Googol Technology (HK) Limited

Control & network factories of the future

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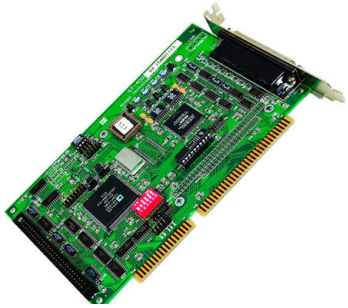
GT-200 Series Motion Controller

GT-200 series motion controller is a universal controller developed by Googol Technology Ltd. The series have several product versions, GT-200-SV, GT-200-SG, widely used in applications ranging from simple point-to-point motion control equipment to highly complicated profile motion control equipment, such as measuring machine, engraving machine, NC lathe, machining center and robot.



Model	Number of Control Axes	Motor Type	Control Mode	PC Bus Type
GT-200-SV	2	Servo/Step Motor	Closed loop/Open loop	ISA/PC104 or PCI
GT-200-SG	2	Step Motor	Open loop	ISA/PC104 or PCI

Main Features:

- Adopt high-performance DSP and FPGA technology
- Each card can control 2 servo/step motors
- Programmable sampling rate. The minimum interpolation period of four axes is 200us. The minimum control period of single-axis point-to-point motion is 25us
- Modes of motion: point-to-point motion, linear interpolation, circular interpolation, velocity control, interface to manual pulse generator, and electronic gearing
- Programmable trapezoid curve planning and S-curve planning and update parameters on-the-fly
- All registers for computational parameters and trajectory planning parameters are 32 bits
- Hardware capture of 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 filter with velocity and acceleration feed-forward, and with integral limit and bias compensation (for SV card).
- Network communication port (Ethernet, Profibus-DP, RS232, RS232/485) (Optional).
- User-defined coordinate system for ease of programming
- Coordinated motion of 2 axes, linear interpolation, and circular interpolation
- Continuous interpolation function
- On-board memory buffer to improve communication efficiency
- Programmable event interrupt: external input interrupt, event interrupt and time interrupt
- On-board EEPROM to update firmware and parameters
- Drivers and DLL for Windows98/2000/NT, C and C++ function library

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Technical Specification

Axis Channels

- 2 channels of 16-bit analog voltage output signal or pulse output signal with a frequency up to 1MHz
- 4 channels of quadrature incremental encoder input 2 channels used for feedback signal input of each axis, 2 channels are used for the auxiliary encoder input
- Encoder sampling rate up to 8MHz
- Flexible combination of analog voltage output and pulse output mode

Analog Input (Optional):

- 8 channels of independent 12-bit ± 10V analog input

Uncommitted Digital Input/Output:

- 16 channels of uncommitted opto-isolated digital input
- 16 channels of uncommitted opto-isolated digital output with

Dedicated Digital Input/Output:

- Dedicated opto-isolated inputs for each axis: 2 channels for limit switch signal, 1 channel for home signal, and 1 channel for drive alarm signal input
- Dedicated opto-isolated outputs for each axis: 1 channel for drive enable signal and 1 channel for drive alarm signal reset

Position Capture

1 channel of probe input for capturing the positions of 2 axes simultaneously, 1 channel of home capture signal and 1 channel Index capture signal for each axis

Bus Type:

- Standard ISA/PCI104 bus.
- Standard PCI bus.
- Stand-alone through standard network interface (Optional).

System Software:

- Demo software in Windows environment.
- Windows 98/2000/NT equipment drivers.
- C/C++ function library and demo software in DOS.

Power Consumption:

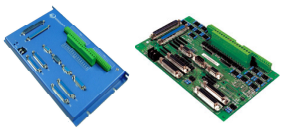
- +5V, Icc=2A, power supplied from PC.
- ±12V, Icc=60mA, power supplied from PC.
- +24V or +12V, Icc=2A, external power provided by user.

Environment:

- Operating temperature: 0 - 60℃
- Relative humidity: 5% - 90%, non-condensing

Mechanical Dimension:

- 122mm x 185mm.

Basic Accessories

- ACC1 interconnect board & ACC4 60-pin flat cable.
- ACC3 62-pin shielded cable (x2)
- ACC2 terminal board.