

# OSMS Series Translation Motorized Stages - 5 Phase Stepping Motor | OSMS20-(Z) Stage Size 85 x 85 mm



Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools for which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

### Guide

- ▶ Contact our Sales Division if you desire to change motors, etc.  
[Reference](#) G017, G123 (Motorized Stage System Question Sheet)  
[WEB Reference](#) [Catalog Code](#) W9500
- ▶ Grease change is optionally available.  
[Reference](#) G122 [WEB Reference](#) [Catalog Code](#) W9006

### Specifications

Part Number		OSMS20-35(Z)	OSMS20-85(Z)	
Part Number (-M6)		OSMS20-35(Z)-M6	OSMS20-85(Z)-M6	
Part Number (-INCH)		OSMS20-35(Z)-INCH	OSMS20-85(Z)-INCH	
Mechanical Specifications	Travel [mm]	35	85	
	Stage Size [mm]	85x85	85x85	
	Feed Screw	Ball screw diameter $\phi$ 6mm, 1mm lead	Ball screw diameter $\phi$ 6mm, 1mm lead	
	Positioning Slide	Outer rail structure	Outer rail structure	
	Stage Material	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	
	Weight [kg]	2.3	2.5	
Accuracy Specifications	Resolution	(Full) [ $\mu$ m/pulse]	2	2
		(Half) [ $\mu$ m/pulse]	1	1
	MAX Speed [mm/sec]	5	5	
	Positioning Accuracy [ $\mu$ m]	10	20	
	Positional Repeatability [ $\mu$ m]	3	5	
	Load Capacity [N]	29.4 (3.0kgf)*1	29.4 (3.0kgf)*1	
	Moment Stiffness	Pitch [ $^{\circ}$ /N·cm]	0.8	0.8
		Yaw [ $^{\circ}$ /N·cm]	0.5	0.5
		Roll [ $^{\circ}$ /N·cm]	0.7	0.7
	Lost Motion [ $\mu$ m]	3	3	
	Backlash [ $\mu$ m]	3	3	
	Orthogonality of Motion [ $\mu$ m]	25	30	
Pitch [ $^{\circ}$ ] / Yaw [ $^{\circ}$ ]	45/20	45/20		
Sensor	Sensor Part Number	Micro photo sensor : GP1S097HCZ0F (Sharp Corporation)	Micro photo sensor : GP1S092HCPIF (Sharp Corporation)	
	Limit Sensor	Equipped (NORMAL CLOSE)	Equipped (NORMAL CLOSE)	
	Origin Sensor	Equipped (NORMAL OPEN)	Equipped (NORMAL OPEN)	
	Proximity Origin Sensor	None	Equipped (NORMAL OPEN)	

\*1 If you use the controller of ②.

### Motor / Sensor Specifications

Motor	Type	5-phase stepping motor 0.75A/phase (Tamagawa Seiki Co., Ltd.)	
	Motor Part Number	TS3664N4E10(□24mm)	
	Step Angle	0.72°	
Sensor	Power Voltage	DC5 - 24V $\pm$ 10%	
	Current Consumption	60mA or lower a per axis (20mA or lower per a sensor)	80mA or lower a per axis (20mA or lower per a sensor)
	Control Output	NPN open collector output DC30V or lower, 50mA or lower	
	Output Logic	When shaded: Output transistor OFF (no conduction) : Limit Sensor When shaded: Output transistor ON (conduction): Origin sensor, Proximity Origin Sensor	

### Compatible Driver / Controller

Control System	Compatible Driver	①: SG-5M, SG-5MA ②: MC-S0514ZU, SG-514MSC, MC-7514PCL
	Compatible Controller	①: GSC-01, GSC-02 ②: SHOT-702, GIP-101, HSC-103, SHOT-302GS, SHOT-304GS, HIT-M-HIT-S, PGC-04-U

Application Systems

Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

Motorized Stages

Light Sources & Laser Safety

Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

Piezo

X Translation

Theta Rotation

Goniometer

Vacuum

Options

40 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

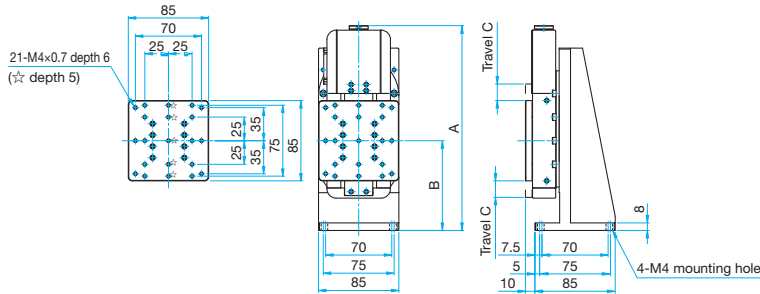
120 x 120 mm

Others



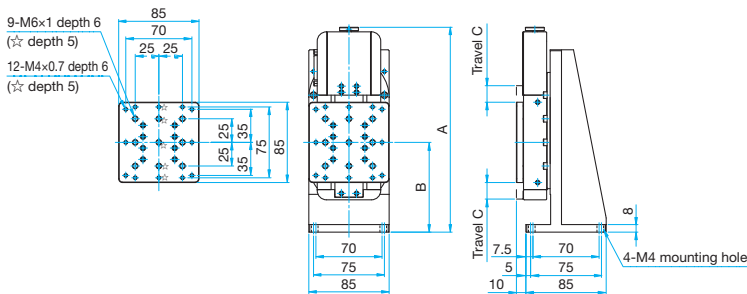
**Outline Drawing**

**OSMS20-\*(Z)** Hexagon socket head cap screw M4x12...4 screws



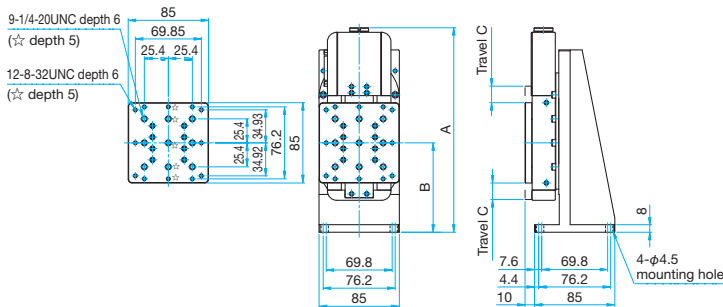
Part Number	A	B	C
<b>OSMS20-35(Z)</b>	216.8	95	17.5
<b>OSMS20-85(Z)</b>	266.8	120	42.5

**OSMS20-\*(Z)-M6** Hexagon socket head cap screw M4x12...4 screws



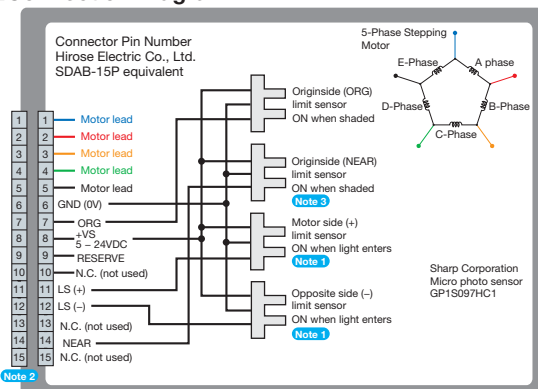
Part Number	A	B	C
<b>OSMS20-35(Z)-M6</b>	216.8	95	17.5
<b>OSMS20-85(Z)-M6</b>	266.8	120	42.5

**OSMS20-\*(Z)-INCH** Hexagon socket head cap screw 8/32UNCx1/2...4 screws



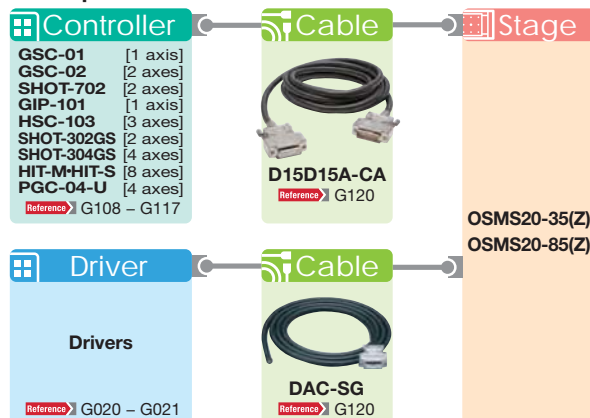
Part Number	A	B	C
<b>OSMS20-35(Z)-INCH</b>	216.8	94.6	17.5
<b>OSMS20-85(Z)-INCH</b>	266.8	120	42.5

**Connection Diagram**



- Note 1** The motor side limit sensor is the + direction limit sensor.
- Note 2** Compatible cable connector: DDK Ltd. 17JE-13150
- Note 3** OSMS20-35 is not fitted with proximity origin sensor. 6 and 14P are short-circuited

**Compatible Controllers / Drivers and Cables**



Application Systems

Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

MotORIZED Stages

Light Sources & Laser Safety

Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

Piezo

X Translation

Theta Rotation

Goniometer

Vacuum

Options

40 x 40 mm

60 x 60 mm

80 x 80 mm

85 x 85 mm

100 x 100 mm

120 x 120 mm

Others