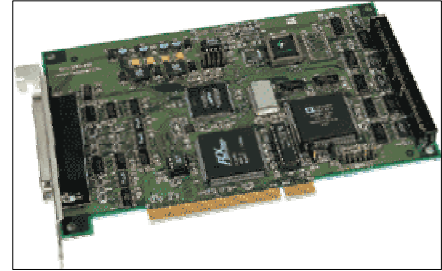




GT-800 Series Motion Controller

Googol Technology (HK) Limited

The GT-800 motion controller is an 8-axis controller, developed by Googol Technology, which provides more control axes and functionalities than the GT-400 series. Providing high-performance and flexibility, the GT-800 is applicable to the control of multiple-axis equipment such as PCB drilling and milling machines.



Features

- Adopt high-performance DSP and FPGA technology
- Each card can control 8 servo/step motors
- Sampling period is programmable. The minimum interpolation period of four axes is 200 μ s. The minimum control period of single-axis motion is 25 μ s
- Motion mode: point-to-point motion, linear interpolation, circular interpolation, velocity control, manual pulse generator interface, and electrical gear. Programmable T-curve planning and S-curve planning. On-the-fly update motion control parameters
- All the position and parameter registers are of 32 bits
- Hardware capture home switch and index signal of encoder
- Set following error limit, acceleration limit and output limit, to ensure safe and reliable control
- PID (Proportional-Integral-Derivative) digital filters with velocity and acceleration feed-forward, and integral limit and output bias compensation.

Specification

Dedicated Digital Inputs/Outputs

- Dedicated opto-isolated inputs: 2 for limit switches, 1 for home switch and 1 for driver alarm signal input for each axis.
- Dedicated opto-isolated outputs: 1 for driver enable signal and 1 for reset driver alarm signal for each axis.
- 3 dedicated inputs for protection: Abrupt stop, door stop and logical stop.

Software Characteristics

- User-defined coordinate system for ease of programming.
- 8-axis coordinated motion
- Continuous interpolation
- Motion command buffer for increasing communication efficiency.
- Programmable event interrupt: External input interrupt, event interrupt and timer interrupt.
- EEPROM for updating Firmware and system parameters.
- Windows98/2000/NT drivers and DLL, C and C++ function library.

Channels of Input/Output

- 8 channels of output, $\pm 10V$ analog voltage with 16-bit resolution control signal
- 8 channels of quadrature incremental encoder input for the feedback of each axis.
- 4 channels of quadrature incremental encoder input for the auxiliary encoder input.
- Encoder sampling rate up to 8MHz.
- 2 channels of D/A output.
- 8 channels of encoder input with 8-bit resolution and sampling rate up to 8MHz.

Output Range:

- Position; 32-bit (2.15 billions of pulses)
- Velocity: Up to 8 millions of pulses/second for servomotor.
- Acceleration: Up to 16 millions of pulses/second/second.

Uncommitted Digital Input/Output:

- 37 opto-isolated digital inputs
- 2 opto-isolated digital outputs
- Serial IO port for IO expansion up to 128 digital inputs/output (Optional).

Memory Size:

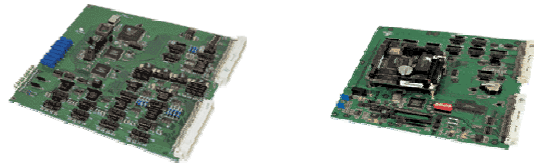
- On-board motion command buffer up to 4K bytes (expandable to 256K bytes) and 8K bytes non-validate RAM for storing parameter

Position Capture

- 1 channel of probe input for capturing positions of four axes simultaneously
- 1 channel of home capture signal for each axis
- 1 channel index capture signal for each axis

Bus Interface:

- ISA/PC104 bus.
- PCI bus.
- Stand-alone with network control interface (Optional).



Power Consumption:

- +5V, $I_{cc} = 3A$, internal power provided by PC.
- $\pm 12V$, $I_{cc} = 60mA$, internal power provided by PC.
- +24V or +12V, $I_{cc} = 2A$, internal power provided by PC.

Operating Environment:

- Operating temperature: 0 - 60°C
- Relative humidity: 5% - 90%, non-condensing.

System Software:

- Windows 98/2000/NT drivers and DLL.
- C/C++ function library and demo software for DOS

Basic Accessories:

- GT-800-ACC1 I/O board.
- GT-800-ACC2 terminal board.
- GT-800-ACC3 62-pin shielded cable (x2)
- GT-800-ACC4 60-pin flat cable