C-630

Apollo Motion Controller/Driver for Stepper Motors

Application Examples

- Flexible automation
- Quality control
- Test equipment
- Photonics packaging
- Fiber alignment

Ordering Information

C-630.32
Apollo Controller for 2-Phase Stepper Motors, 3 Axes, RS-232 Interface

M-500.PS
Power Supply for Apollo Controller (Included in C-630.32)

C-863.633
Interface Cable for Operation with PIIntelliStage™ Translation Stages (3 m)

Apollo Controller front and back view.

- **3-Axis, Compact Stepper-Motor Controller/Driver for 2-Phase Motors**
- **Up to 50 x Microstep Resolution for Smooth, High-Resolution Positioning**
- **Network Feature for Multi-Channel Applications**
- **PIIntelliStage™ & PIIntelliStep™ compatible**

The new C-630 Apollo controller combines a high-resolution motion controller and driver in an extremely small package. The Apollo is a very cost-effective solution for automation, precision measurements or general positioning tasks in research and industry.

Integrated Drives for High-Resolution Motion

Apollos can drive up to three 2-phase stepper motors simultaneously, and feature microstep technology with up to 20,000 steps/rev. for ultra-smooth, high-resolution motion. Limit switch and reference switch inputs for each axis are provided to protect the mechanics and for easy operation.

C-630 Apollo Controller with M-112.22S linear translation stage.

Network Capability for Flexible Automation

For control of more than three axes, the Appollo's network functionality comes in handy. Up to three controllers can be linked and controlled over a single interface.

The network may include up to three Apollo controllers or a combination of up to three PI-IntelliStages™ and two Apollos.

Each Apollo controller includes software, an RS-232 communications cable and a wide-range power supply for universal operation.

Easy-To-Use Software and Drivers

Windows™ software is provided with Apollo controllers for easy installation and operation. It is derived from the PIIntelliStage™ Lance Software, and is able to run both Apollos and PIIntelliStages™ in the same window.

Window DLLs and LabView™ Drivers are also provided for advanced programming and integration into existing user program environments.
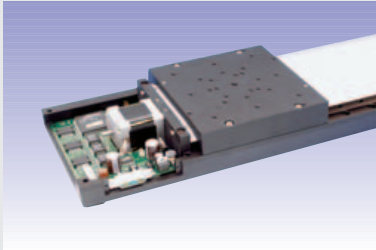
Technical Data

Model	C-630.32
Function	Stepper-motor controller and driver for 2-phase motors
Axes	3
Trajectories	Point-to-point, 3D linear interpolation
Motor resolution	Up to 50 x microstep resolution (up to 20,000 steps/rev) with PI stepper motors)
Motor current	Up to 800 mA, 24 V, chopped
Limit switches / reference switches / I/O ports (per axis)	4 TTL, programmable
Interface / communication	RS-232 (cable included), 9.6 to 57 kbit/sec.
Daisy-chain function	Up to 3 units
Command set, programming	ASCII command set
Host Software	Windows™ operating software and DLLs, LabView™ Drivers
Motor connectors (per axis)	15-pin (f) sub-D
Operating voltage	24 V DC, provided by external wide-range P/S 85 to 240 VAC, 50 to 60 Hz
Dimensions	260 mm x 145 mm x 45 mm
Weight	1 kg

PZT Actuators

PZT Flexure NanoPositioners

PZT Active Optics / Steering Mirrors

Tutorial: Piezoelectrics...

Capacitive Position Sensors

PZT Control Electronics

MicroPositioners / Hexapod Systems

Photonics Alignment & Packaging Systems

Motor Controllers

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Network Capability

http://www.pi.ws

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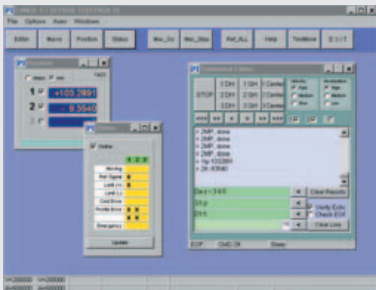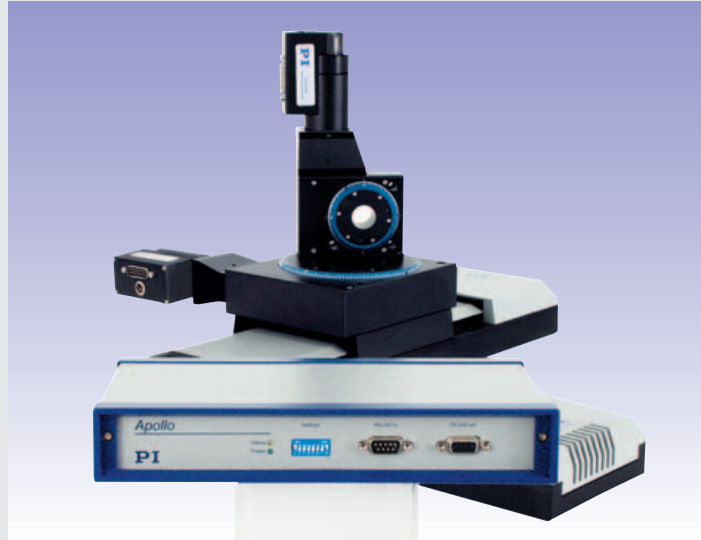

PIIntelliStage™ means high-precision translators with 0.2 micron repeatability and motor controller in a single package.
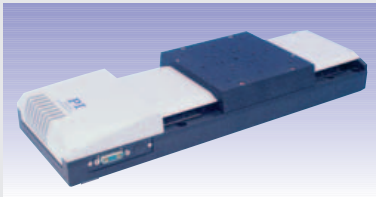
M-511.5iM PIIntelliStage™ with integrated motion controller. PIIntelliStages™ are available with travel ranges up to 300 mm


Configuration example of a combined PIIntelliStage™ Apollo network: 4-Axis of motion consisting of 2 PIIntelliStages™ for X and Y motion with an M-062.2S rotary stage for rotation around the vertical (Z) axis and a second smaller M-060.2S for rotation around X or Y. For setup and wiring see block diagram below on the next picture.

The LANCE software command editor for controlling multiple stage in one network from one computer
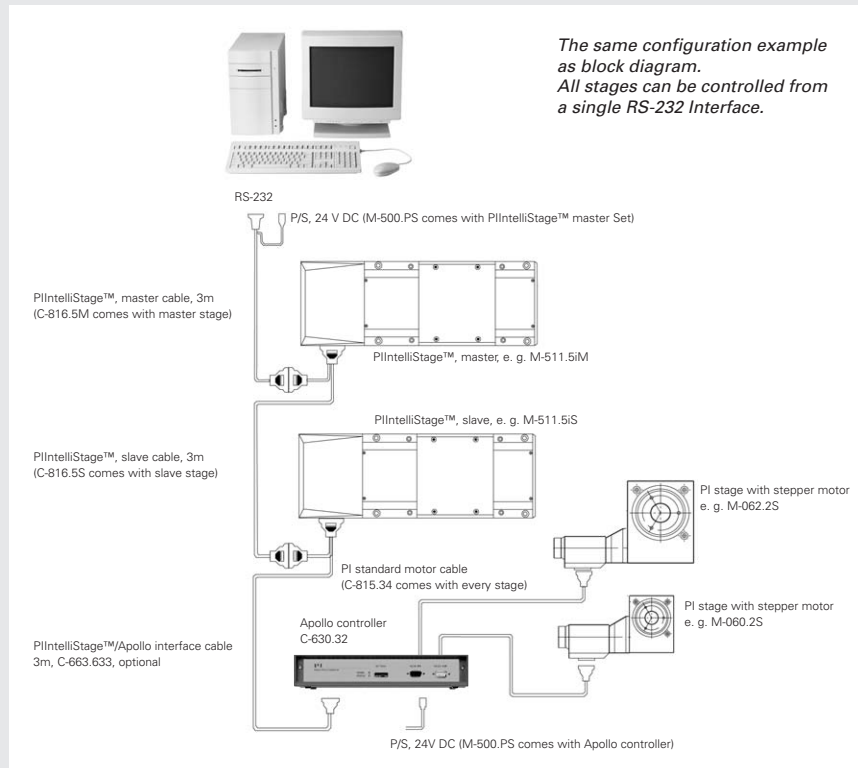
The same configuration example as block diagram.
All stages can be controlled from a single RS-232 Interface.

RS-232

P/S, 24 V DC (M-500.PS comes with PIIntelliStage™ master Set)

PIIntelliStage™, master cable, 3m
(C-816.5M comes with master stage)

PIIntelliStage™, master, e. g. M-511.5iM

PIIntelliStage™, slave, e. g. M-511.5iS

PIIntelliStage™, slave cable, 3m
(C-816.5S comes with slave stage)

PI stage with stepper motor
e. g. M-062.2S

PI standard motor cable
(C-815.34 comes with every stage)

PIIntelliStage™/Apollo interface cable
3m, C-663.633, optional

PI stage with stepper motor
e. g. M-060.2S

Apollo controller
C-630.32

P/S, 24V DC (M-500.PS comes with Apollo controller)