

# Aluminum Crossed Roller Guide Motorized Stage

Stage Size 40 × 40 mm / 60 × 60 mm / 100 × 100 mm / 100 × 175 mm

TAMM-XY **RoHS**

Motorized crossed roller stages offer small footprint, low-profile and high durability.



These linear stages utilize

- anti-creep crossed roller bearings
- a special nut-shape ball screw.
- black anodized aluminum body.

## Guide

- ▶ Due to the motor offset, a spacer is required when mounting the stage on a flat surface (MSP-40 [▶ WEB Reference](#) [Catalog Code](#) W6035, MSP-60 [▶ WEB Reference](#) [Catalog Code](#) W6036 or Contact our Sales Division for custom spacers) [Reference](#) D055 -
- ▶ After purchasing two X axis stages, to assemble them into an XY axis stage, assembly adjustment cost and performance inspection cost will be charged separately.
- ▶ Contact our Sales Division for other customization options including alternate motors. Or, use the motorized stage system question sheet. [Reference](#) G123 [▶ WEB Reference](#) [Catalog Code](#) W9500

Application Systems

Optics &amp; Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators &amp; Adjusters

Motorized Stages

Light Sources &amp; Laser Safety

Index

Guide

Controllers/Drivers

Softwares

Stepping Motor

AC Servo Motor

Cables

Piezo

X Translation

Theta Rotation

Goniometer

Vacuum

Options

40 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

120 × 120 mm

Others

Specifications						
Part Number		TAMM40-10C(XY)	TAMM60-15C(XY)	TAMM100-50C(XY)	TAMM100-100C(XY)	
Mechanical Specifications	Travel [mm]	10	15	50	100	
	Stage Size [mm]	40x40	60x60	100x100	100x175	
	Feed Screw	Ball screw diameter $\phi$ 4mm, 1mm lead	Ball screw diameter $\phi$ 6mm, 1mm lead	Ball screw diameter $\phi$ 8mm, 1mm lead	Ball screw diameter $\phi$ 8mm, 1mm lead	
	Positioning Slide	Crossed roller guide	Crossed roller guide	Crossed roller guide	Crossed roller guide	
	Stage Material	Aluminum	Aluminum	Aluminum	Aluminum	
	Finish	Black anodized	Black anodized	Black anodized	Black anodized	
	Weight [kg]	0.66	0.96	3.8	5.8	
Accuracy Specifications	Resolution	(Full) [ $\mu$ m/pulse]	2	2	2	2
		(Half) [ $\mu$ m/pulse]	1	1	1	1
	MAX Speed [mm/sec]	10	10	10	10	
	Load Capacity [N]	24.5 (2.5kgf)	39.2 (4.0kgf)	78.4 (8.0kgf)	68.6 (7.0kgf)	
	Backlash [ $\mu$ m]	1	1	1	1	
	Orthogonality of Motion [ $\mu$ m]	5	5	5	5	
Sensor	Sensor Part Number	Micro photo sensor: GP1S092HCPIF(Sharp Corporation)				
	Limit Sensor	Equipped (NORMAL CLOSE)				
	Origin Sensor	Equipped (NORMAL OPEN)				
	Proximity Origin Sensor	None				

Motor / Sensor Specifications		
Motor	Type	5-phase stepping motor 0.75A/phase (Oriental Motor Co., Ltd.)
	Motor Part Number	PK523HPB-C12 (□28mm)      PK544NBW (□42mm)
	Step Angle	0.72°
Sensor	Power Voltage	DC5 - 24V $\pm$ 10%
	Current Consumption	120mA or lower (60mA 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	In the case of light shielded ,output transistor OFF (No conduction): Limit sensor In the case of light shielded ,output transistor ON (Conduction): Origin sensor

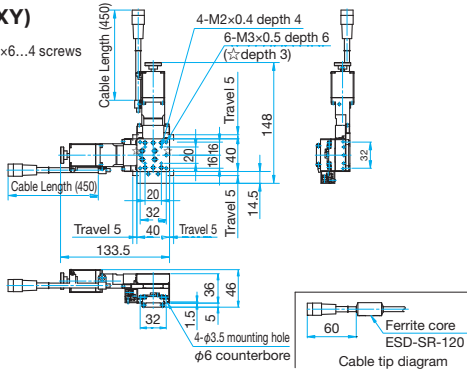
Compatible Driver / Controller		
Control System	Compatible Driver	SG-5M, SG-5MA, MC-S0514ZU, SG-514MSC, MC-7514PCL
	Compatible Controller	GSC-02, SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M, HIT-S, PGC-04-U, HSC-103
		SG-5M, MC-S0514ZU, SG-514MSC, MC-7514PCL
		SHOT-702, SHOT-302GS, SHOT-304GS, HIT-M, HIT-S,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



**Outline Drawing**

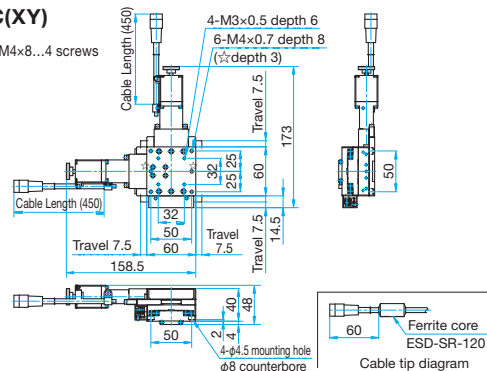
**TAMM40-10C(XY)**

Hexagon socket head cap screw M3x6...4 screws

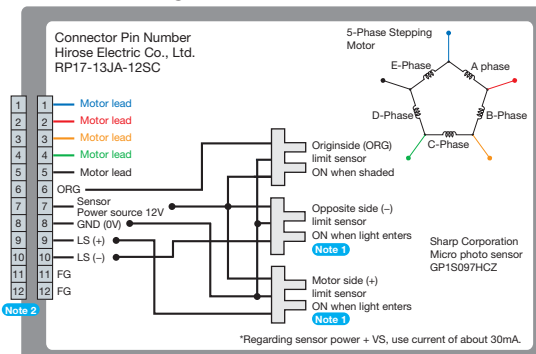


**TAMM60-15C(XY)**

Hexagon socket head cap screw M4x8...4 screws



**Connection Diagram**



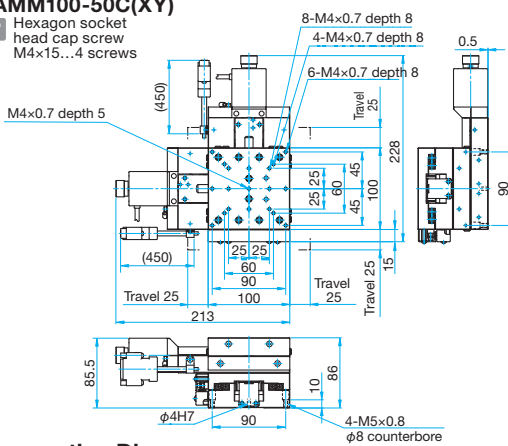
**Note 1** The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with proximity origin sensors.  
**Note 2** Compatible cable connector: Hirose Electric Co., Ltd. RP17-13PA-12PC/RP17-PC-122

**Compatible Controllers / Drivers and Cables**

Controller	Cable	Stage
GSC-02 [2 axes] SHOT-702 [2 axes] HSC-103 [3 axes] SHOT-302GS [2 axes] SHOT-304GS [4 axes] PGC-04-U [4 axes] HIT-M-HIT-S [8 axes] Reference: G110 - G117	D15RP-CA Reference: G120	TAMM40-10C(XY) TAMM60-15C(XY)
Drivers Reference: G020 - G021	MINI-CA-SG Reference: G120	

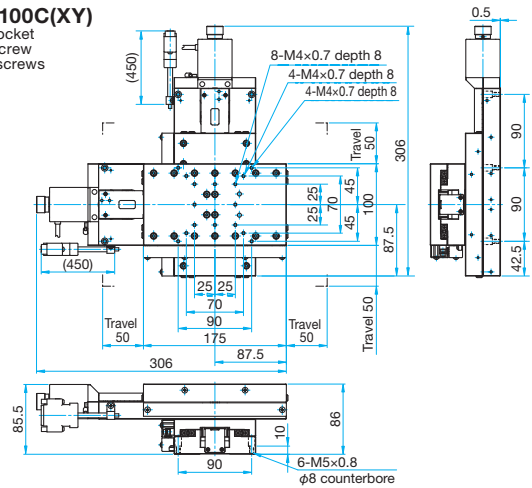
**TAMM100-50C(XY)**

Hexagon socket head cap screw M4x15...4 screws

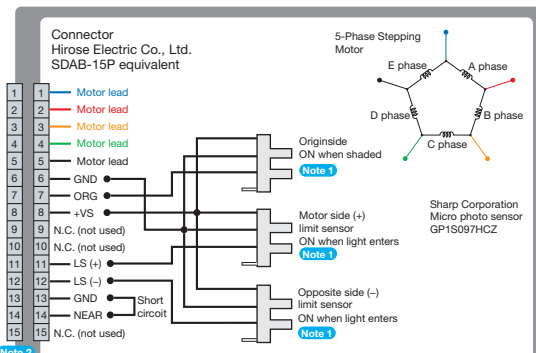


**TAMM100-100C(XY)**

Hexagon socket head cap screw M4x15...6 screws



**Connection Diagram**



**Note 1** The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with origin and proximity origin sensors.  
**Note 2** Compatible cable connector: DDK Ltd. 17JE-13150

**Compatible Controllers / Drivers and Cables**

Controller	Cable	Stage
SHOT-702 [2 axes] HSC-103 [3 axes] SHOT-302GS [2 axes] SHOT-304GS [4 axes] HIT-M-HIT-S [8 axes] PGC-04-U [4 axes] Reference: G110 - G117	D15D15A-CA Reference: G120	TAMM100-50C(XY) TAMM100-100C(XY)
Drivers Reference: G020 - G021	DAC-SG Reference: G120	

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 × 40 mm

60 × 60 mm

80 × 80 mm

85 × 85 mm

100 × 100 mm

120 × 120 mm

Others