

GSM-E Series Datasheet



- 40 mm and 60 mm centre of rotation options allow for two axes of motion about a common centre of rotation
- 30 N load capacity
- Low profile, small footprint
- Encoder position feedback with slip/stall detection and automatic recovery
- Designed for use with an X-MCC Series stepper motor controller or any 2-phase stepper motor controller
- With AutoDetect, the X-MCC controller configures its settings automatically for the connected peripheral

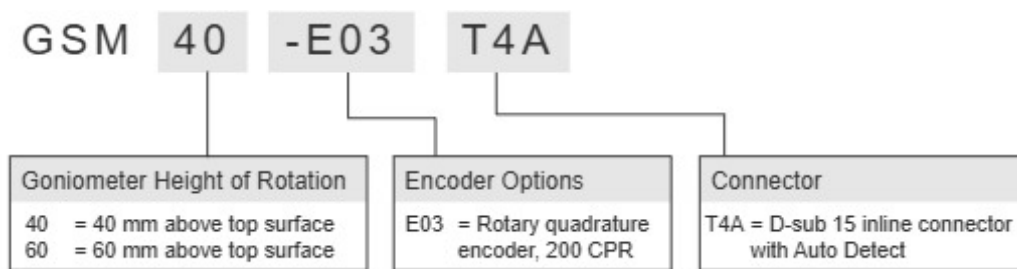
GSM-E Series Overview

Zaber's GSM-E Series devices are motorized goniometers with high thrust and speed capabilities in a compact package. They are stepper motor driven positioning goniometers designed to interface with our X-MCC controllers, offering high resolution daisy-chainable operation.

Set up is easy with AutoDetect. Once connected, the X-MCC controller will automatically detect and configure the GSM-E. These stages are excellent for applications where a small profile is required. They can mount to a flat surface or stack together to share a common centre of rotation for two axes of angular motion.

For more information visit: <https://www.zaber.com/products/goniometer-stages/GSM-E>

GSM-E Series Part Numbering & Options



GSM-E Series Drawings

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

GSM-E Series Specifications

Built-in Controller	
Recommended Controller	MCC (48 V) Recommended
AutoDetect	Yes
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 Resolution	200 CPR (800 states/rev)
Encoder Type	Rotary quadrature encoder
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	600 mA/phase
Motor Winding Resistance	6.5 ohms/phase
Inductance	3.5 mH/phase
Motor Connection	D-sub 15
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	Yes
Axes of Motion	1
Mounting Interface	M2 and M3 mounting holes
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No
Weight	0.24 kg (0.529 lb)

Part Number	Microstep Size (Default Resolution)	Range	Minimum Speed	Speed Resolution
GSM40-E03T4A	0.0001625794173 ° (2.837 µrad)	+/-10°	0.000099°/s (1.728 µrad/s)	0.000099°/s (1.728 µrad/s)
GSM60-E03T4A	0.0001131413171 ° (1.975 µrad)	+/-7°	0.000069°/s (1.204 µrad/s)	0.000069°/s (1.204 µrad/s)

Part Number	Rotation Centre Height	Angular Motion Per Motor Rev
GSM40-E03T4A	40 mm (1.575")	2.08101654144°
GSM60-E03T4A	60 mm (2.362")	1.44820885888°

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