[High Precision] Motorized Goniometer Stages - Worm Gear

Stage Surface Size: 40×40, 60×60

Spec.Change Printed in Purple

Features: Offer a variety of size / work distance (Height of Rotation Center) options.

For CAD data, see the MISUMI website.

Goniometer Stage (1-Axis)

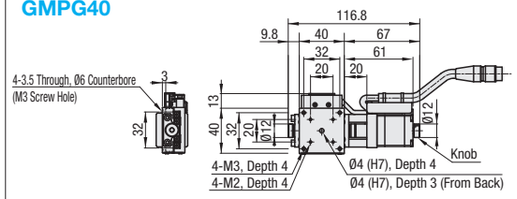
Goniometer Satge (2-Axis)

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize
A AccessoryGMPG40/GMPWG40: SCB3-6 (4 pcs.)
GMPG60/GMPWG60: SCB4-10 (4 pcs.)

For Controllers, Handset Terminals, see P.1-1735-93~P.1-1735-94

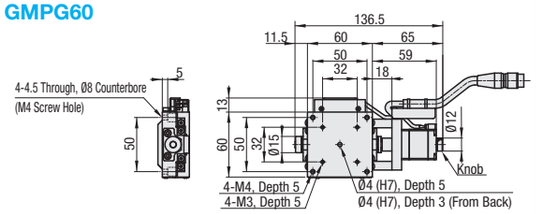
The sensor cover position shown on the photo is L (Standard). RoHS

GMPG40

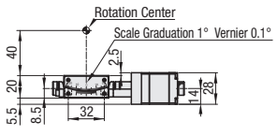


40-40

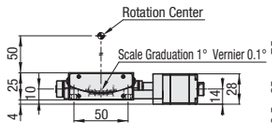
GMPG60



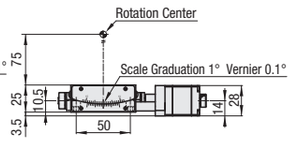
60-50



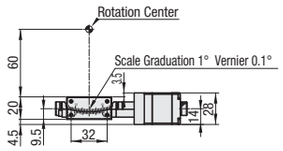
40-60

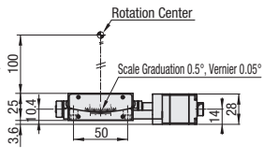


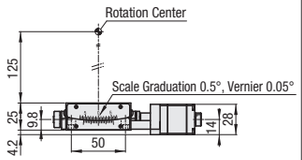
60-100



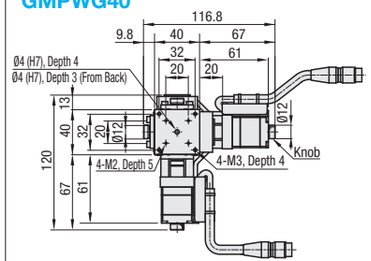
60-125



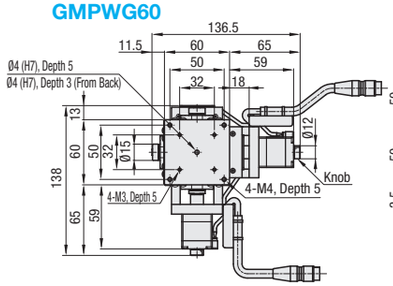




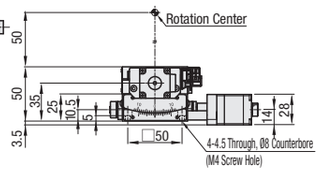
GMPWG40



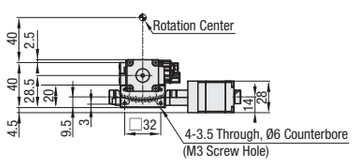
GMPWG60



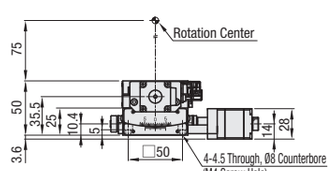
60-50



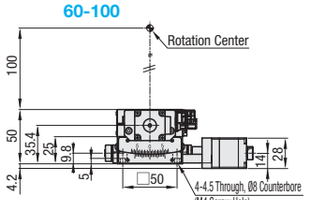
40-40



60-75



60-100



60-125

See the CAD data for detailed dimensions. The sensor cover position shown on the diagram is L (Standard).

Part Number		Sensor	Cable	Mechanical Standards			Accuracy Standards		
Type	No.	Cover Position		Stage Surface (mm)	Rotational Moving Amount (°) Top/Bottom	Weight (kg)	Moment Rigidity ("/N•cm) Pitching	Yawing	Rolling
GMPG	40-40	L (Standard) R (Reversed)	N (Cable not included (separately sold)) The cable is separately sold. For cables separately sold, see MSCB_ option on P.1-1735-95	40x40	±8°	0.4	1.3	1.16	0.27
	40-60				±6°				
	60-50			60×60	±10°	0.5	0.3	0.1	0.11
	60-75				±8°				
	60-100				±6°				
	60-125				±5°				
GMPWG	40-40			40x40	±8°/±6°	0.8	1.57	2.32	1.57
	60-50			60×60	±10°/±8°	1.0	0.41	0.2	0.41
	60-75				±8°/±6°				
	60-100				±6°/±5°				

Ordering Example: Part Number GMPG40-40 - Sensor L - Cable N

Days to Ship

Configure Online

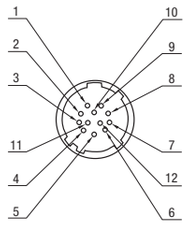
Common Specifications

Type	GMPG						GMPBWG			
Number of Axes	1-Axis						2-Axis			
No.	40-40	40-60	60-50	60-75	60-100	60-125	40-40	60-50	60-75	60-100
Feed Screw	Worm Gear (1/240)		Worm Gear (1/160)	Worm Gear (1/225)	Worm Gear (1/292)	Worm Gear (1/360)	Worm Gear (1/240)	Top: Worm Gear (1/160) Bottom: Worm Gear (1/225)	Top: Worm Gear (1/225) Bottom: Worm Gear (1/292)	Top: Worm Gear (1/292) Bottom: Worm Gear (1/360)
Guide	Cross Roller Guide									
Height of Stage	20±0.2mm		25±0.2mm				40±0.4mm	50±0.4mm		
Height of Rotation Center	40±0.2mm	60±0.2mm	50±0.2mm	75±0.2mm	100±0.2mm	125±0.2mm	40±0.4mm	50±0.4mm	75±0.4mm	100±0.4mm
Rotation Center Runout	0.01mm or Less						-			
Resolution (Pulse) Top Half in Full Step Mode	≈0.003°		≈0.0045°	≈0.0032°	≈0.0025°	≈0.002°	≈0.003°	≈0.0045°	≈0.0032°	≈0.0025°
Resolution (Pulse) Bottom Half in Full Step Mode								≈0.0032°	≈0.0025°	≈0.002°
MAX Speed Top Half	15°/sec[5khz]	15°/sec[5khz]	22.5°/sec[5khz]	16°/sec[5khz]	12.5°/sec[5khz]	10°/sec[5khz]	15°/sec[5khz]	22.5°/sec[5khz]	16°/sec[5khz]	12.5°/sec[5khz]
MAX Speed Bottom Half								16°/sec[5khz]	12.5°/sec[5khz]	10°/sec[5khz]
Positioning repeatability	Within ±0.005°		Within ±0.003°				Within ±0.005°			
Load Capacity	29.4N		49N				24.5N	44.1N		
Lost Motion	0.01° or Less									

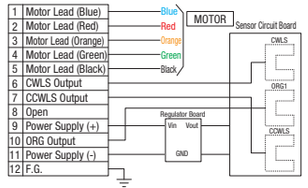
Electrical Specifications

Motor	Type	5-Phase Stepping Motor 0.75A/Phase (Oriental Motor Co., Ltd.)
	Part Number	C005C-90215P
	Step Angle	0.72°
Connector	Part Number	HR10A-10J-12P (73) (Hirose Electric Co., LTD.)
	Compatible Receptacle Connector	HR10A-10P-12S (73) (Hirose Electric Co., LTD.)
Sensor	Limit Sensor	Provided
	Home Position Sensor (ORG1)	Provided
	Slit Home Origin Sensor (ORG2)	Not Provided
	Part Number	Photomicrosensor: EE-SX4134 (OMRON Corp.)
	Power Supply Voltage	DC5~24V ±10%
	Current Consumption	60mA or less
	Control Output	NPN Open Collector Output DC5~24V, 8mA or less Residual Voltage 0.3V or less (when load current is 2mA)
	Output Logic	Detecting (Dark): Output Transistor OFF (Non-Conducting)

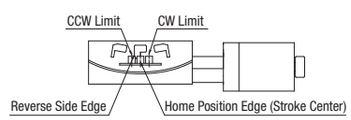
Connector Pin Configuration

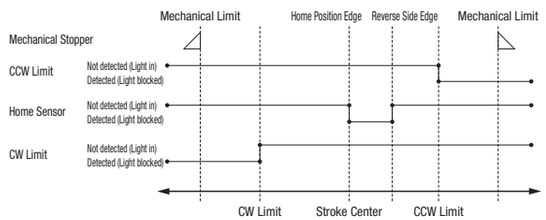


Wiring Diagram



Timing Chart





	CW Direction ◄			► CCW Direction
Travel Distance (deg)	Reference Position	CW Limit	Home Position Edge Stroke Center	Other Signal Edge	CCW Limit
40-40	Homing Position	8.5	0	2.5	8.5
40-60	Homing Position	6.5	0	2.1	6.5
60-50	Homing Position	10.5	0	2.5	10.5
60-75	Homing Position	8.3	0	1.8	8.3
60-100	Homing Position	6.3	0	1.4	6.3
60-125	Homing Position	5.2	0	1.1	5.2

Homing Routine Above: When MSCTL102/112 Series controller is used and when the Homing Routine Type 4 is executed.
The coordinates shown are design values. There may be approx. ±0.5 deg misalignment on the physical dimensions.
For details about Homing, see P.1-1735-97