground with the EDAC 700 COM terminals.

This meter will accumulate the number of hours a particular connected device has been on. This unit will count once every 6 minutes +/- 0.02% (0.1 of an hour). Again 8 channels will be available. The Run Time Meters will count to 2^{32} (4,294,967,296) The Run Time Meter has an accuracy of 99.98%

Digital Inputs

In addition to being configured as Pulse Accumulation or Run-Time Meter inputs, all 20 inputs (21-40) can be used as Digital Normally-Open or Normally-Closed type inputs. Configuration Settings on the EDAC 700 will define the input type.

Communications

The communications takes place using an RS-232 connection with 8 data bits, no parity, 1 stop bit and 9600 baud.

Connecting the Expansion Unit to the EDAC 700

Inside the box you should find the following parts needed for assembly:

- 1x EDAC 700 I/O expansion PCB.
- 1x DB9 to Box Header Communications Cable
- 1x Power Cable Red / Black pair.
- 3x Stand-off Pegs with screws and washers.

If any parts are missing or damaged contact your supplier immediately.

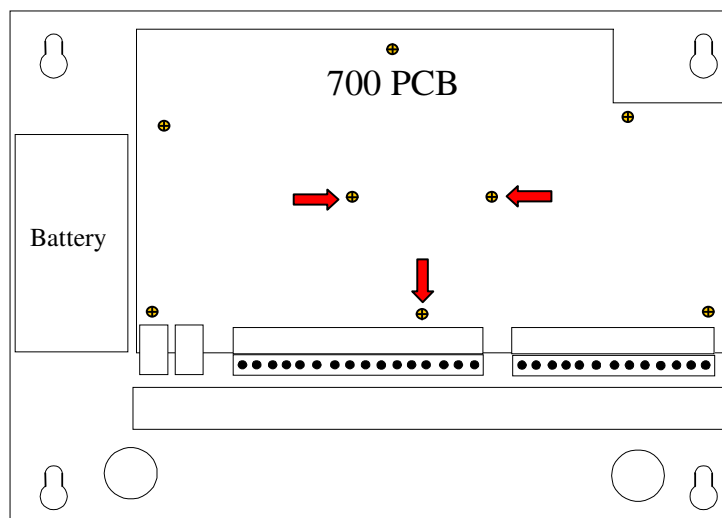
Required Tools

- Small Flathead Screwdriver.
- Small Pozi-drive Screwdriver.
- 6mm Socket and driver.

Assembly

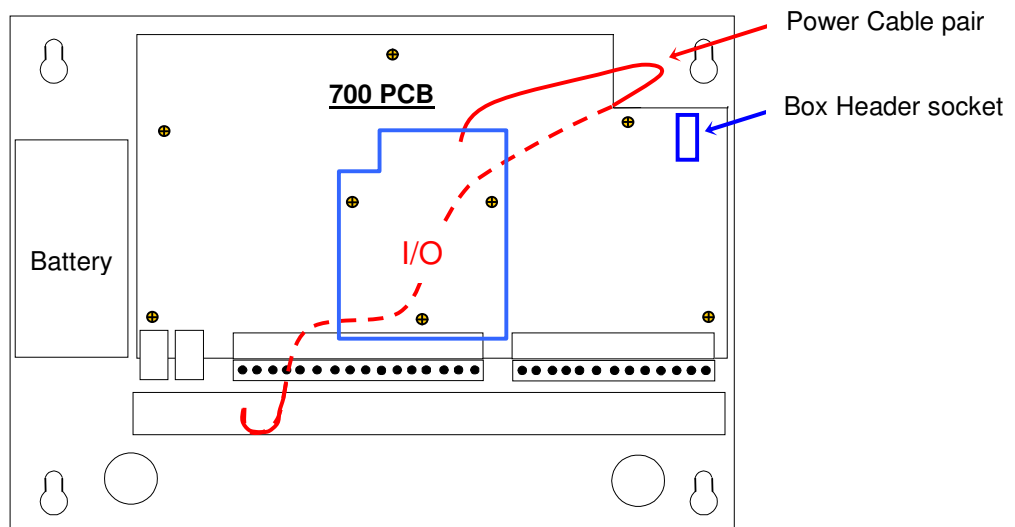
1. Remove the PCB from its Anti-static wrapping taking *extreme care not to touch any of the electronic components on the board.*
2. Open the cover on the EDAC 700 casing and make sure that the power is disconnected from the product (including the battery!). Remove the three PCB mounting screws indicated by the red arrows in Fig 1.1 *again taking extreme care not to touch any electronic components.*

Fig 1.1



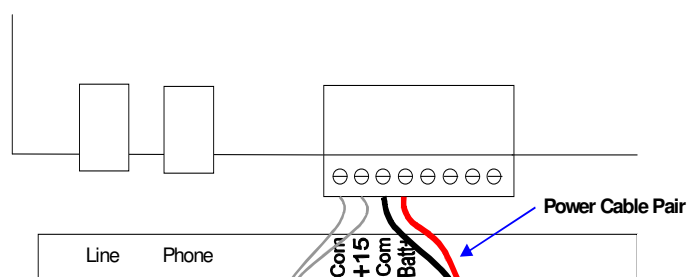
3. Insert the stand-off pegs into the holes and tighten gently using the 6mm socket.
4. Position the I/O Expansion PCB onto the stand-offs as shown in Fig 1.2. Screw the backing plate down using the supplied screws and washers

Fig 1.2



5. Fit one end of the Communications cable to the DB9 connector on the I/O Expansion PCB and the other end to the 10-way Box header socket on the top right of the 700 PCB (shown as the blue box in fig 1.2).
6. The Power cable pair should already be attached to the I/O Expansion PCB when you receive the product. On the I/O expansion PCB check that the red wire is attached to the **+12V** terminal and the Black wire is connected to the **GND** terminal.
7. Run the power cable under the 700 PCB from the top right of the board so that it passes out the bottom left side as shown by the yellow line in Fig 1.2
8. Connect the power cable pair to the left most terminal block on the 700 PCB. Connect the black wire to the COM terminal and then connect the red wire to the BATT+ terminal as shown in Fig 1.3 below.

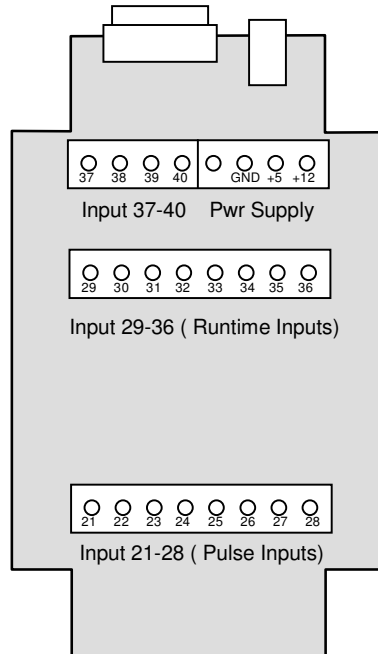
Fig 1.3



Check over the wiring making sure that everything is properly connected. If the power wires are reversed *severe damage to the unit is likely.*

Input Map

Below is a diagram detailing where the particular inputs are located on the expansion PCB.



Configuring the EDAC 700 to use the Expansion Inputs

Once the Pulse Unit is correctly connected and powered, Inputs 21-36 can be configured in the same way that other inputs are configured. *Take care to only select a correct input type.*

Inputs 21-28 should be configured as Normally Open, Normally Closed, or Pulse Accumulator type inputs.

Inputs 29-36 should be configured as Normally Open, Normally Closed, or Run-Time Meter type inputs.

Inputs 37-40 should be configured as Normally Open or Normally Closed.

Other References

Please also read the following EDAC 700 documentation:

EDAC 700b RTU Manual
EDAC 700a Getting Started

These can be found on the internet at: <http://www.edacelectronics.com/support.html>

Document History

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