

X-GSM-E Series Datasheet



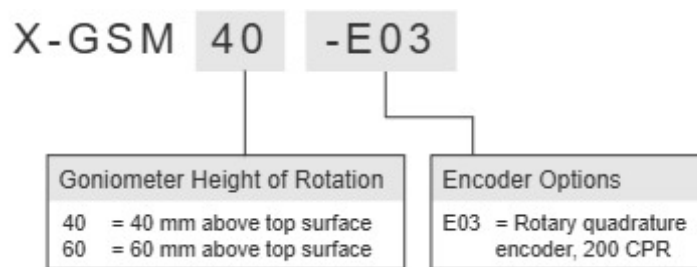
- 30 N load capacity
- Low profile, small footprint
- 40 mm and 60 mm centre of rotation options allow for two axes of motion about a common centre of rotation
- Encoder position feedback with slip/stall detection and automatic recovery
- Built-in controller; daisy-chains with other Zaber products

X-GSM-E Series Overview

Zaber's X-GSM-E Series devices are computer-controlled, motorized goniometers with a compact size and built-in controller and motor encoder. They are stand-alone units requiring only a standard 48 V power supply. An indexed knob provides convenient manual control for versatile operation even without a computer. 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. Convenient locking, 4-pin, M8 connectors on the unit allow for secure connection between units. 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. Like all of Zaber's products, the X-GSM-E Series is designed to be 'plug and play' and very easy to set up and operate.

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

X-GSM-E Series Part Numbering & Options



X-GSM-E Series Drawings

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

X-GSM-E Series Specifications

Built-in Controller	
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
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Maximum Centered Load	30 N (6.7 lb)
Rotation Centre Accuracy	< 0.1 mm (< 0.004")
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	350 mA
Motor Steps Per Rev	200
Motor Type	Stepper (2 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
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	0.274 kg (0.604 lb)

Part Number	Microstep Size (Default Resolution)	Range	Minimum Speed	Speed Resolution
X-GSM40-E03	0.0001625794173 ° (2.837 µrad)	+/-10°	0.000099°/s (1.728 µrad/s)	0.000099°/s (1.728 µrad/s)
X-GSM60-E03	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
X-GSM40-E03	40 mm (1.575")	2.08101654144°
X-GSM60-E03	60 mm (2.362")	1.44820885888°

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