

## X-GSM40-SV1 Datasheet



- Vacuum compatible to 10<sup>-3</sup> Torr
- 40 mm and 60 mm centre of rotation options allow for two axes of motion about a common centre of rotation
- Crossed roller bearings for smooth motion and high stiffness
- Built-in controller; daisy-chains with other Zaber products
- Only 4 feedthrough wires required to control all units in the daisy-chain via serial port (with an X-PIB adaptor)

## X-GSM-SV1 Series Overview

For more information about the basics of a vacuum system and considerations to keep in mind when gathering requirements for your application, read our technical article, "Motion Device Design Considerations for Vacuum Applications".

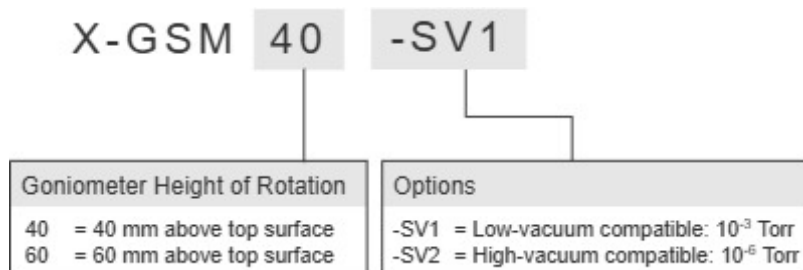
Zaber's X-GSM-SV1 Series devices are low-vacuum compatible, computer-controlled, motorized goniometers with a compact size and built-in controller. They are stand-alone units requiring only a standard 24 V or 48 V power supply.

These stages connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply.

Like all of Zaber's products, the X-GSM-SV1 Series is designed to be 'plug and play' and very easy to set up and operate. If you are considering a multi-axis system, in the XY configuration, these stages are designed to stack with mounting alignment features in the stage top and base.

For more information visit: <https://www.zaber.com/products/vacuum-compatible-stages/X-GSM-SV1>

## X-GSM-SV1 Series Part Numbering & Options



## X-GSM40-SV1 Drawings

- [X-GSM-SV.pdf \(Drawing for the X-GSM-SV\)](#)

## X-GSM40-SV1 Specifications

<b>Microstep Size (Default Resolution)</b>	<b>0.0001625794173° (2.837 µrad)</b>
Built-in Controller	Yes
Range	+/-10°
Accuracy (unidirectional)	0.06° (1.047000 mrad)
Repeatability	< 0.005° (< 0.087 mrad)
Backlash	< 0.01° (< 0.174 mrad)
Maximum Speed	30°/s (5 rpm)
Minimum Speed	0.000099°/s (1.728 µrad/s)
Speed Resolution	0.000099°/s (1.728 µrad/s)
Encoder Type	No
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Teflon flying leads with M8 4 pin M/F
Maximum Centered Load	30 N (6.7 lb)
Rotation Centre Height	40 mm (1.575")
Rotation Centre Accuracy	< 0.1 mm (< 0.004")
Power Supply	24-48 VDC
Power Plug	None, use X-PIB
Maximum Current Draw	350 mA
Angular Motion Per Motor Rev	2.08101654144°
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	800 mA/phase
Inductance	3.5 mH/phase
Default Resolution	1/64 of a step
Motor Frame Size	NEMA 08
Guide Type	Crossed roller bearing
Mechanical Drive System	Precision Worm Gear

<b>Microstep Size (Default Resolution)</b>	<b>0.0001625794173° (2.837 μrad)</b>
Limit or Home Sensing	Magnetic home and away sensors
Manual Control	No
Axes of Motion	1
Mounting Interface	M2 and M3 mounting holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	Low vacuum (10-3 Torr)
Weight	0.320 kg (0.705 lb)

## Contact

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