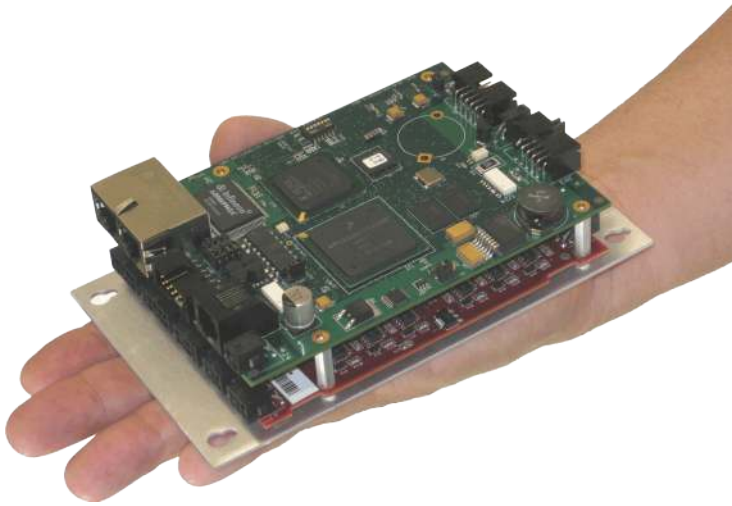
GUIDANCE 1400A CONTROLLER

Can a 4-axis vision-guided motion controller with built-in drives fit in your pocket?

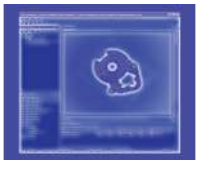
Precise Automation makes it possible. The Guidance 1400A Controller combines coordinated multi-axis motion control, integrated servo motor drives, network communications, a web interface for local/remote support via a host computer or a tablet, a powerful, yet easy-to-use programming language, kinematics, machine vision and more in a design small enough to fit in your pocket.



This controller is designed to significantly reduce costs for lower voltage/power applications. Whether used by itself or included as a node in a large multi-axis network, the Guidance 1400A delivers Precise's advanced motion capabilities and integrated vision in a smaller package and at a lower price than ever before.

PRECISE AUTOMATION





General Specifications	Range & Features
Computational Hardware	
CPU and Dynamic Memory	400 Mhz high performance, low-power CPU with 16MB or 32MB of dynamic RAM.
Nonvolatile Memory	Flash disk with 16MB or 32MB of storage for OS, firmware and user program and data storage
NVRAM	8 KBytes of NVRAM for storing key dynamic status and state information including error logs
Software	
Motion control	Continuous path following, straight-line and circular motions, torque and velocity control, s-curve profiling. Control of up to 32 axes via networked distributed control organized into up to 12 multi-axis robots. Distributed control network can consist of up to 16 controllers. AVAILABLE UPGRADES Kinematic Licenses – Control complex machines (including articulated, parallel and redundant axis robots) with simple Cartesian control. Advanced Kinematic License – For three and four-axis robots. Complex Kinematic License – For six-axis and unusual geometry robots. (Custom or additional Kinematic modules available subject to an NRE charge). Conveyor Tracking Software License – Allows controller to be integrated with conveyor belts and permits a robot to automatically adapt to varying belt speeds. Advanced Controls License – Enables enhanced motion control modes including: high-speed position latching, real time trajectory modification and support for EtherNet/IP.
Operator interface	Web based operator interface supports local or remote control via a browser executed on a host computer or tablet that connects to an embedded web server.
Programming interface	Three methods available: DIO MotionBlocks (PLC), embedded Guidance Programming Language (standalone, modeled after Visual Basic.Net), PC/Unix/Linux controlled over Ethernet using TCP/IP
Machine vision (optional)	Provides controller with a complete set of image-processing, measurement, inspection and finder tools. A powerful, patented Object Locator finds parts in any orientation and at different scales within milliseconds.
Motion Control	
Motor Drives	Up to four integrated motor drives: Drives 1&2- 15.0A peak/6A RMS/6A stall per channel; Drives 3&4- 10.3A peak/6A RMS/6A stall per channel Bus voltage & total power for all drives: 12VDC to 48VDC, 720W @ 48V, 180W @ 12V total with proper heat sinking
Position Sensor Interface	Four differential digital encoder interfaces. Support for several types of absolute encoders (may require “enhanced” controller option).
Control signals	Brake signals. (Up to 1A at 24V available for releasing motor brakes.)
Single-Axis Slave Amplifiers (optional)	Multiple Guidance Slave Boards (GSBs) may be daisy-chained via RS-485 to control up to 200W low voltage servo motors equipped with incremental or absolute encoders.
Communication Interfaces	
General communications	RS-232 port with hardware flow control, second RS-232 port (without hardware flow control) for manual control pendant or general communication. Dual E-Stop interfaces. Two 10/100 Mbps Ethernet ports.
Digital input channels	4 general purpose optically isolated digital inputs, configurable as sinking or sourcing. 5 VDC to 24 VDC for logic high if sinking, 24 VDC supplied for logic high if sourcing. Additional remote I/O available via Precise RIO or compact GIO modules or 3rd party MODBUS/TCP devices or 3rd party EtherNet/IP devices.
Digital output channels	4 general purpose optically isolated digital outputs, individually configurable as sinking or sourcing. 24 VDC maximum pull up if sinking. 24 VDC supplied if sourcing. 100 mA maximum per channel. Additional remote I/O available via Precise RIO or compact GIO modules or 3rd party MODBUS/TCP devices or 3rd party EtherNet/IP devices.
Multi-Drop Serial I/O	RS-485 multi-drop serial communications.
Required Low Voltage, Logic Power	24 +/- 5% VDC power required for logic and I/O: 2A minimum, 4A recommended for systems with remote IO, Ethernet cameras or several motors with brakes.
Size	87 mm (W) x 150 mm (L) x 38 mm (H), 0.2 kg in open frame format including mounting bracket

Guidance Slave Board (GSB)

GIO Board

PRECISE AUTOMATION

automate with ease