

ATMS Series Translation Motorized Stages - 5 Phase Stepping Motor | ATMS46-(Z)



Application Systems

Machine Vision

Manual Positions

Motion Control Products

Optical & Mirror Holder

FA Parts

Measurement & Control

FA Electrical Parts

Tool & Measure

Cleanroom & AntiStatic

Index

Piezo Stage

Precision Linear MS

High Speed MS

Motorized Goniometer

Motorized Rotation

Multiaxis Motorized

Industrial Robot

Controller & Driver & Cable

Custom-Built MS

Stepping motor driven stages, ideal for positioning of measuring instruments or inspection tools from which high stiffness and high precision are required.



- U-shaped rail offers light weight, and minimized deflection to achieve high stiffness.

Guide

- ▶ Contact our International Sales Division if you desire to change motors, etc. [Reference](#) I019, I085 (Question Sheet)
- ▶ Dust-proof cover reel and grease change are optionally available. [Reference](#) I017, I018

Attention

- ▶ After purchasing an X axis stage, to combine it with a Z axis stage, assembly adjustment cost and performance inspection cost will be charged separately.

| Specifications | | | ATMS46-300(Z) | ATMS46-400(Z) | ATMS46-500(Z) |
|---------------------------|---|---------------------------|---|--|--|
| Part Number | | | | | |
| Mechanical Specifications | Travel [mm] | | 300 | 400 | 500 |
| | Table Size [mm] | | 120×124 | 120×124 | 120×124 |
| | Feed Screw [mm] | | Ball screw diameter ϕ 15mm, 10mm lead | Ball screw diameter ϕ 15mm, 10mm lead | Ball screw diameter ϕ 15mm, 10mm lead |
| | Positioning Slide | | Outer rail structure | Outer rail structure | Outer rail structure |
| | Stage Top Material | | Aluminum | Aluminum | Aluminum |
| | Finish | | Black anodized | Black anodized | Black anodized |
| | Weight [kg] | | 16.8 | 18.4 | 20.0 |
| Accuracy Specifications | Resolution | (Full) [μ m/pulse] | 20 | 20 | 20 |
| | | (Half) [μ m/pulse] | 10 | 10 | 10 |
| | MAX Speed [mm/sec] | | 120 | 120 | 120 |
| | Positioning Accuracy [μ m] | | 50 | 50 | 50 |
| | Positional Repeatability [μ m] | | 6 | 6 | 6 |
| | Load Capacity [N] | | 68.6 (7.0kgf) | 68.6 (7.0kgf) | 68.6 (7.0kgf) |
| | Moment Stiffness | Pitch [$^{\circ}$ /N·cm] | 0.10 | 0.10 | 0.12 |
| | | Yaw [$^{\circ}$ /N·cm] | 0.08 | 0.08 | 0.08 |
| | | Roll [$^{\circ}$ /N·cm] | 0.08 | 0.08 | 0.08 |
| | Lost Motion [μ m] | | 5 | 5 | 5 |
| | Backlash [μ m] | | 3 | 3 | 3 |
| | Perpendicularity of Motion [μ m] | | 50 | 60 | 70 |
| | Pitch [$^{\circ}$] / Yaw [$^{\circ}$] | | 50/25 | 55/25 | 55/25 |
| Sensor Part Number | | | Micro photo sensor: PM-L24 (SUNX Co., Ltd.) | | |
| Sensor | Limit Sensor | | Equipped (NORMAL CLOSE) | Equipped (NORMAL CLOSE) | Equipped (NORMAL CLOSE) |
| | Origin Sensor | | None | None | None |
| | Proximity Origin Sensor | | None | None | None |

| Motor / Sensor Specifications | | |
|-------------------------------|---------------------|--|
| Motor | Type | 5-phase stepping motor 1.4A/phase (Tamagawa Seiki Co., Ltd.) |
| | Motor Part Number | TS3624N42E4 (□60mm) |
| | Step Angle | 0.72° |
| Sensor | Power Voltage | DC5 - 24V \pm 10% |
| | Current Consumption | 30mA or lower (15mA or lower per sensor) |
| | Control Output | NPN open collector output DC30V or lower, 50mA or lower |
| | Output Logic | When shaded: Output transistor OFF (no conduction) |

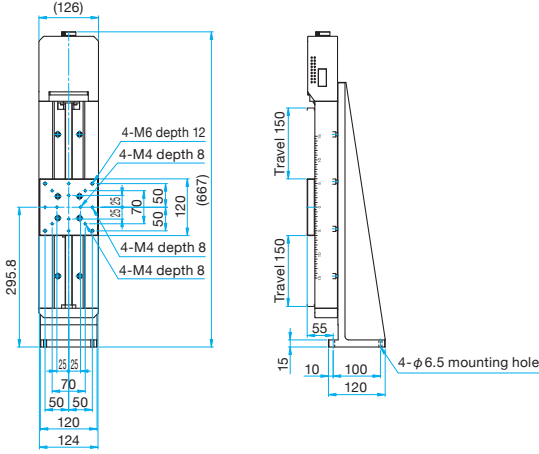
| Compatible Driver / Controller | | |
|--------------------------------|-----------------------|--|
| Control System | Compatible Driver | SD-5M, SD-55M, SD-514MSC, SD-5151, SD-525M |
| | Compatible Controller | ASC-302GS, ASC-304GS |

ATMS Series Translation Motorized Stages - 5 Phase Stepping Motor | **ATMS46-(Z)**

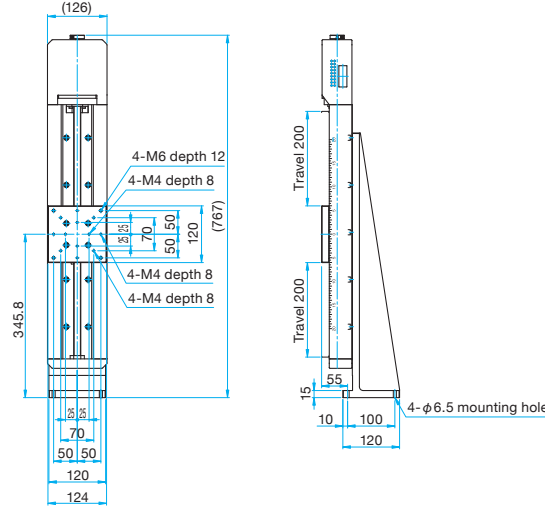


Outline Drawing

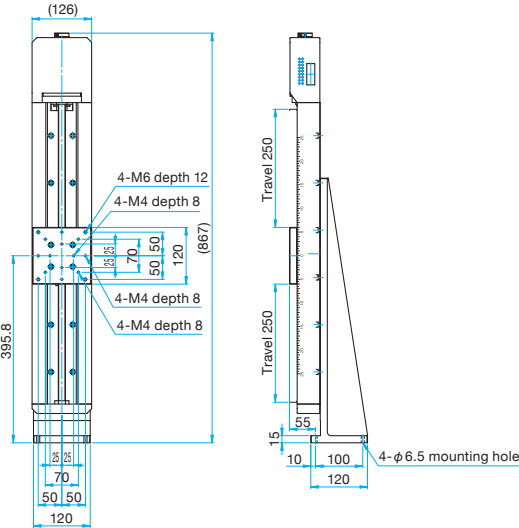
ATMS46-300(Z) Hexagon socket head cap screw M6×25...4 screws



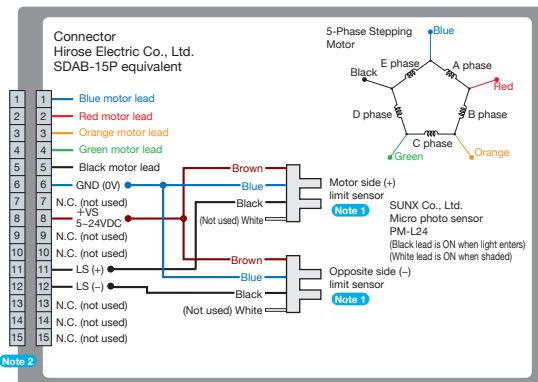
ATMS46-400(Z) Hexagon socket head cap screw M6×25...4 screws



ATMS46-500(Z) Hexagon socket head cap screw M6×25...4 screws



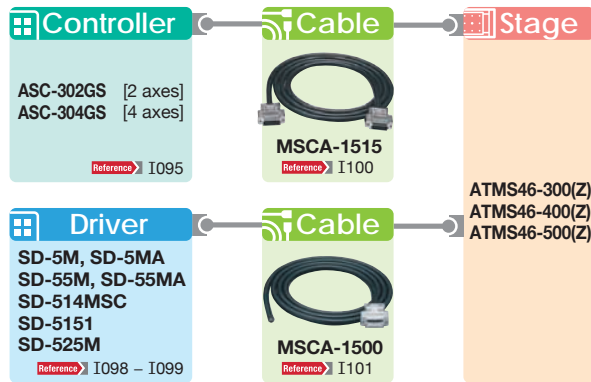
Connection Diagram



Note 1 The motor side limit sensor is the + direction limit sensor. Motorized stages are not fitted with origin and proximity origin sensors. Limit sensors are used as origin detection sensors.

Note 2 Compatible cable connector: DDK Ltd. 17JE-1350

Compatible Controllers / Drivers and Cables



Application Systems

Machine Vision

Manual Positions

Motion Control Products

Optical & Mirror Holder

F A Parts

Measurement & Control

FA Electrical Parts

Tool & Measure

Cleanroom & AntiStatic

Index

Piezo Stage

Precision Linear MS

High Speed MS

Motorized Goniometer

Motorized Rotation

Multiaxis Motorized

Industrial Robot

Controller & Driver & Cable

Custom-Built MS