



New EPICS Hardware from Hytec

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Introduction...

New Hardware

- 8909U Quad Motor Driver DIN Rail Block.
- 6335 PCI-e to Dual IP Carrier.
- 8308 4 Group Mixed Signal Transition Board.
- 8413 16 Channel ADC.
- 8914 Octal LVDT Interface DIN Rail Block.
- 8005 128 Bit Digital I/O.

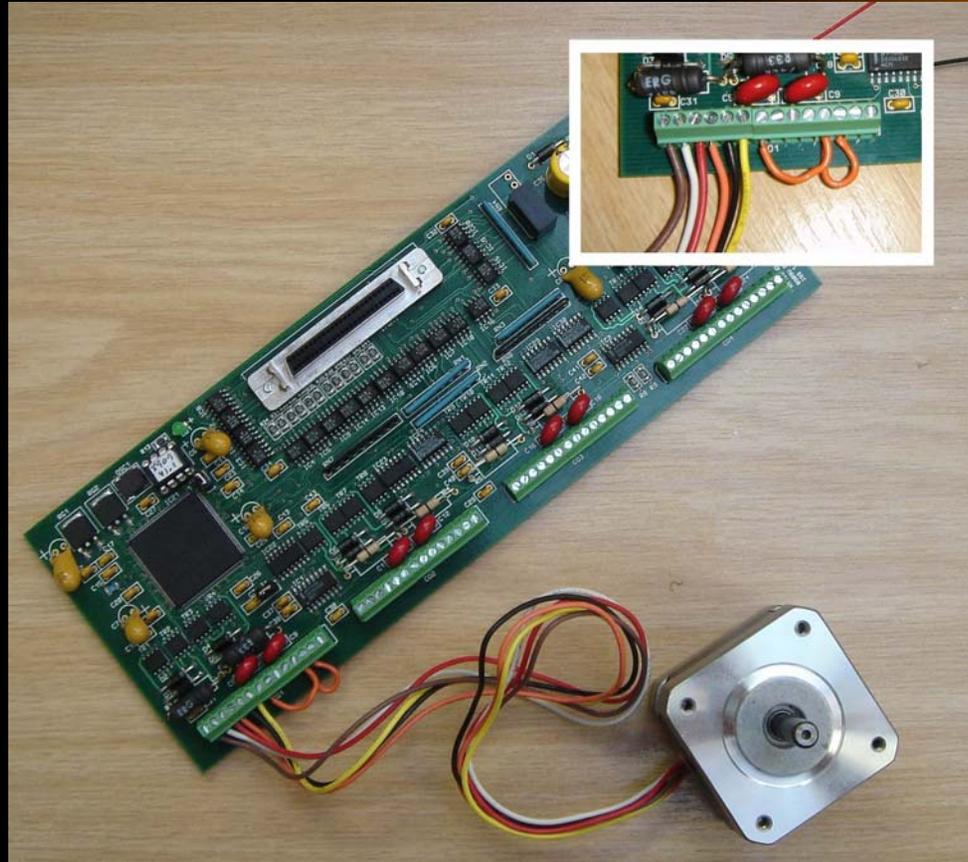


What Do Most People Require From Their Stepper Motors

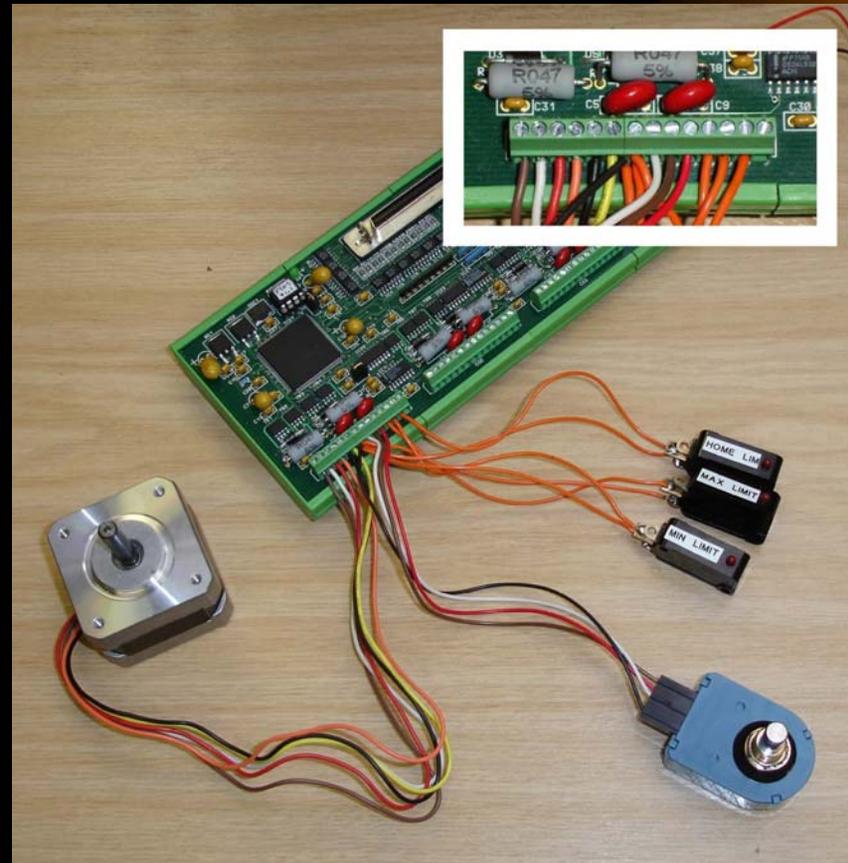
- Over 80% Motor Usage is a simple linear Move.
- Supports any 12 or 24V Motor up to 2A.
- Direct Connection of most Motor and Encoders.
- Supports 3 Limit Switches (Min, Max & Home).
- Built In Current Limit / Fault Monitoring.
- “Auto Coils De-Energising” Mode when NOT Moving.
- Extremely low RFI / EMC.
- 8601 / 8909U Combination offer \$300 per axis.



8909U Minimum Direct Connection of Stepper Motor



8909U Connection of Stepper Motor, Rotary Encoder + 3 Limit Switches



PCI-e (or PCI Express)

- Market Research Shows Leading New Bus.
- Supported by Majority of New PCs.
- Individual I/O Cards still Expensive > £700.
- Single Function per card.
- Very few support EPICS.

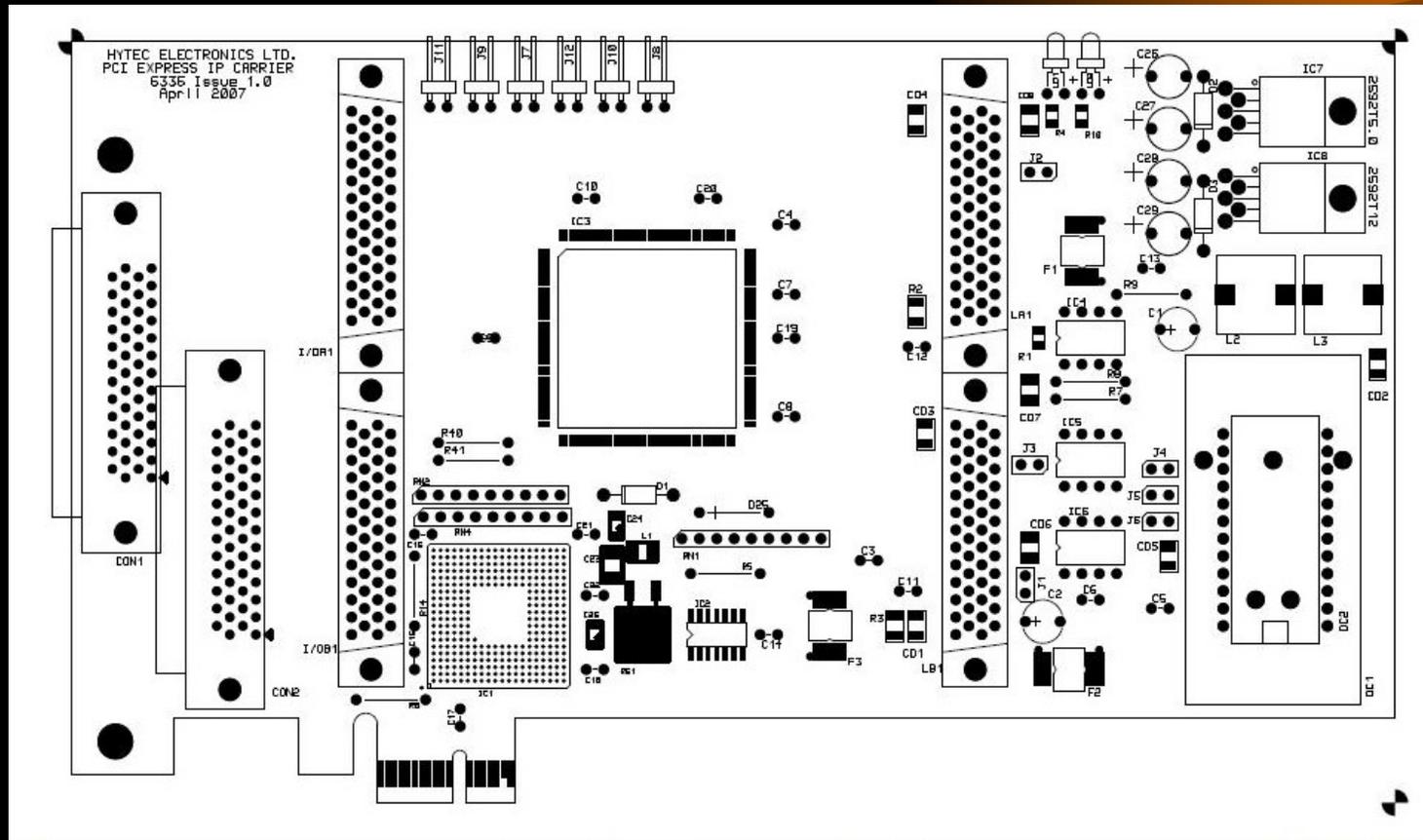


6335 PCI-e to Dual IP Carrier Card

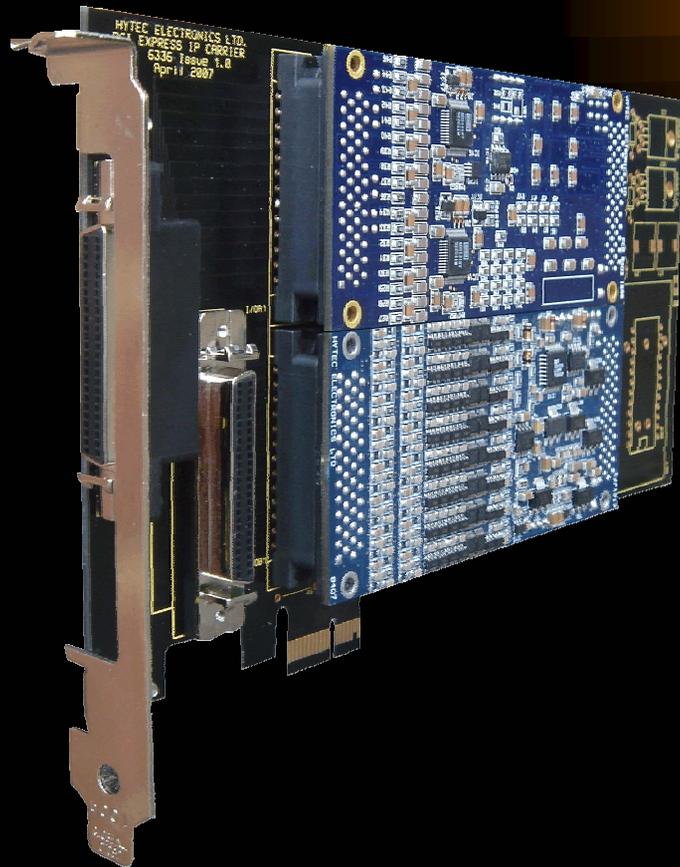
- Very Economic PCI-e I/O Card.
- 6335 Price £300.
- 2 x IP Carrier (Flexible I/O).
- 2 x IP Carrier (Common Parts).
- Individual IP Cards Clocks 8 / 32 MHz.
- The IP Cards Access is Memory Mapped.
- Uses Same Drivers as IOC 9010.



6335 PCI-e to Dual IP Carrier Card



6335 PCI-e to Dual IP Carrier Card



6335 PCI-e to Dual IP Carrier Card



8308 Transition Board

- 6U VME64x Double Height Board.
- Individually match Transition Board Characteristics to individual IP Cards.



8308 Transition Board

- 9202 Analogue Signal Conditioning Board.
- 9212 Thermocouple / PTR Board.
- 9301 Digital Input Signal Conditioning Board.
- 9303 Digital Output Signal Conditioning Board.
- 9304 Straight Through Board.
- 9305 Digital Input / Output Conditioning Board.



ADC 8413

- Up to 160KHz Sampling 16 Bit ADC.
- 16 Independent Channels (one ADC per Input).
- 4M FIFO.
- 16 Bit with No Missing Codes.
- 8/32MHz system clock operation
- Uses latest 8401 EPICS Driver.

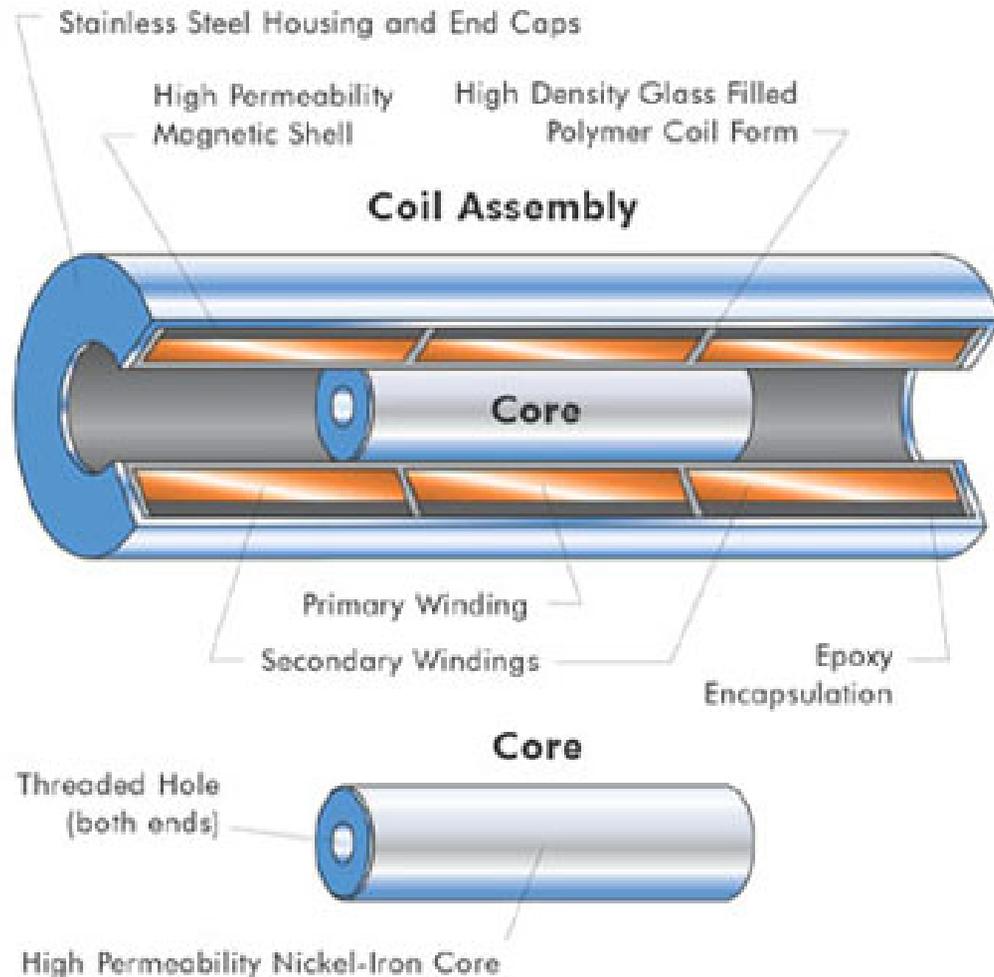


LVDT Interfaces

- Linear Variable Differential Transformer.
- A Combination of a Primary and 2 Secondary Coils with a Ferromagnetic Core.
- Produces a Proportional Linear DC Voltage.
- For More information...
- http://www.macrosensors.com/ms-lvdt_faq-tutorial.html#whatis
- <http://www.transtekinc.com/lvdt.htm>



LVDT Construction



LVDT Interfaces

- Infinite resolution - 1/1000000" or 25um.
- Infinite Life – Non Contact Sensor.
- Excellent repeatability.
- Absolute measurement.
- Maximum Range – 1 metre (i.e. +/- 0.5m).
- No Loss on Power Down.



Trans-Tek Series 350 Transducer



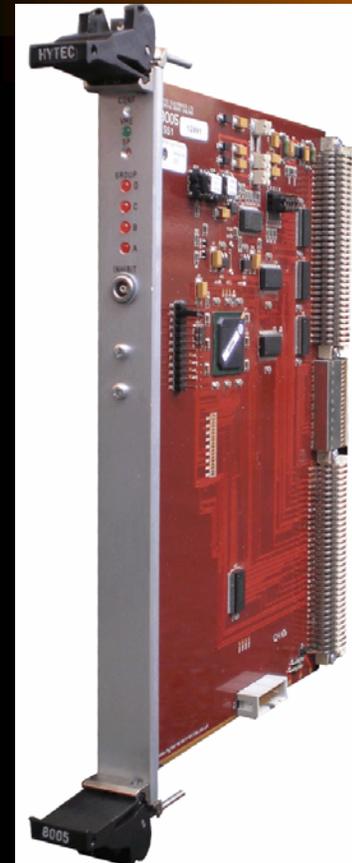
8914 Octal LVDT Interface DIN Rail

- Connects Hytec ADC 8401 / 8413 to LVDT.
- It is a Standard DIN Rail Box.
- Supports 8 / 16 x LVDT Sensors.
- LVDT may be located up to 100m distant.
- Driven off 24V 1A Supply.
- Uses Standard Driver and EPICS Record.



8005 128 Bit Digital I/O

- 6U VME64x Double Height Board.
- 128 Bit Digital I/O.
- 4 Internal FIFO 32 Bits x 64 Deep.
- Able to interrupt on any/all bits change-of-state.



8005 128 Bit Digital I/O Connections

- 9304 Straight Through.
- 9308 Multi Personality Transition Board with...
- 9307 32bit Isolated Digital Input Signal Conditioning Board.
- 9308 32bit Isolated Digital Output Signal Conditioning Board.



More Information...

- General - <http://www.hytec-electronics.co.uk/>
- 8914 LVDT - alan@hytec-electronics.co.uk
- 8909U /6335 - peter@hytec-electronics.co.uk
- 8413 – mike.bacon@hytec-electronics.co.uk
- 8005 – mike.bacon@hytec-electronics.co.uk

