

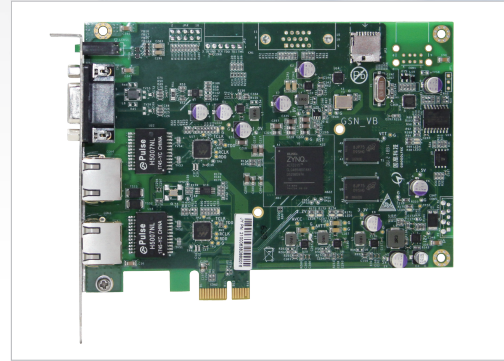
GSN Series Motion Control Card



Overview

GSN series motion control card is a networked, modular plug-in motion controller. The controller main card implements motion control calculation. It connects Googoltech's gLink-II driver and motion control module through gLink-II bus. Customers can choose the gLink-II driver or different type motion control modules (4-axis module, 6-axis module, laser/galvanometer module) according to their own needs, and quickly build a high-performance motion control system to achieve distributed field motion control and control system flexibility.

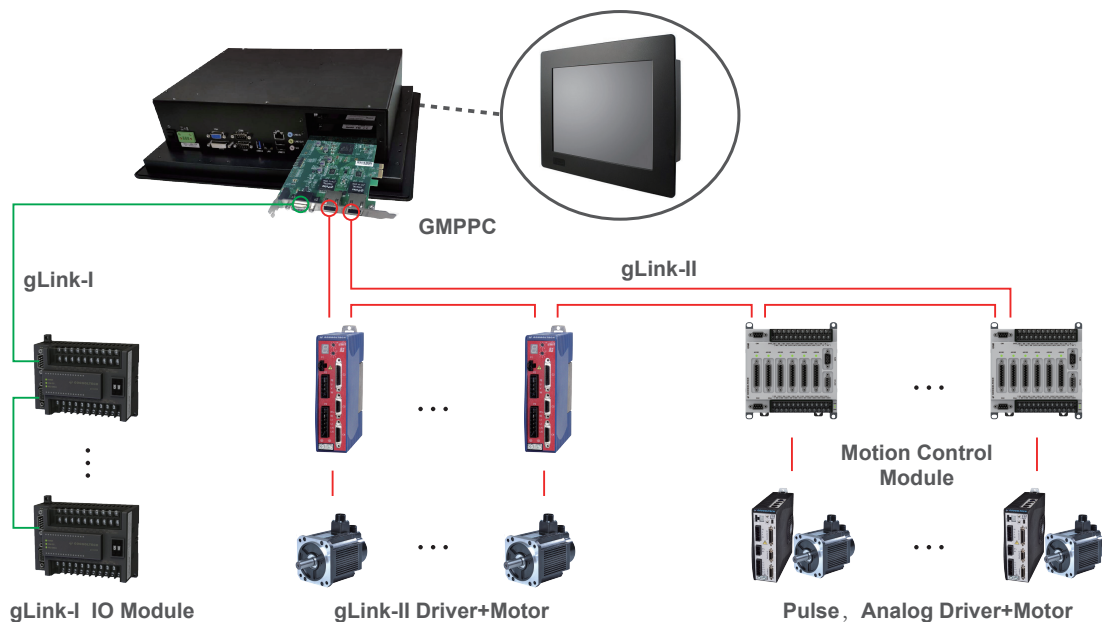
GSN series motion control card can be used for five-axis CNC machine tools, 6-axis robots, microelectronic packaging equipment, high-speed and high-precision laser equipment, 3C industry processing and testing equipment, non-standard automation equipment (detection machine, assembly machine, dispensing machine, plug-in machine), special process equipment, textile machinery, packaging, printing, and assembly line workstations, etc.



Main Features

- Support for multi-axis applications. (Maximum 48 axes)
- Support PCI-e x1 slot.
- Support Googoltech's gLink-II drive.
- Support flexible combination of different type motion control modules, through gLink-II (2 Gigabit Ethernet interfaces) and motion control module networking.
- Support the PID control with feedforward, and the multi notch filter function.
- Support five-axis RTCP algorithm, robot kinematics dynamics, automatic adjustment and gantry control.
- Built-in multiple industry application packages: cutting, welding, dispensing, micro-line speed forward processing, robot drag teaching, flying shear tracking and printing synchronization control.
- Compatible with GTS instruction set.

System Structure



GSN Series Motion Control Card



Specifications

Motion Control	
Control Cycle	250us/500us
Motion Control Function	Point to point motion, Jog motion, electronic gear, electronic cam, PT/PVT motion, linear Interpolation, arc Interpolation, helix interpolation, automatic homing.
Basic IO	Local IO, extended IO, encoder
High Speed IO	High speed acquisition, position comparison
Protection	Hard limit, soft limit, following error, drive alarm
Others	Position closed loop, forward looking processing, custom program, gantry control, mechanical compensation, laser, galvanometer.
Software	
Controlled Axes	24 axis/48 axis
Encoder	1 channel per axis; There are also 16 channels auxiliary encoder that support MPG and absolute encoders.
Local Digital IO	132 channels DI, 60 channels DO (both high speed IO)
Local Analog IO	1 channel AO per axis, mainly used for position closed loop control.
Extended Digital IO	256 channels DI, 256 channels DO
Extended Analog IO	48 channels AI, 48 channels AO
Development	
OS Supported	WinXP, Win7, Win8, Win10, Linux
Development Language	C/C++, C#, VB.NET, VB, LabView
Electrical Parameter	
Voltage	Main card: 24V DC $\pm 10\%$; Motion control module: 24V DC $\pm 10\%$
Current	Motion control module: 2A
Environment and Installation	
Operating Temperature	0-55°C
Humidity	5%-90%, Non-condensing
Installation Method	Main card: PCI-e x1 slot; Motion control module: DIN rail or screw mount
Dimension	161.1 x 125.3 mm

Ordering Guide

Type	Function	Ordering Number	Description
Required	Controller	GSN-024-00	GSN motion control card, 24 axes
		GSN-048-00	GSN motion control card, 48 axes
	6 Axis Motion Control Module	GNM -601-00	Pulse control, MPG, extended IO
		GNM -602-00	Pulse control, double auxiliary encoder
	4 Axis Motion Control Module	GNM -401-00	Pulse control, analog module
		GNM -402-00	Pulse control, double auxiliary encoder
GNM -403-00		Pulse control, analog, laser, galvanometer	

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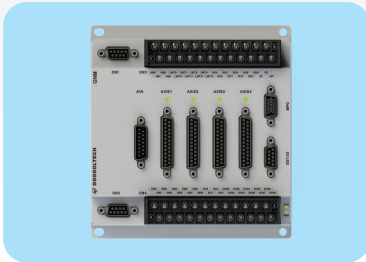
Ordering Guide

Type	Function	Ordering Number	Description		
Required	gLink-II Driver	GTHD2-003-2AGL2	3A, gLink-II bus		
		GTHD2-4D5-2AGL2	4.5A, gLink-II bus		
		GTHD2-006-2AGL2	6A, gLink-II bus		
		GTHD2-008-2AGL2	8A, gLink-II bus		
		GTHD2-010-2AGL2	10A, gLink-II bus		
		GTHD2-013-2AGL2	13A, gLink-II bus		
	gLink-II Connection Cable	GN -DB9M -DB9M -0M3	DB9 Gigabit Ethernet cable, 0.3m		
		GN -DB9M -DB9M -1M5	DB9 Gigabit Ethernet cable, 1.5m		
		GN -DB9M -DB9M -3M0	DB9 Gigabit Ethernet cable, 3m		
		GN -DB9M -DB9M -5M0	DB9 Gigabit Ethernet cable, 5m		
		GN -DB9M -DB9M -10M	DB9 Gigabit Ethernet cable, 10m		
		GN -DB9M -DB9M -20M	DB9 Gigabit Ethernet cable, 20m		
		GN -RJ45 -DB9M -1M0	RJ45-DB9 Gigabit Ethernet cable, 1m		
		GN -RJ45 -DB9M -1M5	RJ45-DB9 Gigabit Ethernet cable, 1.5m		
		GN -RJ45 -DB9M -3M0	RJ45-DB9 Gigabit Ethernet cable, 3m		
		GN -RJ45 -DB9M -5M0	RJ45-DB9 Gigabit Ethernet cable, 5m		
		GN -RJ45 -DB9M -10M	RJ45-DB9 Gigabit Ethernet cable, 10m		
		Optional	Extended IO Module	HCB5 -1616-DTD01	16DI/16DO, input active low, sink output
				HCB5 -1616-DTS01	16DI/16DO, input active high/low selectable, source output
HCB5 -0606-A1201	6AI/6AO, IO resolution 12-bit				
HCB5 -3200-DXX01	32DI, input active low, sink output				
Extended IO Connection Cable	DB9P F/M L=0.3m		One cable per extended IO module, 0.3m		
	DB9P F/M L=1.5m		One cable per extended IO module, 1.5m		
Driver Connection Cable	ACC5-D01005/10/15/20		Panasonic series driver connection cable, 0.5m/1.0m/1.5m/2.0m		
	ACC5-D01005/10/15/20 (Brake)		Panasonic series driver connection cable, brake, 0.5m/1.0m/1.5m/2.0m		
	ACC5-SP01015		Sanyo series driver connection cable, 1.5m		
	ACC5-D03015/30		Yaskawa series driver connection cable, 1.5m/3.0m		
	ACC5-D03015/30 (Brake)		Yaskawa series driver connection cable, brake, 1.5m/3.0m		
	HPCN36P/M+DB25P/M		GTHD series driver connection cable, 1.5m		

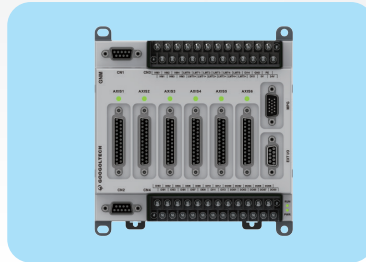
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Optional Modules



4-Axis Module

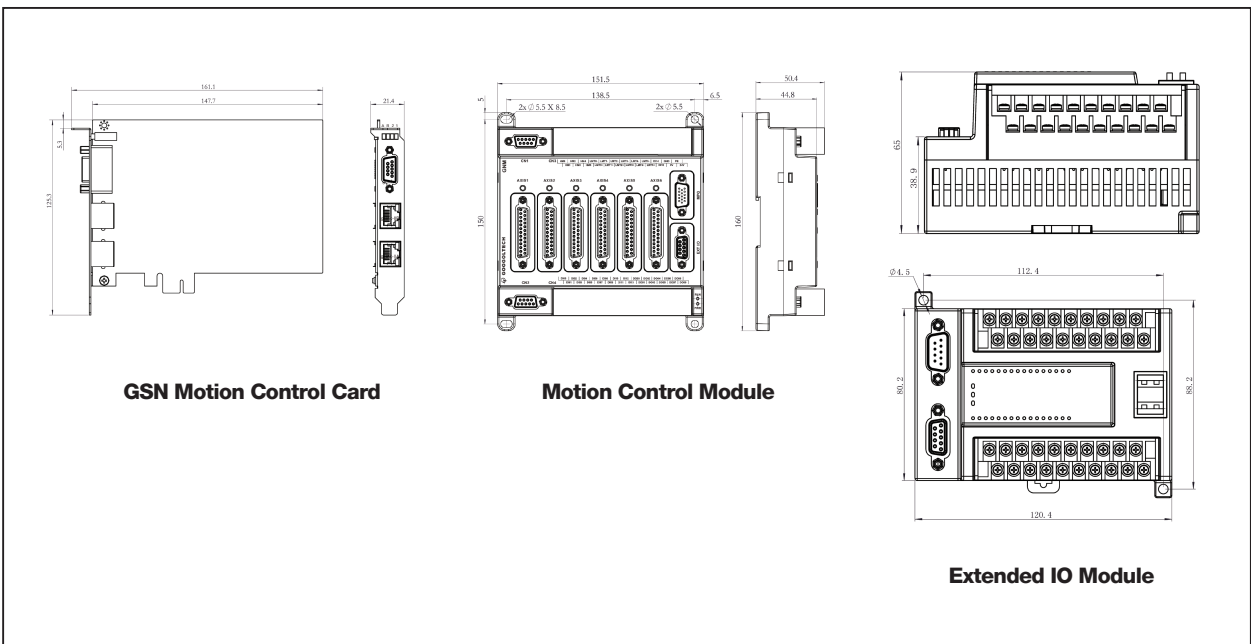


6-Axis Module



Laser/Galvanometer Module

Dimension



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Motion Control Module

Extended IO Module