

GE-800 Motion Controller

Overview

GE-800 series motion controllers developed by Googol Technology Ltd is a low cost 8-axis DSP based motion controller, specially designed for point-to-point motion control. Owing to its capability of perfect positioning and velocity profile curves, it is used for quick and accurate positioning applications, and suitable for the equipments that adopt high-speed and high-precision point-to-point motion modes, such as PCB drilling machine, SMT, Bonding machine, etc.



Main Features

- Adopt high-performance DSP and FPGA technology.
- Each card can control 8 servo/step motors
- Programmable sampling period: the minimum is 200us; the maximum is 2ms, and the default is 400us in analog output. With pulse output of any one axis, the sampling period is fixed as 400us.
- Modes of motion: point-to-point motion, velocity control.
- Programmable trapezoid curve, and S-curve of velocity profile and update parameters on-the-fly
- All registers for computational parameters and trajectory planning parameters are 32 bits
- Programmable management for alarm signal and limit switch signal
- Set following-error limit and control output limit
- PID (Proportion-Integral-Differential) digital filter with velocity and acceleration feedforward; with integral limit; bias compensation and low-pass filter.
- Network communication port (Ethernet, Profibus-DP, RS232, RS422/485) (Optional function).

Axis Channels

- 8 channels of 16-bit analog voltage output signal (Only for SV card) or pulse signal with a frequency up to 1MHz, 9 channels of quadrature incremental encoder input (8 channels for axis feedback signal input, 1 channels for the auxiliary encoder input)
- Encoder signal counting frequency up to 8MHz
- Flexible combination of analog voltage output and pulse output mode (Only for SV card)

Analog Input (Optional)

- 8 channels of independent 12-bit $\pm 10V$ analog input
- Sampling period up to 250us.

Uncommitted Digital Input/Output

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

Dedicated Digital Input/Output

- Dedicated opto-isolated input per axis, 2 channels for limit switch signal, 1 channel for home signal, and 1 channel for drive alarm signal input
- Dedicated opto-isolated output per axis, 1 channel for drive activation signal and 1 channel for drive alarm signal reset



Position Capture

- 1 channel of probe input can capture the positions of three encoder and auxiliary encoder simultaneously
- 1 channel of home capture signal for each axis and 1 channel Index capture signal for each axis

Bus Type

- Standard PCI/ISA/PC104 bus
- GE motion controller + PC
- GE motion controller + embedded system.
- Stand-alone through standard network interface (Optional)

System Software

- Demo software in Windows environment
- Windows 98/2000/NT equipment drivers, extended DLL
- C/C++ function library and Example source code 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°C
- Relative humidity: 5% - 90%, non-condensing

Mechanical Dimension

- 122mm x 185mm

Selection Guide

Model	No of Axes	Motor Type	Control Mode	PC Bus Type
GE-800-PG	8	Step	Point-to-point motion, pulse output, receive encoder input	ISA/PCI/PC104
GE-800-PV	8	Step/Servo	Point-to-point motion, analog output, closed loop control	ISA/PCI/PC104

Ordering Information

	Model No.	Description	Qty
Standard Package	GE-800-PG or GE-800-PV	Motion control card with 8 axes motion control	1
	ACC4 & ACC2	Interconnect board with a 60-pin flat cable	1
	ACC3-A1-062015	1.5m 62-pin cable (×2)	2
	GD2-800-ACC2-G	Terminal board	1
	Control Software	Control software for Windows 98/2000/NT, extended DLL; function library, etc.	1