

α Axis Motorized Extended Guide Goniometer - 2 Phase Stepping Motor OSMS(RE)-A-M2



Based on our CE-compliant OSMS-A Series α Axis Motorized Extended Guide Goniometer, we have newly added a model equipped with a "2-phase stepping motor with rotary encoder" to our lineup. A rotary encoder built into the motor enables "Step-out detection" with a dedicated controller.



- The product is equipped with a "2-phase bipolar stepping motor".
- Specifications of the stage main unit are equivalent to those of OSMS-A Series α Axis Motorized Extended Guide Goniometer.
- Table size can be selected from 40x40 mm or 65x65 mm.
- The product main body are the same for the METRIC and INCH type stages.
- METRIC and INCH types are available for mounting on the table for each size.

Guide

- Please purchase "D15H12A-RC-3" cable and "GSEF-CA-3" separately to connect to the Controller.
- When the step-out detection function is not used, "GSEF-CA-3" is not necessary. * Please disable the step-out detection function on the controller side in that case.

Attention

- Please use a controller for 2-phase stepping motors. Other controllers will not operate properly.

α Axis Motorized Extended Guide Goniometer - 2 Phase Stepping Motor OSMS(RE)-40A-M2 Series Lineup List

Stage Size 40x40mm

Part Number	Opposite Model Part Number	Mounting Thread	JP YEN [¥]	Travel	Travel Mechanism (reduction ratio)	Stage Height	Rotation Center Height	Rotation Center Deflection Accuracy	Load Capacity *	Weight
OSMS(RE)-40A60-M2	OSMS(RE)-40A60R-M2	M4	222,000	± 8°	Worm gear (1 : 332)	15mm	60 ± 0.1mm	Within φ0.01	39.2N (4.0kgf)	0.5kg
OSMS(RE)-40A60-INCH-M2	OSMS(RE)-40A60R-INCH-M2	INCH	222,000	± 8°	Worm gear (1 : 332)	15mm	60 ± 0.1mm	Within φ0.01	39.2N (4.0kgf)	0.5kg
OSMS(RE)-40A75-M2	OSMS(RE)-40A75R-M2	M4	222,000	± 6°	Worm gear (1 : 406)	15mm	75 ± 0.1mm	Within φ0.01	39.2N (4.0kgf)	0.5kg
OSMS(RE)-40A75-INCH-M2	OSMS(RE)-40A75R-INCH-M2	INCH	222,000	± 6°	Worm gear (1 : 406)	15mm	75 ± 0.1mm	Within φ0.01	39.2N (4.0kgf)	0.5kg

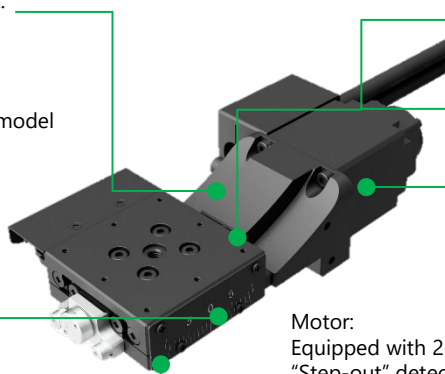
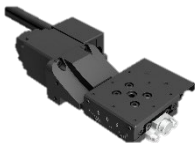
*Including vertical installation

OSMS(RE)-40A-M2 Features at Glance

Appearance:

The motor is covered to be compliant with CE. Design succeeding the OSMS-40A series.

Opposite Model is also available as standard model



Stage Size 40x40mm

The mounting to the table surface can be selected from METRIC and INCH.

Motor:

Equipped with 2-phase stepping motor with rotary encoder. "Step-out" detection is possible with a dedicated controller (SHRC-203-M2).

The travel and rotation center height can be selected from 2 types

- ± 8° 60±0.1mm
- ± 6° 75±0.1mm

Base mounting holes for both METRIC and INCH.



α Axis Motorized Extended Guide Goniometer - 2 Phase Stepping Motor OSMS(RE)-65A-M2 Series Lineup List

Stage Size 65x65mm

Part Number	Opposite Model Part Number	Mounting Thread	JP YEN [¥]	Travel	Travel Mechanism (reduction ratio)	Stage Height	Rotation Center Height	Rotation Center Deflection Accuracy	Load Capacity *	Weight
OSMS(RE)-65A50-M6-M2	OSMS(RE)-65A50R-M6-M2	M6	235,000	±18°	Worm gear (1 : 212)	25mm	50 ± 0.1mm	Within φ0.01mm	39.2N (4.0kgf)	1.0kg
OSMS(RE)-65A50-INCH-M2	OSMS(RE)-65A50R-INCH-M2	INCH	235,000	±18°	Worm gear (1 : 212)	25mm	50 ± 0.1mm	Within φ0.01mm	39.2N (4.0kgf)	1.0kg
OSMS(RE)-65A75-M6-M2	OSMS(RE)-65A75R-M6-M2	M6	235,000	±14°	Worm gear (1 : 294)	25mm	75 ± 0.1mm	Within φ0.01mm	39.2N (4.0kgf)	1.0kg
OSMS(RE)-65A75-INCH-M2	OSMS(RE)-65A75R-INCH-M2	INCH	235,000	±14°	Worm gear (1 : 294)	25mm	75 ± 0.1mm	Within φ0.01mm	39.2N (4.0kgf)	1.0kg
OSMS(RE)-65A100-M6-M2	OSMS(RE)-65A100R-M6-M2	M6	235,000	±10°	Worm gear (1 : 378)	25mm	100 ± 0.1mm	Within φ0.01mm	39.2N (4.0kgf)	1.0kg
OSMS(RE)-65A100-INCH-M2	OSMS(RE)-65A100R-INCH-M2	INCH	235,000	±10°	Worm gear (1 : 378)	25mm	100 ± 0.1mm	Within φ0.01mm	39.2N (4.0kgf)	1.0kg

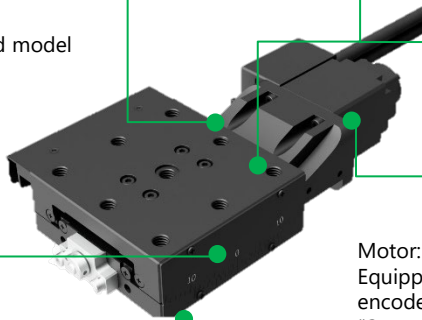
*Including vertical installation

OSMS(RE)-65A-M2 Features at Glance

Appearance:

The motor is covered to be compliant with CE.
Design succeeding the OSMS-40A series.

Opposite Model is also available as standard model



Stage Size
65x65mm

The mounting to the table surface can be selected from METRIC and INCH.

Motor:
Equipped with 2-phase stepping motor with rotary encoder.
"Step-out" detection is possible with a dedicated controller (SHRC-203-M2).

The travel and rotation center height can be selected from 3 types

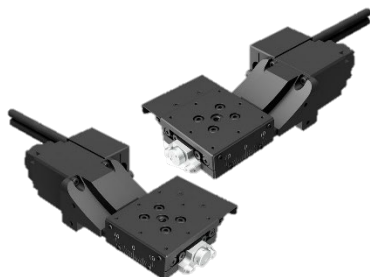
- ±18° 50±0.1mm
- ±14° 75±0.1mm
- ±10° 100±0.1mm

Base mounting holes for both METRIC and INCH.



OSMS(RE)-40A-M2

RoHS CE Catalog Code W9329



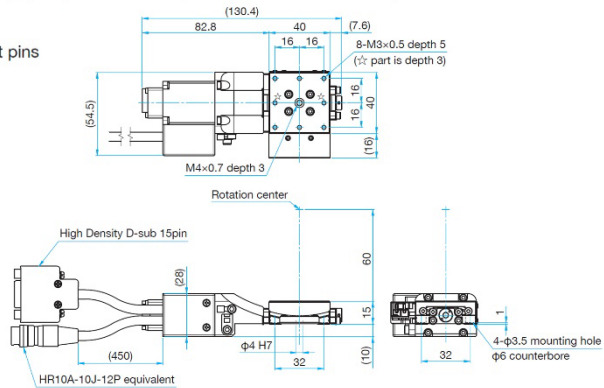
- Table size is 40x40 mm
- The product is equipped with a "2-phase bipolar stepping motor".
- Equivalent to those of OSMS-A Series α Axis Motorized Extended Guide Goniometer.
- The product main body are the same for the METRIC and INCH type stages.
- METRIC and INCH types are available for mounting on the table for each size.

Specifications				
Part Number	METRIC	OSMS(RE)-40A60-M2	OSMS(RE)-40A75-M2	
	INCH	OSMS(RE)-40A60-INCH-M2	OSMS(RE)-40A75-INCH-M2	
(Opposite Model)	METRIC	OSMS(RE)-40A60R-M2	OSMS(RE)-40A75R-M2	
	INCH	OSMS(RE)-40A60R-INCH-M2	OSMS(RE)-40A75R-INCH-M2	
JP YEN [¥]		222,000	222,000	
Mechanical Specifications	Travel [°]	±8	±6	
	Stage Size [mm]	40x40	40x40	
	Travel Mechanism [reduction ratio]	Worm gear [1:332]	Worm gear [1:406]	
	Positioning Slide	Extended Contact Ball Guide	Extended Contact Ball Guide	
	Primary material	SUS440C quench hardened	SUS440C quench hardened	
	Finish	Super black chrome	Super black chrome	
	Weight [kg]	0.5	0.5	
Size Tolerance	Stage Height [mm]	15	15	
	Rotation Center Height [mm]	60±0.1	75±0.1	
	Rotation Center Deflection Accuracy [mm]	Within ϕ 0.01	Within ϕ 0.01	
Accuracy Specifications	Resolution	Full [°/pulse]	About 0.00542	About 0.00443
		Half [°/pulse]	About 0.00271	About 0.00221
	MAX Speed [°/sec]	30 (Within 15°/sec at sensor inrush)	30 (Within 15°/sec at sensor inrush)	
	Positional Repeatability [°]	±0.004	±0.004	
	Load Capacity [N]※垂直設置含む	39.2 (4.0kgf)	39.2 (4.0kgf)	
	Moment Stiffness ["/N/cm]	Roll0.6 Yaw0.6	Roll0.6 Yaw0.6	
Lost Motion [°]	0.02	0.02		
Sensor	Sensor Part Number	Micro Photoelectric Sensor : GP1S097HCZ0F (Sharp Corporation)		
	Limit Sensor	Equipped (NORMAL CLOSE)		
	Origin Sensor	Equipped (NORMAL OPEN)		
	Proximity Origin Sensor	None		
Motor / Sensor Specifications				
Motor	Type	2-phase stepping motor 1.2A/phase (Oriental Motor Co., Ltd.)		
	Motor Part Number	C107S-90212PE		
	Step Angle [°]	1.8		
	Resolution of Rotary Encoder [P/R]	500		
Sensor	Rotary Encoder Power Voltage/ Current Consumption	DC5V±10% / 50mA		
	Power Voltage	DC5 - 24V±5%		
	Current Consumption	60mA or lower (20mA or lower per 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			
Compatible Cable/Driver/Controller				
Compatible Cable	Driver Cable	D15H12A-RC-3		
	Encoder Cable	GSEF-CA-3		
Control System	Compatible Driver	-		
	Compatible Controller	HIT-MV * HIT-SA-M2、 SHRC-203-M2		

Outline Drawing

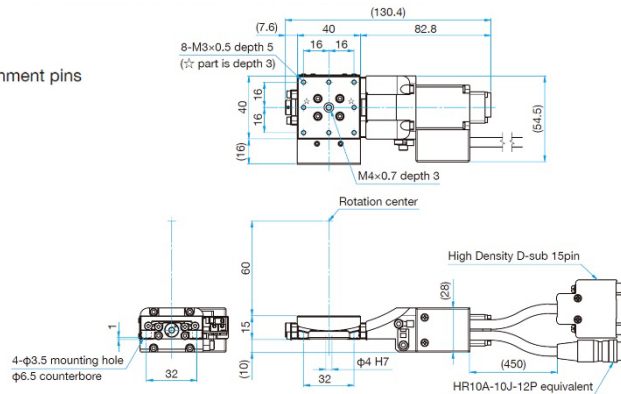
OSMS(RE)-40A60-M2

Hexagonal socket head cap screw M3×6...4 screws, Attachment pins



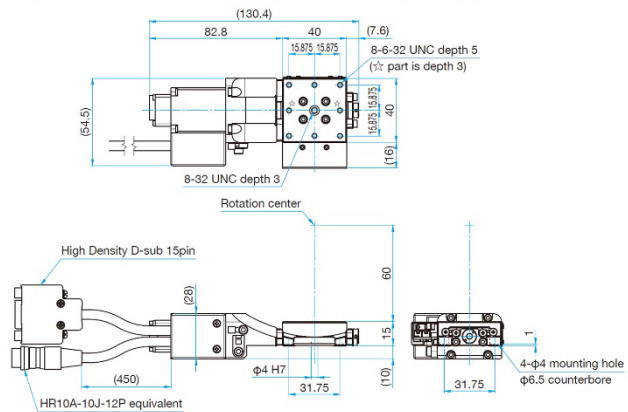
OSMS(RE)-40A60R-M2

Hexagonal socket head cap screw M3×6...4 screws, Attachment pins



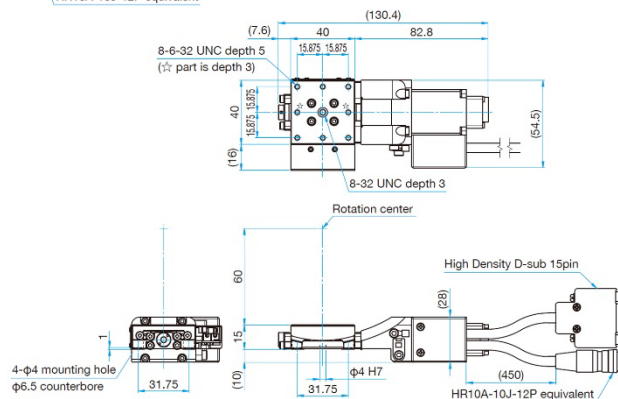
OSMS(RE)-40A60-INCH-M2

Hexagonal socket head cap screw #6-32UNC × 1/4 ...4 screws, Attachment pin for 8-32UNC



OSMS(RE)-40A60R-INCH-M2

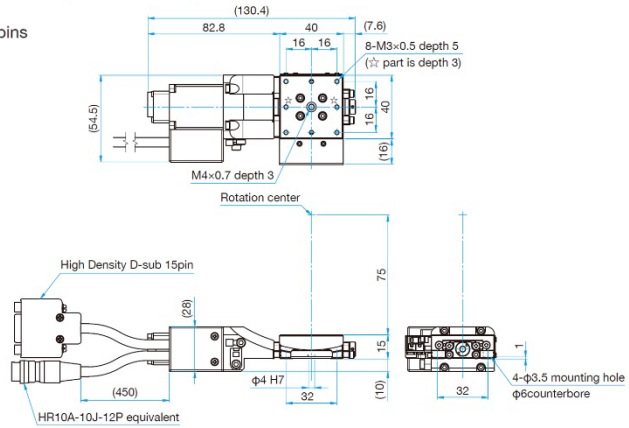
Hexagonal socket head cap screw #6-32UNC × 1/4 ...4 screws, Attachment pin for 8-32UNC



Outline Drawing

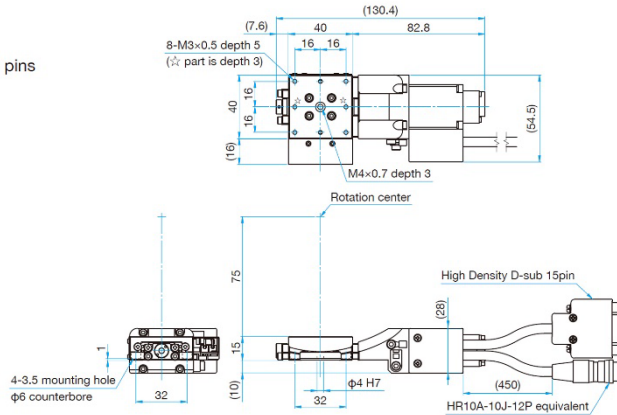
OSMS(RE)-40A75-M2

Hexagonal socket head cap screw M3×6...4 screws, Attachment pins



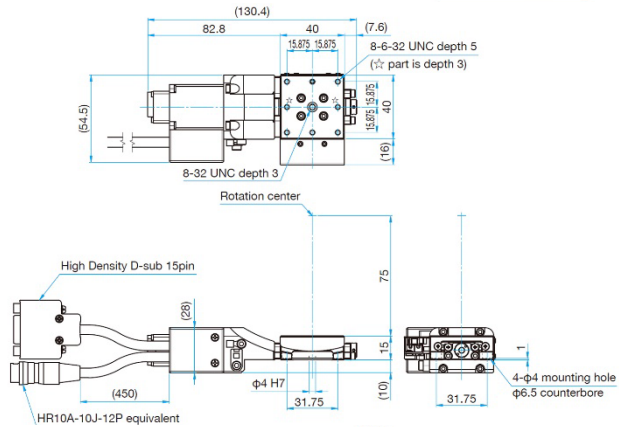
OSMS(RE)-40A75R-M2

Hexagonal socket head cap screw M3×6...4 screws, Attachment pins



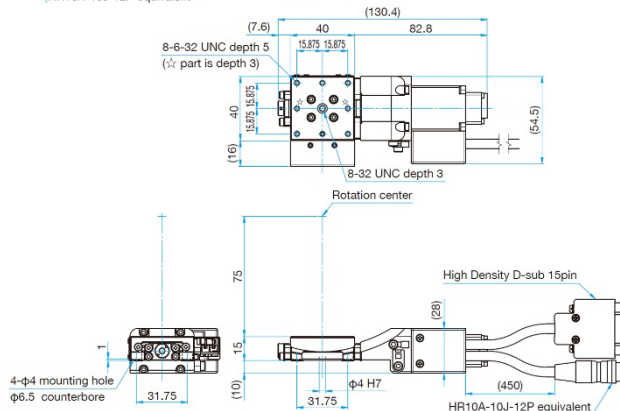
OSMS(RE)-40A75-INCH-M2

Hexagonal socket head cap screw #6-32UNC × 1/4 ...4 screws, Attachment pin for 8-32UNC



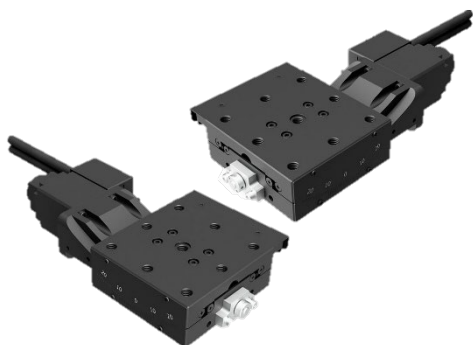
OSMS(RE)-40A75R-INCH-M2

Hexagonal socket head cap screw #6-32UNC × 1/4 ...4 screws, Attachment pin for 8-32UNC



OSMS(RE)-65A-M2

RoHS CE Catalog Code W9330



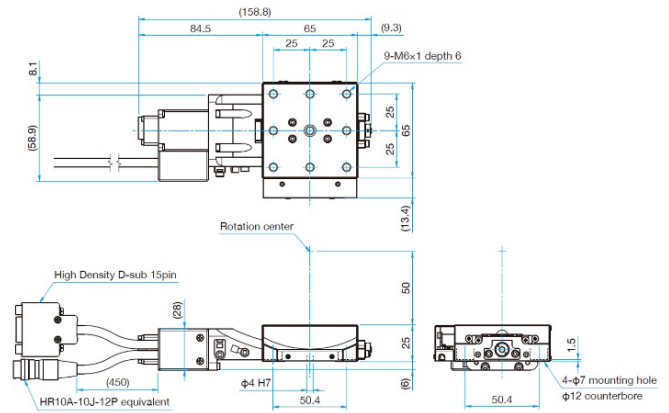
- Table size is 40x40 mm
- The product is equipped with a "2-phase bipolar stepping motor".
- Equivalent to those of OSMS-A Series α Axis Motorized Extended Guide Goniometer.
- The product main body are the same for the METRIC and INCH type stages.
- METRIC and INCH types are available for mounting on the table for each size.

Specifications					
Part Number	METRIC	OSMS(RE)-65A50-M6-M2	OSMS(RE)-65A75-M6-M2	OSMS(RE)-65A100-M6-M2	
	INCH	OSMS(RE)-65A50-INCH-M2	OSMS(RE)-65A75-INCH-M2	OSMS(RE)-65A100-INCH-M2	
(Opposite Model)	METRIC	OSMS(RE)-65A50R-M6-M2	OSMS(RE)-65A75R-M6-M2	OSMS(RE)-65A100R-M6-M2	
	INCH	OSMS(RE)-65A50R-INCH-M2	OSMS(RE)-65A75R-INCH-M2	OSMS(RE)-65A100R-INCH-M2	
JP YEN [¥]		235,000	235,000	235,000	
Mechanical Specifications	Travel [°]	±18	±14	±10	
	Stage Size [mm]	65x65	65x65	65x65	
	Travel Mechanism (reduction ratio)	Worm gear(1:212)	Worm gear (1:294)	Worm gear (1:378)	
	Positioning Slide	Extended Contact Ball Guide	Extended Contact Ball Guide	Extended Contact Ball Guide	
	Primary material	SUS440C quench hardened	SUS440C quench hardened	SUS440C quench hardened	
	Finish	Super black chrome	Super black chrome	Super black chrome	
	Weight [kg]	1.0	1.0	1.0	
Size Tolerance	Stage Height [mm]	25	25	25	
	Rotation Center Height [mm]	50±0.1	75±0.1	100±0.1	
	Rotation Center Deflection Accuracy [mm]	Within ϕ 0.01	Within ϕ 0.01	Within ϕ 0.01	
Accuracy Specifications	Resolution	Full [°/pulse]	About 0.00849	About 0.00612	About 0.00476
		Half [°/pulse]	About 0.00425	About 0.00306	About 0.00238
	MAX Speed [°/sec]	30 (Within 15°/sec at sensor inrush)	30 (Within 15°/sec at sensor inrush)	30 (Within 15°/sec at sensor inrush)	
	Positional Repeatability [°]	±0.004	±0.004	±0.004	
	Load Capacity [N] *Including vertical installation	39.2 (4.0kgf)	39.2 (4.0kgf)	39.2 (4.0kgf)	
	Moment Stiffness [°/N/cm]	Roll 0.3 Yaw 0.3	Roll 0.3 Yaw 0.3	Roll 0.3 Yaw 0.3	
	Lost Motion [°]	0.02	0.02	0.02	
Sensor	Sensor Part Number	Micro Photoelectric Sensor : GP1S097HCZ0F (Sharp Corporation)			
	Limit Sensor	Equipped (NORMAL CLOSE)			
	Origin Sensor	Equipped (NORMAL OPEN)			
	Proximity Origin Sensor	None			
Motor / Sensor Specifications					
Motor	Type	2-phase stepping motor 1.2A/phase(Oriental Motor Co., Ltd.)			
	Motor Part Number	C107S-90212PE			
	Step Angle [°]	1.8			
	Resolution of Rotary Encoder [P/R]	500			
	Rotary Encoder Power Voltage/ Current Consumption	DC5V±10% / 50mA			
Sensor	Power Voltage	DC5~24V±5%			
	Current Consumption	60mA or lower (20mA or lower per 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			
Compatible Cable/Driver/Controller					
Compatible Cable	Driver Cable	D15H12A-RC-3			
	Encoder Cable	GSEF-CA-3			
Control System	Compatible Driver	-			
	Compatible Controller	HIT-MV • HIT-SA-M2- SHRC-203-M2			

Outline Drawing

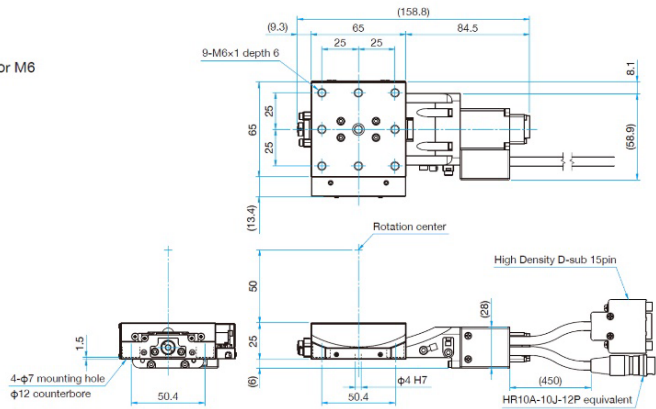
OSMS(RE)-65A50-M6-M2

Hexagonal socket thin head cap screw M6×6...4 screws, Attachment pin for M6



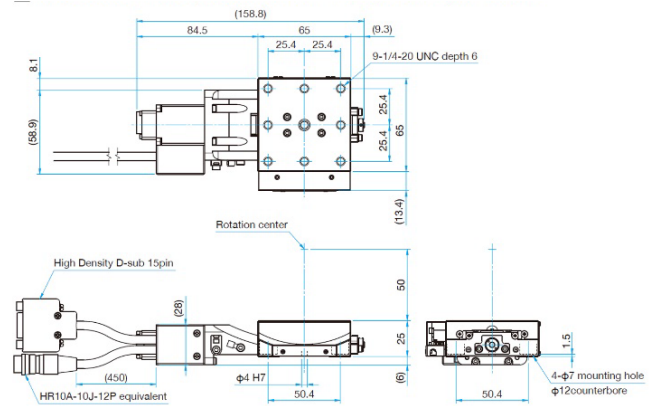
OSMS(RE)-65A50R-M6-M2

Hexagonal socket thin head cap screw M6×6...4 screws, Attachment pin for M6



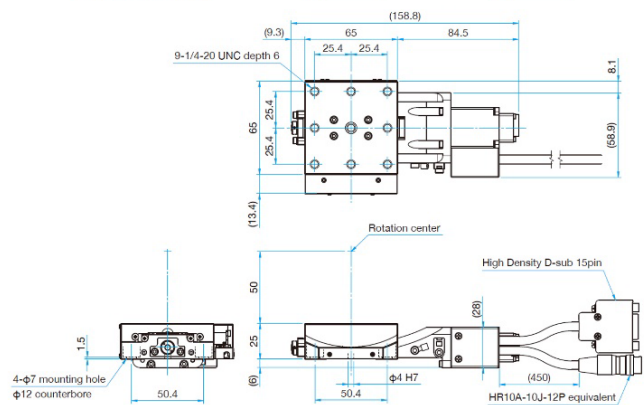
OSMS(RE)-65A50-INCH-M2

Hexagonal socket thin head cap screw 1/4-20UNC × 1/4 ...4 screws, Attachment pin for 1/4-20UNC



OSMS(RE)-65A50R-INCH-M2

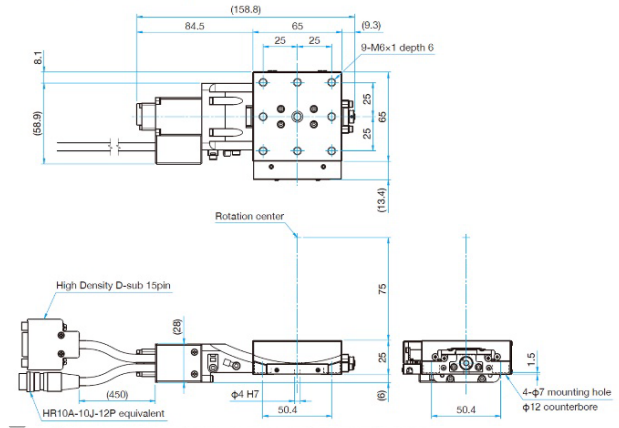
Hexagonal socket thin head cap screw 1/4-20UNC × 1/4 ...4 screws, Attachment pin for 1/4-20UNC



Outline Drawing

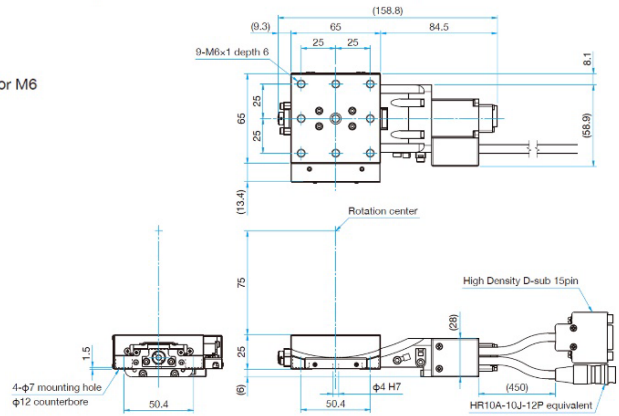
OSMS(RE)-65A75-M6-M2

Hexagonal socket thin head cap screw M6×6...4 screws, Attachment pin for M6



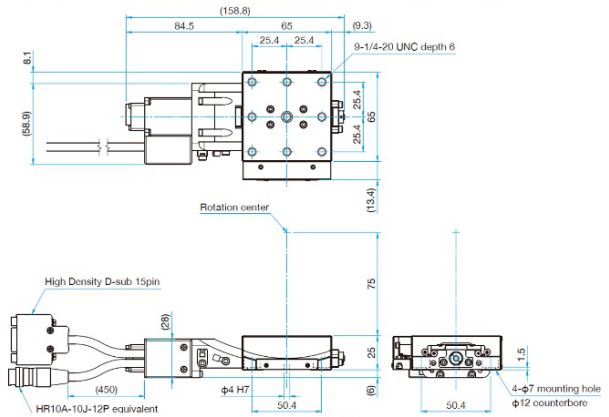
OSMS(RE)-65A75R-M6-M2

Hexagonal socket thin head cap screw M6×6...4 screws, Attachment pin for M6



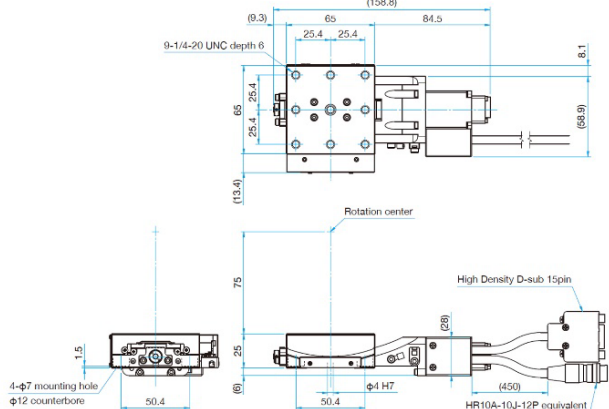
OSMS(RE)-65A75-INCH-M2

Hexagonal socket thin head cap screw 1/4-20UNC × 1/4 ...4 screws, Attachment pin for 1/4-20UNC



OSMS(RE)-65A75R-INCH-M2

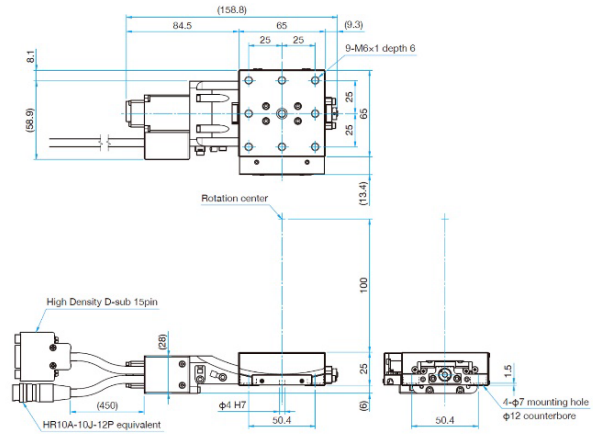
Hexagonal socket thin head cap screw 1/4-20UNC × 1/4 ...4 screws, Attachment pin for 1/4-20UNC



Outline Drawing

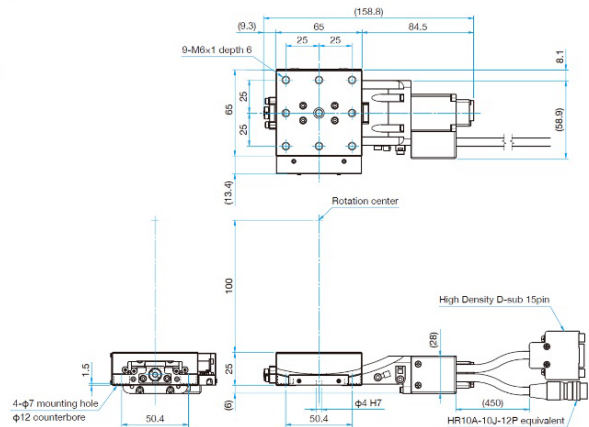
OSMS(RE)-65A100-M6-M2

Hexagonal socket head cap screw M6×6...4 screws, Attachment pin for M6



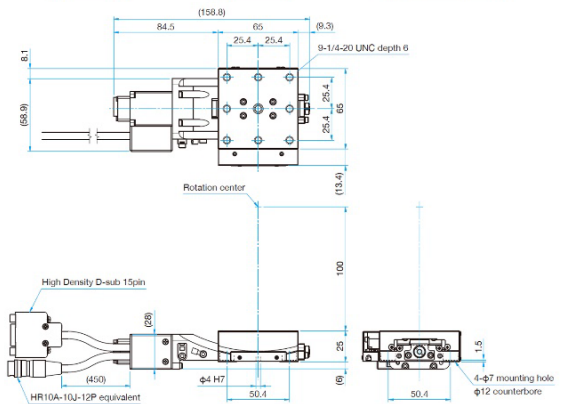
OSMS(RE)-65A100R-M6-M2

Hexagonal socket thin head cap screw M6×6...4 screws, Attachment pin for M6



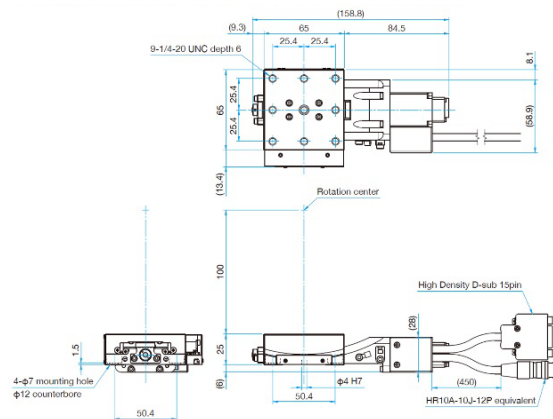
OSMS(RE)-65A100-INCH-M2

Hexagonal socket thin head cap screw 1/4-20UNC × 1/4 ...4 screws. Attachment pin for 1/4-20UNC

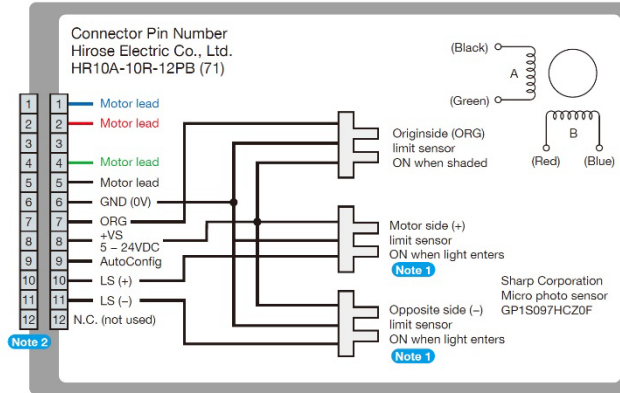


OSMS(RE)-65A100R-INCH-M2

Hexagonal socket thin head cap screw 1/4-20UNC × 1/4 ...4 screws. Attachment pin for 1/4-20UNC



■ Connection Diagram



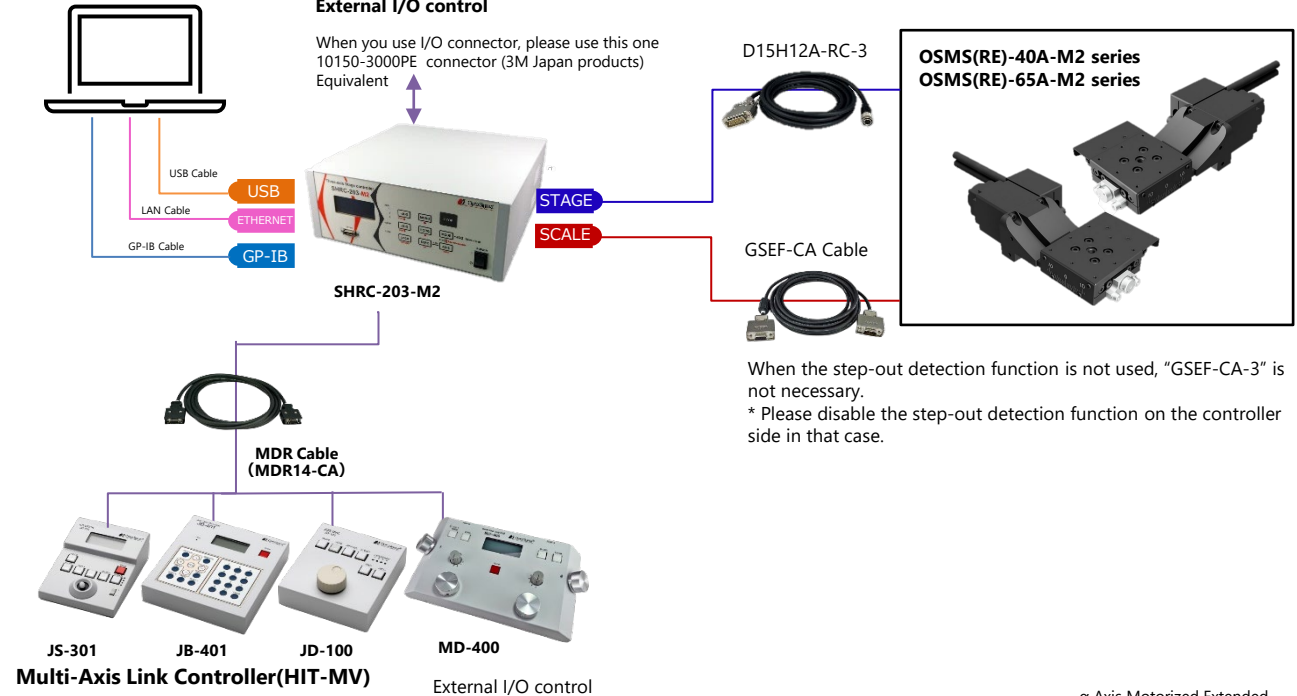
- Note 1** The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with proximity origin sensors.
- Note 2** Compatible cable connector: HR10A-10P-12SC (73)

■ System Diagram

Dedicated Controller(SHRC-203-M2)

External I/O control

When you use I/O connector, please use this one 10150-3000PE connector (3M Japan products) Equivalent

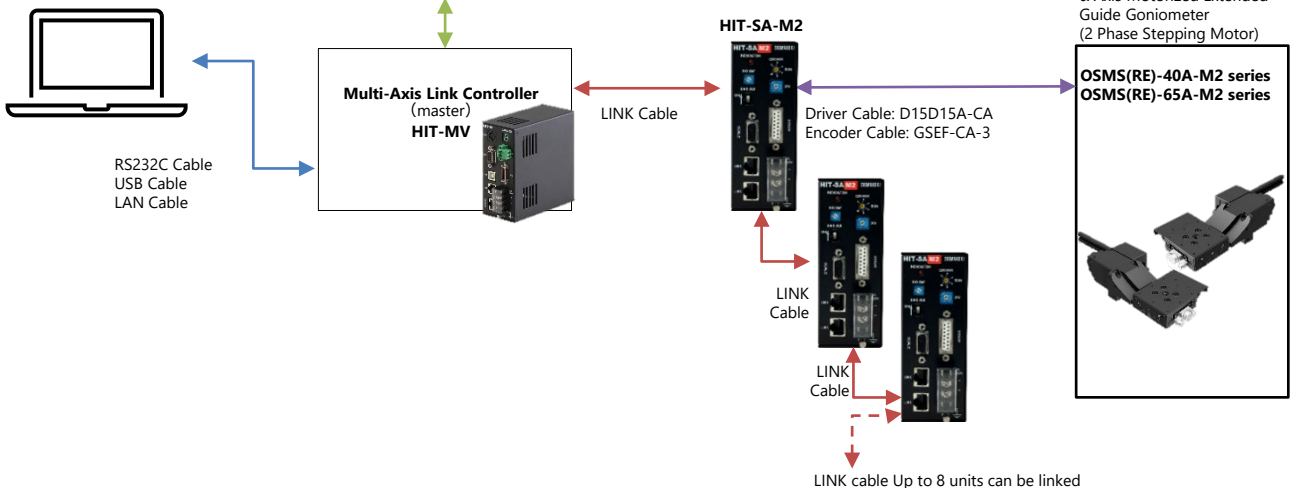


OSMS(RE)-40A-M2 series
OSMS(RE)-65A-M2 series

When the step-out detection function is not used, "GSEF-CA-3" is not necessary.
* Please disable the step-out detection function on the controller side in that case.

Multi-Axis Link Controller(HIT-MV)

External I/O control



α Axis Motorized Extended Guide Goniometer (2 Phase Stepping Motor)

OSMS(RE)-40A-M2 series
OSMS(RE)-65A-M2 series

LINK cable Up to 8 units can be linked