[High Precision] Motorized X-Axis - Cross Roller

Spec.Change Printed in Purple

For CAD data, see the MISUMI website.

Features: X-Axis Stage excellent in lightweight, compactness and accuracy.

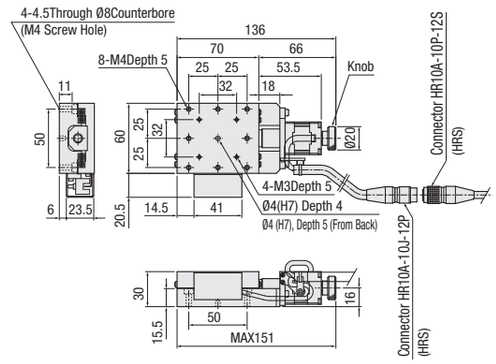
X-Axis Motor: C (Standard)

X-Axis Motor: PA (□28 α-Step)

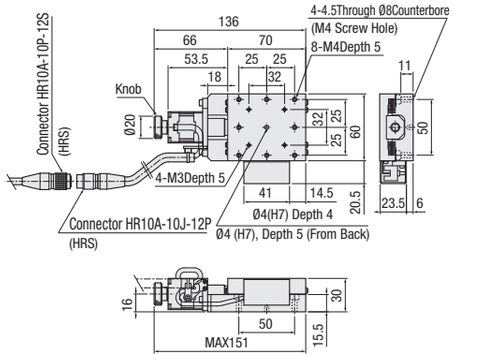
M Material: Aluminum Alloy
S Surface Treatment: Black Anodize
A Accessory: SCB4-16 (4 pcs.)

For Controllers, Handset Terminals, see P. 1-1735-93~P. 1-1735-94

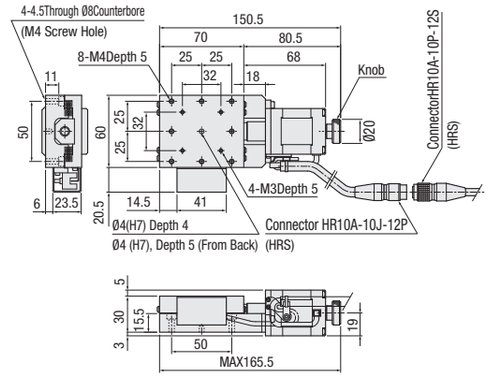
XMPG730-L-C



XMPG730-R-C



XMPG730-L-MS



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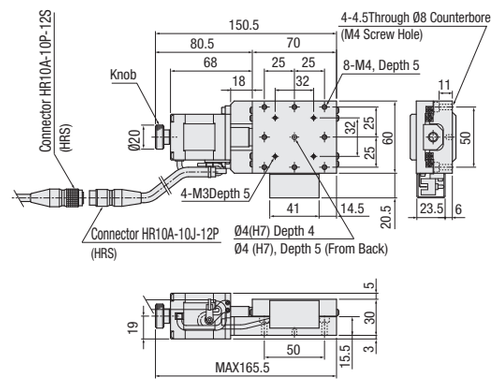
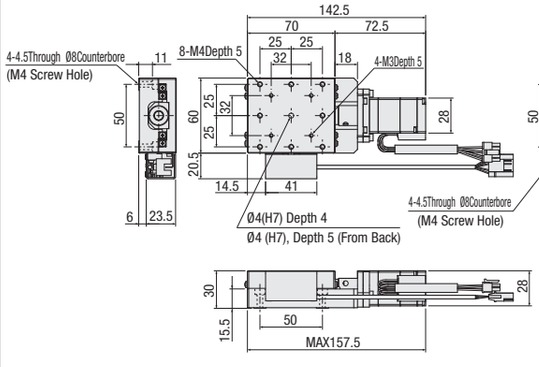
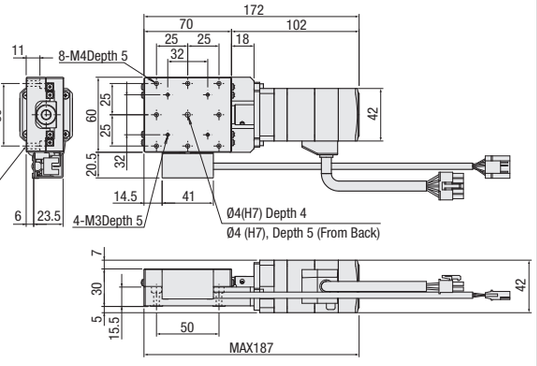


XMPG730-L-PA



XMPG730-L-QA



Part Number		Sensor	Motor	Cable	Mechanical Standards			Accuracy Standards *1					
Type	No.	Cover Position			Stage Surface (mm)	Travel Distance (mm)	Weight (kg)	Unidirectional Positioning Accuracy	Moment Rigidity ("/N•cm) Pitching	Yawing	Rolling	Pitching	Yawing
XMPG	730	L(Standard) R(Reversed)	C (Standard)	N (Cable not included (separately sold))	60×70	30	0.6	5μm or less / Full Stroke	0.15	0.08	0.07	25''	20''
			MS (□38 Micro Step)	2A (2m, α-Step)			0.7						
			PA (□28 α-Step)	5A (5m, α-Step)			0.6						
			QA (□42 α-Steps)	2R (Robot Cable 2m, α-Step) 5R (Robot Cable 5m, α-Step) For combination of motors and cables, see the table below.			1.0						

*1. The above accuracy standards of Unidirectional Positioning Accuracy and Moment Rigidity are for a single axis.

Ordering Example

Part Number	-	Sensor	-	Motor	-	Cable
XMPG730	-	L	-	C	-	N
XMPG730	-	R	-	QA	-	N

Motor/Cable Application Table

Motor	Cable
C.MS	N
PA	2A,5A,2R,5R
QA	2A,5A,2R,5R

Days to Ship

Configure Online

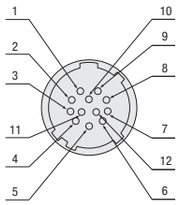
Common Specifications

Feed Screw		Ball Screw Ø8, Lead 1
Guide		Cross Roller Guide
Resolution *2	Full	2μm(1μm)*3
	Half	1μm(0.5μm)*3
	Fine Feed (upon 1/20 partitioned)	0.05μm
Max. Speed *4		20mm/sec
Positioning repeatability		Within ±0.3μm
Load Capacity		49N
Lost Motion		1μm or less
Backlash		0.5μm or less
Straightness		3μm or less
Parallelism		30μm or less
Motion Parallelism		10μm or less

*2. This represents the travel distance of stage per one pulse signal.
*3. The values in ( ) are for Motor Option MS (Micro Step).
*4. This represents the max. speed that can be driven by the recommended controller switched to Full Step mode, with the max. load applied. (The value differs depending on the current driving controller and the current load.) The value differs depending on the motor option.

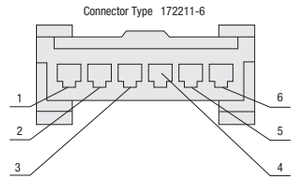
Connector Pin Configuration

C: Standard
MS: □38 Micro Step



PA: □28 α-Step
QA: □42 α-Steps

Connector Type 172211-6



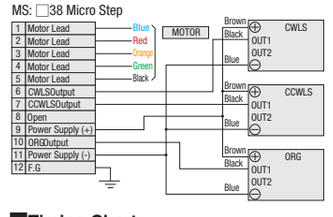
Electrical Specifications

Part Number		C Standard	MS 38 Micro Step	PA 28 α-Step	QA 42 α-Steps
Motor	Type	5-Phase Stepping Motor 0.75A/Phase (Oriental Motor Co., Ltd.)		α-Step Motor (Oriental Motor Co., Ltd.)	
	Part Number	PMM33BH2-C16-1(□28mm)	C7214-9015-1(□38mm)	ARM24SAK(□28mm)	ARM46AC(□42mm)
	Step Angle	0.72°	0.36°	0.36° (When 1000P/R is set)	
	Driver Part Number	-		ARD-K	ARD-A
Connector	Part Number	HR10A-10J-12P (73) (Hirose Electric Co., LTD.)		172211-6 (Tyco Electronics Japan G.K.)	
	Applicable Receptacle Connector	HR10A-10P-12S (73) (Hirose Electric Co., LTD.)		171822-6 (Tyco Electronics Japan G.K.)	
	Contact Part Number	-		170430-1 (Tyco Electronics Japan G.K.)	
	Applicable Receptacle Contact Part Number	-		170205-1 (Tyco Electronics Japan G.K.)	
Sensor	Limit Sensor	Provided			
	Slit Home Origin Sensor	Provided			
	Home Sensor	-			
	Part Number	Photo Sensor PM-L25 (Panasonic Industrial Devices SUNX Co., Ltd.)			
	Power Supply Voltage	DC5~24V or less ±10%			
	Current Consumption	45mA or less (15mA or less per Sensor)			
	Control Output	NPN Open Collector Output DC30V or less, 50mA or less Residual Voltage 2V or less (when load current is 50mA) Residual Voltage 1V or less (when load current is 16mA)			
	Output Logic	Detecting (Dark): Output Transistor OFF (Non-Conducting)			

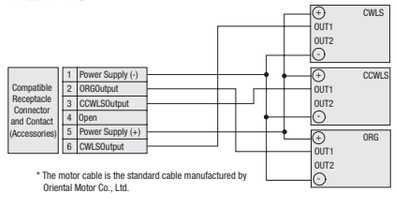
Sensors with Part Number PM-□24 are to be discontinued and replaced by next-generation products with Part Number PM-□25 from April 2017.

Connecting Diagram

C: Standard
MS: □38 Micro Step

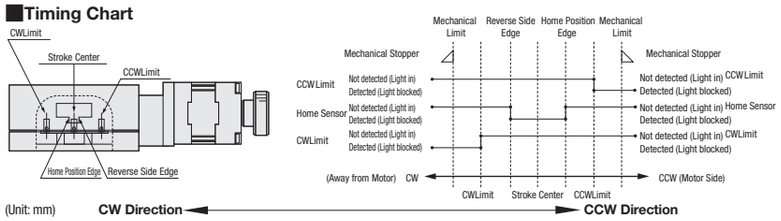


PA: □28 α-Step
QA: □42 α-Steps



* The motor cable is the standard cable manufactured by Oriental Motor Co., Ltd.

Timing Chart



(Unit: mm) CW Direction ◄——► CCW Direction

	Reference Position	Mechanical Limit	CW Limit	Other Signal Edge	Stroke Center	Home Position Edge	CCW Limit	Mechanical Limit
XMPG730	Homing	18.5	17.5	4	2	0	13.5	14.5
	Stroke Center	16.5	15.5	2	0	2	15.5	16.5

Homing Routine Above: When DS102/DS112 Series controller is used and when the Homing Routine Type 3 is executed.
The coordinates shown are design values. There may be approx. ±0.5mm misalignment on the physical dimensions.
For details about Homing, see P. 1-1735-97