

Controllers

- High performance, multi-function and programmable
- Resolution to 0.25 microns
- Control one to four axis
- GP-IB, RS-232 and USB PC interfaces provide computer control and data acquisition
- Labview and ActiveX software drivers



OptoSigma offers a complete line of controllers to configure with SGSP series motorized stages to meet your demanding applications. Controllers are available to control one to four axes and can be linked together to operate additional axes. These controllers are designed to provide precision positioning both by manual operation and by using a personal computer. Control system is easily programmed using ActiveX and Labview and is compatible with Windows HyperTerminal.

The SHOT 204-MS is a closed-loop control system. When used with the SGSP magnescale stages, resolution to 1 micron is achieved. Many of the features make this controller an appropriate control system for measurement and inspection applications.

If you would like help in selecting the most appropriate products for your application please call. Our experienced Applications Engineers are ready to assist you with your most demanding requirements.

SHOT-102

SHOT -102 is a two-axis stage controller designed to deliver high performance in a compact, low-cost package. The controller has two internal drivers and offers both automatic controls using a personal computer and manual operation using a built in joystick.

The controller is complete with built-in manual joystick, a 2-axis digital display, and RS232C and GP-IB ports. The SHOT -102 provides resolution to within 1 micron and utilizes a full and half step drive method.



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SFS Fine Controllers

The SFS Fine controller is available in one and three-axis versions and in UL and CE products. It is designed to work with the family of Piezo products shown on pages 442-449. The controller will provide high performance in a wide range of applications including many measurement and inspection applications. The controller will operate both open and closed-loop stages. The closed-loop control system delivers resolution to within 2nm. The controller will provide accurate linearity to less than 0.2%.

SFS Fine offers both automatic controls using a personal computer and manual operation using a control pad. The control pad is required for manual operation, memory settings, and programming the system. When the SFS Fine is connected to a personal computer using the RS232C, GP-IB or USB interface, the stage can be accurately moved to the desired position by simple commands sent from the PC.



SHOT-302GS/304GS

The SHOT-302GS 2-axis controller and SHOT-304GS 4-axis controller deliver solid closed loop performance when combined with any of our GS series stepper motor stages with integrated glass scale encoders. They are also backward compatible with any of our open loop stepping motor stages. In addition to the standard CJ-200 control pad that is used with our SHOT-200 series controllers, the SHOT-300 series controllers support two new remote control panels, the JS-300 and JB-400. Standard features also include dedicated TTL I/O ports, a 24VDC trigger output to control external devices, provision for an external emergency stop and dedicated 24VDC output for driving accessories such as electromagnetic brakes.



SHOT-202

SHOT-202 is a two-axis stage controller designed to deliver high performance in a wide range of applications. The SHOT-202 has micro-stepping to provide smooth stepping motor movement. This general-purpose controller has two internal drivers and offers both automatic controls using a personal computer and manual operation using a control pad. The control pad is required for manual operation, memory settings, and programming the system.

When the SHOT-202 is connected to a personal computer using the RS232C, GP-IB or USB interface, the stage can be accurately moved to the desired position by simple commands sent from the PC. It is possible to save internal data by downloads and uploads.

Internal power supply for I/O (Input/Output) signals, trigger output signals, and DC 24V output signals makes it possible to control external input or output devices or to output trigger signals synchronized with external measuring devices.



SHOT-204-MS

SHOT-204-MS is a four-axis stage controller designed to deliver high performance in a wide range of applications. The controller will operate both open and closed loop stages in combination. This closed-loop control system delivers resolution to 1micron. The SHOT-204-MS has micro-stepping to provide smooth stepping motor movement.

SHOT-204-MS offers both automatic controls using a personal computer and manual operation using a control pad. The control pad is required for manual operation, memory settings, and programming the system. When the SHOT-204-MS is connected to a personal computer using the RS232C, GP-IB or USB interface, the stage can be accurately moved to the desired position by simple commands sent from the PC. It is possible to save internal data by downloads and uploads.

Internal power supply for I/O (Input/Output) signals, trigger output signals, and DC 24V output signals makes it possible to control external input or output devices or to output trigger signals synchronized with external measuring devices.



SCT-602 Control Pad

SCT-602 control pad is a dedicated device for controlling the SHOT-602 when connected using the RS232C interface. The control pad makes it possible to create a program with up to 100 lines for each of four channels (400 lines total). By using the teaching mode of the SCT-602 program steps can be saved. The control pad can control axes coordinates, travel speed, wait time and number of time to run program steps. (see page 487)



SHOT-602 Intelligent Driver/Controller

The SHOT-602 “the intelligent driver” is both a controller and driver in one package. The SHOT-602 provides resolution to within 1 micron and utilizes a full and half step drive method for smooth precise stepping motor movement.

The two-axis intelligent driver provides a low-cost solution for controlling the SGSG20, SGSP26, SGSP60-ZF and TSDM Stages. SHOT-602 is connected to a personal computer or the SCT-602 using the RS232C interface, the stage can be accurately moved to the desired position by simple commands.



PAT-001

The PAT-001 is a compact economic single-axis controller with a built-in motor drive. This single-axis motorized stage controller can be fully automated from your PC. It provides two directional jog motion with the use of a toggle switch located at the front panel for ease of use.

The PAT-001 can control the SGSP translation stages, rotation, ZF, TSDM, Goniometers and the compact stepping motor actuators. The controller can provide two micro-step mode (full step / half step) and driving current can be selected via PC software. The availability of these features provides simple and accurate single axis positioning.



Piezo Stages

Linear Stages

Rotation Stages

ZF Stages

Motorized Optics Holders

Goniometers

GS Closed Loop Stages

Controllers & Drivers

Cables & Accessories

Software

SFS Piezo Actuator Controllers

Number of Axis	Output Voltage (DC)	Logical range	Resolution	Power Requirements	Price	Model	PART NUMBER
1	-10 to 150 .25m V/step	999,999	~1nm open, 5nm closed-loop	108-132 VAC 50/60Hz 20VA		FINE-01(UL)	510-0111-1
1	-10 to 150 .25m V/step	999,999	~1nm open, 5nm closed-loop	207-253 VAC 50/60Hz 20VA		FINE-01(CE)	510-0111-2
3	-10 to 150 .25m V/step	999,999	~1nm open, 5nm closed-loop	108-132 VAC 50/60Hz 20VA		FINE-503(UL)	510-0103-1
3	-10 to 150 .25m V/step	999,999	~1nm open, 5nm closed-loop	207-253 VAC 50/60Hz 20VA		FINE-503(CE)	510-0103-2

SGSP Stepper Motor Controllers

Number of Axis	Step Increment (pulses/step)	Maximum Pulse rate (pulses/sec)	Minimum pulse rate (pulses/sec)	Power Requirements	Price	Model	PART NUMBER
1	1 - 2	20,000	100	24VDC-2A		PAT-001	555-5030
2	2	20,000	1	100-120 VAC 50/60Hz 50VA		SHOT-602	555-5020-S
2	1 - 2	20,000	1	100-120 VAC 50/60Hz 50VA		SHOT-102	555-1102-S
2	1 - 250	500,000	1	100-240 VAC 50/60Hz 160VA		SHOT-202	555-1202-S
4	1 - 250	500,000	1	100-240 VAC 50/60Hz 300VA		SHOT-204MS	555-1204-SMS
2	1-250	500,000	1	100-240VAC 50/60Hz 50VA		SHOT-302GS	555-1302
4	1-250	500,000	1	100-240VAC 50/60Hz 50VA		SHOT-304GS	555-1304