

Actuator for Objective Lenses (Stepper motor type)

SGSP-OBL

RoHS

Stepping motor type objective lens actuator provides much longer travel than Piezo type actuators.



- The 5-phase stepping motor can be connected to any of our standard stepping motor controllers.
- With a compact and high resolution design this is best suited for incorporation into a microscope lens tube or an auto focus system.
- Can be used for upright type and inverted type microscopes.

Guide

- ▶ Threaded inserts compatible with a variety of manufacturers' objective lenses are also available (reference OBL-ADP).
- ▶ The SFS-OBL-2 uses a metal enclosure type piezo actuator for higher duty cycles and longer life in industrial environments.

Attention

- ▶ A set of adapters (not included) is required for mounting the actuator on a microscopes and to attach an objective lens to the actuator.

Specifications			
Part Number		SGSP-OBL-3	
Mechanical Specifications	Travel [mm]		3
	Stage Size [mm]		(Mounted adapter)
	Feed Screw		Precision ground screw $\phi 6\text{mm}$, 0.5mm lead
	Positioning Slide		Crossed roller guide
	Stage Material		Aluminum
	Finish		White anodized
	Weight [kg]		0.4
Accuracy Specifications	Resolution	(Full) [μm/pulse]	1
		(Half) [μm/pulse]	0.5
	MAX Speed [mm/sec]		1
	Positioning Accuracy [μm]		5
	Positional Repeatability [μm]		2
	Load Capacity [N]		4.9 (0.5kgf)
	Moment Stiffness[°/N·cm]		—
	Lost Motion [μm]		2
	Backlash [μm]		1
	Parallelism [μm]		—
	Running Parallelism [μm]		2
	Pitch [°] / Yaw [°]		15/15
Sensor	Sensor Part Number		Micro photo sensor: GP1S092HCPI (Sharp Corporation)
	Limit Sensor		Equipped (NORMAL CLOSE)
	Origin Sensor		None
	Proximity Origin Sensor		None

Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 0.35A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK513PA-C21 (□20mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC+5V – +24V±10%
	Current Consumption	40mA or lower (20mA or lower per sensor)
	Control Output	NPN open collector output DC 30V or lower, 50mA or lower
	Output Logic	In the case of light shielded , output transistor OFF (No conduction): Limit sensor

Compatible Driver / Controller		
Control System	Compatible Driver	SG-5MA, MC-S0514ZU, SG-514MSC
	Compatible Controller	SHOT-702, GIP-101, SHOT-302GS, SHOT-304GS, HIT-M·HIT-S, PGC-04-U

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Options

40 × 40 mm

60 × 60 mm

80 × 80 mm

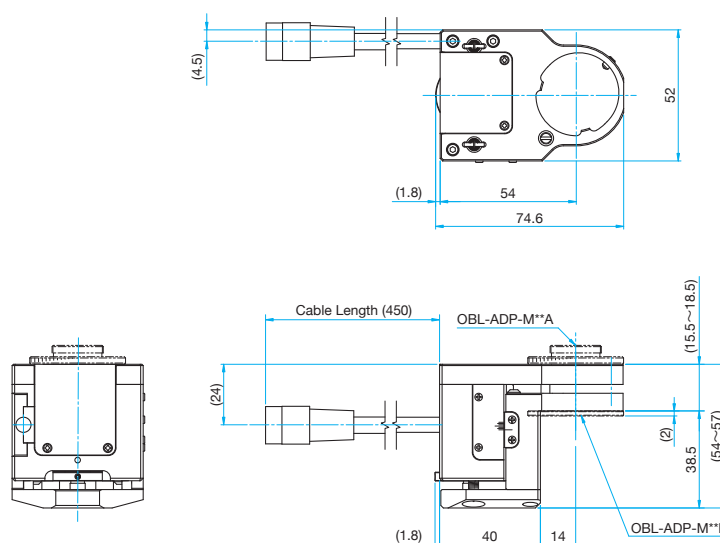
85 × 85 mm

100 × 100 mm

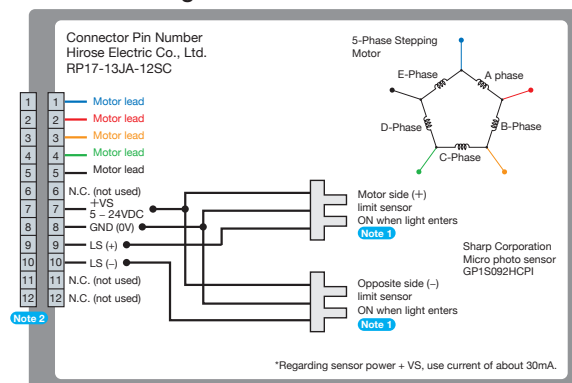
120 × 120 mm

Others

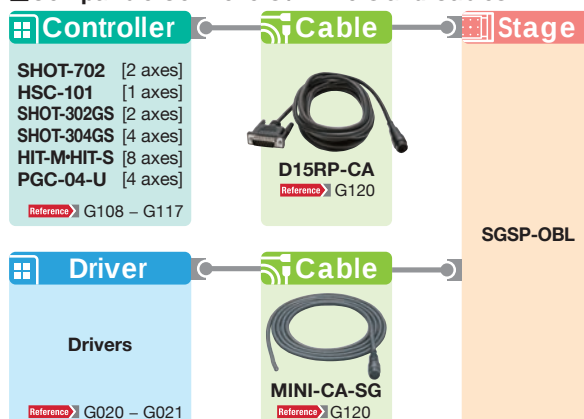
Outline Drawing



Connection Diagram

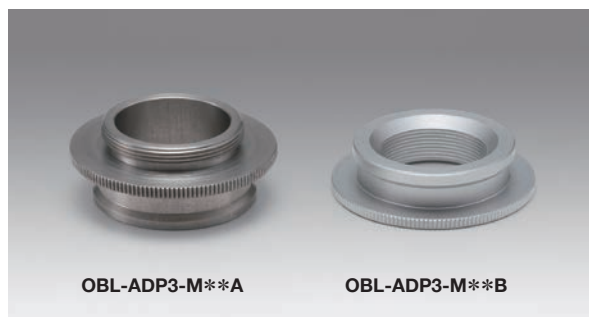


Compatible Controllers / Drivers and Cables

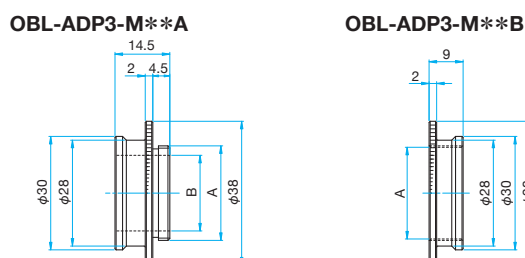


Objective Lens Adapters

Adapters to mount the Stepping motor Actuator for Objective Lens (SFS-OBL, SFAI-OBL) to a variety of microscopes and objectives.



Outline Drawing



Specifications

Part Number	Mounting Screw Size [mm]	A [mm]	B [mm]
OBL-ADP3-M20.32A	Microscope side M20.32	M20.32 P=0.706 (W0.8×1/36)	15
OBL-ADP3-M20.32B	Objective lens side M20.32	M20.32 P=0.706 (W0.8×1/36)	—
OBL-ADP3-M25.0A	Microscope side M25.0	M25.0 P=0.75	20
OBL-ADP3-M25.0B	Objective lens side M25.0	M25.0 P=0.75	—
OBL-ADP3-M26.0A	Microscope side M26.0	M26.0 P=0.706 (W26.0×1/36)	21
OBL-ADP3-M26.0B	Objective lens side M26.0	M26.0 P=0.706 (W26.0×1/36)	—

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