

# [Motorized] High Precision X-Axis - Cross Roller



For CAD data, see the MISUMI website.

■ **Features:** X-Axis Stage excellent in lightweight, accuracy with positioning repeatability ±0.3μm

■ **X-Axis Motor: C (Standard)**

■ **X-Axis Motor: PA (□28 α-Step)**

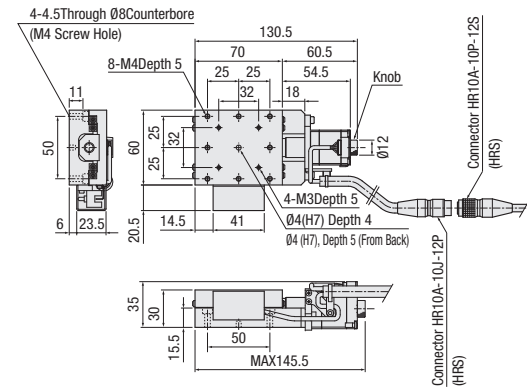


**M** Material: Aluminum Alloy  
**S** Surface Treatment: Black Anodize  
**A** Accessory: SCB4-16 (4 pcs.)

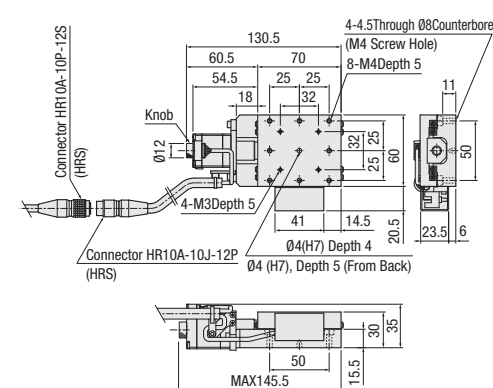
RoHS10

For Controllers, Handset Terminals, see P.1-2014-1-P.1-2014-2

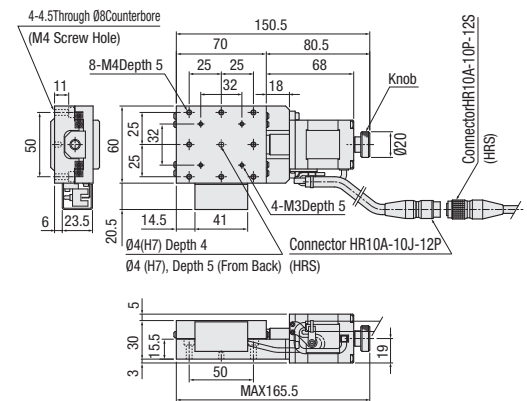
## XMPG730-L-C



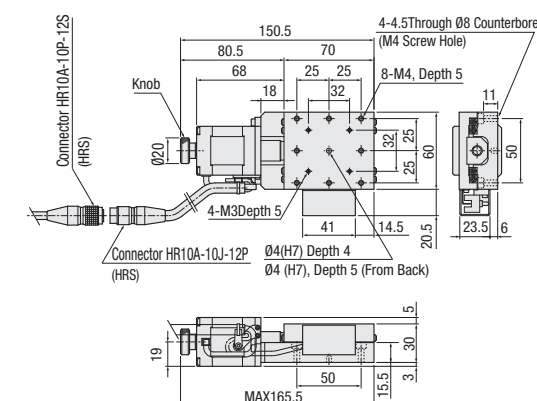
## XMPG730-R-C



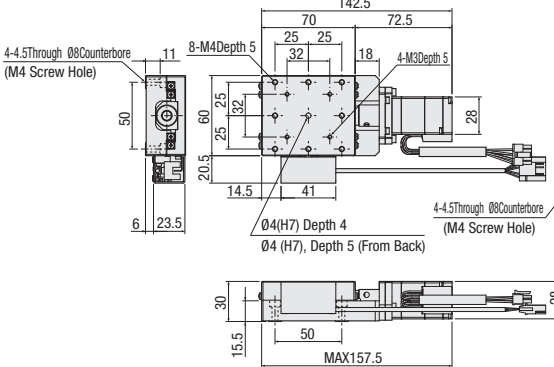
## XMPG730-L-MS



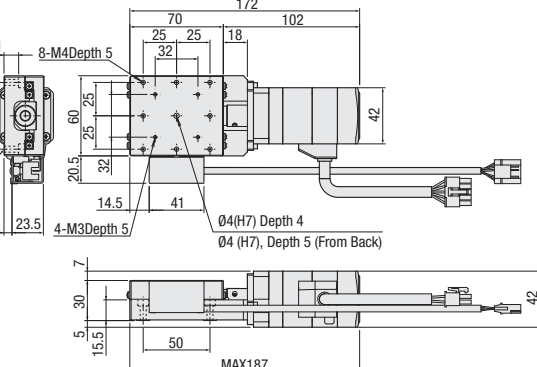
## XMPG730-R-MS



## XMPG730-L-PA



## XMPG730-L-QA



Part Number	Sensor	Motor	Cable	Mechanical Standards			Accuracy Standards *1					
				Stage Surface (mm)	Travel Distance (mm)	Weight (kg)	Unidirectional Positioning Accuracy	Moment Rigidity (N*cm)	Pitching	Yawing	Pitching	Yawing
XMPG730	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" or less	20" or less
		MS (Resolution(0.36°))	2A (2m, α-Step) 5A (5m, α-Step) 2R (Robot Cable 2m, α-Step) 5R (Robot Cable 5m, α-Step)									
		PA (□28 α-Step)										
		QA (□42 α-Steps)										

\*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



Configure Online

### Common Specifications

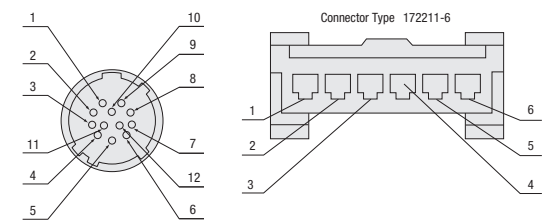
Feed Screw	Ball Screw Ø8, Lead 1
Guide	Cross Roller Guide
Resolution *2	Full 2μm(1μm)*3
	Half 1μm(0.5μm)*3
	Fine Feed (upon 1/20 partitioned) 0.05μm
Max. Speed *4	20mm/sec
Positioning repeatability	Within ±0.3μm
Load Capacity	49N
Lost Motion	1μm or less
Backlash	0.5μm or less
Straightness	3μm or less
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.  
 \*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: Resolution(0.36°)

PA: □28 α-Step  
 QA: □42 α-Steps



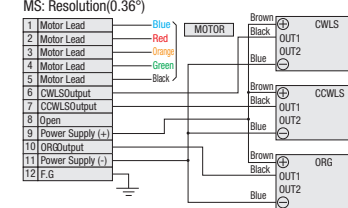
### Electrical Specifications

Part Number	C Standard		MS Resolution(0.36°)		PA □28 α-Step		QA □42 α-Steps	
	Type	5-Phase Stepping Motor 0.75A/Phase (Oriental Motor Co., Ltd.)	Type	5-Phase Stepping Motor 0.75A/Phase (Oriental Motor Co., Ltd.)	Type	α-Step Motor (Oriental Motor Co., Ltd.)	Type	α-Step Motor (Oriental Motor Co., Ltd.)
Motor	Part Number	C005C-90215P-1(□28mm)	Part Number	C7214-9015-1(□38mm)	Part Number	ARM24SAK(□28mm)	Part Number	ARM46AC(□42mm)
Motor	Step Angle	0.72°	0.36°	0.36° (When 1000P/R is set)	0.36° (When 1000P/R is set)			
Motor	Driver Part Number				ARD-K		ARD-A	
Motor	Part Number	HR10A-10P-12P (73) (Hirose Electric Co., Ltd.)	Part Number	HR10A-10P-12S (73) (Hirose Electric Co., Ltd.)	Part Number	172211-6 (Tyco Electronics Japan G.K.)	Part Number	171822-6 (Tyco Electronics Japan G.K.)
Motor	Applicable Receptacle Connector				170430-1 (Tyco Electronics Japan G.K.)		170205-1 (Tyco Electronics Japan G.K.)	
Motor	Contact Part Number							
Motor	Applicable Receptacle Contact Part Number							
Motor	Limit Sensor	Provided	Provided	Provided	Provided			
Motor	Slit Home Origin Sensor	Provided	Provided	Provided	Provided			
Motor	Home Sensor							
Motor	Part Number							
Motor	Power Supply Voltage	DC5-24V or less ±10%	DC5-24V or less ±10%	DC5-24V or less ±10%	DC5-24V or less ±10%			
Motor	Current Consumption	45mA or less (15mA or less per Sensor)	45mA or less (15mA or less per Sensor)	45mA or less (15mA or less per Sensor)	45mA or less (15mA or less per Sensor)			
Motor	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)	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)	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)	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)			
Motor	Output Logic	Detecting (Dark); Output Transistor OFF (Non-Conducting)	Detecting (Dark); Output Transistor OFF (Non-Conducting)	Detecting (Dark); Output Transistor OFF (Non-Conducting)	Detecting (Dark); Output Transistor OFF (Non-Conducting)			

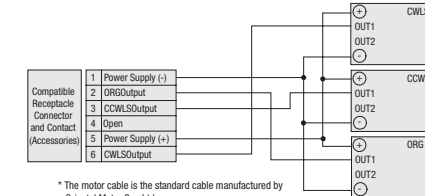
\*Sensors with Part Number PM-□24 are to be discontinued and replaced by next-generation products with Part Number PM-□25 from April 2017.

### Connecting Diagram

C: Standard  
 MS: Resolution(0.36°)

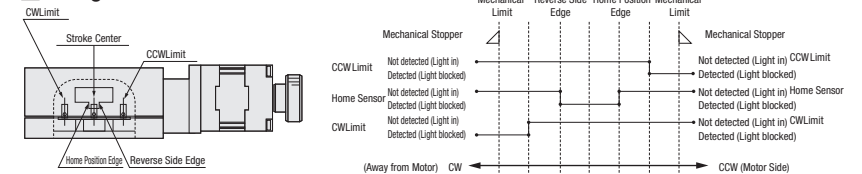


PA: □28 α-Step  
 QA: □42 α-Steps



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

### Timing Chart



(Unit: mm)

	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