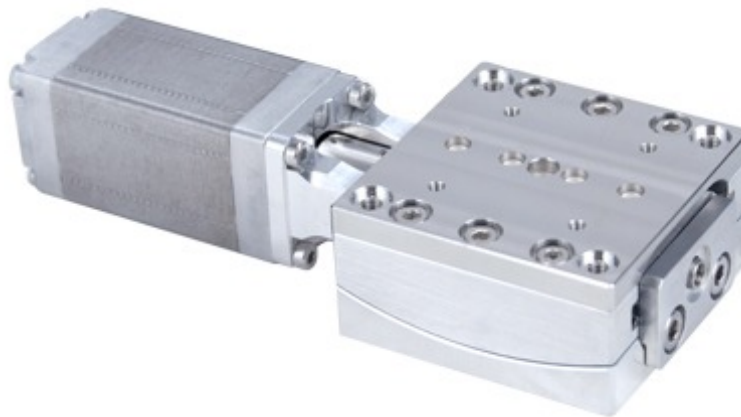


GSM-V1 Series Datasheet



- Vacuum compatible to 10⁻³ 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
- Designed for use with an X-MCC Series stepper motor controller or any 2-phase stepper motor controller
- Only 7 feedthrough wires required to control these units

GSM-V1 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 GSM-V1 Series devices are low-vacuum compatible, computer-controlled, motorized goniometers with a compact size.

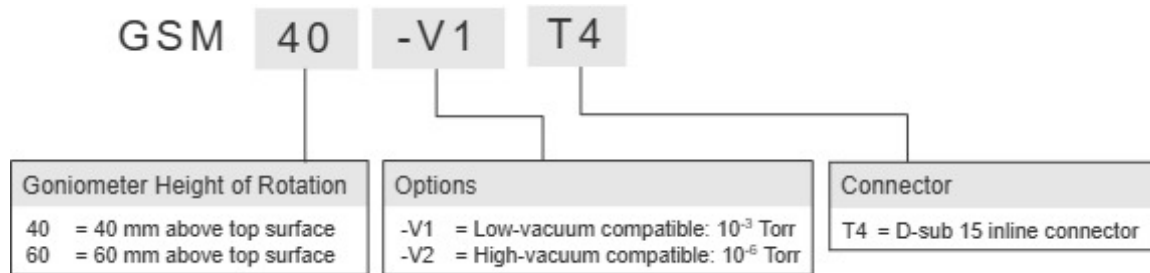
Like all of Zaber's products, the GSM-V1 Series is designed to be very easy to set up and operate. If you are considering a multi-axis system, in the XY configuration, these stages are designed to stack with mounting alignment features in the stage top and base.

These stages are wired with a male D-sub 15 connector for plug-and-play use with our X-MCC Series

stepper motor controllers. Simply cut the connector off for flying leads in vacuum and match the wire connections outside of the vacuum for an easy connection. Our handy kits include free software, and all of the accessories that you will need to get the stage running right out of the box.

For more information visit: <https://www.zaber.com/products/vacuum-compatible-stages/GSM-V1>

GSM-V1 Series Part Numbering & Options



GSM-V1 Series Drawings

- [GSM-V.png \(Drawing for the GSM-V\)](#)

GSM-V1 Series Specifications

Built-in Controller	
Recommended Controller	MCC (48 V) Recommended
AutoDetect	No
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)
Encoder Type	No
Maximum Centered Load	30 N (6.7 lb)
Rotation Centre Accuracy	< 0.1 mm (< 0.004")
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	800 mA/phase
Inductance	3.5 mH/phase
Motor Connection	Teflon flying leads with D-sub15 connector
Default Resolution	1/64 of a step
Motor Frame Size	NEMA 08
Guide Type	Crossed roller bearing
Mechanical Drive System	Precision Worm Gear
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)

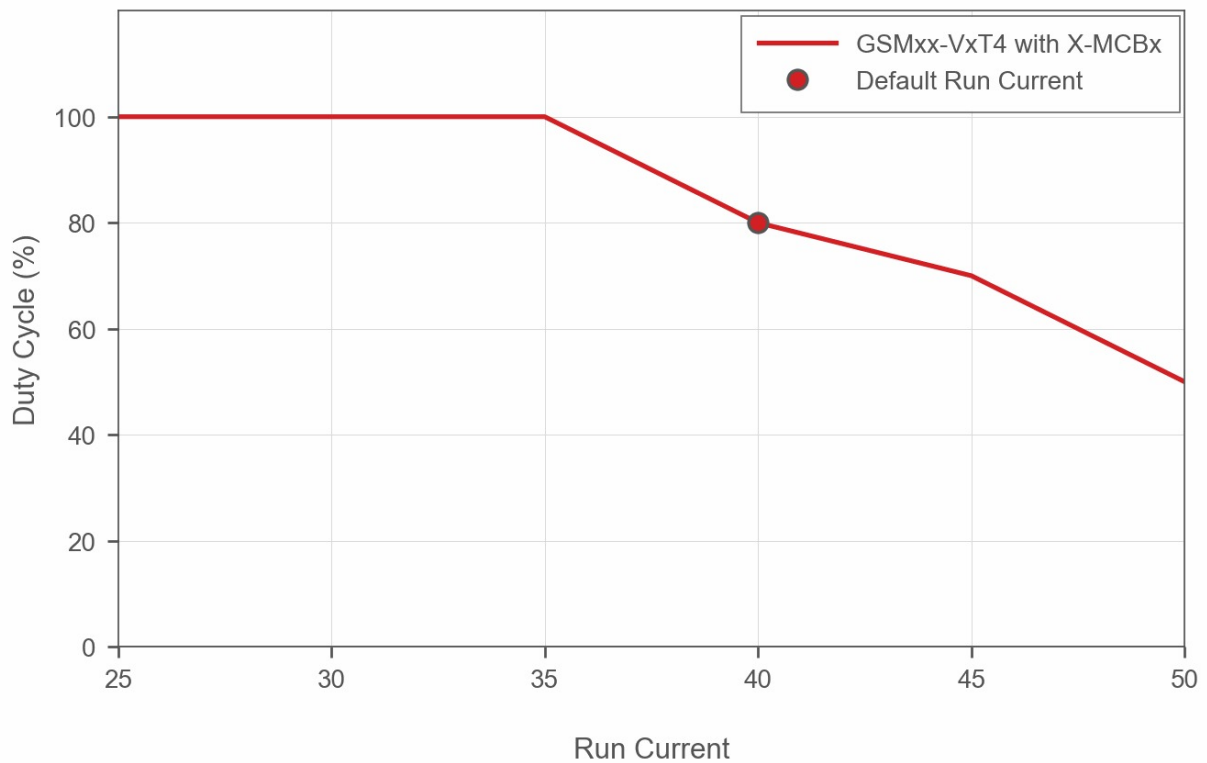
Part Number	Microstep Size (Default Resolution)	Range	Minimum Speed	Speed Resolution
GSM40-V1T4	0.0001625794173	+/-10°	0.00009923°/s	0.00009923°/s

Part Number	Microstep Size (Default Resolution)	Range	Minimum Speed	Speed Resolution
	° (2.837 µrad)		(1.732 µrad/s)	(1.732 µrad/s)
GSM60-V1T4	0.0001131413171 ° (1.975 µrad)	+/-7°	0.00006906°/s (1.205 µrad/s)	0.00006906°/s (1.205 µrad/s)

Part Number	Rotation Centre Height	Angular Motion Per Motor Rev
GSM40-V1T4	40 mm (1.575")	2.08101654144°
GSM60-V1T4	60 mm (2.362")	1.44820885888°

GSM-V1 Series Charts

Recommended Duty Cycle



Contact

Email: contact@zaber.com

Phone (toll free Canada/USA): 1-888-276-8033

Phone (direct): 1-604-569-3780

Fax: 1-604-648-8033

Zaber Technologies Inc.

#2 - 605 West Kent Ave. N.

Vancouver, British Columbia

Canada, V6P 6T7

<https://www.zaber.com>