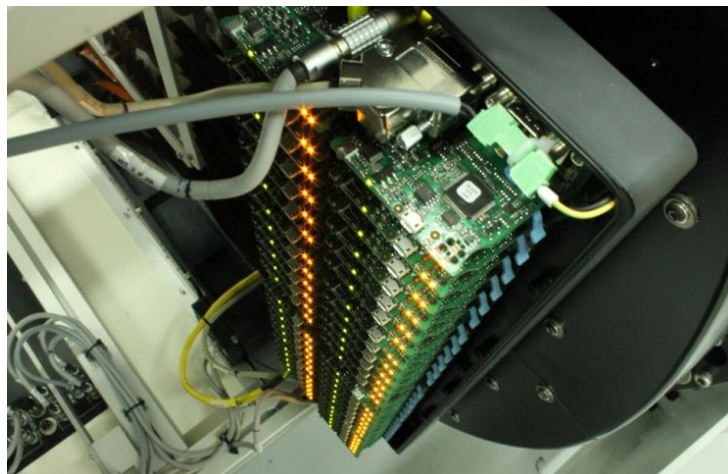
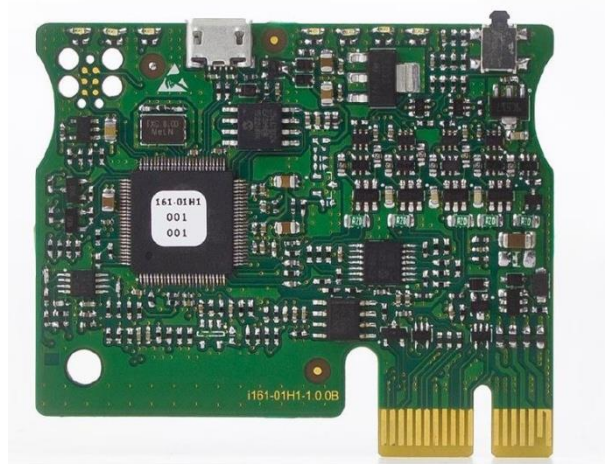


## Design overview

The MACANS control platform is a high density multi axis stepper motor drive and control system, based on a custom Stepper Driver PCI Card optimized for 2-phase stepper motors and a very compact Backplane with PCI edge connectors up to 47 axis.

- Driver delivers up to 0.25 ARMS per phase in continuous mode.
- Closed loop steppers control.
- CANopen communication and USB interface.
- Digital I/O ports for additional functionality.
- Low energy consumption.
- Environmentally tight case.
- Customizable number of channels

The connection between motors and drivers is made through a FPC connector placed at the backplane edge, and FFC.



## Functional highlights

- The backplanes can be connected creating a single CAN bus network of up to 94 axis control system.
- Different motion modes enabled: Position Profile, Speed Profile, Torque Profile, Cyclic Sync Position, Cyclic Sync Velocity, Cyclic Sync Torque
- Digital encoder feedback.
- Independent motor supply voltage: 5V to 21V.
- Memory bank for custom macros programming.

## Applications

- Multi-axis motion systems.
- Micromechanics motion driver with submicron accuracy.

## References

- MACANS Control Platform is being used in:
  - \*MEGARA Instrument in GTC (184 synchronized axis).

## Specification

- PCI Stepper Driver
  - Supply Voltage (logic) 5V
  - Supply Voltage (motor) 5-20V
  - Cont. Current: 0.250 ARMS
  - Peak Current: 0.5 ARMS
  - Motor type: Stepper
  - Quadrature encoder feedback
  - 2x LEDs encoder indicator
  - 2x Digital TTL inputs
  - 1x Analog Input 0-5V
  - 1 fault LED and reset button
  - Communication: USB, CANopen
  - PCI form factor.
  - Dimensions: 60x50x5mm
- Backplane
  - Single Voltage Supply 5V
  - PCI Slots: 46 (23 pairs)
  - FPC Connectors: 23
  - Selectable Node ID range (extended CAN network with more backplanes)

\*Multi Espectrógrafo para GTC de Alta Resolución para Astronomía.

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