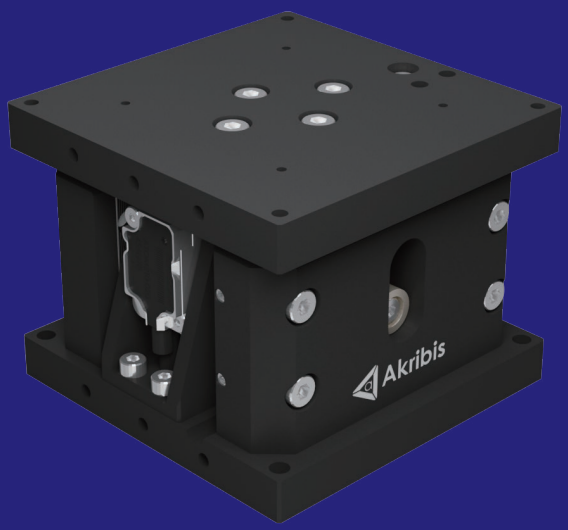


AMZ SERIES
VERTICAL Z MODULE

- Compact design
- Direct drive technology
- High response
- High precision optical encoder
- Stackable configuration

EN-26.3.1

Introduction

The AMZ series micro positioning stage consists of micro linear motor, micro guide rail, encoder position feedback and structural base. The internal structure is extremely compact. It is a high-precision positioning motion stage.

The encoder position feedback built in AMZ65 vertical micro positioning stage can be selected according to the actual technical requirements. Customization service is available.

Continuous Force Fcn = 4.43N
Peak Force Fpk = 28.2N

Features

- Compact and direct-drive Z-axis positioning stage
- Stroke from 8mm and other lengths of travel can be customized
- Built-in grating scale and repeatability up to ±0.2μm
- It can be combined with AMS/AML or AMR flexibly to form an XZ, XYZ or XYZT stage
- Built-in cylinder weight

Applications

Submicron positioning, optical alignment stage.

They are applied to point-to-point high-speed optical positioning, Z-axis optical focusing, micro assembly and fiber optical alignment for automation equipment of all industries.

Miniature Modules	■ Continuous Force (F_{cn}) ■ Peak Force (F_{pk}) Unit: N 1 / 3 / 5 / 10 / 30 / 50	Stroke[1] (mm)	Repeatability (μm)	Page
 AMZ65	4.43 / 28.2	8	up to ±0.2	128

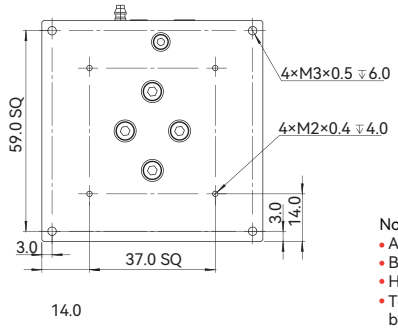
Note:
[1] Longer stroke available upon request.
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

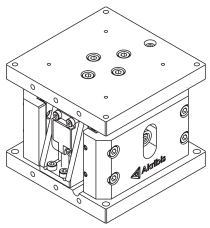
AMZ65

Motor Specifications	Unit	Value
Motor	-	AVM30-15
Continuous Force (NC) @100°C ❶❷	N	4.43
Peak Force ❷	N	28.2
Force Constant ±10% ❷	N/A	7.03
Back EMF Constant ±10% ❷	V/(m/s)	7.03
Resistance @25°C ±10% ❸	Ω	10.24
Inductance ±20% ❹	mH	2.82
Continuous Current (NC) @100°C ❶	A	0.6
Peak Current	A	4.0
Max. Voltage	Vdc	60

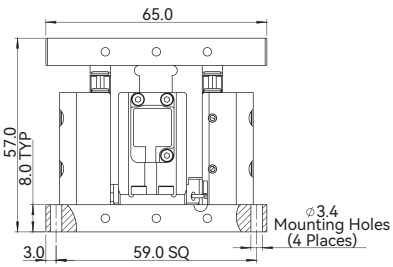
Mechanical Specifications	Unit	Value	
Precision Grade	-	P	N
Effective Stroke	mm	8	
Resolution	µm	SINCOS/0.05	0.2
Repeatability	µm	±0.2	±1.0
Horizontal Straightness	µm	±1.5	
Vertical Straightness	µm	±1.5	
Rated Payload ❺	kg	1.0	
No-Load Moving Mass	kg	0.29	
No-Load Total Mass	kg	0.6	
Max. Static Moment ❻	Nm	0.1	

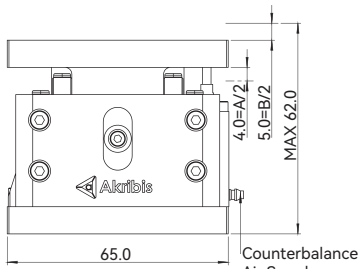
Dimensional Drawing





Note:
- A=Effective stroke
- B=Hardstop stroke
- Home index near center of stroke
- To maintain accuracy, mounting surface must be flat within 5µm over stage entire footprint





❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5m cable.
❹ Inductance is measured by current frequency of 1kHz.
❺ Load capacity of module without cantilever.
❻ This value is based on providing a higher control bandwidth, please contact cust-service@akribis-sys.com for higher load requirements.
★ Maximum pressure allowed for Air Cylinder Counter-balance is 0.6MPa which provides maximum 17N counterbalance force.
The contents of datasheet are subject to change without prior notice.

Ordering Part Number (OPN)

AMZ65-T08-A0G4-A1

- Model: AMZ65
- Precision Grade: Unmarked: Normal ❶
- Cover Type: T: Standard (Black Anodized)
- Effective Stroke: 08: 8mm
- Termination: 1: Motor: Flying Leads/Encoder: DSUB 15; 2: Motor: TYCO2/Encoder: DSUB 15
- Cable Length: A: 0.5m; B: 3.0m
- Scale Type: 4: Nickel, 14ppm/K
- Encoder Type: A0G: ABI-21, TTL (0.2µm)

AMZ65P-T08-R0A2-A1

- Model: AMZ65
- Precision Grade: P: Precision ❶
- Cover Type: T: Standard (Black Anodized)
- Effective Stroke: 08: 8mm
- Termination: 1: Motor: Flying Leads/Encoder: DSUB 15; 2: Motor: TYCO2/Encoder: DSUB 15
- Cable Length: A: 0.5m; B: 3.0m
- Scale Type: 2: Glass G8 Soda Lime, 8ppm/K
- Encoder Type: R0A: ATOM2, SINCOS (1Vpp); R0J: ATOM2, TTL (0.05µm)

Note:
❶ Normal Grade and Precision Grade uses anti-creep roller.
★ Default mounting orientation for this module is horizontal. For other mounting orientations, please contact cust-service@akribis-sys.com.