

# Small Motorized Stage OSCM



Small table size stage with stepping motor. The table size is 25\*25mm.

Ideal for production and experimental applications require significantly smaller size.

- X-axis, Z-axis, Rotation and Goniometer available.
- High precision stepping motor is used to achieve precision positioning.



## Guide

- SigmaKoki's standard controller and cables compatible.
- Please select D15RP-CA series or MINI-CA-SG series depending on the controller.

Specifications			OSCM25-10X	OSCM25-5ZF	OSCM-25YAW
Part Number			OSCM25-10X	OSCM25-5ZF	OSCM-25YAW
Mechanical Specifications	Travel [mm]		10	5	Move in the counterclockwise CCW direction to ∞, and stop at near 0 degree (-2.5°) in the clockwise CW direction
	Stage Size [mm]		25x25mm	25x25mm	φ25mm
	Feed Screw, Positioning Slide		Ball screw diameter φ3mm 1mm lead	Precision ground screw φ4mm 0.5mm lead	Worm gear (1:72)
	Positioning Slide		Crossed roller	Crossed roller	Bearing method
	Guide Method		Steel	Aluminum	Aluminum / Aluminum bronze
	Finish		Black chrome	Black anodized	Black anodized
Weight [kg]			0.25	0.3	0.25
Accuracy Specifications	Resolution	(Full)	2μm/pulse	1μm/pulse	0.01° /pulse
		(Half)	1μm/pulse	0.5μm/pulse	0.005° /pulse
	MAX Speed		10mm/sec	1mm/sec	30° /sec
	Positioning Accuracy		15μm	-	0.2°
	Positional Repeatability		3μm	5μm	0.02°
	Load Capacity [N]		19.6 (2.0kgf)	9.8 (1.0kgf)	9.8 (1.0kgf)
	Moment Stiffness	Pitch ["/N·cm]	10	25	10
		Yaw ["/N·cm]	10	15	-
		Roll ["/N·cm]	5	25	-
	Lost Motion		5μm	10μm	0.05°
	Backlash [μm]		1	1	1
	Parallelism [μm]		30	60	50
	Wobble [μm]		-	-	30
Running Parallelism [μm]		20	30	-	
Pitch ["/] / Yaw ["/]		100/60	60/-	-	
Sensor	Sensor Part Number		Micro photo sensor: GP1S092HCPIF (Sharp Corporation)		BP4SWA (Metrol Co., Ltd.)
	Limit Sensor		Equipped (NORMAL CLOSE)		Touch sensor (NORMAL OPEN)
	Origin Sensor		None		

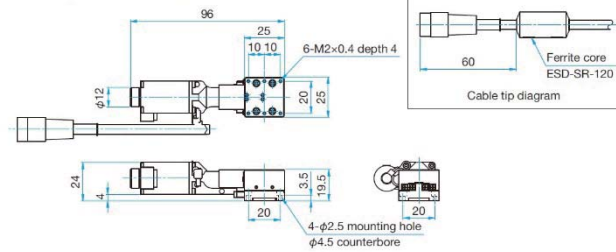
Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 0.35A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK513PB-C9 (□20mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V ± 10%
	Current Consumption	40mA or lower (20mA or lower per sensor) / 20mA or lower
	Control Output	NPN open collector output DC30V or lower, 50mA or lower / Touch sensor
	Output Logic	When shaded: Output transistor OFF (no conduction) / NORMAL OPEN

Compatible Driver / Controller		
Control System	Compatible Driver	SG-5MA, MC-S0514ZU, SG-514MSC
	Compatible Controller	GSC-01, GSC-02, SHOT-302GS, SHOT-304GS, SHOT-702, HIT-M/HIT-S, PGC-04-U

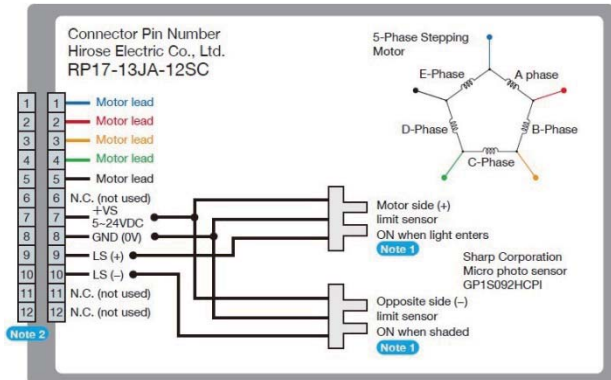
## Outline Drawing

### OSCM25-10X

Hexagonal socket head cap screw M2x6...4 screws

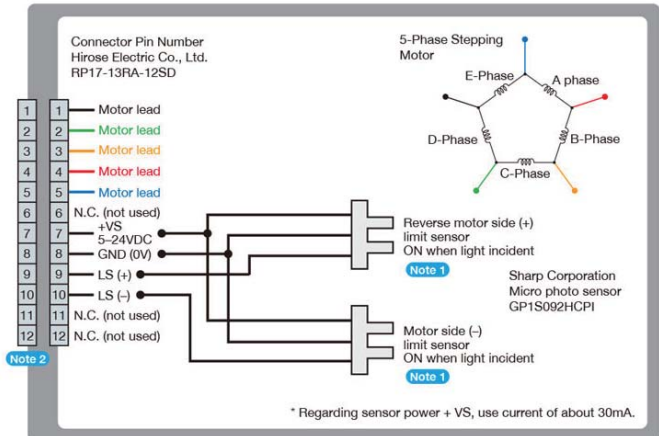
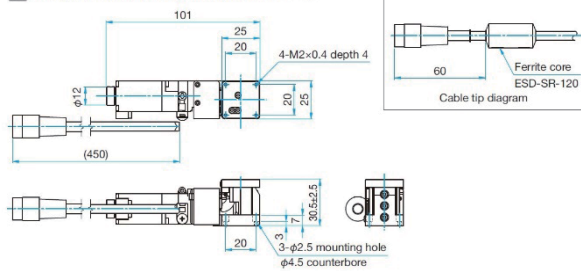


## Connection Diagram



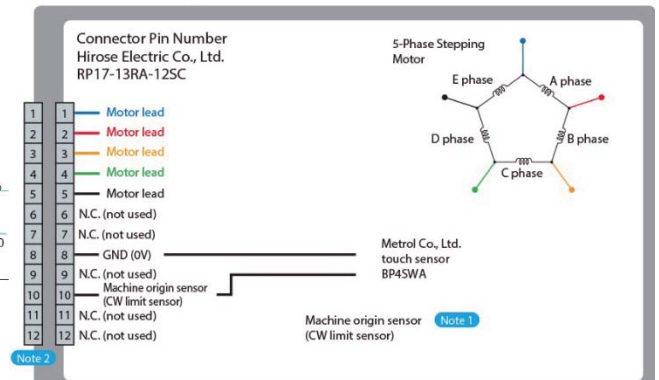
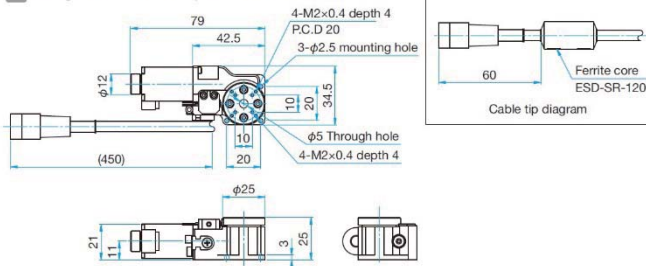
### OSCM25-5ZF

Hexagonal socket head cap screw M2x6...3 screws

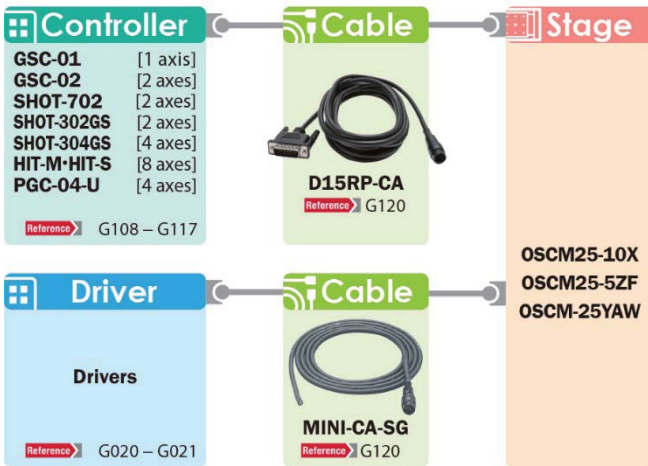


### OSCM-25YAW

Hexagonal socket head cap screw M2x6...3 screws



Compatible Controllers / Drivers and Cables



Comparison of TSD-401S + SGSP-13ACTB0(right) and OSCM25-10X(left)



Comparison of TSD-603 + SGSP-13ACTB0(left) and OSCM25-5ZF(right)



Comparison of OSCM-25YAW (right) and OSMS-40YAW (left)



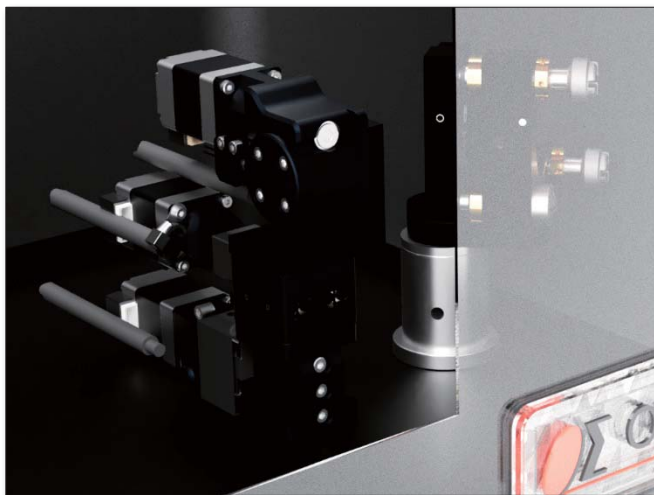
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## ■ Example



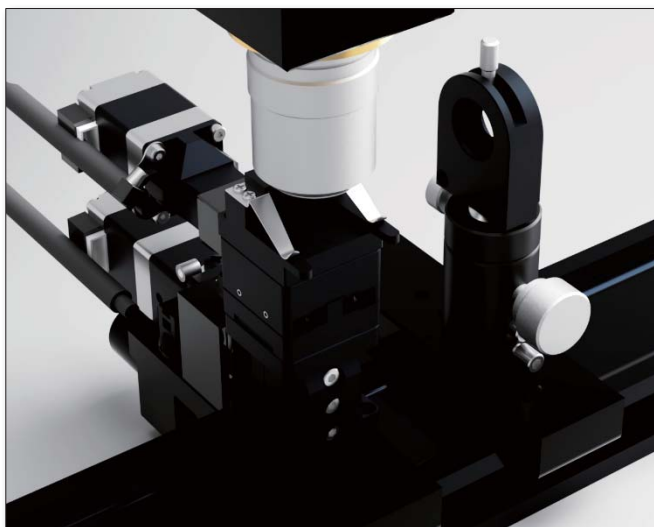
### Advantage of lightweight

The amount of displacement is minimized even moment load is applied because of its lightweight.



### Equipment Built-in

Ideal for adjusting the optical axis in equipment with limited space or automation of workpiece positioning.



### In a narrow space

Remote adjustment of workpieces available since it can be placed in an optical system where the space between elements is limited.