This product is precision products. There are precautions in specifications or other aspects. To use the product correctly, please be familiar with the precautions in advance.

### Unpacking Precautions

Before unpacking, check the appearance for damage, loose screws and loose components. If there are concerns about structure and appearance, please take photos as evidence and E-mail them to the responsible business unit.

When the shipment arrives, make sure that the specifications and contents are consistent with the order, and check whether any peripheral parts are missing.

For any questions, please contact the original business unit.

### Safety Precautions

- **Before placement and use, make sure that there is sufficient working space around to prevent the danger of falling and rolling.**
  - **CAUTION:** Violation may result in personal injury or product damage.

- For installation and operation, please follow electrical safety instructions. Do not use in explosive atmosphere, flammable environment, corrosive environment, easily wet and humid environment or near flammable materials. Otherwise, there is risk of fire, electric shock and injury.
  - **CAUTION:** Violation may result in serious personal injury or product damage.

- In operation, please check if there is enough movement space around the motor and mechanism to prevent any part of the body and clothing accessories from entering the stage or coming close to the working range of stage or any danger of rolling, pinching or pulling.
  - **CAUTION:** Violation may result in personal injury or product damage.

- Turn off the power before maintenance to prevent danger of electric shock.
  - **CAUTION:** Violation may result in serious personal injury or product damage.

- When the product is used in the vertical direction of Z axis, please use safety device for prevention (natural slide or power interruption due to overload).
  - **CAUTION:** Violation may result in personal injury or product damage.
Installation Precautions

When abnormal issue (such as abnormal sound, abnormal vibration) arises, please immediately stop the machine.

→ CAUTION: Violation may result in personal injury or product damage.

Do not forcibly pull or bend any electric wires and follow the wiring diagram for correct wiring.

→ CAUTION: Violation may result in personal injury or product damage.

When tightening screws, please torque wrench according to the specifications of screws.

→ CAUTION: Violation may cause loosening.

Please do not allow mechanical setting over maximum speed to cause mechanical instability (avoiding extreme change of setting or parameters).

→ CAUTION: Violation may result in personal injury or product damage.

When malfunction or damage arises, please do not continue the use.

→ CAUTION: Violation may result in personal injury or product damage.

Make sure wiring and connection of electric equipment is secured. Make sure parameter setting is correct.

→ CAUTION: Violation may cause fire, electric shock, personal injury or product damage.

Foreign object such as dust, metal powder entering screw or slide rail may reduce life and cause excess wear.

→ If concerns exist, please implement dust prevention measures.

If the product is used as mechanical processing standard, it may affect life, performance and precision.

→ If the situation exists, please have installation on the base with reliable rigidity.

The product is designed and planned according to the direction specified in the catalog. Please check with GMT if other direction is used.

→ If the direction is other than horizontal direction, it will reduce life and increase probability of malfunction.

Before installation of our product, please make sure that the installation surface has no unnecessary object, and use alcohol to clean and prevent loss of installation precision.

→ Violation may cause the product installation precision unable to meet the catalog specification.

Do not apply inappropriate force and strike to the product to prevent damage and loss of precision and warranty.

→ Violation may cause product damage or precision unable to meet catalog specification.

Environment Precaution

Precautions for product use environment:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping temperature</td>
<td>-10°C ~ 70°C</td>
</tr>
<tr>
<td>Shipping humidity</td>
<td>below 90%RH (non-condensing)</td>
</tr>
<tr>
<td>Installation temperature</td>
<td>0°C ~ 40°C</td>
</tr>
<tr>
<td>Installation humidity</td>
<td>below 20% ~ 80%RH (non-condensing)</td>
</tr>
<tr>
<td>Environment gas</td>
<td>indoor (not contain corrosive gas, flammable gas, oil mist and dust)</td>
</tr>
</tbody>
</table>
System Configuration Diagram

- For detailed specifications, please read the description for the stage and connecting cable on page E1 ~ E2.
- For selection of driver, please refer to the cross-reference table on page E3 for the motor/driver of the precision motorized stage or the GMT motor and driver catalog.
- The most preferred driver is recommended to be specified by GMT as considerations. For different needs, please choose the suitable driver based on real functional needs.

Warranty Instructions & Troubleshooting Suggestions

- Within warranty period, if any of the following failures occurs, our company will be responsible for the repair:
  - Warranty period is one year, starting from the time the product is delivered to the designated place.
  - If anything below occurs, it will not be covered under warranty:
    1. Failure that occurs when the product is not used in specified environment and method.
    2. Failure that occurs when the product is modified or repaired without authorization.
    3. Failure that occurs due to natural disaster or misuse.
    4. Fault or damage after customer purchase due to fall or impact during shipping or movement.
    5. Malfunction or damage due to connection to other machine.
    6. Violation to the above instructions and precautions on the manual will cause malfunction or damage.

- After the motor or mechanism is hit by external force, please check whether screw function affects stage.
- Please do not arbitrarily adjust left and right limit position and origin position to prevent machine collision and loss of warranty.
- Limit switch must have secured wires and receptacles and be prevented from loosening.
- Do not arbitrarily loosen coupling and transmission structure to assure precision and warranty.
- When unusual noise or vibration occurs in the operation of machine, please turn off power before inspection.
- For Q&A regarding stage, please check GMT website.
### AX-A series

#### Model description

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Aluminum alloy</td>
<td>2: Ball screw</td>
<td>N: Standard grade</td>
<td>R: Right wiring</td>
<td>X: 2-phase stepper</td>
<td>D: D-SUB/B5 (VGA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AX40-A2NR-ND</th>
<th>AX60-A2NR-ND</th>
<th>AX80-A2NR-ND</th>
<th>AX100-A2NR-ND</th>
<th>AX120-A2NR-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>40*40mm</td>
<td>60*60mm</td>
<td>80*80mm</td>
<td>100*100mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>15 mm</td>
<td>20 mm</td>
<td>30 mm</td>
<td>40 mm</td>
</tr>
<tr>
<td>Drive type</td>
<td>Ball screw</td>
<td>Ball screw</td>
<td>Ball screw</td>
<td>Ball screw</td>
</tr>
<tr>
<td>Rail</td>
<td>Crossed-roller guiding</td>
<td>Crossed-roller guiding</td>
<td>Crossed-roller guiding</td>
<td>Crossed-roller guiding</td>
</tr>
<tr>
<td>Stage material/surface treatment</td>
<td>Aluminum alloy</td>
<td>Black anodized</td>
<td>Aluminum alloy</td>
<td>Aluminum alloy</td>
</tr>
<tr>
<td>Coupling</td>
<td>FAMMS12-3’s</td>
<td>FAMMS16-5’s</td>
<td>FAMMS16-5’s</td>
<td>FAMMS16-5’s</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>R: Right wiring</td>
<td>L: Left wiring</td>
<td>R: Right wiring</td>
<td>L: Left wiring</td>
</tr>
<tr>
<td>Resolution (pulse)</td>
<td>Full: 2.5 μm</td>
<td>Half: 2 μm</td>
<td>Full: 2 μm</td>
<td>Half: 2 μm</td>
</tr>
<tr>
<td>Maximum speed (full step)</td>
<td>10 mm/see</td>
<td>15 mm/sec</td>
<td>15 mm/sec</td>
<td>15 mm/sec</td>
</tr>
<tr>
<td>Positioning precision</td>
<td>15 μm</td>
<td>15 μm</td>
<td>15 μm</td>
<td>15 μm</td>
</tr>
<tr>
<td>Load capacity</td>
<td>6 Kg</td>
<td>21 Kg</td>
<td>33 Kg</td>
<td>25 Kg</td>
</tr>
<tr>
<td>Missed step</td>
<td>2 μm</td>
<td>2 μm</td>
<td>2 μm</td>
<td>2 μm</td>
</tr>
<tr>
<td>Parallelism</td>
<td>30 μm</td>
<td>30 μm</td>
<td>30 μm</td>
<td>30 μm</td>
</tr>
<tr>
<td>Dynamic straightness</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
</tr>
<tr>
<td>Dynamic parallelism</td>
<td>6.6 μm</td>
<td>10 μm</td>
<td>10 μm</td>
<td>10 μm</td>
</tr>
<tr>
<td>Motor</td>
<td>2-phase stepper / 32 double shafts</td>
<td>2-phase stepper / 54 double shafts</td>
<td>2-phase stepper / 72 double shafts</td>
<td>2-phase stepper / 90 double shafts</td>
</tr>
<tr>
<td>Driver (optional)</td>
<td>GMT / 2MS-N28D32A</td>
<td>GMT / 2MS-N42D47A</td>
<td>GMT / 2MS-N42D47A</td>
<td>GMT / 2MS-N42D47A</td>
</tr>
<tr>
<td>Connector type</td>
<td>D-SUB</td>
<td>D-SUB</td>
<td>D-SUB</td>
<td>D-SUB</td>
</tr>
<tr>
<td>Stage side connector</td>
<td>15-pin male end connector D-SUB</td>
<td>15-pin male end connector D-SUB</td>
<td>15-pin male end connector D-SUB</td>
<td>15-pin male end connector D-SUB</td>
</tr>
<tr>
<td>Control output</td>
<td>NPN open collector output under 24V 8mA</td>
<td>NPN open collector output under 24V 8mA</td>
<td>NPN open collector output under 24V 8mA</td>
<td>NPN open collector output under 24V 8mA</td>
</tr>
<tr>
<td>Output control</td>
<td>Testing (sensing) output transistor OFF (closed)</td>
<td>Testing (sensing) output transistor OFF (closed)</td>
<td>Testing (sensing) output transistor OFF (closed)</td>
<td>Testing (sensing) output transistor OFF (closed)</td>
</tr>
</tbody>
</table>

**Photo is AX80-A2NR-ND**
Standard Motorized X axis Linear-motion Stage  

Crossed-roller guiding

AX-A series

AX60-A2NR-ND

AX80-A2NR-ND

AX100-A2NR-ND

AX120-A2NR-ND
### Model description

#### AY-A series

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum alloy</td>
<td>Ball screw</td>
<td>N (Standard grade)</td>
<td>R (Right)</td>
<td>2-phase stepper</td>
<td>D-SUB/B5 (VGA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Axis &amp; serial numbers</th>
<th>Table size</th>
<th>Connecting cable (optional)</th>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AY40-A2NR-ND</td>
<td>40*40mm</td>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td>AY60-A2NR-ND</td>
<td>60*60mm</td>
<td>Not equipped</td>
<td>Not equipped</td>
</tr>
<tr>
<td>AY80-A2NL-ND</td>
<td>80*80mm</td>
<td>2m cable*</td>
<td>C (Standard specified by GMT)</td>
</tr>
<tr>
<td>AY100-A2NL-ND</td>
<td>100*100mm</td>
<td>4m cable*</td>
<td></td>
</tr>
<tr>
<td>AY120-A2NL-ND</td>
<td>120*120mm</td>
<td>D-SUB 15 pin male end connector + (the other side with discrete wirings)</td>
<td></td>
</tr>
</tbody>
</table>

#### Mechanical specifications

- **Table size**: 40*40mm, 60*60mm, 80*80mm, 100*100mm, 120*120mm
- **Travel stroke**: 15mm, 20mm, 30mm, 40mm
- **Drive type**: Ball screw 2N lead 1mm, Ball screw 2N lead 1mm

#### Electrical specifications

- **Motor type/Shaft numbers**: 2-phase stepper / C28 double shafts, 2-phase stepper / C42 double shafts
- **Driver brand/model**: GMT / 2MS-N28D32A, GMT / 2MS-N42D47A

#### Sensor

- **Origin sensor**: Photoelectric sensor EE-SX498
- **Limit sensor**: 15-pin female connector

#### Control output

- **Control output**: NPN open collector output under 24V 8mA
- **Output control**: Testing (sensing) output transistor OFF (closed)

### Crossed-roller guiding

- **Rail**: Crossed-roller guiding
- **Stage material/surface treatment**: Aluminum alloy / Black anodized
- **Coupling**: FAMMS12-3S, FAMMS16-5S
- **Accuracy level**: R (Standard grade), L (Inventory specification)
- **Resolution (pulse)**: Full / Half
- **Positioning precision**: 5 μm / 2.5 μm
- **Load capacity**: 0.76 Kg, 1.38 Kg, 2.42 Kg, 3.3 Kg, 5.24 Kg
- **Missed step**: 1 μm, 2 μm, 3 μm, 5 μm
- **Parallelism**: 6.6 μm, 10 μm
- **Dynamic straightness**: 8.6 μm
- **Dynamic parallelism**: 10 μm
- **Load capacity**: 15 Kg, 21 Kg, 22 Kg

### Optional

- **Connecting cable (optional)**: 2m cable*, 4m cable*
- **Driver (optional)**: Blank, C (Standard specified by GMT)

### Photos

- **Photo**: AY80-A2NR-CD
- **Photo**: AY40-A2NR-CD

---

[GMT Global Inc.](http://www.gmtlinear.com)
## Model Description

### AX-F Series

<table>
<thead>
<tr>
<th>Model</th>
<th>AX40-F2NR-ND</th>
<th>AX60-F2NR-ND</th>
<th>AX80-F2NR-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>Steel</td>
<td>Steel</td>
<td>Steel</td>
</tr>
<tr>
<td><strong>Drive type</strong></td>
<td>Ball screw</td>
<td>Ball screw</td>
<td>Ball screw</td>
</tr>
<tr>
<td><strong>Accuracy level</strong></td>
<td>Standard grade</td>
<td>Standard grade</td>
<td>Standard grade</td>
</tr>
<tr>
<td><strong>Wiring method</strong></td>
<td>Right wiring</td>
<td>Right wiring</td>
<td>Right wiring</td>
</tr>
<tr>
<td><strong>Motor model</strong></td>
<td>2-phase stepper</td>
<td>2-phase stepper</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td><strong>Connector type</strong></td>
<td>D-SUB15</td>
<td>D-SUB15</td>
<td>D-SUB15</td>
</tr>
<tr>
<td><strong>Connecting cable</strong> (optional)</td>
<td>Blank</td>
<td>2m cable*1</td>
<td>4m cable*1</td>
</tr>
<tr>
<td><strong>Driver</strong> (optional)</td>
<td>Blank</td>
<td>Not equipped</td>
<td>Standard specified by GMT</td>
</tr>
</tbody>
</table>

### Mechanical Specifications

- **AX40-F2NL-ND**
  - Table size: 40x40 mm
  - Travel stroke: 16 mm
  - Drive type: Ball screw 0.7Kgf
  - Stage material/surface treatment: Steel/Nickle plating
  - Load capacity: 0.4 Kg
  - Main unit weight: 3.7 Kg
  - Accuracy level: Standard grade
  - Resolution (pulse): Full / Half
  - Positioning precision: 5 μm
  - Repeatability precision: 10 μm
  - Load capacity: 10 Kg
  - Maximum speed (full step): 12 mm/sec
  - Accuracy level: Standard grade
  - Dynamic straightness: 3 μm
  - Dynamic parallelism: 10 μm
  - Motor: 2-phase stepper / 1/28 double shafts

- **AX60-F2NL-ND**
  - Table size: 60x60 mm
  - Travel stroke: 16 mm
  - Drive type: Ball screw 0.7Kgf
  - Stage material/surface treatment: Steel/Nickle plating
  - Load capacity: 0.4 Kg
  - Main unit weight: 7 Kg
  - Accuracy level: Standard grade
  - Resolution (pulse): Full / Half
  - Positioning precision: 5 μm
  - Repeatability precision: 10 μm
  - Load capacity: 10 Kg
  - Maximum speed (full step): 12 mm/sec
  - Accuracy level: Standard grade
  - Dynamic straightness: 3 μm
  - Dynamic parallelism: 10 μm
  - Motor: 2-phase stepper / 1/28 double shafts

- **AX80-F2NL-ND**
  - Table size: 80x80 mm
  - Travel stroke: 16 mm
  - Drive type: Ball screw 0.7Kgf
  - Stage material/surface treatment: Steel/Nickle plating
  - Load capacity: 0.4 Kg
  - Main unit weight: 7 Kg
  - Accuracy level: Standard grade
  - Resolution (pulse): Full / Half
  - Positioning precision: 5 μm
  - Repeatability precision: 10 μm
  - Load capacity: 10 Kg
  - Maximum speed (full step): 12 mm/sec
  - Accuracy level: Standard grade
  - Dynamic straightness: 3 μm
  - Dynamic parallelism: 10 μm
  - Motor: 2-phase stepper / 1/28 double shafts

### Electrical Specifications

- **AX40-F2NL-ND**
  - Power voltage: 24V±10%
  - Control output: NPN open collector output under 24V 8mA
  - Output control: Testing (sensing) output transistor OFF (closed)

### Sensor

- **Origin sensor**: Photocell sensor E4-SX408
- **Limit sensor**
  - Power voltage: 24V±10%
  - Control output: NPN open collector output under 24V 8mA
- **Output control**: Testing (sensing) output transistor OFF (closed)

### Photo

© Photo is AX60-F2NR-ND
AX60-F2NR-ND

AX80-F2NR-ND

Standard Motorized X axis Linear-motion Stage  Linear ball guiding

AX-F series
**AY-F series**

**Model description**

- **Material:** A Steel
- **Drive type:** 2 Ball screw
- **Accuracy level:** Standard grade
- **Wiring method:** Right wiring
- **Motor model:** N 2-phase stepper
- **Connector type:** D-D-SUB15

### AX & serial numbers

- **Table size:**
  - 40: 40*40mm
  - 60: 60*60mm
  - 80: 80*80mm

### Connecting cable (optional)

- Blank
- 2: 2m cable
- 4: 4m cable

### Driver (optional)

- Blank
- C Standard specified by GMT

### Table of Specifications

**AY40-F2NR-ND**

- **Table size:** 40*40mm
- **Main unit weight:** 2.8 Kg
- **Stage material/surface treatment:** Steel / Nickel plating
- **Material:** Steel
- **Drive type:** Ball screw
- **Accuracy level:** Standard grade
- **Wiring method:** Right wiring
- **Motor:** 2-phase stepper
- **Connector type:** D-SUB15

### Mechanical specifications

- **Maximum load:** 15 Kg
- **Positioning precision:** ±1 μm
- **Dynamic straightness:** 3 μm
- **Dynamic parallelism:** 10 μm

### Electrical specifications

- **Power voltage:** 24V±10%
- **Control output:** NPN open collector output under 24V 8mA
- **Missed step:** 15 μm
- **Parallelism:** 20 μm
- **Origin sensor:** Photoelectric sensor EE-SX458
- **Linear ball guiding:**
- **Travel stroke:** 15 mm
- **Max speed (full step):** 12 mm/sec
- **Repeatability precision:** ±1 μm
- **Load capacity:** 11 Kg
- **Mislaid step:** 3 μm
- **Parallelism:** 20 μm
- **Dynamic straightness:** 3 μm
- **Dynamic parallelism:** 10 μm

### Driver (optional)

- Blank
- C Standard specified by GMT

### Motor

- **Type/Shaft numbers:** 2-phase stepper / 128 double shafts
- **Brand Model:** GMT/GTR22G-D (Additional options)

### Connector

- **Stage side connector:** 15-pin male end connector D-SUB
- **Controller side connector:** 15-pin female end connector D-SUB (optional)

### Sensor

- **Origin sensor:** Photoelectric sensor EE-SX458
- **NPN open collector output under 24V 8mA

### Output control

- Testing (sensing): output transistor OFF (closed)
- Control output: NPN open collector output under 24V 8mA

© Photo is AY60-F2NR-ND
AY60-F2NR-ND

AY80-F2NR-ND
### Model description

**CX50□-S series**

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>2</td>
<td>Full</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-DSUB15 (VGA)</td>
</tr>
</tbody>
</table>

**CX50 20 - S2NN-ND**

- **Table size**: 50 x 50 mm
- **Main unit weight**: 0.57 Kg
- **Stage material/Surface treatment**: Stainless Steel / Nickel plating
- **Dynamic straightness**: 3 μm
- **Dynamic parallelism**: 10 μm
- **Accuracy level**: N : Standard grade

**CXS50□-S2NN-ND**

- **Table size**: 50 x 50 x 20 mm
- **Main unit weight**: 0.72 Kg
- **Stage material/Surface treatment**: Stainless Steel / Nickel plating
- **Dynamic straightness**: 3 μm
- **Dynamic parallelism**: 10 μm
- **Accuracy level**: N : Standard grade

**Connectors**

- **Drive side connector**: Blank / Not equipped
- **Stage side connector**: Blank / Not equipped
- **Control side connector**:
  - Type / Shaft numbers: 2-phase stepper / 128 double shafts
  - Brand / Model: GMT / GMS-H28D32A

**Electrical specifications**

- **Motor**: 2-phase stepper / 128 double shafts
- **Driver brand / Model**: GMT/GTR22G-D (Additional options)
- **Sensor**: Photoelectric sensor EE-SX468
- **Power voltage**: 24V ±10%

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* GMT Standard wiring is defined as the product photo, and not optional available.
Standard Motorized X-axis Linear-motion Stage  ● Linear ball guiding

CXS60□-S series

### Model description

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Stainless Steel</td>
<td>2 Ball screw</td>
<td>N Standard grade</td>
<td>N GMT Standard</td>
<td>X 2-phase stepper</td>
<td>D D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

**CXS60 20 - S2NN-ND 2C**

- **X axis**
- **Travel stroke**: 20mm, 30mm, 50mm
- **Accuracy level**: N Standard grade
- **Wiring method**: GMT Standard
- **Motor model**: 2-phase stepper
- **Connector type**: D-SUB15 (VGA)

### Axis & serial numbers

- **Table size**: 60 x 60 mm, 60 x 80 mm
- **Connecting cable (optional)**
  - Blank
  - 2pin cable
  - 4pin cable
- **Driver (optional)**
  - Blank

### Electrical specifications

- **Input voltage**: 24V ±10%
- **Control output**: NPN open collector output under 24V, 8mA
- **Power supply**: 24Vdc
- **Control output**: NPN open collector output under 24V, 8mA
- **Output control**: TTL-level

### Mechanical specifications

- **Type/Shaft numbers**: 2-phase stepper / ½ 28 double shafts
- **Driver brand/Model**: GMT / 2MS-H28D32A
- **Controller side connector**: 15-pin female end connector D-SUB (optional)

### Sensor

- **Origin sensor**: Photoelectric sensor EE-SX458
- **Limit sensor**: NPN-open collector output under 24V, 8mA

### Specifications

- **Model description**: CXS60□-S series
- **Main unit weight**: 0.75 Kg, 0.8 Kg, 1.11 Kg
- **Stage material/Surface treatment**: Stainless Steel / Nickel plating
- **Stage size**: 60 x 60 mm, 60 x 80 mm
- **Dynamic straightness**: 3 µm
- **Dynamic parallelism**: 3 µm

### Additional information

- GMT Standard wiring is defined as the product photo, and not optional available.

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* * *

© Photo is CXS6030-S2NN-ND

---

* GMT Standard Wiring is defined as the product photo, and not optional available.*
**Model description**

**CXS80□-S series**

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Stainless Steel</td>
<td>2 Ball screw</td>
<td>Standard grade</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

**Travel stroke**

- 20mm
- 30mm
- 50mm

**Connecting cable (optional)**

- Blank
- 2-pin cable\(^1\)
- 4-pin cable\(^1\)

**Driver (optional)**

- Blank
- Not equipped
- Standard specified by GMT

**Electrical specifications**

- Motor: 2-phase stepper
- Connector: 15-pin male and connector D-SUB

**Sensor**

- Origin sensor: Photoelectric sensor EE-SX498
- Limit sensor
- Power voltage: 24V±10%
- Control output: NPN open collector output under 24V, 8mA
- Output control: Testing (sensing): output transistor OFF (closed)

\(^1\) GMT Standard wiring is defined as the product photo, and not optional available.

---

**Mechanical specifications**

<table>
<thead>
<tr>
<th>Table size</th>
<th>Stroke</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CXS80□S2NN-ND</td>
<td>20mm</td>
<td>Ball screw 2 Ball screw</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>CXS80□S2NN-ND</td>
<td>30mm</td>
<td>Ball screw 3 Ball screw</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>CXS80□S2NN-ND</td>
<td>50mm</td>
<td>Ball screw 5 Ball screw</td>
<td>GMT Standard</td>
</tr>
</tbody>
</table>

**Positioning precision**

- ±1 μm
- ±1/2 μm
- ±5/10 μm

**Dynamic straightness**

- 15 μm
- 10 μm

**Dynamic parallelism**

- 15 μm

---

**Photo is CXS8030-S2NN-ND**
### CYS50□-S series

#### Model Description

<table>
<thead>
<tr>
<th>Material</th>
<th>X axis</th>
<th>Table size</th>
<th>Travel stroke</th>
<th>Connecting cable (optional)</th>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>X</td>
<td>50 x 50 mm</td>
<td>20 mm</td>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm</td>
<td>2 x 2 m*1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 x 4 m*1</td>
<td></td>
</tr>
</tbody>
</table>

*1 (D-SUB 15 pin female connector + the other side with discrete wiring)

#### Main Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>CYS50□-S2NN-ND</td>
</tr>
<tr>
<td>Table size</td>
<td>50 x 50 mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>20 mm, 30 mm</td>
</tr>
<tr>
<td>Motor type</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>N: Standard grade</td>
</tr>
<tr>
<td>Wiring method</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>Materials</td>
<td>XY axis: Stainless Steel, Axis &amp; serial numbers: CYS, CYS 50</td>
</tr>
<tr>
<td>Connector type</td>
<td>D-SUB15</td>
</tr>
<tr>
<td>Cables (optional)</td>
<td>4 m, 2 m</td>
</tr>
<tr>
<td>Note: CYS50□-S2NN-ND, CYS50□-S2NN-ND 50 x 50 mm, 0.57 Kg, 0.72 Kg, 5 μm, 2.5 μm, 20 mm/sec, 5 Kgf, 3 μm, 3 μm, 10 μm, 15 μm, ±1 μm</td>
<td></td>
</tr>
</tbody>
</table>

#### Electrical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type/Shaft numbers</td>
<td>2-phase stepper / 128 double shafts</td>
</tr>
<tr>
<td>Motor/Model</td>
<td>GMT / 2MS-H2302A</td>
</tr>
<tr>
<td>Sensor</td>
<td>Photoelectric sensor EE-SX458</td>
</tr>
<tr>
<td>Power voltage</td>
<td>24V±10%</td>
</tr>
<tr>
<td>Control output</td>
<td>NPN open collector output under 24V 8mA</td>
</tr>
<tr>
<td>Output control</td>
<td>Testing (sensing) output transistor OFF (closed)</td>
</tr>
</tbody>
</table>

* GMT Standard wiring is defined as the product photo, and not optional available. ** GMT Standard wiring is defined as the product photo, and not optional available.
### Model Description

**CYS60□-S series**

<table>
<thead>
<tr>
<th>Material</th>
<th>Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive type</td>
<td>Ball screw</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>N Standard</td>
</tr>
<tr>
<td>Wiring method</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>Motor model</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td>Connector type</td>
<td>D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

#### CYS60 20 - S2NN - ND - 2C

- **Drive**: 2-phase stepper
- **Material**: Stainless Steel
- **Wiring Method**: GMT Standard
- **Motor**: Not equipped
- **Connector**: D-SUB15 (VGA)

#### Specifications

<table>
<thead>
<tr>
<th>Dimension</th>
<th>CYS6020-S2NN-ND</th>
<th>CYS6030-S2NN-ND</th>
<th>CYS6050-S2NN-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table size</strong></td>
<td>60x60 mm</td>
<td>60x60 mm</td>
<td>60x60 mm</td>
</tr>
<tr>
<td><strong>Travel stroke</strong></td>
<td>20 mm</td>
<td>30 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td><strong>Stage material/Surface treatment</strong></td>
<td>Stainless Steel/Nickel plating</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rail</strong></td>
<td>Linear ball guiding</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Main unit weight</strong></td>
<td>0.75 Kg</td>
<td>0.8 Kg</td>
<td>1.11 Kg</td>
</tr>
<tr>
<td><strong>Wiring method</strong></td>
<td>GMT Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accuracy level</strong></td>
<td>N Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Positioning precision</strong></td>
<td>5 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Repeatability precision</strong></td>
<td>3 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Load capacity</strong></td>
<td>8 Kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Missed step</strong></td>
<td>5 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parallelism</strong></td>
<td>15 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic straightness</strong></td>
<td>3 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic parallelism</strong></td>
<td>10 μm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motor</strong></td>
<td>2-phase stepper/28 double shafts</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Driver</strong></td>
<td>(Optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Stage side connector</strong></td>
<td>D-SUB (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Controller side connector</strong></td>
<td>15-pin male and connector (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sensor</strong></td>
<td>Photoelectric sensor EE-S4X98</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power voltage</strong></td>
<td>24V±10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control output</strong></td>
<td>NPN open collector output under 24V 8mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output control</strong></td>
<td>Testing (sensing): output transistor OFF closed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Electrical specifications**: GMT Standard wiring is defined as the product photo, and not optional available.

**Photo**: CYS6030-S2NN-ND

---

### CYS60□-2SNN-ND

- **Material**: Stainless Steel/Nickel plating
- **Drive type**: Linear ball guiding
- **Motor**: GMT/GTR22G-D (Additional options)
- **Sensor**: Photoelectric sensor EE-S4X98
- **Power voltage**: 24V±10%
- **Control output**: NPN open collector output under 24V 8mA
- **Output control**: Testing (sensing): output transistor OFF closed

---

**Photo**: CYS6030-S2NN-ND
CYS80□-S series

### Model description

- **Material**: S Stainless Steel
- **Drive type**: 2 Ball screw
- **Accuracy level**: N Standard grade
- **Wiring method**: GMT Standard
- **Motor model**: 2-phase stepper
- **Connector type**: D-SUB15 (VGA)

### Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CYS80□-S2NN-ND</th>
<th>CYS80□-S2NN-ND</th>
<th>CYS80□-S2NN-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table size</strong></td>
<td>80*80 mm</td>
<td>80*100 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Travel stroke</strong></td>
<td>20 mm</td>
<td>30 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td><strong>Connecting cable</strong></td>
<td>Blank</td>
<td>Not equipped</td>
<td>2x4 pin cable</td>
</tr>
<tr>
<td><strong>Driver</strong></td>
<td>Blank</td>
<td>Not equipped</td>
<td>Standard specified by GMT</td>
</tr>
</tbody>
</table>

### Electrical specifications

- **Motor**: 2-phase stepper / 2MS-N28D32A
- **Driver brand/Model**: GMT/GTR22G-D (Additional options)
- **Sensor**: Photoelectric sensor EE-SX498

### Specifications

- **XY axis**: Linear ball guiding
- **Motor model**: 2-phase stepper
- **Wiring method**: GMT Standard
- **Table size**: 80*80 mm, 80*100 mm
- **Main unit weight**: 1.15 Kg, 1.2 Kg, 1.35 Kg
- **Connecting cable**: 2x4 pin cable
- **Driver**: Blank, Not equipped

### Notes

- GMT Standard wiring is defined as the product photo, and not optional available.
- *D-SUB 15 pin female connector + the other side with discrete wirings*
- 2m cable, 4m cable
- Brand/Model: GMT, Full / Half
- Output control: Control output
- Power voltage: 24V±10%
- Limit sensor: NPN open collector output under 24V 8mA
- Output control: Testing (sensing): output transistor OFF (closed)
### Model description

#### CXN50□/CXC50□-S series

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>Ball screw</td>
<td>Standard grade</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-SUB15</td>
</tr>
</tbody>
</table>

#### Axis & serial numbers

- CXN: X axis (w/o cover)
- CXC: X axis (w/cover)

<table>
<thead>
<tr>
<th>Table size</th>
<th>Stroke</th>
<th>Ball screw pitch</th>
<th>Connecting cable (optional)</th>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 50mm</td>
<td>30</td>
<td>1mm</td>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td>50 50mm</td>
<td>50</td>
<td>2mm</td>
<td>2pin cable</td>
<td></td>
</tr>
<tr>
<td>75 75mm</td>
<td>75</td>
<td>3mm</td>
<td>4pin cable</td>
<td></td>
</tr>
<tr>
<td>75 75mm</td>
<td>75</td>
<td>4mm</td>
<td>6pin cable</td>
<td></td>
</tr>
</tbody>
</table>

*1 (D-SUB 15 pin female connector + the other side with discrete wirings)

### Electrical specifications

<table>
<thead>
<tr>
<th>Connector type</th>
<th>Sensor</th>
<th>Limit sensor</th>
<th>Power voltage</th>
<th>Control output</th>
<th>Output control</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-SUB15</td>
<td>Photoelectric sensor EE-ES498</td>
<td></td>
<td>24V±10%</td>
<td>NPN open collector output under 24 V 8mA</td>
<td>Testing (warning) output transistor OFF (closed)</td>
</tr>
</tbody>
</table>

### Mechanical specifications

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>Ball screw</td>
<td>Standard grade</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-SUB15</td>
</tr>
</tbody>
</table>

#### Photos are CXN60100-S2NN-ND(UP) and CXC60100-S2NN-ND(DOWN).
### Standard Motorized X axis Linear-motion Stage  Circular linear ball guiding

**CXN50□/CXC50□-S series**

### CXN50□-S2NN-ND

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>110</td>
<td>197.5</td>
<td>40</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>50</td>
<td>120</td>
<td>217.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>75</td>
<td>145</td>
<td>242.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### CXC50□-S2NN-ND

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>110</td>
<td>197.5</td>
<td>40</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>50</td>
<td>120</td>
<td>217.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>75</td>
<td>145</td>
<td>242.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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[www.gmtlinear.com](http://www.gmtlinear.com)
### Model description

<table>
<thead>
<tr>
<th>CXN50</th>
<th>CXC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>S</td>
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<td>2</td>
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<td>P1</td>
<td>P1</td>
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<tr>
<td>1mm</td>
<td>1mm</td>
</tr>
<tr>
<td>C</td>
<td>C</td>
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</table>

### Model Number

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Table size</th>
<th>Travel stroke</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CXN5050150-S2NN-ND-P1</td>
<td>50x50 mm</td>
<td>150 mm</td>
<td>Ball screw</td>
<td>N</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-DUB15</td>
</tr>
<tr>
<td>CXC5050150-S2NN-ND-P1</td>
<td>50x50 mm</td>
<td>150 mm</td>
<td>Ball screw</td>
<td>N</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-DUB15</td>
</tr>
</tbody>
</table>

### Electrical specifications

- **Motor Type/Shaft numbers**: 2-phase stepper / 1/28 double shafts
- **Sensor**: Photoelectric sensor EE-SX4134
- **Power Supply**: 24V ±10%
- **Control output**: NPN open collector output under 24V 8mA
- **Output Control**: Testing (sensing) ; output transistor OFF (closed)

### Photos

Photos are CXN50100-S2NN-ND(UP) and CXC50100-S2NN-ND(DOWN).
**Standard Motorized X axis Linear-motion Stage**

**Circular linear ball guiding**

**CXN50□/CX50□-S series**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>170</td>
<td>268</td>
<td>40</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>150</td>
<td>220</td>
<td>318</td>
<td>40</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>200</td>
<td>270</td>
<td>368</td>
<td>40</td>
<td>6</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**CXN50□/CX50□-S series**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
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</thead>
<tbody>
<tr>
<td>100</td>
<td>170</td>
<td>268</td>
<td>40</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>150</td>
<td>220</td>
<td>318</td>
<td>40</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>200</td>
<td>270</td>
<td>368</td>
<td>40</td>
<td>6</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**CXC50□-S2NN-ND**

**CXC50□-S2NN-ND**

**www.gmtlinear.com**

---

**Standard Motorized X axis Linear-motion Stage**

**Circular linear ball guiding**

**CXN50□/CX50□-S series**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>170</td>
<td>268</td>
<td>40</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>150</td>
<td>220</td>
<td>318</td>
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<td>5</td>
<td>16</td>
</tr>
<tr>
<td>200</td>
<td>270</td>
<td>368</td>
<td>40</td>
<td>6</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**CXN50□/CX50□-S series**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>170</td>
<td>268</td>
<td>40</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>150</td>
<td>220</td>
<td>318</td>
<td>40</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>200</td>
<td>270</td>
<td>368</td>
<td>40</td>
<td>6</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**CXC50□-S2NN-ND**

**CXC50□-S2NN-ND**

**www.gmtlinear.com**
Standard Motorized X axis Linear-motion Stage  ○ Circular linear ball guiding

Model description

CXN60□/CXC60□-S series

<table>
<thead>
<tr>
<th>Material</th>
<th>S: Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive type</td>
<td>2: Ball screw</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>N: Standard grade</td>
</tr>
<tr>
<td>Wiring method</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>Motor model</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td>Connector type</td>
<td>D: D-SUB15 (F/MA)</td>
</tr>
</tbody>
</table>

**CXN 60 30** - S 2 NN - ND - P1 - 2 C

Axis & serial numbers

- CXN: X-axis (w/o cover)
- CXC: X-axis (w/cover)

Table size

| 60 | 60*60mm |

Stroke

- X axis (w/o cover):
  - 30 mm
  - 50 mm
  - 75 mm
  - 100 mm

- X axis (w/cover):
  - 30 mm
  - 50 mm
  - 75 mm
  - 100 mm

Ball screw pitch

- P1: 1mm
- P2: 2mm

Connecting cable (optional)

- Blank
- Not equipped

Motor model

- 2-phase stepper
- Not equipped

Drive type

- Ball screw
- GMT Standard

Material

- Driver (optional)
- Blank
- Not equipped

Source: GMT Linear Motion Systems
### CXC60□/CXC60□-S2NN-ND

**Stroke** | L | L1 | P | N | P1  
---|---|---|---|---|---
30 | 120 | 209 | 50 | 1 | 25  
50 | 140 | 229 | 50 | 1 | 25  
75 | 165 | 254 | 50 | 3 | N/A  
100 | 190 | 288.5 | 50 | 3 | N/A  

![Diagram of CXC60□/CXC60□-S2NN-ND](image)

### CXC60□/CXC60□-S2NN-ND

**Stroke** | L | L1 | P | N | P1  
---|---|---|---|---|---
30 | 120 | 209 | 50 | 1 | 25  
50 | 140 | 229 | 50 | 1 | 25  
75 | 165 | 254 | 50 | 3 | N/A  
100 | 190 | 288.5 | 50 | 3 | N/A  

![Diagram of CXC60□/CXC60□-S2NN-ND](image)
### Stroke Table

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>240</td>
<td>348.5</td>
<td>25</td>
<td>4</td>
<td>S0</td>
</tr>
<tr>
<td>200</td>
<td>250</td>
<td>398.5</td>
<td>50</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>250</td>
<td>250</td>
<td>448.5</td>
<td>50</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>300</td>
<td>300</td>
<td>498.5</td>
<td>50</td>
<td>7</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Diagrams

- **CXN60□-S2NN-ND**
- **CXC60□-S2NN-ND**
Table size

80 80*80mm

Ball screw pitch

P1
P2

1mm
2mm

30mm
50mm

75mm
100mm

Stroke

X axis (w/o cover)

75
75mm

100
100mm

X axis (w/cover)

Axis & serial numbers

CXN 80 30 - S2 NN - ND - P1 2 C

CX3 80 30 - S2 NN - ND - P1 2 C

Model description

Material

S Stainless Steel

Drive type

Ball screw

2

Accuracy level

N Standard grade

Wiring method

M GMT Standard

Motor model

2-phase stepper

Not equipped

Connector type

G D-SUB15 (VGA)

Connecting cable (optional)

Blank

D-SUB15

Blank

D-SUB15

Driver (optional)

C Standard specified by GMT

*1 15-pin female connector + the other side with discrete wirings

*2 GMT Standard wiring is defined as the product photo, and not optional available.

Photos are CXN80100-S2NN-ND(UP) and CXC80100-S2NN-ND(DOWN).
Standard Motorized X axis Linear-motion Stage  ◦ Circular linear ball guiding

CXN80□/CXC80□-S series

Model description

 CXN 80 150 - S 2 NN - ND - P2 2 C

Material
S Stainless Steel

Drive type
2 Ball screw

Accuracy level
N Standard grade

Wiring method
N GMT Standard

Motor model
2 2-phase stepper

Connector type
D D-SUB15 (VGA)

Axis & serial numbers
CXN X axis (w/o cover)
CXC X axis (w/cover)

Table size
80 X80 mm

Stroke
X axis (w/o cover)
150mm

Connecting cable (optional)
Blank Not equipped

Drive (optional)
Blank Not equipped

Standard specified by GMT

Driver (optional)
Blank Not equipped

Motor model
2-phase stepper

Casing
X Not equipped

Connector type
(D-SUB)

Drive type
Ball screw

Material
Stainless Steel / Nickel plating

Connecting cable (optional)
4m cable*1

3m cable**

3m cable**

Standard grade GMT Standard

Electrical specifications

Motor
2-phase stepper / 12V double shafts

Brand Model
GMT / 2MS-N28D45A

Driver brand/Model
GMT / GTR22G-D (Additional options)

Controller side connector
15-pin male and connector D-SUB

Sensor
Photocell sensor EE-SX498

Motor power
24V±10%

Output control
NPN open collector output under 24V 8mA

Output control
TTL (sensing) output transistor OPT (closed)

** GMT Standard wiring is defined as the product photo, and not optional available.

Photos are CXN80100-S2NN-ND(UP) and CXC80100-S2NN-ND(DOWN).
## Model description

### CYN50□/CYC50□-S series

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>2</td>
<td>N</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D - D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

### Axis & serial numbers

<table>
<thead>
<tr>
<th>CYN</th>
<th>XY axis (w/o cover)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYC</td>
<td>XY axis (w/cover)</td>
</tr>
</tbody>
</table>

### Table size

<table>
<thead>
<tr>
<th>50</th>
<th>50*50mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>50mm</td>
</tr>
<tr>
<td>75</td>
<td>75mm</td>
</tr>
</tbody>
</table>

### Ball screw pitch

<table>
<thead>
<tr>
<th>P1</th>
<th>1mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2</td>
<td>2mm</td>
</tr>
</tbody>
</table>

### Stroke

<table>
<thead>
<tr>
<th>XY axis (w/o cover)</th>
<th>XY axis (w/cover)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30mm</td>
<td>50mm</td>
</tr>
<tr>
<td>50mm</td>
<td>75mm</td>
</tr>
</tbody>
</table>

### Connecting cable (optional)

- Blank: Not equipped
- 2m cable: 2m cable
- 4m cable: 4m cable

### Driver (optional)

- Blank: Not equipped
- C: Standard specified by GMT

*1 (D-SUB 15 pin female connector + the other side with discrete wirings)

### Photos

- Photos are CYN5030-S2NN-ND(UP) and CYC5030-S2NN-ND(DOWN).
CYN50□-S2NN-ND

Standard Motorized XY axis Linear-motion Stage
Circular linear ball guiding

Stroke | L  | L1  | P | N | P1 |
-------|----|-----|---|---|----|
30     | 110| 197.5| 40| 1 | 20 |
50     | 120| 217.5| 40| 3 | N/A|
75     | 145| 242.5| 40| 3 | N/A|

CYC50□-S2NN-ND

Standard Motorized XY axis Linear-motion Stage
Circular linear ball guiding

Stroke | L  | L1  | P | N | P1 |
-------|----|-----|---|---|----|
30     | 110| 197.5| 40| 1 | 20 |
50     | 120| 217.5| 40| 3 | N/A|
75     | 145| 242.5| 40| 3 | N/A|
Model description

**CYN60□/CYC60□-S series**

### Main Specifications

- **Model**: CYN60□/CYC60□-S series
- **Series**: CYN/CYC
- **Stage**: XY axis
- **Material**: Stainless Steel
- **Drive type**: 2-phase stepper
- **Wiring method**: Motor: N, Connector: D-SUB15 (VGA)
- **Connector type**: Blank, Not equipped
- **Driver**: Standard specified by GMT
- **Coupling**: FAMCS10-5*
- **Origin sensor**: Photoelectric sensor EE-SX498
- **Limit sensor**: NPN open-collector output under 24V 8mA
- **Connecting cable (optional)**: 4m cable*1

### Standard Motorized XY axis Linear-motion Stage

- **Circular linear ball guiding**
- **Rail**: Stainless Steel / Nickel plating
- **Stage material/Surface treatment**: Standard grade GMT
- **Wiring method**: GMT Standard*2

### Electrical Specifications

- **Motor**: 2-phase stepper / 12/24V
- **Brand Model**: GMT/GTR22G-D (Additional options)
- **Driver side connector**: 15-pin female and connector D-SUB (optional)
- **Controller side connector**: 15-pin male connector D-SUB (optional)

### Mechanical Specifications

- **Type/Shaft numbers**: Full / Half
- **Parallelism**: 10 μm
- **Dynamic parallelism**: 10 μm
- **Dynamic straightness**: 10 μm
- **Origin sensor**: Photoelectric sensor EE-SX498
- **Motor**: 2-phase stepper / 12/24V

### Positioning Precision

- **Positioning precision**: ±1 μm
- **Load capacity**: 12 Kg
- **Missed step**: 5 μm
- **Parallelism**: 20 μm
- **Dynamic straightness**: 3 mm

### Maximum Speed (Full step)

- **Type/Shaft numbers**: Full / Half
- **Positioning precision**: 10 μm
- **Repeatability precision**: ±1 μm
- **Load capacity**: 12 Kg
- **Missed step**: 5 μm
- **Parallelism**: 20 μm
- **Dynamic straightness**: 3 mm
- **Dynamix parallelism**: 10 μm

### Total Specifications

- **Model**: CYN60□/CYC60□-S series
- **Series**: CYN/CYC
- **Stage**: XY axis
- **Material**: Stainless Steel
- **Drive type**: 2-phase stepper
- **Wiring method**: Motor: N, Connector: D-SUB15 (VGA)
- **Connector type**: Blank, Not equipped
- **Driver**: Standard specified by GMT
- **Coupling**: FAMCS10-5*
- **Origin sensor**: Photoelectric sensor EE-SX498
- **Limit sensor**: NPN open-collector output under 24V 8mA
- **Connecting cable (optional)**: 4m cable*1

* GMT Standard wiring is defined as the product photo, and not optional available.

**Photos are CYN6075-S2NN-ND(UP) and CYC6075-S2NN-ND(DOWN).**
### CYN60□-S2NN-ND

**Stroke** | **L** | **L1** | **P** | **N** | **P1**
---|---|---|---|---|---
30 | 120 | 209 | 50 | 1 | 25
50 | 140 | 229 | 50 | 1 | 25
75 | 165 | 254 | 50 | 3 | N/A

**CNCY60□-S2NN-ND**

**Stroke** | **L** | **L1** | **P** | **N** | **P1**
---|---|---|---|---|---
30 | 120 | 209 | 50 | 1 | 25
50 | 140 | 229 | 50 | 1 | 25
75 | 165 | 254 | 50 | 3 | N/A
Standard Motorized XY axis Linear-motion Stage  ●  Circular linear ball guiding

**Model description:**

**CYN80□/CYC80□-S series**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>CYN80□-S2NN-ND-P1</th>
<th>CYC80□-S2NN-ND-P1</th>
<th>CYN80□-S2NN-ND-P2</th>
<th>CYC80□-S2NN-ND-P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>80x80 mm</td>
<td>80x80 mm</td>
<td>80x80 mm</td>
<td>80x80 mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>30 mm</td>
<td>30 mm</td>
<td>30 mm</td>
<td>30 mm</td>
</tr>
<tr>
<td>Choke type</td>
<td>Ball screw</td>
<td>Ball screw</td>
<td>Ball screw</td>
<td>Ball screw</td>
</tr>
<tr>
<td>Rail</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Stage material/finish</td>
<td>Circular linear ball guiding</td>
<td>Circular linear ball guiding</td>
<td>Circular linear ball guiding</td>
<td>Circular linear ball guiding</td>
</tr>
<tr>
<td>Main unit weight</td>
<td>N: 3.3 Kg / C: 3.58 Kg</td>
<td>N: 3.3 Kg / C: 3.58 Kg</td>
<td>N: 3.36 Kg / C: 3.72 Kg</td>
<td>N: 3.68 Kg / C: 4.06 Kg</td>
</tr>
<tr>
<td>Motor</td>
<td>2-phase stepper</td>
<td>2-phase stepper</td>
<td>2-phase stepper</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>Wire method</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
</tr>
</tbody>
</table>

**Circular linear ball guiding**

**Mechanical specifications**

- **Table size:** 80x80 mm
- **Travel stroke:** 30 mm
- **Choke type:** Ball screw
- **Main unit weight:** N: 3.3 Kg / C: 3.58 Kg
- **Motor:** 2-phase stepper
- **Accuracy level:** GMT Standard

**Electrical specifications**

- **Motor Type/Shaft numbers:** 2-phase stepper / 128 double shafts
- **Controller side connector:** 15-pin female end connector D-SUB (optional)
- **Origin sensor:** Photoelectric sensor EE-SX4134
- **Limit sensor:** N/A
- **Power voltage:** 24V±10%
- **Control output:** NPN open collector output under 24V 8mA
- **Output control:** Testing (sensing) : output transistor OFF (closed)

**Photos are CYN6075-S2NN-ND(UP) and CYC6075-S2NN-ND(DOWN).**
CYN80□/CYC80□-S series

Standard Motorized XY axis Linear-motion Stage  Circular linear ball guiding

CYN80□-S2NN-ND

Stroke | L | L1 | P | N | P1
-------|---|----|---|---|---
30     | 140| 229| 70| 1 | 25
50     | 160| 247.5| 35| 4 | 35
75     | 185| 272.5| 35| 4 | 35

CYC80□-S2NN-ND

Stroke | L | L1 | P | N | P1
-------|---|----|---|---|---
30     | 140| 229| 70| 1 | 25
50     | 160| 247.5| 35| 4 | 35
75     | 185| 272.5| 35| 4 | 35
# AZV-F series

## Model description

<table>
<thead>
<tr>
<th>AZV-F series</th>
<th>AZV 40 06 - F8NN-ND - 2C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>S Steel</td>
</tr>
<tr>
<td>Drive type</td>
<td>2 Ball &amp; Ball screw</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>N Standard grade</td>
</tr>
<tr>
<td>Wiring method</td>
<td>GMT Standard N</td>
</tr>
<tr>
<td>Motor model</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td>Connector type</td>
<td>GMT Standard*2</td>
</tr>
</tbody>
</table>

## AZV-F series

<table>
<thead>
<tr>
<th>Table size</th>
<th>40X40 mm</th>
<th>60X60 mm</th>
<th>80X80 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel stroke</td>
<td>06 mm</td>
<td>08 mm</td>
<td>10 mm</td>
</tr>
<tr>
<td>Connecting cable</td>
<td>Blank</td>
<td>Not equipped</td>
<td></td>
</tr>
<tr>
<td>Driver</td>
<td>Blank</td>
<td>Not equipped</td>
<td></td>
</tr>
</tbody>
</table>

## Electrical specifications

<table>
<thead>
<tr>
<th>Motor</th>
<th>2-phase stepper / 28 double shafts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type/Shaft numbers</td>
<td>GMT / 2MS-H2D32B1A</td>
</tr>
<tr>
<td>Driver/Model/Brand</td>
<td>GMT/GTR22G-D (Additional options)</td>
</tr>
</tbody>
</table>

## Sensor

<table>
<thead>
<tr>
<th>Origin sensors</th>
<th>Photoelectric sensor EE-SX468</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power voltage</td>
<td>24V±10%</td>
</tr>
<tr>
<td>Control output</td>
<td>NPN open collector output under 24V 8mA</td>
</tr>
<tr>
<td>Output control</td>
<td>Testing (sensing) output transistor OFF (closed)</td>
</tr>
</tbody>
</table>

## Mechanical specifications

- **AZV4006-F8NN-ND**: 4.4 kg
- **AZV6008-F8NN-ND**: 7.2 kg
- **AZV8010-F8NN-ND**: 10.3 kg

## Precision specifications

- **AZV4006-F8NN-ND**: ±3 μm / 10 μm
- **AZV6008-F8NN-ND**: ±5 μm / 20 μm
- **AZV8010-F8NN-ND**: ±7 μm / 30 μm

* GMT Standard wiring is defined as the product photo, and not optional available.

* GMT Standard wiring is defined as the product photo, and not optional available.

Photo is AZV6008-F8NN-ND

Photo is AZV4006-F8NN-ND
Standard Motorized Z axis Elevator Stage • Linear ball guiding

AZV-F series

AZV6008-F8NN-ND

AZV8010-F8NN-ND

Photo is AZV6008-F8NN-ND

Photo is AZV6008-F8NN-ND
Standard Motorized α axis  ○ Goniometer Stage

AXG6 series

AXG6-60CSW-3NR-ND

AXG6-80CSW-3NR-ND

Photo is AXG6-80CSW-3NR-ND.
Model description

### Material
- AR: Aluminum alloy

### Drive type
- Warm & warm gear (ratio 1/120)

### Accuracy level
- Standard grade

### Wiring method
- GMT Standard

### Motor model
- 2-phase stepper

### Connector type
- D-SUB15 (fG)

### Axis & serial numbers
- Table size:
  - AR39-A3NN-ND: ø39 mm
  - AR59-A3NN-ND: ø59 mm
  - AR80-A3NN-ND: ø80 mm
  - AR100-A3NN-ND: ø100 mm

### Connecting cable (optional)
- 2m cable

### Driver (optional)
- Blank

### Water properties
- Dynamic straightness: 3 μm
- Dynamic parallelism: 30 μm

### Electrical specifications
- Power voltage:
  - 2-phase stepper: 28V ±10%
  - Half: 28V ±10%

### Load capacity
- 4 Kg

### Connection specifications
- Stage side connector:
  - 15-pin male and connector (D-SUB)

### Origin sensor
- Contact type

### Control output
- NPN open collector output under 24V 8mA

### Output control
- Standard specified by GMT

---

**Photo is AR100-A3NN-ND**

---

**Model description**

### Material
- Aluminum alloy

### Drive type
- Warm & warm gear (ratio 1/120)

### Accuracy level
- Standard grade

### Wiring method
- GMT Standard

### Motor model
- 2-phase stepper

### Connector type
- D-SUB15 (fG)

### Axis & serial numbers
- Table size:
  - AR39-A3NN-ND: ø39 mm
  - AR59-A3NN-ND: ø59 mm
  - AR80-A3NN-ND: ø80 mm
  - AR100-A3NN-ND: ø100 mm

### Connecting cable (optional)
- 2m cable

### Driver (optional)
- Blank

### Water properties
- Dynamic straightness: 3 μm
- Dynamic parallelism: 30 μm

### Electrical specifications
- Power voltage:
  - 2-phase stepper: 28V ±10%
  - Half: 28V ±10%

### Load capacity
- 4 Kg

### Connection specifications
- Stage side connector:
  - 15-pin male and connector (D-SUB)

### Origin sensor
- Contact type

### Control output
- NPN open collector output under 24V 8mA

### Output control
- Standard specified by GMT
**Model description**

### AX-A series

**Material**: Aluminum alloy

**Drive type**: V-Teeth lead screw

**Accuracy level**: Standard grade

**Wiring method**: Right wiring

**Motor model**: 2-phase stepper

**Connector type**: D-SUB15 (f/VA)

---

**Table size**

- **AX40-A1VR-ND**: 40*40mm
- **AX60-A1VR-ND**: 60*60mm
- **AX80-A1VR-ND**: 80*80mm
- **AX100-A1VR-ND**: 100*100mm
- **AX120-A1VR-ND**: 120*120mm

---

**Wiring method**

- Right wiring (Inventory specification)
- Left wiring

---

**Rotation (pulse)**

- **Full**: 5 μm / 2.5 μm
- **Half**: 10 μm / 5 μm

---

**Resolution (pulse)**

- **Full**: 5 μm / 2.5 μm
- **Half**: 10 μm / 5 μm

---

**Motor**

- **Type/Shaft numbers**: 2-phase stepper / 2-phase stepper
- **Brand Model**: GMT / GMR2-0232 (Additional options)

---

**Controller**

- **SBC side connector**: 15-pin male and connector D-SUB (optional)
- **Controller side connector**: 15-pin female and connector D-SUB (optional)

---

**Sensor**

- **Origin sensor**: Photoelectric sensor EE-SX498
- **Limit sensor**: 24V/10A
- **Control output**: NPN open collector output under 24V 8mA
- **Output control**: Tachometer (sensing) output transistor CPT (closed)

---

**Other specifications**

- **Stage material/Surface treatment**: Aluminum alloy / Black anodized
- **Main unit weight**: 0.37 Kg
- **Accuracy level**: 5 μm
- **Wiring method**: Right wiring (Inventory specification) / Left wiring

---

**Photo is AX80-A1VR-ND**
## Model description

### AY-A series

#### Material:
- A: Aluminum alloy

#### Drive type:
- U: V-Teeth lead screw

#### Accuracy level:
- V: Standard grade

#### Wiring method:
- R: Right wiring
- L: Left wiring
- X: Not equipped

#### Motor model:
- N: 2-phase stepper

#### Connector type:
- D: D-SUB15 (fGA)

### AX & serial numbers

<table>
<thead>
<tr>
<th>Table size</th>
<th>Connecting cable (optional)</th>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40x40 mm</td>
<td>Blank</td>
<td>Blank</td>
</tr>
<tr>
<td>60x60 mm</td>
<td>Not equipped</td>
<td>Not equipped</td>
</tr>
<tr>
<td>80x80 mm</td>
<td>2m cable</td>
<td>C</td>
</tr>
<tr>
<td>100x100 mm</td>
<td>4m cable*1</td>
<td>Not equipped</td>
</tr>
<tr>
<td>120x120 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 (D-SUB 15 pin female connector + the other side with discrete wirings)

### Table size:
- 40x40 mm
- 60x60 mm
- 80x80 mm
- 100x100 mm
- 120x120 mm

### Wiring method:
- R: Right wiring
- L: Left wiring

### Model description

<table>
<thead>
<tr>
<th>Model</th>
<th>Table size</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AY40-A1VL-ND</td>
<td>40x40 mm</td>
<td>V</td>
<td>V</td>
<td>R</td>
<td>N</td>
<td>D-SUB15</td>
</tr>
<tr>
<td>AY60-A1VL-ND</td>
<td>60x60 mm</td>
<td>V</td>
<td>V</td>
<td>R</td>
<td>N</td>
<td>D-SUB15</td>
</tr>
<tr>
<td>AY80-A1VL-ND</td>
<td>80x80 mm</td>
<td>V</td>
<td>V</td>
<td>R</td>
<td>N</td>
<td>D-SUB15</td>
</tr>
<tr>
<td>AY100-A1VL-ND</td>
<td>100x100 mm</td>
<td>V</td>
<td>V</td>
<td>R</td>
<td>N</td>
<td>D-SUB15</td>
</tr>
<tr>
<td>AY120-A1VL-ND</td>
<td>120x120 mm</td>
<td>V</td>
<td>V</td>
<td>R</td>
<td>N</td>
<td>D-SUB15</td>
</tr>
</tbody>
</table>

### Electrical specifications

- Motor:
  - Type/Shaft numbers: 2-phase stepper / C235 double shafts
  - Brand Model: GMT / DS2-022A (Additional options)

- Controller/Model:
  - Controller side connector: 15-pin male and connector D-SUB (optional)

- Sensor:
  - Origin sensor: Photoelectric sensor EE-SX498
  - Limit sensor: 24Vdc

### Mechanical specifications

- Dynamic straightness: 6.6 μm

### Precision specifications

- Resolution (pitch): 5 μm ±2.5 μm
- Maximum speed (full step): 5 mm/sec
- Positioning precision: 25 μm
- Repeatability precision: 5 μm
- Load capacity: 5 Kg
- Parallelism: 10 μm
- Dynamic parallelism: 15 μm

---

**Photo is AY80-A1VR-ND**
Standard Motorized XY axis Linear-motion Stage  Crossed-roller guiding

AY60-A1VR-ND

AY80-A1VR-ND

AY100-A1VR-ND

AY120-A1VR-ND
AX-F series

Model description

Material: Steel
Drive type: V-Teeth lead screw
Accuracy level: Standard grade
Wiring method: Right wiring
Motor model: 2-phase stepper
Connector type: D-SUB15

AX 40 - F1 VR - ND - 2C

Table size

40 40 x 40 mm
60 60 x 60 mm
80 80 x 80 mm

Connecting cable (optional)

Blank Not equipped
2 2m cable\(^*1\)
4 4m cable\(^*1\)

 AX-F series

Model description

Table size

AX40-F1VR-ND AX40-F1VL-ND AX60-F1VR-ND AX60-F1VL-ND AX80-F1VR-ND AX80-F1VL-ND

40 40 x 40 mm 60 60 x 60 mm 80 80 x 80 mm

Motor description

Motor model: 2-phase stepper
Motor: GMT / DS2-022A (Additional options)

Sensor

Origin sensor: Photoelectric sensor EE-SX498
Limit sensor: 24V±10%
Power voltage: NPN open collector output under 24 V max
Control output: 24V±10%
Output control: 24V±10%

Accuracy level

Standard grade N 2-phase stepper

Wiring method

R: Right wiring (Inventory specification)
L: Left wiring

Driving specifications

Type/Shaft numbers: 2-phase stepper / 128 double shafts
Driver/Model: GMT / D82-022A (Additional options)
Controller side connector: 15-pin male end connector D-SUB (optional)

Mechanical specifications

Table size

40 40 x 40 mm 60 60 x 60 mm 80 80 x 80 mm

Travel stroke

15 mm

Repeatability precision

2 μm

Load capacity

10 Kg

Dynamic parallelism

2 μm

Dynamic straightness

5 μm / 2.5 μm

Power voltage

24V±10%
Standard Motorized X axis Linear-motion Stage • Linear ball guiding

AX-F series  V-Teeth lead screw Design

AX60-F1VR-ND

4-Ø8.5x8L
5xØ6.7x6L

AX80-F1VR-ND

8-M4x0.7x6L

Photo is AX60-F1VR-ND.

Photo is AX60-F1VR-ND.

www.gmtlinear.com
### Model description

**CXS50□-S series**

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
<th>Axis &amp; serial numbers</th>
<th>Table size</th>
<th>Travel stroke</th>
<th>Connecting cable (optional)</th>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Stainless Steel</td>
<td>1 V-Teeth lead screw</td>
<td>V Standard grade</td>
<td>GMT Standard</td>
<td>N 2-phase stepper</td>
<td>D-D-SUB15 (VGA)</td>
<td>CXS</td>
<td>50 50*50mm</td>
<td>20 20mm</td>
<td>Blank Not equipped</td>
<td>Blank Not equipped</td>
</tr>
</tbody>
</table>

### Mechanical specifications

<table>
<thead>
<tr>
<th>Model description</th>
<th>CY5020-S1VN-ND</th>
<th>CY5030-S1VN-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>50X50 mm</td>
<td>60X60 mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>20 mm</td>
<td>30 mm</td>
</tr>
<tr>
<td>Drive type</td>
<td>V-Teeth lead screw</td>
<td>GMT / DS2-022A (Additional options)</td>
</tr>
<tr>
<td>Stage material/Surface treatment</td>
<td>Stainless Steel / Nickel plating</td>
<td>FAF5030/5</td>
</tr>
<tr>
<td>Main unit weight</td>
<td>0.57 Kg</td>
<td>0.72 Kg</td>
</tr>
<tr>
<td>Coupling</td>
<td>FAF5030/5</td>
<td></td>
</tr>
<tr>
<td>Accuracy level</td>
<td>V Standard grade</td>
<td></td>
</tr>
<tr>
<td>Wiring method</td>
<td>GMT Standard*2</td>
<td></td>
</tr>
<tr>
<td>Resolution (pulses)</td>
<td>5 μm ±3.5 μm</td>
<td></td>
</tr>
<tr>
<td>Maximum speed (full step)</td>
<td>10 mm/sec</td>
<td></td>
</tr>
<tr>
<td>Positioning precision</td>
<td>35 μm</td>
<td></td>
</tr>
<tr>
<td>Repeatability precision</td>
<td>1 μm</td>
<td></td>
</tr>
<tr>
<td>Load capacity</td>
<td>6 Kg</td>
<td></td>
</tr>
<tr>
<td>Missed step</td>
<td>3 μm</td>
<td></td>
</tr>
<tr>
<td>Parallelism</td>
<td>15 μm</td>
<td></td>
</tr>
<tr>
<td>Dynamic stightness</td>
<td>3 μm</td>
<td></td>
</tr>
<tr>
<td>Dynamic parallelism</td>
<td>10 μm</td>
<td></td>
</tr>
</tbody>
</table>

### Precision specifications

| Type/Shaft numbers | 2-phase stepper / 28 half shafts |
| Brand/Model | GMT / DS2-022A |

### Electrical specifications

| Origin sensor | Photoelectric sensor EE-SX498 |
| Limit sensor | |
| Power voltage | 24V±10% |
| Control output | NPN open collector output under 24V 8mA |
| Output control | Testing (heating) output transistors OFF (closed) |

* GMT Standard wiring is defined as the product photo, and not optional available.

© Photo is CXS6030-S1VN-ND
Model description

**CXS60**-S series

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>V-Teehs lead screw</td>
<td>Standard grade</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

**CXS60**

**Table size**

<table>
<thead>
<tr>
<th>CXS6020-S1VN-ND</th>
<th>CXS6030-S1VN-ND</th>
<th>CXS6050-S1VN-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>60x60 mm</td>
<td>60x60 mm</td>
<td>60x80 mm</td>
</tr>
</tbody>
</table>

**Travel stroke**

<table>
<thead>
<tr>
<th>20 mm</th>
<th>30 mm</th>
<th>50 mm</th>
</tr>
</thead>
</table>

**Connecting cable (optional)**

<table>
<thead>
<tr>
<th>2m cable</th>
<th>4m cable</th>
</tr>
</thead>
</table>

**Driver (optional)**

<table>
<thead>
<tr>
<th>Blank</th>
<th>Not equipped</th>
</tr>
</thead>
</table>

**Material**

<table>
<thead>
<tr>
<th>X axis</th>
<th>Axis &amp; serial numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>CXS</td>
<td>X axis</td>
</tr>
</tbody>
</table>

**Electrical specifications**

<table>
<thead>
<tr>
<th>Model description</th>
<th>CXS6020-S1VN-ND</th>
<th>CXS6030-S1VN-ND</th>
<th>CXS6050-S1VN-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>60x60 mm</td>
<td>60x60 mm</td>
<td>60x80 mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>20 mm</td>
<td>30 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Drive type</td>
<td>V-Teehs lead screw</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>Linear ball guiding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage material/Surface treatment</td>
<td>Stainless Steel / Nickel plating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main unit weight</td>
<td>0.75 Kg</td>
<td>1.11 Kg</td>
<td></td>
</tr>
<tr>
<td>Motor type/Shaft numbers</td>
<td>2-phase stepper / 28 double shafts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor brand/Model</td>
<td>GMT / 2MS-H28D32A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driver brand/Model</td>
<td>GMT/GTR22G-D (Additional options)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>15-pin female end connector D-SUB (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Origin sensor</td>
<td>Photoelectric sensor EE-SX468</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limit sensor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power voltage</td>
<td>24V±10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control output</td>
<td>NPN open collector output under 24V 8mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output control</td>
<td>Testing (sensing): output transistor OFF (closed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Accuracy level**

<table>
<thead>
<tr>
<th>Standard grade</th>
<th>GMT Standard*2</th>
</tr>
</thead>
</table>

*2 GMT Standard wiring is defined as the product photo, and not optional available.

Photo is CXS6020-S1VN-ND
CXS80□-S series - V-Teeth lead screw Design

Model description:
- **Material**: S - Stainless Steel
- **Drive type**: V - V-Teeth lead screw
- **Accuracy level**: N - Standard grade
- **Wiring method**: N - GMT Standard
- **Motor model**: N - 2-phase stepper
- **Connector type**: D - D-SUB15 (VGA)

**CXS80 20 - S 1 VN - ND - 2 C**

**Axis & serial numbers**
- CXS
- X axis

**Table size**
- 80 x 80 mm
- 80 x 100 mm

**Travel stroke**
- 20 mm
- 30 mm
- 50 mm

**Connecting cable (optional)**
- Blank
- 2m cable
- 4m cable

**Driver (optional)**
- Blank
- Standard specified by GMT

**Wiring method**
- GMT Standard

**Motor model**
- 2-phase stepper

**Motor brand/model**
- GMT / DS2-023A (Additional options)

**Sensor**
- Photoelectric sensor EE-SX468

**Resolution (pulses)**
- Full Step: 6 μm / 3 μm

**Positioning precision**
- 3 μm

**Parallelism**
- 15 μm

**Dynamic parallelism**
- 10 μm

**Motor type/Shaft numbers**
- 2-phase stepper / 28 double shafts

**Electrical specifications**
- Power: 24V ±10%
- Load capacity: 8 Kg
- Limit sensor: NPN open collector output under 24V 8mA
- Control output: Testing (sensing): output transistor OFF (closed)

**Precision specifications**
- Maximum speed (full step): 10 mm / sec
- Repeatable precision: 2 μm
- Accuracy level: V - Standard grade

**Mechanical specifications**
- Main unit weight: 1.15 Kg
- Rail: V-Teeth lead screw Ø8 lead 1mm
- Stage material/surface treatment: Stainless Steel / Nickel plating
- Rail: Linear ball guiding

**Photo is CXS8030-S1VN-ND**

© GMT Global Inc.

* GMT Standard wiring is defined as the product photo, and not optional available.
**Model description**

- **CYS50**
- **20**
- **S1VN-ND - 2C**

### XY axis

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>V-Teeth lead screw</td>
<td>Standard grade</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Axis &amp; serial numbers</th>
<th>Table size</th>
<th>Travel stroke</th>
<th>Connecting cable (optional)</th>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYS XY axis</td>
<td>50*50mm</td>
<td>20mm 30mm</td>
<td>Blank Not equipped</td>
<td>Blank Not equipped</td>
</tr>
</tbody>
</table>

**CYS50-S1VN-ND**

### Model description

<table>
<thead>
<tr>
<th>Mechanical specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table size</strong></td>
</tr>
<tr>
<td><strong>Travel stroke</strong></td>
</tr>
<tr>
<td><strong>Drive type</strong></td>
</tr>
<tr>
<td><strong>Stage material/Surface treatment</strong></td>
</tr>
<tr>
<td><strong>Main unit weight</strong></td>
</tr>
<tr>
<td><strong>Wiring method</strong></td>
</tr>
<tr>
<td><strong>Wiring method</strong></td>
</tr>
</tbody>
</table>

### Precision specifications

<table>
<thead>
<tr>
<th><strong>Motor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type/Shaft numbers</strong></td>
</tr>
<tr>
<td><strong>Brand/Model</strong></td>
</tr>
<tr>
<td><strong>Driver brand/Model</strong></td>
</tr>
</tbody>
</table>

### Electrical specifications

<table>
<thead>
<tr>
<th><strong>Type/Shaft numbers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand/Model</strong></td>
</tr>
<tr>
<td><strong>Driver brand/Model</strong></td>
</tr>
</tbody>
</table>

- **Sensor**: Photoelectric sensor EE-SX498
- **Power voltage**: 24V±10%
- **Control output**: NPN open collector output under 24V 8mA
- **Output control**: Testing (sensing): output transistor OFF (closed)

---

* GMT Standard wiring is defined as the product photo, and not optional available.

---

**Photo is CYS5030-S1VN-ND**
### Model description

#### XY-axis Linear-motion Stage

**CYS60□-S series**

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>V-Teeth lead screw</td>
<td>Standard grade</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CYS 60</th>
<th>20</th>
<th>S 1 V N - N D - 2 C</th>
</tr>
</thead>
</table>

#### Axis & serial numbers

- **XY axis**

#### Table size

- 60x60 mm
- 60x80 mm

#### Travel stroke

- 20 mm
- 30 mm
- 50 mm

#### Wiring method

- GMT Standard

#### Motor model

- 2-phase stepper

#### Connector type

- D-SUB15 (VGA)

#### Material

- Stainless Steel

#### XY-axis specifications

<table>
<thead>
<tr>
<th>Standard Motorized XY axis Linear-motion Stage</th>
<th>Linear ball guiding</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYS60□-S series</td>
<td>V-Teeth lead screw Design</td>
</tr>
</tbody>
</table>

#### Electrical specifications

- **Brand/Model**
  - GMT / DS2-022A (Additional options)

- **Type/Shaft numbers**
  - 2-phase stepper / Ø8 double shafts

- **Driver brand/Model**
  - GMT / 2MS-N20D32A

- **Sensor**
  - Photoelectric sensor EE-SX468

- **Power voltage**
  - 24V ±10%

- **Control output**
  - NPN open collector output under 24V 8mA

- **Output control**
  - Testing (sensing): Output transistor OFF (closed)

### Mechanical specifications

<table>
<thead>
<tr>
<th>Model description</th>
<th>CYS6020-S1VN-ND</th>
<th>CYS6030-S1VN-ND</th>
<th>CYS6050-S1VN-ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>60x60 mm</td>
<td>60x60 mm</td>
<td>60x60 mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>20 mm</td>
<td>30 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Rail</td>
<td>Linear ball guiding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage material/Surface treatment</td>
<td>Stainless Steel / Nickel plating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor unit weight</td>
<td>1.5 Kg</td>
<td>1.8 Kg</td>
<td>2.2 Kg</td>
</tr>
<tr>
<td>Wiring method</td>
<td>GMT Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy level</td>
<td>V-Standard grade</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Precision specifications

<table>
<thead>
<tr>
<th>Resolution (pulse)</th>
<th>Full / Half</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5 μm / 2.5 μm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positioning precision</td>
<td>5 μm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability precision</td>
<td>10 μm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load capacity</td>
<td>6 Kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misstep</td>
<td>5 μm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parallelism</td>
<td>15 μm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic straightness</td>
<td>3 μm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic parallelism</td>
<td>10 μm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Electrical specifications

<table>
<thead>
<tr>
<th>Motor type/Shaft numbers</th>
<th>Brand/Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-phase stepper / Ø8 double shafts</td>
<td>GMT / 2MS-N20D32A</td>
</tr>
</tbody>
</table>

**Photo is CYS6030-S1VN-ND**
Model description

CYS80□-S series

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>1</td>
<td>V-Teeth lead screw</td>
<td>GMT Standard</td>
<td>N</td>
<td>X</td>
</tr>
</tbody>
</table>

Table size

- 80 x 80 mm
- 80 x 100 mm

Travel stroke

- 20 mm
- 30 mm
- 50 mm

Wiring method

- GMT Standard

Motor model

- 2-phase stepper

Connector type

- D-SUB15 (VGA)

Table size

- 80 x 80 mm
- 80 x 100 mm

Axis & serial numbers

- CYS
- XY axis

** CYS80 □-S1VN-ND - 2C

Connecting cable (optional)

- Blank
- Not equipped

**1 (D-SUB 15 pin female connector + the other side with discrete wirings)

Driver (optional)

- Blank
- Not equipped

Standard specified by GMT

**2 GMT Standard wiring is defined as the product photo, and not optional available.

Motor

- Type/Shaft numbers: 2-phase stepper / ⅛ double shafts
- Brand/Model: GMT / DS2-022A (Additional options)

Connector

- Stage side connector: 15-pin female end connector D-SUB (optional)
- Controller side connector: 15-pin female end connector D-SUB (optional)

Sensor

- Origin sensor: Photoelectric sensor EE-SX468
- Limit sensor: NPN open collector output under 24V 8mA

Electrical specifications

- Power voltage: 24V±10%
- Control output: NPN open collector output under 24V 8mA

xy axis

- Motorized XY axis Linear-motion Stage
- Linear ball guiding

Model description

CYS80□-S series - V-Teeth lead screw Design

** Photo is CYS8030-S1VN-ND
## Model description

<table>
<thead>
<tr>
<th>Material</th>
<th>S Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive type</td>
<td>V-V-Teeth lead screw</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>V GMT Standard</td>
</tr>
<tr>
<td>Motor model</td>
<td>N 2-phase stepper</td>
</tr>
<tr>
<td>Connector type</td>
<td>D D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

### CXN50 / CXC50 S series

<table>
<thead>
<tr>
<th>Axis &amp; serial numbers</th>
<th>CXN50 / CXC50 S series</th>
</tr>
</thead>
<tbody>
<tr>
<td>X axis (w/o cover)</td>
<td>CXN 50 50-S1VN-ND-P1</td>
</tr>
<tr>
<td>X axis (w/cover)</td>
<td>CXC 50 50-S1VN-ND-P2</td>
</tr>
</tbody>
</table>

### Mechanical specifications

<table>
<thead>
<tr>
<th>Table size</th>
<th>50×50×50mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>50 / 50mm</td>
</tr>
<tr>
<td>Ball screw pitch</td>
<td>P1 1mm, P2 2mm</td>
</tr>
<tr>
<td>Connecting cable</td>
<td>Blank, 2mm, 4mm</td>
</tr>
<tr>
<td>Motor type</td>
<td>2-phase stepper</td>
</tr>
<tr>
<td>Connector type</td>
<td>D-SUB15 (VGA)</td>
</tr>
</tbody>
</table>

### Electrical specifications

<table>
<thead>
<tr>
<th>Motor</th>
<th>2-phase stepper / 1228 double shafts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver/Model</td>
<td>GMT / OS2-022A (Additional options)</td>
</tr>
<tr>
<td>Controller side connector</td>
<td>15-pin female and connector D-SUB (optional)</td>
</tr>
<tr>
<td>Sensor</td>
<td>Photoelectric sensor EE-S4134</td>
</tr>
</tbody>
</table>

### Photos are CXN50100-S1VN-ND(UP) and CXC50100-S1VN-ND(DOWN).
Standard Motorized X axis Linear-motion Stage  Circular linear ball guiding

CXN50□ / CXC50□-S series-V Teeth lead screw Design

CXN50□-S1VN-ND

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>120</td>
<td>217.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>75</td>
<td>145</td>
<td>242.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>100</td>
<td>170</td>
<td>268</td>
<td>40</td>
<td>4</td>
<td>N/A</td>
</tr>
</tbody>
</table>

CXC50□-S1VN-ND

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>120</td>
<td>217.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>75</td>
<td>145</td>
<td>242.5</td>
<td>40</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>100</td>
<td>170</td>
<td>268</td>
<td>40</td>
<td>4</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**Model description**

### CXN60 / CXC60-S series-V-Teeth lead screw Design

#### Material
- **CXN60** / **CXC60**
  - Stainless Steel (S)

#### Drive type
- **CXN60** / **CXC60**
  - V-Teeth lead screw

#### Accuracy level
- **CXN60** / **CXC60**
  - Standard grade

#### Wiring method
- **CXN60** / **CXC60**
  - GMT Standard (N)

#### Motor model
- **CXN60** / **CXC60**
  - 2-phase stepper

#### Connector type
- **CXN60** / **CXC60**
  - D-SUB15 (V/TA)

### Table size
- **CXN60** / **CXC60**
  - 60 x 60 x 60 mm

### Ball screw pitch
- **CXN60** / **CXC60**
  - P1: 1 mm
  - P2: 2 mm

### Stroke
- **CXN60** / **CXC60**
  - 50 mm
  - 75 mm
  - 100 mm

### Axis & serial numbers
- **CXN60** / **CXC60**
  - CXN: X axis (w/o cover)
  - CXC: X axis (w/cover)

### Connecting cable (optional)
- **CXN60** / **CXC60**
  - Blank
  - Not equipped

### Driver (optional)
- **CXN60** / **CXC60**
  - Blank
  - Not equipped

### Photos are CXN60100-S1VN-ND(UP) and CXC60100-S1VN-ND(DOWN).

---

**Mechanical specifications**

<table>
<thead>
<tr>
<th>Model description</th>
<th>CXN60 50 / CXC60 50-S1VN-ND-P1</th>
<th>CXN60 50 / CXC60 50-S1VN-ND-P2</th>
<th>CXN60 75 / CXC60 75-S1VN-ND-P1</th>
<th>CXN60 75 / CXC60 75-S1VN-ND-P2</th>
<th>CXN60 100 / CXC60 100-S1VN-ND-P1</th>
<th>CXN60 100 / CXC60 100-S1VN-ND-P2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>60 x 60 x 60 mm</td>
<td>60 x 60 x 60 mm</td>
<td>75 x 75 x 75 mm</td>
<td>75 x 75 x 75 mm</td>
<td>100 x 100 x 100 mm</td>
<td>100 x 100 x 100 mm</td>
</tr>
<tr>
<td>Travel stroke</td>
<td>50 mm</td>
<td>75 mm</td>
<td>100 mm</td>
<td>100 mm</td>
<td>100 mm</td>
<td>100 mm</td>
</tr>
<tr>
<td>Drive type</td>
<td>V-Teeth lead screw</td>
<td>V-Teeth lead screw</td>
<td>V-Teeth lead screw</td>
<td>V-Teeth lead screw</td>
<td>V-Teeth lead screw</td>
<td>V-Teeth lead screw</td>
</tr>
<tr>
<td>Rail</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
</tr>
<tr>
<td>Stage material/ Surface treatment</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
<td>Stainless Steel / Nickel Plating</td>
</tr>
<tr>
<td>Main unit weight</td>
<td>N: 1.19 Kg / C: 1.33 Kg</td>
<td>N: 1.3 Kg / C: 1.44 Kg</td>
<td>N: 1.47 Kg / C: 1.61 Kg</td>
<td>N: 1.47 Kg / C: 1.61 Kg</td>
<td>N: 1.47 Kg / C: 1.61 Kg</td>
<td>N: 1.47 Kg / C: 1.61 Kg</td>
</tr>
<tr>
<td>Coupling</td>
<td>GMT / 2MS</td>
<td>GMT / DS2-022A (optional)</td>
<td>GMT / DS2-022A (optional)</td>
<td>GMT / DS2-022A (optional)</td>
<td>GMT / DS2-022A (optional)</td>
<td>GMT / DS2-022A (optional)</td>
</tr>
<tr>
<td>Accuracy level</td>
<td>V: Standard grade</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
<td>GMT Standard</td>
</tr>
<tr>
<td>Resolution (pulses)</td>
<td>Full / Half: 5 μm / 2.5 μm</td>
<td>10 μm / 5 μm</td>
<td>5 μm / 2.5 μm</td>
<td>10 μm / 5 μm</td>
<td>5 μm / 2.5 μm</td>
<td>10 μm / 5 μm</td>
</tr>
<tr>
<td>Maximum speed (full step)</td>
<td>10 mm / sec</td>
<td>20 mm / sec</td>
<td>10 mm / sec</td>
<td>20 mm / sec</td>
<td>10 mm / sec</td>
<td>20 mm / sec</td>
</tr>
<tr>
<td>Positioning precision</td>
<td>25 μm</td>
<td>25 μm</td>
<td>25 μm</td>
<td>25 μm</td>
<td>25 μm</td>
<td>25 μm</td>
</tr>
<tr>
<td>Repeatability precision</td>
<td>14 μm</td>
<td>14 μm</td>
<td>14 μm</td>
<td>14 μm</td>
<td>14 μm</td>
<td>14 μm</td>
</tr>
<tr>
<td>Load capacity</td>
<td>14 Kg</td>
<td>14 Kg</td>
<td>14 Kg</td>
<td>14 Kg</td>
<td>14 Kg</td>
<td>14 Kg</td>
</tr>
<tr>
<td>Missed step</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
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<tr>
<td>Parallelism</td>
<td>30 μm</td>
<td>30 μm</td>
<td>30 μm</td>
<td>30 μm</td>
<td>30 μm</td>
<td>30 μm</td>
</tr>
<tr>
<td>Dynamic stiffness</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
<td>3 μm</td>
</tr>
<tr>
<td>Dynamic parallelism</td>
<td>10 μm</td>
<td>10 μm</td>
<td>10 μm</td>
<td>10 μm</td>
<td>10 μm</td>
<td>10 μm</td>
</tr>
</tbody>
</table>

**Precision specifications**

**Electrical specifications**

**Motor**
- **CXN60** / **CXC60**
  - 2-phase stepper (two shafts)

**Driver brand/Model**
- **CXN60** / **CXC60**
  - GMT / DS2-022A (additional options)

**Controller side connector**
- **CXN60** / **CXC60**
  - 15-pin female and connector D-SUB (optional)

**Sensor**
- Photoelectric sensor EE-S3468

---

**Notes**

**Standard Motorized X axis Linear-motion Stage**

**Circular linear ball guiding**

$\text{Photos are CXN60100-S1VN-ND(UP) and CXC60100-S1VN-ND(DOWN).}$
Standard Motorized X axis Linear-motion Stage  Circular linear ball guiding

**CXN60□ / CXC60□ S series-V Teeth lead screw Design**

**CXN60□-S1VN-ND**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>140</td>
<td>229</td>
<td>50</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>75</td>
<td>165</td>
<td>254</td>
<td>50</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>100</td>
<td>190</td>
<td>298.5</td>
<td>50</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Stroke**

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>140</td>
<td>229</td>
<td>50</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>75</td>
<td>165</td>
<td>254</td>
<td>50</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>100</td>
<td>190</td>
<td>298.5</td>
<td>50</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Model description

CXM80□ / CXC80□-S series

<table>
<thead>
<tr>
<th>Material</th>
<th>Drive type</th>
<th>Accuracy level</th>
<th>Wiring method</th>
<th>Motor model</th>
<th>Connector type</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>1</td>
<td>V</td>
<td>GMT Standard</td>
<td>2-phase stepper</td>
<td>P1 / D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Axis & serial numbers

CXN X axis (w/o cover)  
CXC X axis (w/cover)

Table size

80 80*80mm

Ball screw pitch

P1 1mm  
P2 2mm

Stroke

X axis (w/o cover)  
X axis (w/cover)

Axis & serial numbers

CXN  
CXC

Connecting cable (optional)

Blank Not equipped  
N 3m cable**  
C 4m cable**

Motor model

2-phase stepper

Driver (optional)

Blank Not equipped  
D GMT standard specified by GMT

Optional items

Connecting cable  
Blank Not equipped  
(C-D-SUB 15 pin female connector + the other side with discrete wirings)

Standard Motorized X axis Linear-motion Stage  Circular linear ball guiding

CXN80□ / CXC80□-S series-V-Teeth lead screw Design

Output control

Control output

Power voltage

Origin sensor

Limit sensor

Origin approximation sensor  
N/A

Sensor

Powering  
24V±10%

Control output

Testing (sensing) : output transistor OFF (closed)

Mechanical specifications

<table>
<thead>
<tr>
<th>Resolution (pulse)</th>
<th>Full / Half</th>
<th>Full / Half</th>
<th>Full / Half</th>
<th>Full / Half</th>
<th>Full / Half</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 μm / 2.5 μm</td>
<td>10 μm / 5 μm</td>
<td>10 μm / 5 μm</td>
<td>5 μm / 2.5 μm</td>
<td>10 μm / 5 μm</td>
<td>5 μm / 2.5 μm</td>
</tr>
</tbody>
</table>

Precision specifications

| Repeatability precision | ±2 μm  
| Load capacity            | 16 Kgf |
| Misalignment             | 3 μm   |
| Parallelism              | 20 μm  |
| Dynamic straightness     | 3 μm   |
| Dynamic parallelism      | 10 μm  |

Electrical specifications

<table>
<thead>
<tr>
<th>Motor</th>
<th>Type/Shaft numbers</th>
<th>Brand/Model</th>
<th>Connector</th>
<th>Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-phase stepper / 28 double shafts</td>
<td>GMT / 2MS-N28D32A</td>
<td>D-SUB / C-D-SUB</td>
<td>Photoelectric sensor EE-SX4134</td>
</tr>
</tbody>
</table>

Photoelectric sensor  
EE-SX4134

** GMT Standard wiring is defined as the product photo, and not optional available.

Photos are CXN80100-S1VN-ND(UP) and CXC80100-S1VN-ND(DOWN).
Model description

CYN50 □ / CYC50 □-S series

Material
- Stainless Steel

Drive type
- V-Teeth lead screw

Accuracy level
- Standard grade

Wiring method
- N: GMT Standard

Motor model
- 2-phase stepper

Connector type
- D-SUB15 (VGA)

XY axis (w/o cover)

Axis & serial numbers
- CYN
- CYC

Table size
- 50 50*50mm

Stroke
- 50 mm

Ball screw pitch
- P1: 1mm

Connecting cable (optional)
- Blank

Driver (optional)
- C: Standard specified by GMT

Model Number

<table>
<thead>
<tr>
<th>Model Number</th>
<th>2-phase stepper / Ø8 lead screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYN5050-S1VN-CD-P1</td>
<td>2-phase stepper / Ø8 lead screw</td>
</tr>
<tr>
<td>CYC5050-S1VN-CD-P1</td>
<td>2-phase stepper / Ø8 lead screw</td>
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</tbody>
</table>

Technical specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>CYN5050-S1VN-CD-P1</th>
<th>CYC5050-S1VN-CD-P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution (guide)</td>
<td>5 μm / 2.5 μm</td>
<td>5 μm / 2.5 μm</td>
</tr>
<tr>
<td>Maximum speed (full step)</td>
<td>10 mm / sec</td>
<td>10 mm / sec</td>
</tr>
<tr>
<td>Positioning precision</td>
<td>25 μm</td>
<td>25 μm</td>
</tr>
<tr>
<td>Repeatability precision</td>
<td>2 μm</td>
<td>2 μm</td>
</tr>
<tr>
<td>Load capacity</td>
<td>10 Kg</td>
<td>10 Kg</td>
</tr>
<tr>
<td>Missed step</td>
<td>3 μm</td>
<td>3 μm</td>
</tr>
<tr>
<td>Parallel</td>
<td>15 μm</td>
<td>15 μm</td>
</tr>
<tr>
<td>Dynamic straightness</td>
<td>3 μm</td>
<td>3 μm</td>
</tr>
<tr>
<td>Dynamic parallelism</td>
<td>50 μm</td>
<td>50 μm</td>
</tr>
</tbody>
</table>

Motor

<table>
<thead>
<tr>
<th>Motor</th>
<th>2-phase stepper / Ø8 lead screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type/Shaft numbers</td>
<td>2-phase stepper / Ø8 lead screw</td>
</tr>
</tbody>
</table>

Connecter

<table>
<thead>
<tr>
<th>Connector</th>
<th>Stage side connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-pin male end connector D-SUB (optional)</td>
<td></td>
</tr>
</tbody>
</table>

Sensor

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Origin sensor (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit sensor</td>
<td>Photoelectric sensor EE-SX4134</td>
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</tbody>
</table>

Wiring method

<table>
<thead>
<tr>
<th>Wiring method</th>
<th>Blank</th>
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</thead>
</table>

Motor model

<table>
<thead>
<tr>
<th>Motor model</th>
<th>2-phase stepper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type/Shaft numbers</td>
<td>2-phase stepper / Ø8 lead screw</td>
</tr>
</tbody>
</table>

Connecting cable (optional)

<table>
<thead>
<tr>
<th>Connecting cable (optional)</th>
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</thead>
</table>

Driver (optional)

<table>
<thead>
<tr>
<th>Driver (optional)</th>
<th>C: Standard specified by GMT</th>
</tr>
</thead>
</table>

Wiring method

| Wiring method | Blank |

Material

<table>
<thead>
<tr>
<th>Material</th>
<th>Stainless Steel</th>
</tr>
</thead>
</table>

XY axis (w/o cover)

Diagram of XY axis

Photos are CYN5075-S1VN-ND(UP) and CYC5075-S1VN-ND(DOWN).
Standard Motorized XY axis Linear-motion Stage  •  Circular linear ball guiding

CYN60□ / CYC60□-S series

- V-Teeth lead screw Design

**Model description**

<table>
<thead>
<tr>
<th>CYN60□ / CYC60□-S series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
</tr>
<tr>
<td>S  Stainless Steel</td>
</tr>
<tr>
<td><strong>Drive type</strong></td>
</tr>
<tr>
<td>1  V-Teeth lead screw</td>
</tr>
<tr>
<td><strong>Accuracy level</strong></td>
</tr>
<tr>
<td>V  Standard grade</td>
</tr>
<tr>
<td><strong>Wiring method</strong></td>
</tr>
<tr>
<td>N  GMT Standard</td>
</tr>
<tr>
<td><strong>Motor model</strong></td>
</tr>
<tr>
<td>N  2-phase stepper</td>
</tr>
<tr>
<td>X  Not equipped</td>
</tr>
<tr>
<td><strong>Connector type</strong></td>
</tr>
<tr>
<td>D  D-SUB15</td>
</tr>
</tbody>
</table>

**Axis & serial numbers**

<table>
<thead>
<tr>
<th>Table size</th>
<th>Stroke</th>
<th>Ball screw pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td>60x60mm</td>
<td>50mm</td>
<td>P1 1mm</td>
</tr>
<tr>
<td>75mm</td>
<td>50mm</td>
<td>P2 2mm</td>
</tr>
</tbody>
</table>

**Connecting cable (optional)**

<table>
<thead>
<tr>
<th>Driver (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
</tr>
<tr>
<td>Not equipped</td>
</tr>
</tbody>
</table>

**Wiring method**

| 2m cable*1 |
| 4m cable*1 |

**Material**

- Standard Steel/ Nickel plating

**Driver (optional)**

- Blank

Photoelectric sensor EE-SX498

**Electrical specifications**

- 24V±10%
- 2m cable*1

**Sensor**

- Photoelectric sensor EE-SX498
- Control output: NPN open collector output under 24V 8mA
- Output control: 24V@10%

**Mechanical specifications**

- Dynamic straightness: 10 μm
- Dynamic parallelism: 10 μm

**Motor**

- Brand/Model: GMT / 2MS-N28D32A
- Motor: 2-phase stepper/2MS-N28D32A
- Connector: 15-pin male and connector D-SUB (optional)

**Electrical specifications**

- Power voltage: 24V±10%
- Control output: NPN open collector output under 24V 8mA
- Output control: 24V@10%
Standard Motorized XY axis Linear-motion Stage  ● Circular linear ball guiding

CYN60□ / CYC60□-S series-V-Teeth lead screw Design

### CYN60□-S1VN-ND

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
<th>P1</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>140</td>
<td>229</td>
<td>50</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>75</td>
<td>165</td>
<td>254</td>
<td>50</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### CYC60□-S1VN-ND

<table>
<thead>
<tr>
<th>Stroke</th>
<th>L</th>
<th>L1</th>
<th>P</th>
<th>N</th>
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</tr>
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<td>50</td>
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</tr>
<tr>
<td>75</td>
<td>165</td>
<td>254</td>
<td>50</td>
<td>3</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**Model description**

CYN80 / CYC80-S series-V-Teeth lead screw Design

- **Model Number**: CYN80 / CYC80-
- **Material**: Stainless Steel
- **Drive type**: V-Teeth lead screw
- **Accuracy level**: GMT Standard
- **Wiring method**: GMT Standard
- **Motor model**: 2-phase stepper
- **Connector type**: 15-pin female end connector D-SUB

**Mechanical specifications**

- **Table size**: 80 x 80 mm
- **Stroke**: 50 mm
- **Ball screw pitch**: 1 mm
- **Connecting cable**: Blank

**Precision specifications**

- **Positioning precision**: 5 μm / 2.5 μm
- **Repeatability precision**: 5 μm / 2.5 μm
- **Load capacity**: 5 Kg
- **Parallelism**: 10 μm
- **Dynamic straightness**: 3 μm
- **Dynamic parallelism**: 10 μm

**Electrical specifications**

- **Motor**: 2-phase stepper / 1/28 double shafts
- **Driver brand/Model**: GMT / DS2-D02A
- **Connector**: 15-pin female end connector D-SUB

**Standard Motorized XY axis Linear-motion Stage ○ Circular linear ball guiding**

CYN80 / CYC80-S series-V-Teeth lead screw Design

Photos are CYN8075-S1VN-ND(UP) and CYC8075-S1VN-ND(DOWN).
Standard Motorized Stage — 6-axis assembly application explanation (axis & stroke)

AXG6-80CSW
(α axis stroke : ±7°)
(Repeatability accuracy : ±0.05°)

AZV6008-F
(Z axis stroke : 8mm)
(Repeatability accuracy : ±5μm)

AR59-A3N
(θ = 360°)
(Repeatability accuracy : ±0.05°)

AY80-F
(XY axis stroke : 15mm)
(Single movement accuracy : 15μm)
(Repeatability accuracy : ±1μm)

AXG6-80CSW
(α axis stroke : ±7°)
(Repeatability accuracy : ±0.05°)

Electrical Specifications
Electrical specifications

Male end connector
PIN layout & definition

Models
40&60
AX-A、AY-A

Models
80&100&120
AX-A、AY-A

Wiring diagram

Sequence diagram

Motor lead A
Motor lead A
Motor lead B
Motor lead B
Not used
CCWLS output
Not used
Power input(DC+24V)
Stage travel stroke ORG1 output
Power input(DC 0V)
Sensor

Motor lead A
Motor lead B
Motor lead B
Not used
CCWLS output
Not used
Power input(DC+24V)
Stage travel stroke ORG1 output
Power input(DC 0V)
Ground
Not used
Not used
Not used

Motor reversed side
Motor side
Motor reversed side
Motor side

Mechanical limit
Origin plane
Origin reverse plane
CCW limit

Motor reversed side
Motor side
Motor reversed side
Motor side

Mechanical limit
Origin plane
Origin reverse plane
CCW limit

www.gmtlinea r.com

www.gmtlinea r.com
**Electrical specifications**

### Male end connector
**PIN layout & definition**

<table>
<thead>
<tr>
<th>Models</th>
<th>AX-F · AY-F</th>
</tr>
</thead>
</table>

- **Motor lead A**
- **Motor lead B**
- **Motor lead C**
- **Not used**
- **Power input (DC+24V)**
- **Stage travel stroke ORG1 output**
- **Ground**
- **Not used**
- **Motor side**
- **Motor reversed side**

**Sequence diagram**

- Stroke block
- CCW limit
- ORG sensor
- CW limit
- Motor reversed side
- Mechanical limit
- Origin plane
- Origin reverse plane
- CCW limit
- Mechanical limit
- Motor side

---

**Models**

| AX-F | AY-F |

**Sequence diagram**

- Stroke block
- CCW limit
- ORG sensor
- CW limit
- Motor reversed side
- Mechanical limit
- Origin plane
- Origin reverse plane
- CCW limit
- Mechanical limit
- Motor side

---

**Models**

| CXS | CYS |

**Sequence diagram**

- Stroke block
- CCW limit
- ORG sensor
- CW limit
- Motor reversed side
- Mechanical limit
- Origin plane
- Origin reverse plane
- CCW limit
- Mechanical limit
- Motor side
### Male end connector
#### PIN layout & definition

**Models**
- 6008&8010
- AZV

#### Wiring diagram

**Models**
- AXG

#### Sequence diagram

- Stroke block
- CCW limit
- ORG sensor
- CW limit
- Motor reversed side
- Mechanical limit
- CW limit
- Origin plane
- Origin reverse plane
- CCW limit
- Mechanical limit
- Motor side

- Stroke block
- CCW limit
- ORG sensor
- CW limit
- Motor reversed side
- Mechanical limit
- CW limit
- Origin plane
- Origin reverse plane
- CCW limit
- Mechanical limit
- Motor side
**Electrical specifications**

**Male end connector**
**PIN layout & definition**

<table>
<thead>
<tr>
<th>Models</th>
<th>AX-A, AY-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Models</td>
<td>AR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIN</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Motor lead A</td>
</tr>
<tr>
<td>2</td>
<td>Motor lead A</td>
</tr>
<tr>
<td>3</td>
<td>Motor lead B</td>
</tr>
<tr>
<td>4</td>
<td>Motor lead B</td>
</tr>
<tr>
<td>5</td>
<td>Not used</td>
</tr>
<tr>
<td>6</td>
<td>Not used</td>
</tr>
<tr>
<td>7</td>
<td>Not used</td>
</tr>
<tr>
<td>8</td>
<td>Power input (DC+24V)</td>
</tr>
<tr>
<td>9</td>
<td>Stage travel stroke ORG1 output</td>
</tr>
<tr>
<td>10</td>
<td>Not used</td>
</tr>
<tr>
<td>11</td>
<td>Power input (DC 0V)</td>
</tr>
<tr>
<td>12</td>
<td>Ground</td>
</tr>
<tr>
<td>13</td>
<td>Not used</td>
</tr>
<tr>
<td>14</td>
<td>Not used</td>
</tr>
<tr>
<td>15</td>
<td>Not used</td>
</tr>
<tr>
<td>16</td>
<td>Not used</td>
</tr>
</tbody>
</table>

**Sequence diagram**

**Wiring diagram**

**Models**

- 39, 59, 80, 100
- AR

**Sequence diagram**

- Stroke block
- CCW limit
- ORG sensor
- Origin plane
- Origin reverse plane
- CW limit
- Motor reversed side
- Mechanical limit
- Motor side
**Electrical specifications**

**Male end connector**

**PIN layout & definition**

For V-Teeth lead screw Design

**Sequence diagram**

<table>
<thead>
<tr>
<th>Models</th>
<th>AX-F</th>
<th>AY-F</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Models</th>
<th>CXS</th>
<th>CYS</th>
</tr>
</thead>
</table>

**Wiring diagram**

1. Motor lead A
2. Motor lead A
3. Motor lead B
4. Motor lead B
5. Not used
6. Power input (DC+24V)
7. CWLS output
8. Stage travel stroke ORG1 output
9. Power input (DC +24V)
10. Ground
11. Not used
12. Not used
13. Motor lead B
14. Not used
15. Not used
16. Power input (DC -24V)
17. CCWLS output
18. ORG sensor
19. Motor reversed side
20. Motor side

**Stroke block**

**CCW limit**

**ORG sensor**

**CW limit**

**Motor reversed side**

**Mechanical limit**

**Origin plane**

**CW limit**

**Origin reverse plane**

**CCW limit**

**Origin plane**

**CW limit**

**Mechanical limit**

**Motor side**

**Stroke block**

**CCW limit**

**ORG sensor**

**CW limit**

**Motor reversed side**

**Mechanical limit**

**Origin plane**

**Origin reverse plane**

**CCW limit**

**Motor side**
**Electrical specifications**

### Male end connector
**PIN layout & definition**
For V-Teeth lead screw Design

| Models | CXN · CYN | CXC · CYC |

### Wiring diagram

#### Sequence diagram

- **Motor reversed side**
- **Motor side**
- **Stroke block**
- **CCW limit**
- **CW limit**
- **ORG1**
- **Org 2**
- **Origin reverse plane**
- **Origin plane**
- **CCW limit**
- **CW limit**
- **Motor lead A**
- **Motor lead B**
- **Motor lead C**
- **Motor lead D**
- **Motor lead E**
- **Power input (+)**
- **Power input (-)**
- **CWLS output**
- **CCWLS output**
- **Stage travel stroke ORG1 output**
- **Stage travel stroke ORG2 output**
- **Power input (DC 5V)**
- **Power input (DC 15V)**
- **Ground**
- **Not used**

### For GMT full-series motorized stage
The full-series motorized stage has been integrated a D-SUB connector as default designed connector. The standard connecting cable is corresponding connection type for stage side which is including single-sided connector in 2 m length with discrete 15 wires as common accessory stocked for optional purchasing.

**D-SUB standard connecting cable**
- D-SUB TO HRS converting cable
- D-SUB TO NJC converting cable

If you use HRS/NJC originally, you can choose D-SUB TO HRS/D-SUB TO NJC converting cable for conversion.

When standard connecting cable is used, please make insulation treatment on the unused wires at the discrete wire end.

Connecting cable length over 6 m may cause abnormal operation.

Minimum bendable radius of connecting cable is 5 times the cable diameter.
### Standard Motorized Stage and 2-phase Stepper Motor/Driver Cross-reference Table

<table>
<thead>
<tr>
<th>Motor Type / Shaft Type</th>
<th>Motor Manufacturer</th>
<th>Motor Model</th>
<th>Driver Manufacturer</th>
<th>Driver Model (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Taiwan brand) 2-phase stepper motor/Double shaft</td>
<td>GMT</td>
<td>2MS-N28D32A</td>
<td>2MS-N28D45A</td>
<td>2MS-N35D50A</td>
</tr>
<tr>
<td>Rated current</td>
<td>0.87A</td>
<td>0.87A</td>
<td>1.0A</td>
<td>1.85A</td>
</tr>
<tr>
<td>Size</td>
<td>28x45</td>
<td>35x36</td>
<td>52x47</td>
<td></td>
</tr>
<tr>
<td>Step angle</td>
<td>1.8°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excitation maximum static torque</td>
<td>0.06N·m</td>
<td>0.09N·m</td>
<td>0.14N·m</td>
<td>0.44N·m</td>
</tr>
<tr>
<td>Rotor inertia (Kg·m²)</td>
<td>0.9x10⁻⁶</td>
<td>1.2x10⁻⁶</td>
<td>1.4x10⁻⁶</td>
<td>6.8x10⁻⁷</td>
</tr>
<tr>
<td>Motor Type / Shaft Type</td>
<td>Motor Manufacturer</td>
<td>Motor Model</td>
<td>Driver Manufacturer</td>
<td>Driver Model (optional)</td>
</tr>
<tr>
<td>Standard Motorized stage and 2-phase stepper motor/driver</td>
<td>TAMAGAWA</td>
<td>TS36411N1E2</td>
<td>SYANO</td>
<td>TAMAGAWA</td>
</tr>
<tr>
<td>Rated current</td>
<td>1.5A</td>
<td>1.4A</td>
<td>1.2A</td>
<td>1.2A</td>
</tr>
<tr>
<td>Size</td>
<td>28x47.5</td>
<td>35x37</td>
<td>42x47</td>
<td></td>
</tr>
<tr>
<td>Step angle</td>
<td>1.8°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excitation maximum static torque</td>
<td>0.05N·m</td>
<td>0.09N·m</td>
<td>0.15N·m</td>
<td>0.32N·m</td>
</tr>
<tr>
<td>Rotor inertia (Kg·m²)</td>
<td>0.9x10⁻⁶</td>
<td>0.18x10⁻⁶</td>
<td>10.02x10⁻⁶</td>
<td>0.06x10⁻⁶</td>
</tr>
</tbody>
</table>

### Connecting Cable

**D-SUB TO HRS converting cable**

<table>
<thead>
<tr>
<th>Stage side D-SUB female end</th>
<th>Control side NUC male end</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor leadA</td>
<td>Motor leadA</td>
</tr>
<tr>
<td>Motor leadB</td>
<td>Motor leadB</td>
</tr>
<tr>
<td>Motor leadC</td>
<td>Motor leadC</td>
</tr>
<tr>
<td>Motor leadD</td>
<td>Motor leadD</td>
</tr>
<tr>
<td>Motor leadE</td>
<td>Motor leadE</td>
</tr>
<tr>
<td>CWLS output</td>
<td>CWLS output</td>
</tr>
<tr>
<td>Motor rotary ORG2 output</td>
<td>Motor rotary ORG2 output</td>
</tr>
<tr>
<td>Power input(y)</td>
<td>Power input(y)</td>
</tr>
<tr>
<td>Stage travel stroke ORG1 output</td>
<td>Stage travel stroke ORG1 output</td>
</tr>
<tr>
<td>Power input(z)</td>
<td>Power input(z)</td>
</tr>
<tr>
<td>Ground</td>
<td>Ground</td>
</tr>
<tr>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>Not used</td>
<td>Not used</td>
</tr>
</tbody>
</table>

**D-SUB TO VRS converting cable**

<table>
<thead>
<tr>
<th>Stage side D-SUB female end</th>
<th>Control side NUC male end</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor leadA</td>
<td>Motor leadA</td>
</tr>
<tr>
<td>Motor leadB</td>
<td>Motor leadB</td>
</tr>
<tr>
<td>Motor leadC</td>
<td>Motor leadC</td>
</tr>
<tr>
<td>Motor leadD</td>
<td>Motor leadD</td>
</tr>
<tr>
<td>Motor leadE</td>
<td>Motor leadE</td>
</tr>
<tr>
<td>CWLS output</td>
<td>CWLS output</td>
</tr>
<tr>
<td>Motor rotary ORG2 output</td>
<td>Motor rotary ORG2 output</td>
</tr>
<tr>
<td>Power input(y)</td>
<td>Power input(y)</td>
</tr>
<tr>
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<td>Stage travel stroke ORG1 output</td>
</tr>
<tr>
<td>Power input(z)</td>
<td>Power input(z)</td>
</tr>
<tr>
<td>Ground</td>
<td>Ground</td>
</tr>
<tr>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>Not used</td>
<td>Not used</td>
</tr>
<tr>
<td>Motor type / Shaft type</td>
<td>Motor manufacturer</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>5-phase stepper motor/Double shaft</td>
<td>TAMAGAWA</td>
</tr>
<tr>
<td>2-phase stepper motor/Double shaft</td>
<td>TAMAGAWA, SANYO</td>
</tr>
<tr>
<td>2-phase stepper motor/Double shaft</td>
<td>SANYO, SHY</td>
</tr>
</tbody>
</table>

Positioning precision (unit: μm)
Within predetermined testing range, from the starting position, move and position in a specific direction and measure the difference between actual value and target value. Use the maximum difference as positioning precision.

Repeatability positioning precision (unit: ±μm)
Use laser interferometer or Zeiss coordinate measuring machine (CMM) to repeat measurement for seven times. With half of the obtained maximum error from the error based on one direction to any point stop, measure in the middle point of movement distance and in the directions of two ends and obtain the maximum difference as the repeatability positioning precision.

Missed step (lost stroke at reverse rotation) (unit: μm)
Within predetermined testing range, from the origin, make movement positioning for any point from positive direction command, measure actual movement value; make negative direction command (same pulse number) for movement positioning and measure actual movement value; make positive direction (same pulse number) command for movement positioning and measure actual movement value. Make positive direction and negation direction movement seven times and measure the individual actual movement values. The average will be the missed step.
Testing equipment: micrometer. In testing, fix stage and move meter.

**Parallelism (unit: μm)**

Put the stage on granite workbench. Use micrometer or Zeiss coordinate measuring machine (CMM) for measurement. At the middle of stage work area, use the measured maximum difference as the parallelism.

**Dynamic parallelism (unit: μm)**

Put the stage on granite workbench. Set micrometer on the workbench and measure on granite. The measured maximum difference is the Dynamic parallelism.

Testing equipment: micrometer. In testing, fix the stage bottom board and move the stage workbench.

**Dynamic straightness (unit: μm)**

Within predetermined testing range, from the starting position of stage, move in a specific direction and use standard gauge block as basis to measure the difference between actual value and target value for horizontal straightness and vertical straightness. Use the maximum difference a Dynamic straightness.
Testing equipment: laser interferometer, Zeiss coordinate measuring machine.

In testing, fix the stage bottom board and move the stage workbench.

**One-way remove positioning precision (unit: μm)**

Within predetermined testing range, from the starting position, move and position in a specific direction and measure the difference between actual value and target value. Use the maximum difference as positioning precision.

**Repeated remove positioning precision (unit: μm)**

Use laser interferometer or Zeiss coordinate measuring machine (CMM) to repeat measurement for seven times. With half of the obtained maximum error from the error based on one direction to any point stop, measure in the middle point of movement distance and in the directions of two ends and obtain the maximum difference as the repeated positioning precision.

**Missed step (lost stroke at reverse rotation) (unit: μm)**

Within predetermined testing range, from the origin, make movement positioning for any point from positive direction command, measure actual movement value; make negative direction command (same pulse number) for movement positioning and measure actual movement value; make positive direction (same pulse number) command for movement positioning and measure actual movement value. Make positive direction and negation direction movement seven times and measure the individual actual movement values. The average will be the missed step.

**Parallelism (unit: μm)**

Put the stage on granite workbench. Use micrometer or Zeiss coordinate measuring machine (CMM) for measurement. At the middle of stage work area, use the measured maximum difference as the parallelism.

**Dynamic parallelism (unit: μm)**

Within predetermined testing range, from a stage starting position, move in a specific direction and measure the difference between actual value and target value. Use the maximum difference as Dynamic parallelism.
**Dynamic vertical (unit: μm)**

Put the stage on granite workbench. Set micrometer on the workbench and measure on the standard gauge block. The measured maximum difference is the Dynamic vertical.

**Testing equipment:** micrometer. In testing, fix stage and move stage workbench.

**Positioning precision (unit: °)**

Within predetermined testing range, from the starting position, move and position in a specific direction and measure the difference between actual value and target value. Use the maximum difference as positioning precision.

**Repeated remove positioning precision (unit: ±°)**

According to baseline, set testing standard angle for movement. In clockwise (counterclockwise) direction, fix the angle for positioning and repeat seven measurements. In the same direction, use the half of the maximum difference from any stop point as Repeatability positioning precision value.

**Missed step (lost stroke at reverse rotation) (unit: °)**

Select clockwise rotation for angle positioning and set the position x1. Continue counterclockwise rotation for angle positioning and set the position y1. Set arbitrary position for seven measurements. Measure in the middle of movement distance and in the direction of two ends. The obtained maximum is the missed step.

Missed step calculation:

\[ \text{max} \left( \frac{(x_1 + x_2 + x_3 + \cdots + x_7)}{7}, \frac{(y_1 + y_2 + y_3 + \cdots + y_7)}{7} \right) \]
Height of rotation center (unit: mm)
Within predetermined testing range, from a starting position, move in a specific direction and measure if the distance from bench to circle center falls within target value, which is the height of rotation center.

Rotation center deflection precision (unit: mm)
Within predetermined testing range, from a starting position, move in a specific direction and measure if the actual circle center falls within target value, which is the rotation center deflection precision.

Testing equipment: altimeter, Zeiss coordinate measuring machine. In testing, fix stage and move meter.

One-way remove positioning precision (unit: °)
According to baseline, set standard angle position for movement plane and fix and position rotation angle in clockwise (counterclockwise) direction. Measure the difference between actual value and target value in 360° rotation. The obtained maximum is the positioning precision.

Repeatability positioning precision (unit: ±°)
Use any angle in clockwise (counterclockwise) direction as standard, measure deviation for stop angle for seven times. With half of the obtained maximum error, in the middle of movement distance and the direction of two ends, obtain the maximum value as the Repeatability positioning precision.

Missed step (lost stroke at reverse rotation) (unit: °)
Select clockwise rotation for angle positioning and set the position x1. Continue counterclockwise rotation for angle positioning and set the position y1. Set arbitrary position for seven measurements. Measure in the middle of movement distance and in the direction of two ends. The obtained maximum is the missed step.

Missed step calculation:
\[
\max \left\{ \frac{1}{7} (x_1 + x_2 + x_3 + \ldots + x_7) - \frac{1}{7} (y_1 + y_2 + y_3 + \ldots + y_7) \right\}
\]
Testing equipment: micrometer.
In testing, fix stage and move meter.

Parallelism (unit: μm)
Put the stage on granite workbench. Use micrometer or Zeiss coordinate measuring machine for measurement. At the middle of stage work area, use the measured maximum difference as the parallelism.

Testing equipment: micrometer.
In testing, fix stage and move stage workbench.

Dynamic parallelism (unit: μm)
Put the stage on granite workbench. Use micrometer on the stage workbench or Zeiss coordinate measuring machine for measurement. As the stage workbench makes one rotation, use the maximum measurement difference as the Dynamic parallelism.

Testing equipment: micrometer.
In testing, fix the stage bottom board and move the stage workbench.

Dynamic concentricity (unit: °)
Within predetermined testing range, from a starting position in the circumference, move in a specific direction and measure the maximum difference between actual value and target value as Dynamic concentricity.