

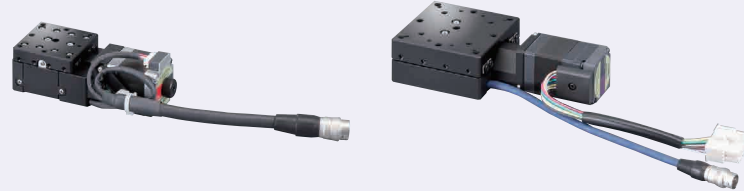
[High Precision] Motorized X-Axis - Cross Roller



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

☉ For CAD data, see the MISUMI website.

■ **X-Axis**

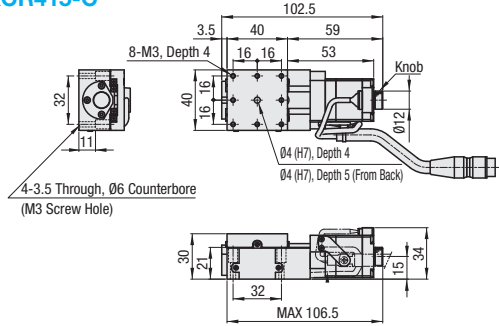


- M** Material: Aluminum Alloy
- S** Surface Treatment: Black Anodize
- A** Accessory XCR415: SCB3-16 (4 pcs.)
XCR620: SCB4-16 (4 pcs.)

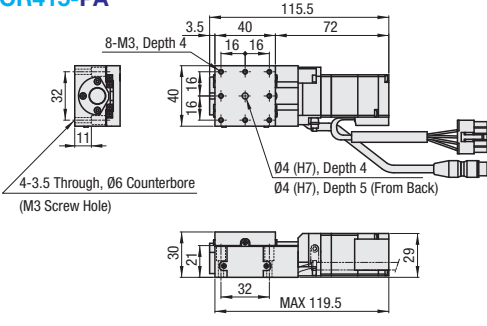
RoHS10

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

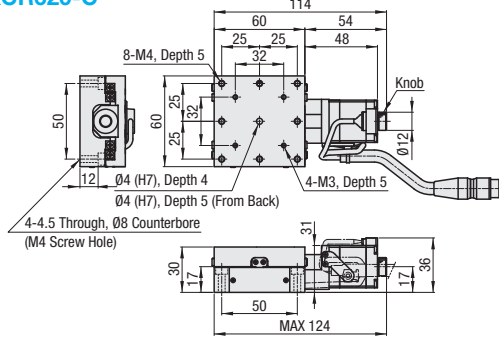
XCR415-C



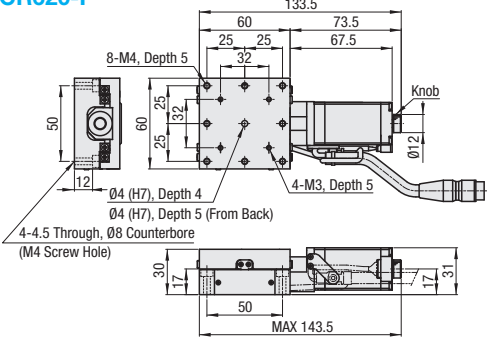
XCR415-PA



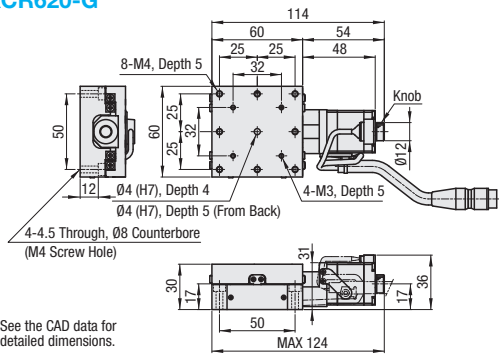
XCR620-C



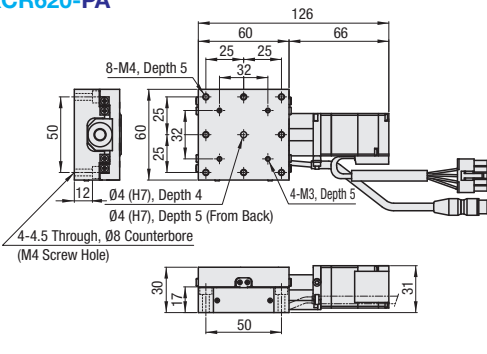
XCR620-F



XCR620-G



XCR620-PA



☉ See the CAD data for detailed dimensions.

| Part Number | Type | No. | Motor | Cable | Mechanical Standards | | | Accuracy Standards | | | | | |
|-------------|------|-----|--|---|----------------------|----------------------|--------------------------|-------------------------------------|--------------------------|------|------|----------|--------|
| | | | | | Stage Surface (mm) | Travel Distance (mm) | Weight ¹ (kg) | Unidirectional Positioning Accuracy | Moment Rigidity (°/N·cm) | | | Pitching | Yawing |
| XCR | | 415 | C (Standard) PA* (α-Step) | N (Cable not included (separately sold)) P* (Cable for α-Step Motor) For cables separately sold, see MSCB_ option on P. 1-1735-95 | 40×40 | 15 | 0.3 | 10µm or less | 0.33 | 0.44 | 0.37 | 25" | 20" |
| | | 620 | C (Standard) F (High Torque) G (High Resolution) PA* (α-Step) | | 60×60 | 20 | 0.4 | 5µm or less / Full Stroke | 0.15 | 0.12 | 0.07 | 20" | 15" |

* When the Motor Option PA is selected, the driver is included with as the Set. The cable is available for Option P and is unavailable for Option N (Cable not included).
*1. The value is for C Type of Motor.



Ordering Example
Part Number - Motor - Cable
XCR415 - C - N



Configure Online

■ **Common Specifications**

| No. | 415 | 620 |
|---------------------------|-----------------------|-----------------------|
| Feed Screw | Ball Screw Ø6, Lead 1 | Ball Screw Ø8, Lead 1 |
| Guide | Cross Roller Guide | |
| Positioning repeatability | ±0.5µm | ±0.3µm |
| Load Capacity | 49N or less | |
| Lost Motion | 1µm or less | |
| Backlash | 0.5µm or less | |
| Parallelism | 30µm or less | |
| Straightness | 3µm or less | |
| Motion Parallelism | 10µm or less | |

■ **Max. Speed**

| No. | Motor | (mm/sec) |
|-----|-------|----------|
| 415 | C | 10 |
| | PA | 10 |
| 620 | C | 20 |
| | F | 20 |
| | G | 20 |
| | PA | 20 |

☉ Note that the speed and positioning time differ depending on the current condition of use. The speed and positioning time are not guaranteed values but reference values provided by MISUMI.

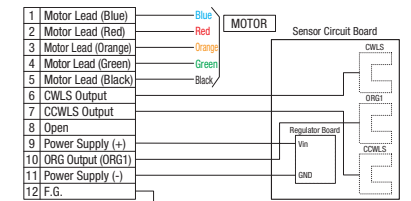
■ **Motor/Cable Application Table**

| Motor | Cable |
|---------|------------------|
| C, F, G | N (Not Provided) |
| PA | P |

☉ For the cable for C, F or G, see MSCB_ on P. 1-1735-95

■ **Wiring Diagram**

• Motor Code: C (Standard), F (High Torque), G (High Resolution) General Connector Pin Configuration

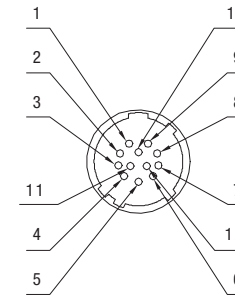


• Motor Code: PA (α-Step) Sensor Connecting Diagram



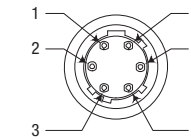
■ **Connector Pin Configuration**

• Motor Code: C (Standard), F (High Torque), G (High Resolution) General Connector Pin Configuration



• Motor Code: PA (α-Step) Sensor Pin Configuration

Motor Cable Part Number: CC030VA2R2

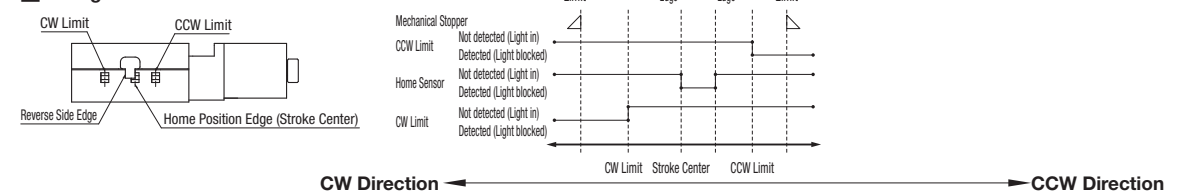


■ **Electrical Specifications**

| Motor | Type | C | F | G | PA |
|--------------------|--|---|-------------------------------|--------------------------------|---|
| | | Standard | High Torque | High Resolution | Stepping-out Prevention |
| Motor | Part Number | C005C-90215P | PK525HPB-C1 | PK523HPMB-C1 | ARM24SAK |
| | Step Angle | 0.72° | 0.72° | 0.36° | 0.36° (When 1000P/R is set) |
| | Driver Part Number | - | - | - | ARD-K |
| Resolution (Pulse) | Full/Half | 2µm/1µm | 2µm/1µm | 1µm/0.5µm | 1µm (When 1000P/R is set) |
| | Micro Step | 0.1µm (upon 1/20 partitioned) | 0.1µm (upon 1/20 partitioned) | 0.05µm (upon 1/20 partitioned) | - |
| Connector | Part Number | HR10A-10J-12P (Hirose Electric Co., LTD.) | | | HR10A-7J-6P (Hirose Electric Co., LTD.) |
| | Compatible Receptacle Connector | HR10A-10P-12S (Hirose Electric Co., LTD.) | | | HR10A-7P-6S (Hirose Electric Co., LTD.) |
| Sensor | Limit Sensor | Provided | | | |
| | Home Position Sensor (ORG1) | Provided | | | |
| | Slit Home Origin Sensor (ORG2) | Not Provided | | | |
| | Part Number | Photomicrosensor: EE-SX4320 (OMRON Corp.) | | | |
| | Power Supply Voltage | DC5~24V ±10% | | | |
| | Current Consumption | 60mA or less | | | |
| Control Output | NPN Open Collector Output DC5~24V, 8mA or less Residual Voltage 0.3V or less (when load current is 2mA) | | | | |
| Output Logic | Detecting (Dark): Output Transistor OFF (Non-Conducting) | | | | |

☉ Sensors with Part Number EE-SX4134 will be discontinued and replaced by next-generation products with Part Number EE-SX4320 from November 2018.

■ **Timing Chart**



| Travel Distance (mm) | Reference Position | Mechanical Limit | CW Limit | Home Position Edge Stroke Center | Other Signal Edge | CCW Limit | Mechanical Limit |
|----------------------|--------------------|------------------|----------|----------------------------------|-------------------|-----------|------------------|
| 15 | Homing Position | 8.5 | 7.7 | 0 | 2 | 7.7 | 8.5 |
| 20 | Homing Position | 11 | 10.5 | 0 | 5 | 10.5 | 11 |

☉ Homing Routine Above: When MSCTL102/112 Series controller is used and when the Homing Routine Type 4 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