

- ◆ Two types of options: linear stage & rotating stage
- ◆ Thin and compact structure
- ◆ Independence or free combination of XY $\theta$  stage
- ◆ Direct and low cogging force/torque
- ◆ Fast response time
- ◆ High positioning repeatability



# AMS/AMR Series Miniature Stage

**Akribis Systems Pte Ltd**

# AMS/R

## Specifications

Specs	Units	AMS-65-10	AMR-65-50
Table size	mm	65 X 65 X 15	Φ65 X 22
Max. force	N	25	Torque 0.5N.m
Cont. force	N	3.5	0.06N.m
MAX. loading mass	Kg	2.4	2.2
Effective stroke length	mm	10	operating angle 50°
Resolution	um	0.5	0.64 sec
MAX. speed	mm/s	270	720deg/sec
Positioning repeatability	um	+/-0.5	+/-13sec

## AMS65 linear motor parameters

Model	Units	Value
Stroke	mm	16
Force sensitivity (at mid stroke)	N/A	1.80
Back EMF constant	V/m/s	1.80
Continuous force (at 100 °C) <sup>①</sup>	N	4.50
Peak force	N	9.0
Resistance <sup>②</sup>	ohms	1.6
Inductance <sup>②</sup>	mH	0.6
Voltage at peak force	V	8.0
Continuous current (coil at 100 °C)	A	2.5
Peak current	A	5.0
Actuator constant	N/Sqrt(W)	1.42
Continuous power	W	10.00
Electrical time constant	ms	0.38
Mechanical time constant	ms	86.4
Power at peak force	W	40.0
Thermal dissipation constant	W/°C	0.133
Max coil temperature	°C	100.0

## AMR65 Rotating motor parameters

Specs	Units	Value
Out diameter	mm	65
Inner diameter	mm	38
Height	mm	-
Continuous torque	Nm	0.1
Peak torque	Nm	0.5
Torque constant	Nm/A	0.1
Cogging torque(pk-pk)	Nm	0.003
Back EMF constant	V/krpm	8.55
Number of poles	-	16
continuous current	A	1
Peak current	A	5
Resistance (line-line)	Ω	8/8.4/8.9
Inductance	mH	0.52
Motor constant	Nm/Sqrt(W)	0.04
pole number	-	16

① Continuous force measured without any additional mounting plate or heat sink on coil

② measured at 25 °C

# AMS/R

## Features

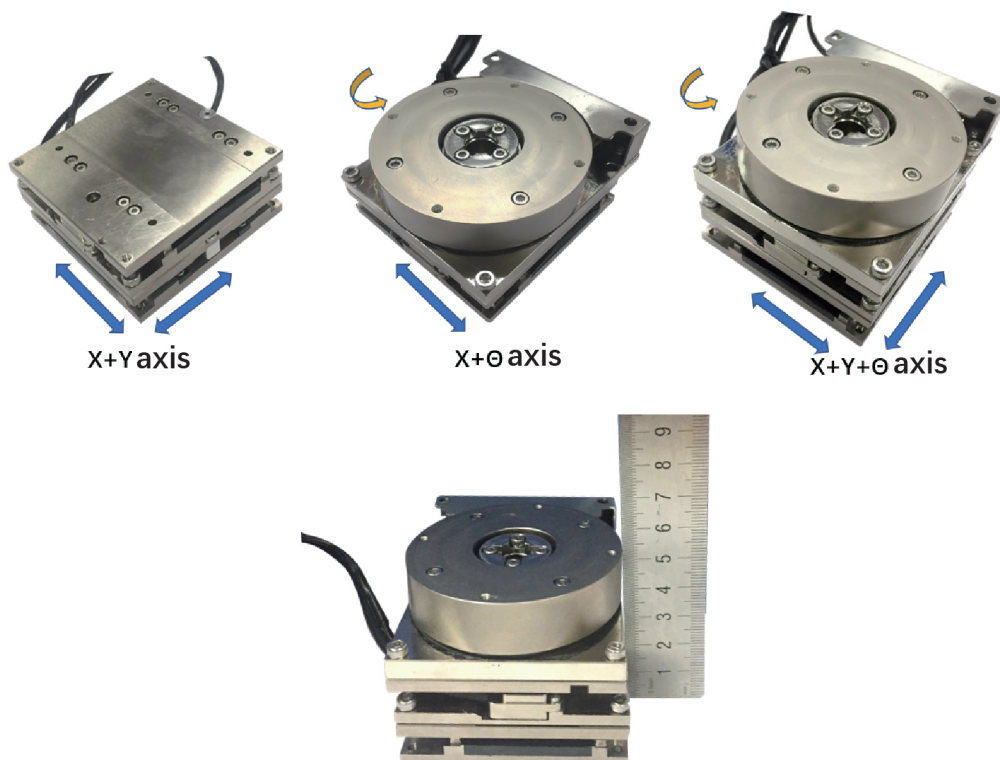
### Compact structure, extra thin thickness for height(Z direction)

By optimization of structure, the thickness of the linear motor AMS-65 stage is only 15mm, and the thickness of the rotating motor AMR-65 stage is only 22mm.



### Flexible combination, free combination of XY or XY $\theta$

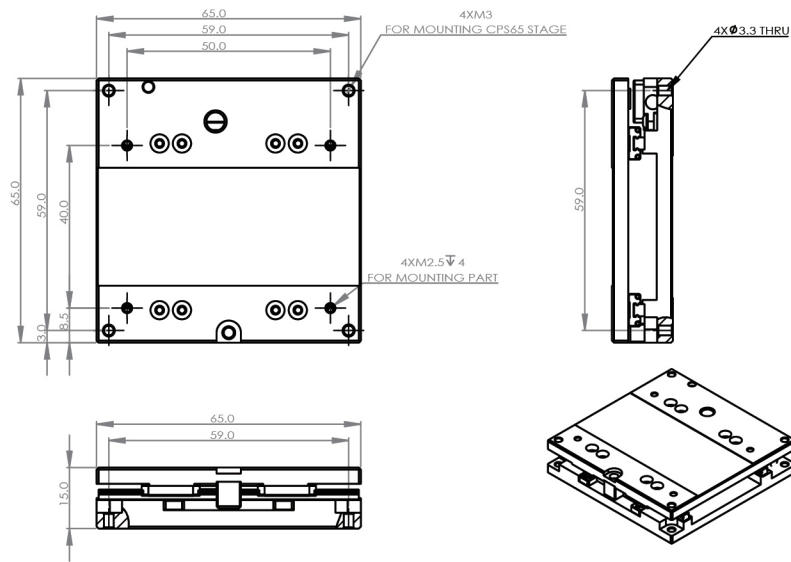
The thickness of combination of XY $\theta$  is only 52mm, hence, save space for customer.



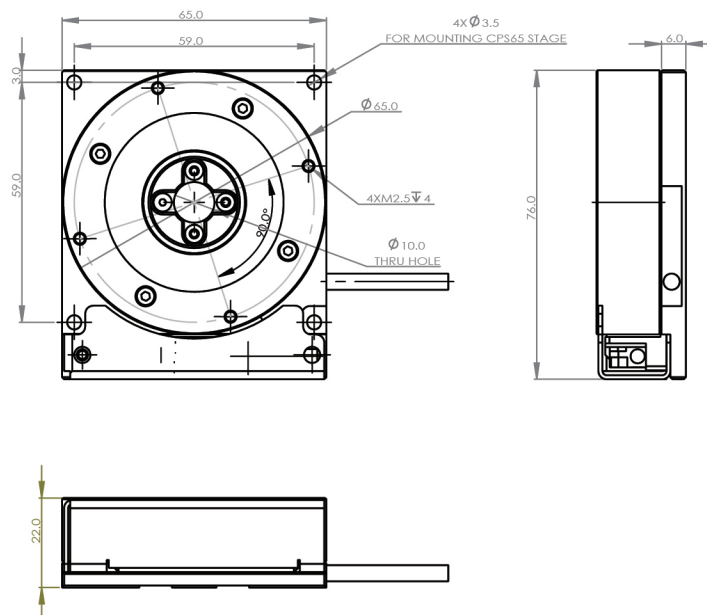
# AMS/R

## Series Dimensions

### AMS65



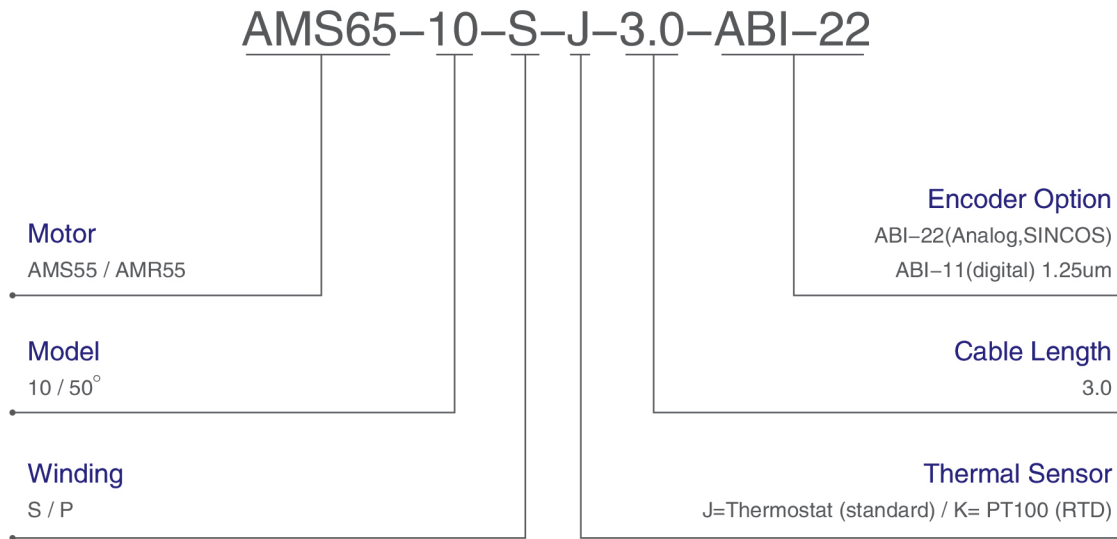
### AMR65



# AMS/R

## Part Numbering

### Motor Numbering



### Stacked Module Numbering

#### XY STAGE

S F B - S65 ABI22 SINCOS - 10 N - S65 ABI22 SINCOS - 10 N

- S – Stacked
- F – Frameless
- B – Recirculating ball bearing

- S65 – Lower axis model : AMS65 stage
- ABI22- Encoder options : ABI22
- SINCOS – Encoder resolution
- 10 – Effective stroke
- N –Cover options : no cover

→ Lower axis model

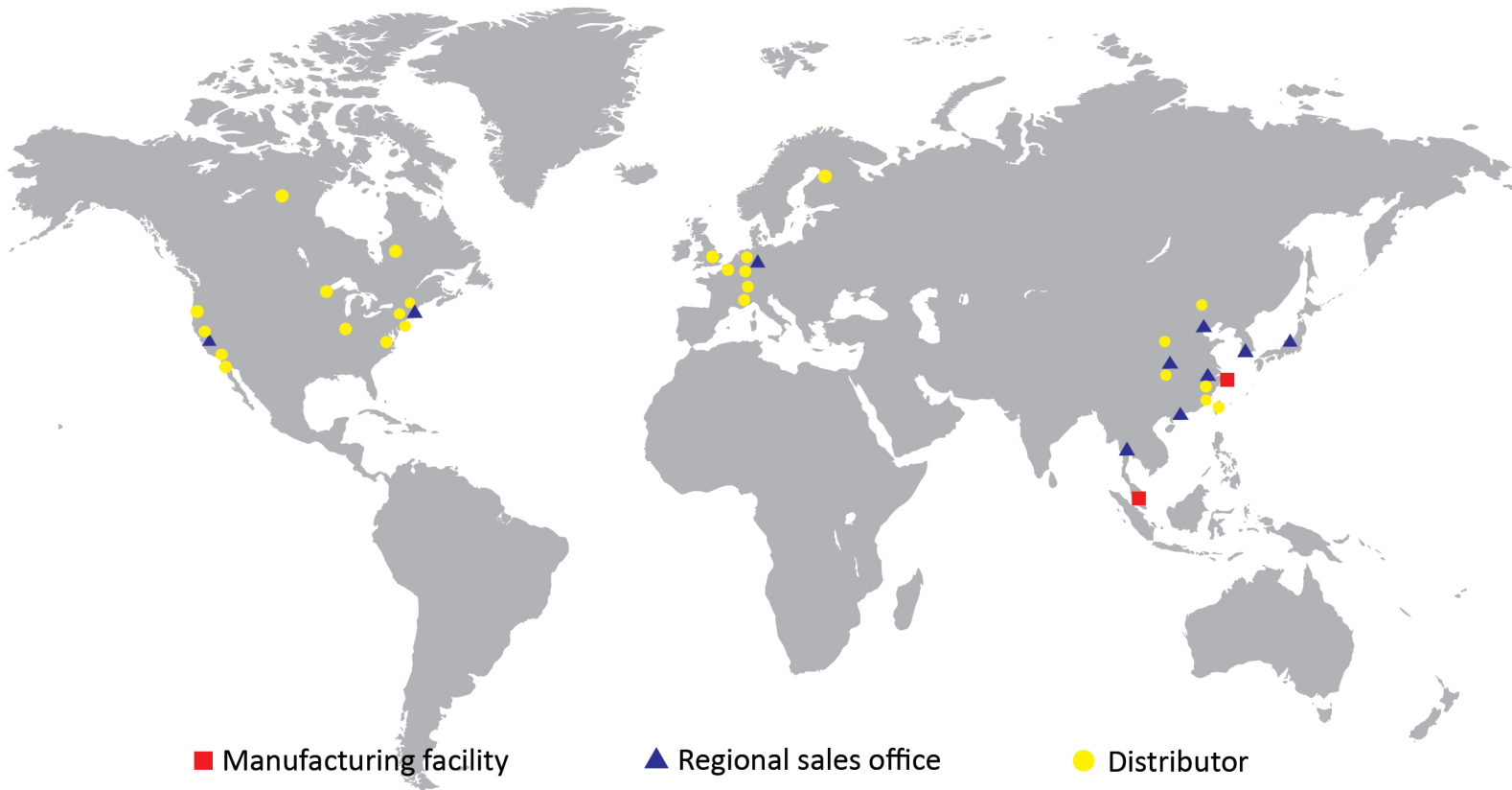
- S65 – Lower axis model : AMS65 stage
- ABI22- Encoder options : ABI22
- SINCOS – Encoder resolution
- 10 – Effective stroke
- N –Cover options : no cover

→ Upper axis model

XY Stage = SFB-S65ABI22SINCOS-10N-S65ABI22SINCOS-10N

XY@Stage =SFB-S65ABI22SINCOS-10N-S65ABI22SINCOS-10N-R65ABI22SINCOS-50N

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