CCM

Low noise linear modules

Company Profile

CCM Automation Technology Co.Ltd,with design office in HongKong and manufaturing plants in China,supplying the most economical solution with simple , exquisite and innovative linear modules for industrial automation .

CCM has over 23 years of experience in this field and been consistently researching and developing new models each year. CCM brings together professional individuals from multiple fields,including mechanical design , mechanical engineer , motor , computer , sales , etc , thus we can professional advice on module selection.

CCM protects intellectual property rights of products.CCM owns over ten patents that all authorized by the State Intellectual Property Office of China.The features of the CCM linear actuators are

1) high accuracy.   2) customized length up to 6 meters.

3) anti-corrosion.   4) maintenance-free.

5) low vibration.   6) low noise.

7) high reliability.   8) high durability.

9) high speed.

W Series

Linear Modules

Specification	Max Load	Guide Width	Pitch	Torque	Positional Repeatability
W40-03	3KG	40MM	75MM	≤ 3 N.M	≤ 0.05 MM
W40-10	10KG	40MM	75MM	≤ 3 N.M	≤ 0.05 MM
W45-15	15KG	45MM	80MM	≤ 4.5 N.M	≤ 0.05 MM
W50-25	25KG	50MM	95MM	≤ 6.5 N.M	≤ 0.05 MM
W60-35	35KG	60MM	95MM	≤ 8.5 N.M	≤ 0.05 MM
W35	3KG	35MM	63MM	≤ 3 N.M	≤ 0.05 MM
W100	30KG	100MM	125MM	≤ 8.5 N.M	≤ 0.05 MM

WH Series

Linear Modules

Specification	Max Load	Guide Width	Pitch	Torque	Positional Repeatability
WH35	3 KG	35 MM	63 MM	≤ 1 N.M	≤ 0.1 MM
WH100	30 KG	100 MM	125 MM	≤ 4.5 N.M	≤ 0.1 MM

Model Number

CCM - W40-10 - L1000 - DC -1A - 60(D14)
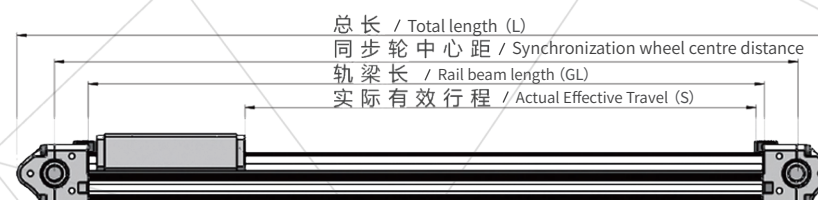
(1)   (2) (3) (4) (5) (6)
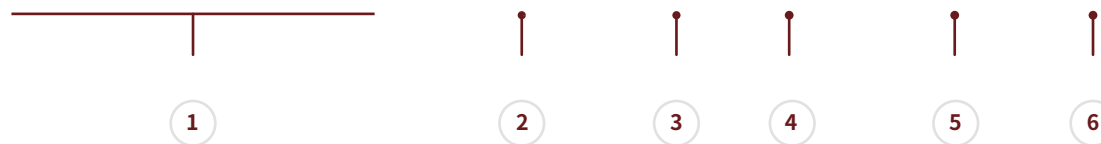
1   **Brand、Model :** CCM-W40-10 / W45-15 / W50-25 ...

2   **Total length :** L1000 (Total length 1000mm); GL1000 (Rail length 1000mm);
S1000 (Stroke length 1000mm) Length relationship refers to "Module Length Indication" on the right.

3   **Motor Connections :** DC (Direct connection); DG (Connect by speed reducer set);
More details, please see the illustration.

4   **Shaft position :** 1~8 (Shaft Position); A~D (Motor Position);   More details, please see the illustration.

5   Dimension of Motor/Planetary Gearbox   **6**   Shaft Diameter of Motor/Planetary Gearbox

Note: If you need rail mount,sensor, motor, planetary gearbox and other accessory, please contact us to order.
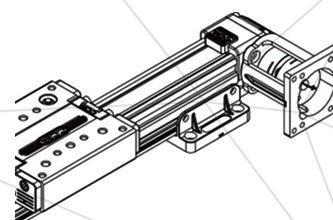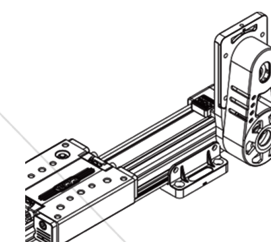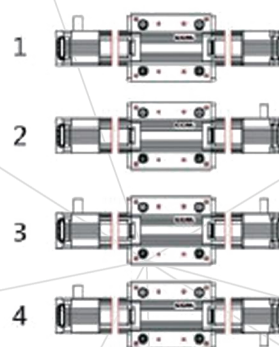
A

Part
Length Indication >>

总 长 / Total length（L）
同步轮中心距 / Synchronization wheel centre distance
轨 梁 长 / Rail beam length（GL）
实际有效行程 / Actual Effective Travel（S）

B

Motor
Connections >>

Motor Bracket

Speed Reducer Set

C

Motor
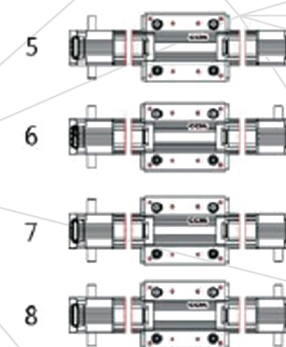Shaft position >>

1
2
3
4

A   B

C   D

5
6
7
8

Shaft position

Motor position

Shaft position

W 4 0 - 0 3

W Series

■ Dimensions（Unit : mm）
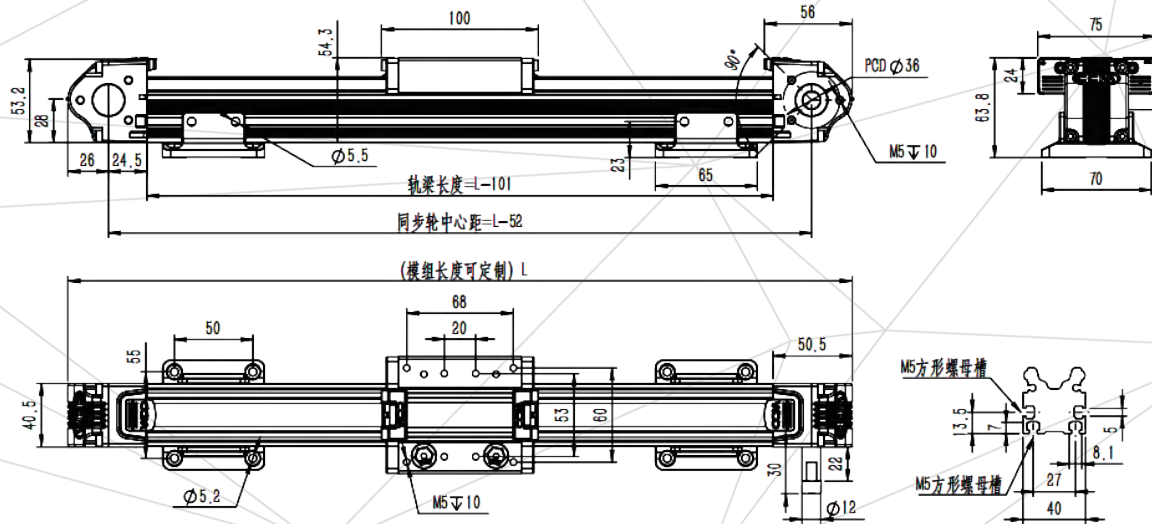
* Suggested length=Effective stroke+230MM

■ Model ：W40-03

■ Guide Width ：40 MM

■ Max Load ：3 KG

■ Pitch ：75 MM

■ Straightness ：0.05 / 300 MM

■ Recommended speed ：≤ 1.5 M/s

■ Input Torque ：≤ 3 N.M

■ Customized Length ：Up to 4 meters

  * Length of 50mm increaseand decrease, such as 1000mm, 1050mm, 1100mm...

■ Belt Spec. ：PU-3M-15（STD）

■ Synchronous Wheel Spec. ：HTD3M-25Z

■ Applicable Motor and Mounting Way

I. Stepper Motor: Nema 17 (Direct Connection)；
   Nema 23 (DC/Speed Reducer Set)

II. Servo Motor: 100W (Direct Connection)；
   200W/400W (DC/Speed Reducer Set)
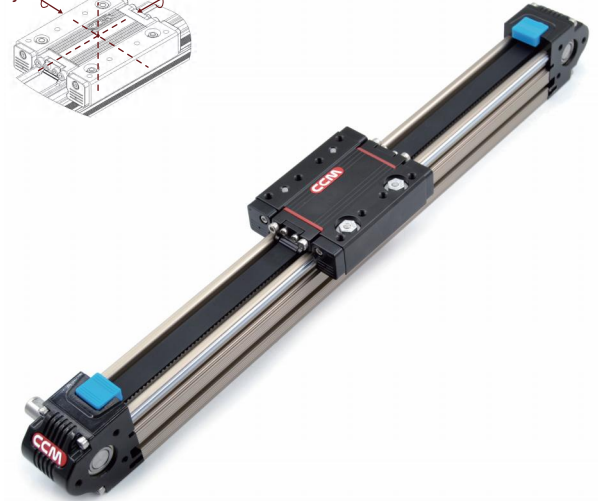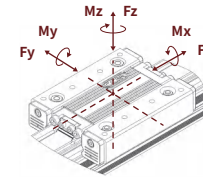
Model		W40-03
Carriage Parameter	Fx max (N)	100
	Fy max (N)	370
	Fz max (N)	429
	Mx max (N.M)	8.1
	My max (N.M)	9.6
	Mz max (N.M)	4.2

最大负载系数（Max Load Factor）$= \frac{Fy}{Fymax} + \frac{Fz}{Fzmax} + \frac{Mx}{Mxmax} + \frac{My}{Mymax} + \frac{Mz}{Mzmax} \leq 1$

◆ The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

W40-10

W Series

■ Dimensions (Unit : mm)

轨梁长度=L-101
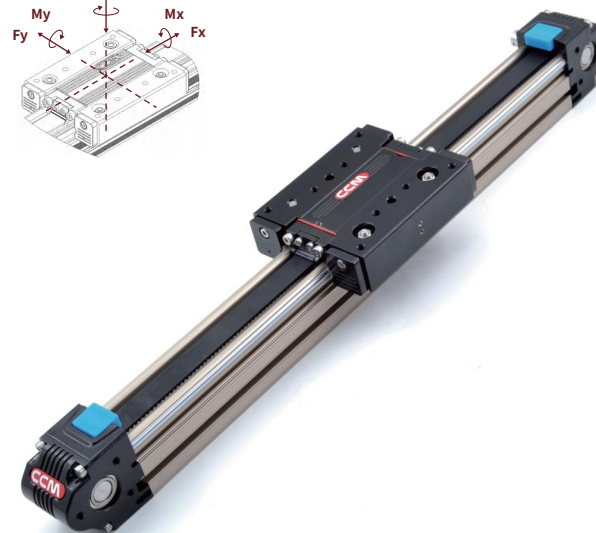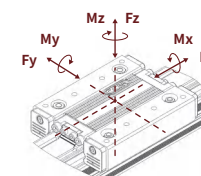同步轮中心距=L-52
(模组长度可定制) L

M5方形螺母槽
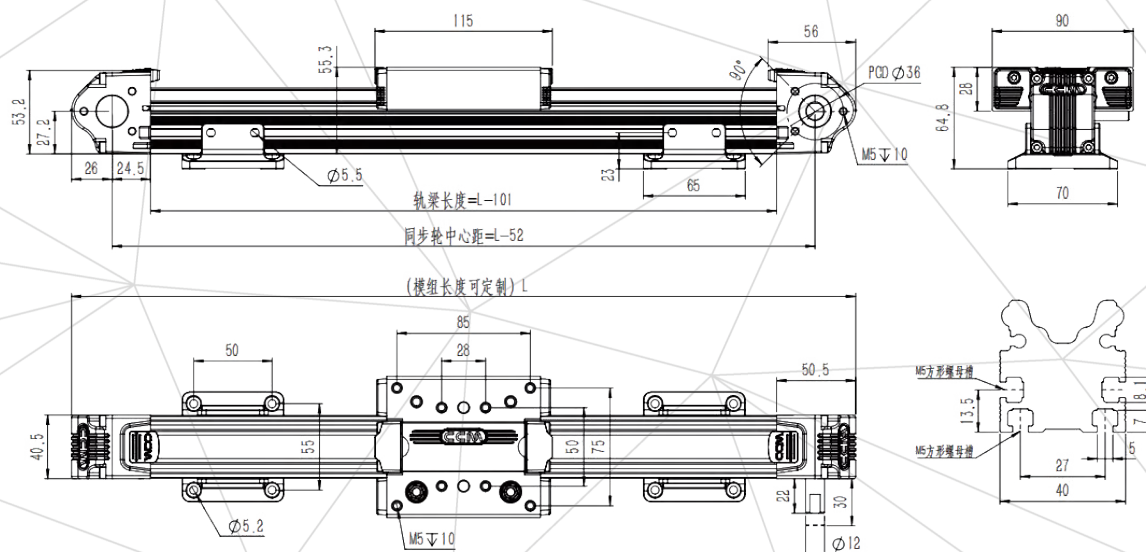
* Suggested length=Effective stroke+250MM

- Model ： W40-10
- Guide Width ： 40 MM
- Max Load ： 10 KG
- Pitch ： 75 MM
- traightness ： 0.05 / 300 MM
- Recommended speed ： ≤ 1.5 M/s
- Input Torque ： ≤ 3 N.M

- Customized Length ： Up to 4 meters

  *Length of 50mm increaseand decrease, such as 1000mm, 1050mm, 1100mm...

- Belt Spec. ： PU-3M-15(STD)
- Synchronous Wheel Spec. ： HTD3M-25Z
- Applicable Motor and Mounting Way

I. Stepper Motor: Nema 17 (Direct Connection) ;
   Nema 23 (DC/Speed Reducer Set)

II. Servo Motor: 100W (Direct Connection) ;
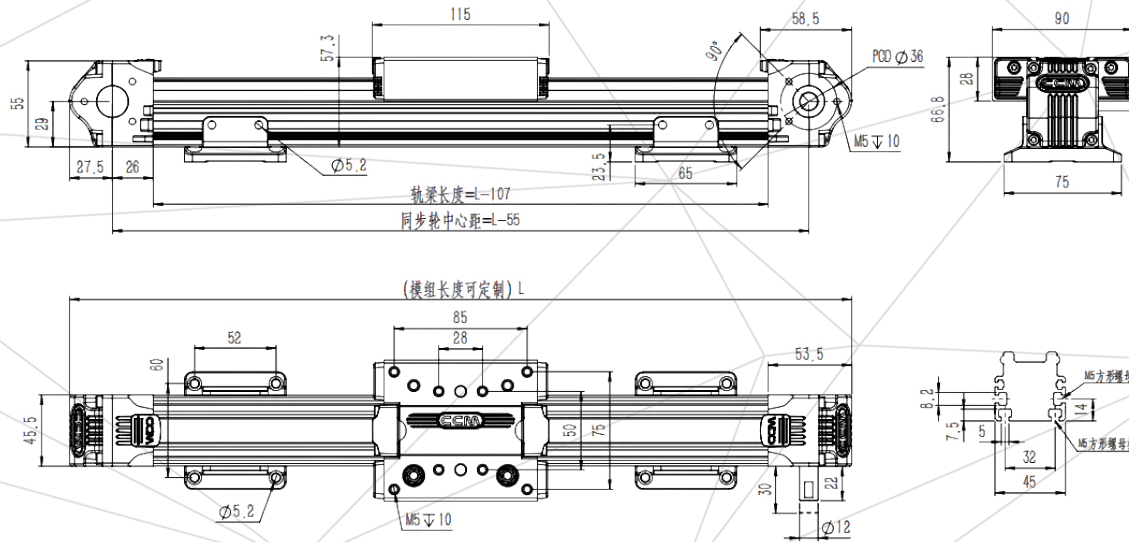   200W/400W (DC/Speed Reducer Set)

Model	W40-10
Fx max (N)	100
Fy max (N)	655
Fz max (N)	762
Mx max (N.M)	14.5
My max (N.M)	22.8
Mz max (N.M)	9.8

Carriage Parameter

$$最大负载系数（Max Load Factor）=\frac{Fy}{Fymax}+\frac{Fz}{Fzmax}+\frac{Mx}{Mxmax}+\frac{My}{Mymax}+\frac{Mz}{Mzmax}\leq 1$$

◆ The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

W45-15

Dimensions（Unit：mm）

轨梁长度=L-107
同步轮中心距=L-55

（模组长度可定制）L

M5方形螺母槽

* Suggested length=Effective stroke+250MM

- Model：W45-15
- Guide Width：45 MM
- Max Load：15 KG
- Pitch：80 MM
- Straightness：0.05 / 300 MM
- Recommended speed：≤ 1.5 M/s
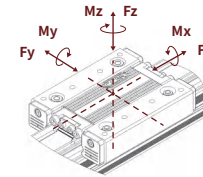- Input Torque：≤3 N.M

- Customized Length：Up to 6 meters
  *
  Length of 50mm increaseand decrease, such as 1000mm, 1050mm, 1100mm...
- Belt Spec.：PU-5M-15(Stainless Steel)
- Synchronous Wheel Spec.：STD5M-16Z
- Applicable Motor and Mounting Way

I. Stepper Motor: Nema 17 (Direct Connection)；
   Nema 23 (DC/Speed Reducer Set)
II. Servo Motor: 100W (Direct Connection)；
    200W/400W (DC/Speed Reducer Set)

Model		W45-15
Carriage Parameter	Fx max (N)	200
	Fy max (N)	655
	Fz max (N)	762
	Mx max (N.M)	14.5
	My max (N.M)	22.8
	Mz max (N.M)	9.8

$$最大负载系数（Max\ Load\ Factor）=\frac{Fy}{Fymax}+\frac{Fz}{Fzmax}+\frac{Mx}{Mxmax}+\frac{My}{Mymax}+\frac{Mz}{Mzmax}≤1$$

- The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

W50-25

W Series

■ Dimensions（Unit：mm）

轨梁长度=L-127
同步轮中心距=L-65

（模组长度可定制）L

M5方螺母槽
M5方螺母槽
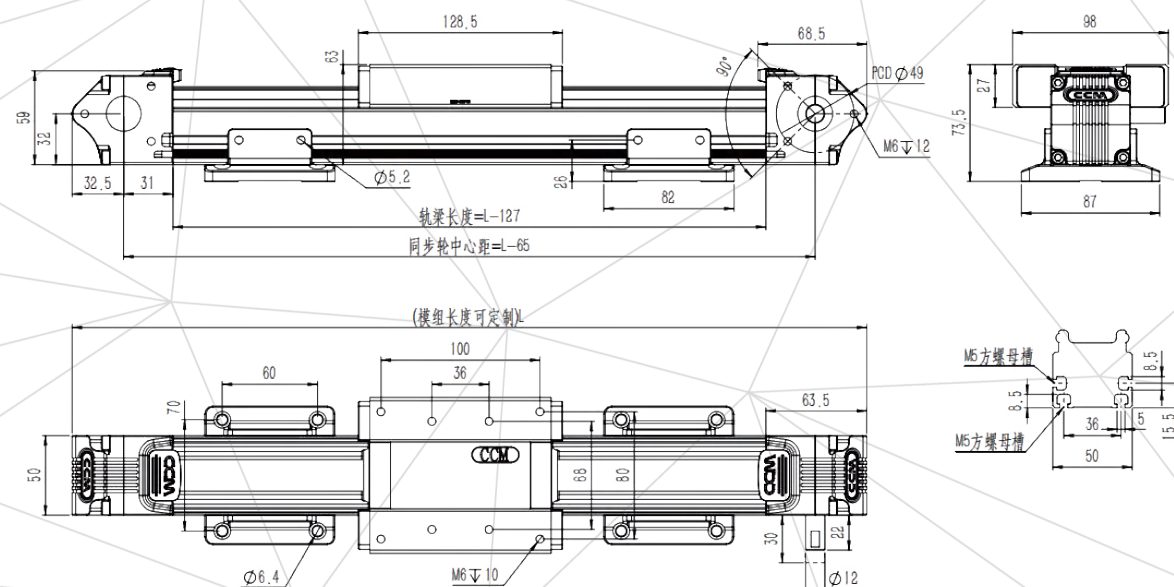
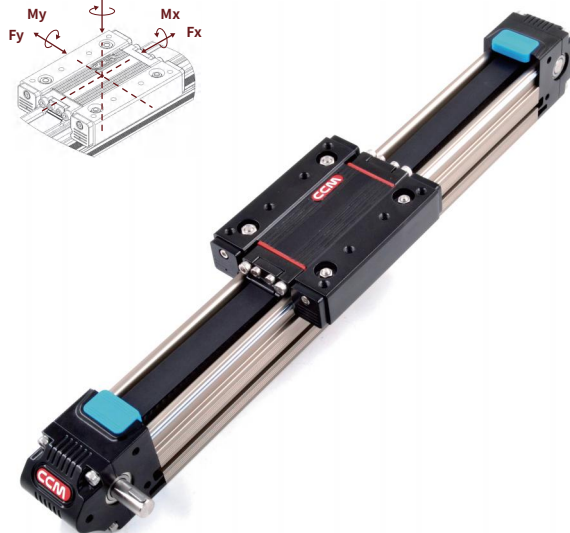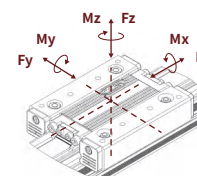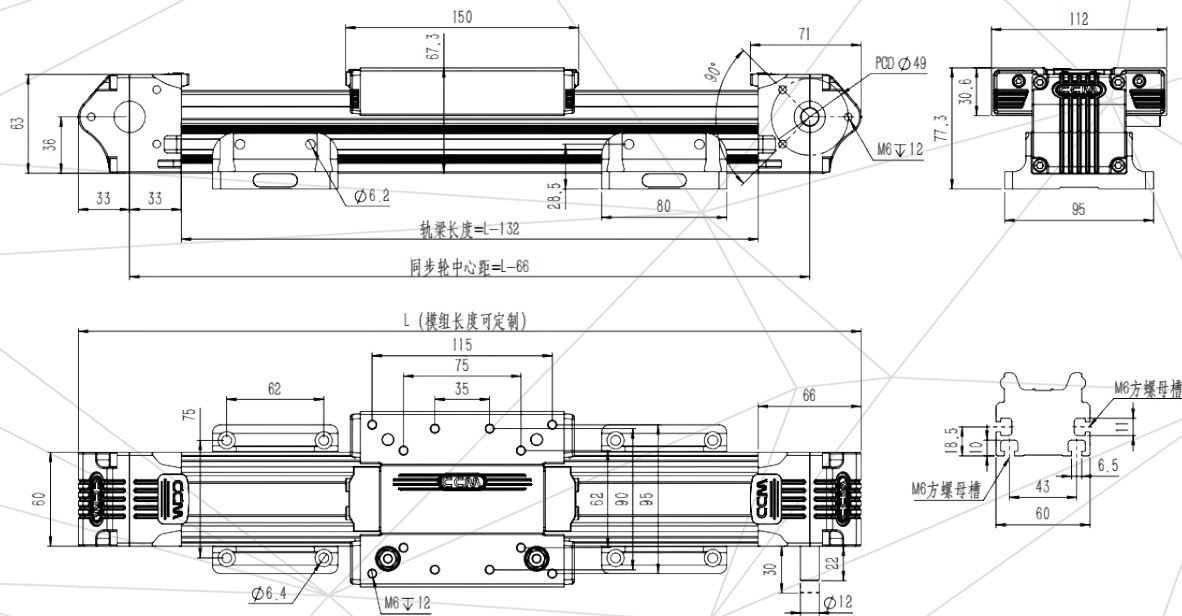* Suggested length=Effective stroke+290MM

PCD Ø49
M6↓12

■ Model ： W50-25

■ Guide Width ： 50 MM

■ Max Load ： 25 KG

■ Pitch ： 95 MM

■ Straightness ： 0.05 / 300 MM

■ Recommended speed ：≤ 2 M/s

■ Input Torque ：≤6.5 N.M

■ Customized Length ： Up to 6 meters

  * Length of 50mm increaseand decrease, such as 1000mm, 1050mm, 1100mm…

■ Belt Spec. ： PU-5M-20（STD）

■ Synchronous Wheel Spec.： STD5M-19Z

■ Applicable Motor and Mounting Way

I. Stepper Motor: Nema 23 (Direct Connection/Speed Reducer Set)；
   Nema 34 (DC/Speed Reducer Set)

II. Servo Motor: 750W (Direct Connection)；
    200W/400W (DC/Speed Reducer Set)

Model	W50-25
Fx max (N)	500
Fy max (N)	655
Fz max (N)	762
Mx max (N.M)	17.5
My max (N.M)	30.5
Mz max (N.M)	13.1

Carriage Parameter

$$最大负载系数（Max\ Load\ Factor）=\frac{Fy}{Fymax}+\frac{Fz}{Fzmax}+\frac{Mx}{Mxmax}+\frac{My}{Mymax}+\frac{Mz}{Mzmax}≤1$$

◆ The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

W60-35

W Series

■ Dimensions（Unit：mm）

150
67.3
63
36
33 33
90°
71
PCD Ø49
M6▽12
Ø6.2
轨梁长度=L-132
同步轮中心距=L-66
112
30.6
77.3
95
28.5
80

L（模组长度可定制）
115
75
35
62
75
60
66
18.5
10
6.5
43
60
M6方螺母槽
M6方螺母槽
30
22
Ø12
Ø6.4
M6▽12
62 90 95

* Suggested length=Effective stroke+310MM

- Model ： W60-35
- Guide Width ： 60 MM
- Max Load ： 35 KG
- Pitch ： 95 MM
- Straightness ： 0.05 / 300 MM
- Recommended speed ： ≤ 2 M/s
- Input Torque ： ≤8.5 N.M

- Customized Length ： Up to 6 meters

* Length of 50mm increase and decrease, such as 1000mm, 1050mm, 1100mm...

- Belt Spec. ： PU-5M-20(STD)
- Synchronous Wheel Spec. ： STD5M-19Z
- Applicable Motor and Mounting Way

I. Stepper Motor: Nema 23 (Direct Connection/Speed Reducer Set) ;
   Nema 34 (DC/Speed Reducer Set)

II. Servo Motor: 750W (Direct Connection) ;
    200W/400W (DC/Speed Reducer Set)

M_z F_z
M_y M_x
F_y F_x
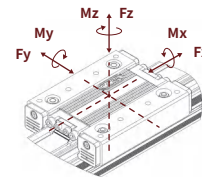
Model	W60-35
Fx max (N)	515
Fy max (N)	1001
Fz max (N)	1164
Mx max (N.M)	32.6
My max (N.M)	55.3
Mz max (N.M)	23.8

Carriage Parameter
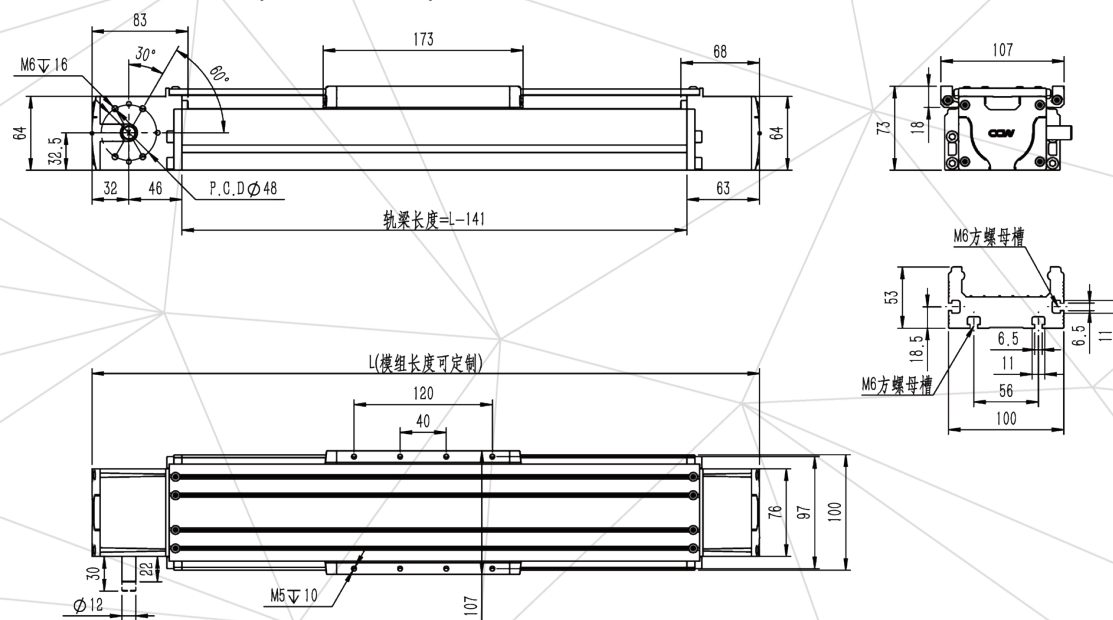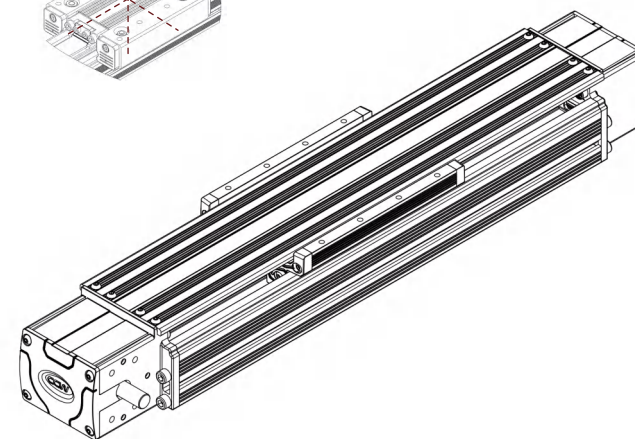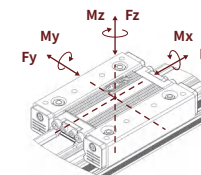
最大负载系数（Max Load Factor）= $\dfrac{F_y}{F_{ymax}} + \dfrac{F_z}{F_{zmax}} + \dfrac{M_x}{M_{xmax}} + \dfrac{M_y}{M_{ymax}} + \dfrac{M_z}{M_{zmax}} \leq 1$

- The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

W35

W Series

■ Dimensions（Unit：mm）
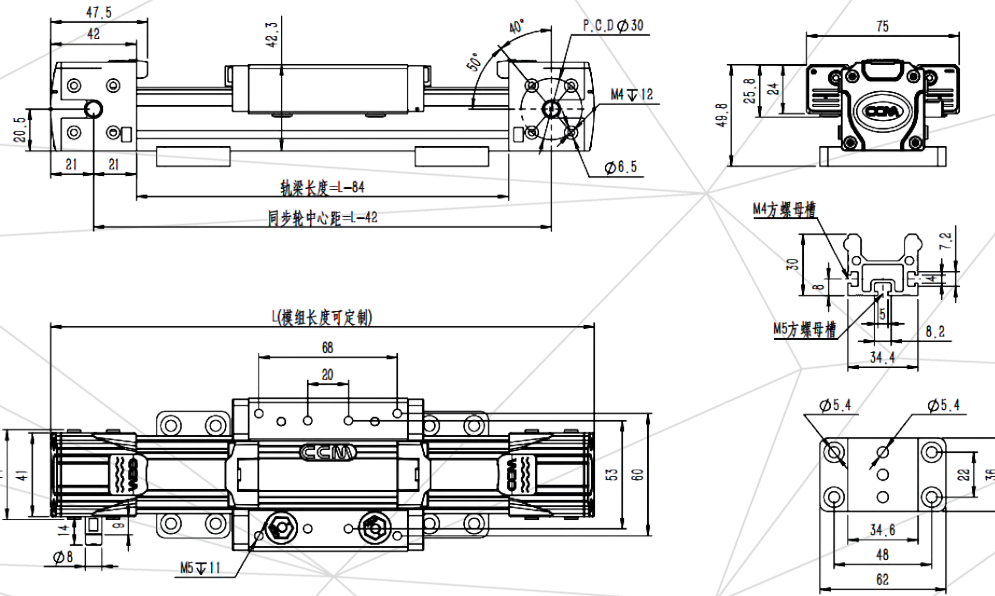
*Rail beam length is customized, the unit is millimeter, such as GL800, GL1000, GL1200....

- Model：W35
- Guide Width：35 MM
- Max Load：3 KG
- Pitch：63 MM
- Straightness：0.03 / 300 MM
- Recommended speed：≤ 0.8 M/s
- Input Torque：≤0.8 N.M

- Customized Length：Up to 1.5 meters
  * Length of 50mm increaseand decrease, such as 1000mm, 1050mm, 1100mm...
- Belt Spec.：PU-3M-15(Stainless Steel)
- Synchronous Wheel Spec.：HTD3M-21Z
- Applicable Motor and Mounting Way
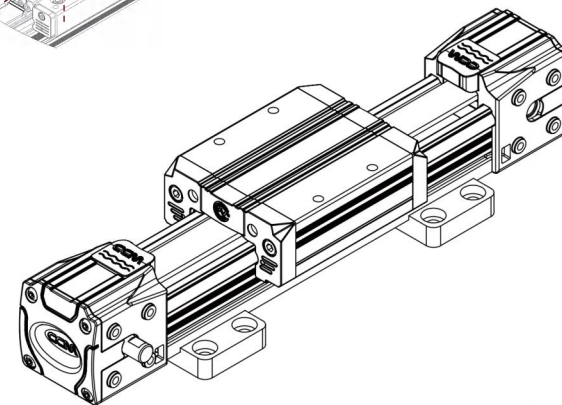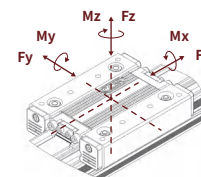 I. Stepper Motor: Nema 17 (Direct Connection)；Nema 23 (DC)
  II. Servo Motor: 100W (Direct Connection)
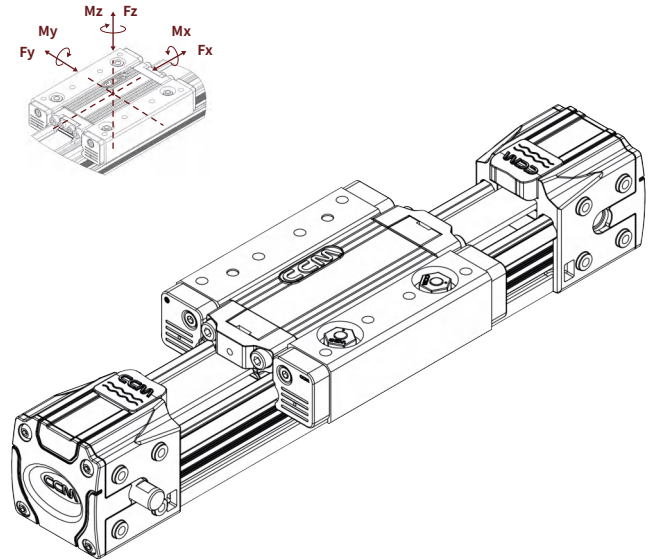
Model	W35
Fx max (N)	90
Fy max (N)	180
Fz max (N)	210
Mx max (N.M)	4
My max (N.M)	4.8
Mz max (N.M)	2.1

Carriage Parameter

$$最大负载系数（Max\ Load\ Factor）= \frac{Fy}{Fymax} + \frac{Fz}{Fzmax} + \frac{Mx}{Mxmax} + \frac{My}{Mymax} + \frac{Mz}{Mzmax} \leq 1$$

* The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

W100

W Series

■ Dimensions（Unit：mm）

83
30°
60°
M6▽16
64
32.5
32
46
P.C.D⌀48
173
68
64
63
轨梁长度=L-141

107
73
18
CCW

M6方螺母槽
53
18.5
6.5
11
56
100
6.5
11
M6方螺母槽

L(模组长度可定制)
120
40
76
97
100
30
22
⌀12
M5▽10
107

*Rail beam length is customized, the unit is millimeter, such as GL1000，GL1200，GL1400....

- Model ：W100
- Guide Width ：100MM
- Max Load ：30 KG
- Pitch ：125 MM
- Straightness ： 0.05 / 300 MM
- Recommended speed ：0.5~1.5 M/s
- Input Torque ：≤ 4.5 N.M

- Customized Length ：Up to 6 meters
  * Length of 50mm increaseand decrease, such as 1000mm，1050mm，1100mm...
- Belt Spec. ：PU-5M-33(STD)
- Synchronous Wheel Spec. ：HTD-K5M-25Z
- Applicable Motor and Mounting Way
  I. Stepper Motor: Nema 23 (Direct Connection/Speed Reducer Set)；
     Nema 34 (DC/Speed Reducer Set)
  II. Servo Motor: 400W (or 200W/750W)

Model	W100
Fx max (N)	650
Fy max (N)	1000
Fz max (N)	1000
Mx max (N.M)	38
My max (N.M)	50
Mz max (N.M)	25

Carriage Parameter

最大负载系数（Max Load Factor）= $\frac{Fy}{Fymax}+\frac{Fz}{Fzmax}+\frac{Mx}{Mxmax}+\frac{My}{Mymax}+\frac{Mz}{Mzmax}\leq 1$
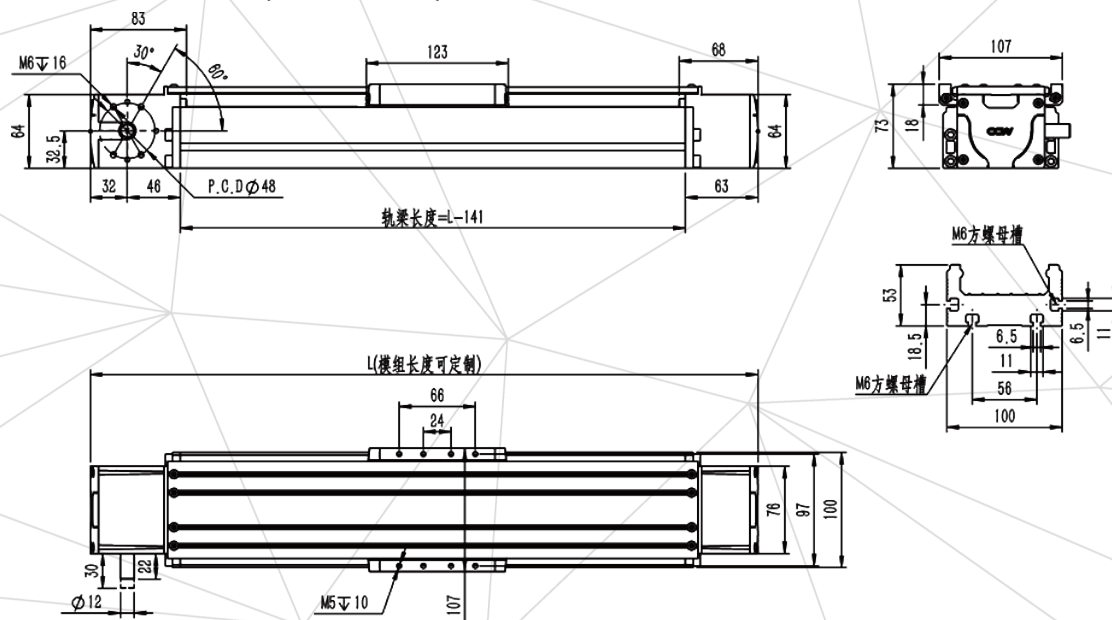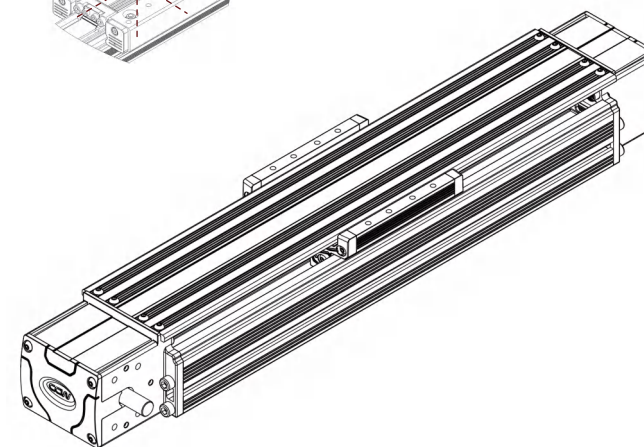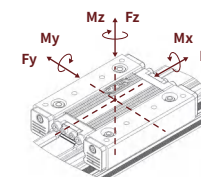
✦ The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

WH35

WH Series

■ Dimensions（Unit：mm）

47.5
42
45.5
40°
50°
P.C.D Ø30
M4▽12
Ø6.5
20.5
21 21
轨梁长度=L-84
同步轮中心距=L-42

65
29.5
28
53
CCM

M4方螺母槽
30
8
7.2
M5方螺母槽
5
8.2
34.4

L(模组长度可定制)
83
30
44 41
9
Ø8
M5▽10
55

Ø5.4   Ø5.4
22 36
34.5
48
62
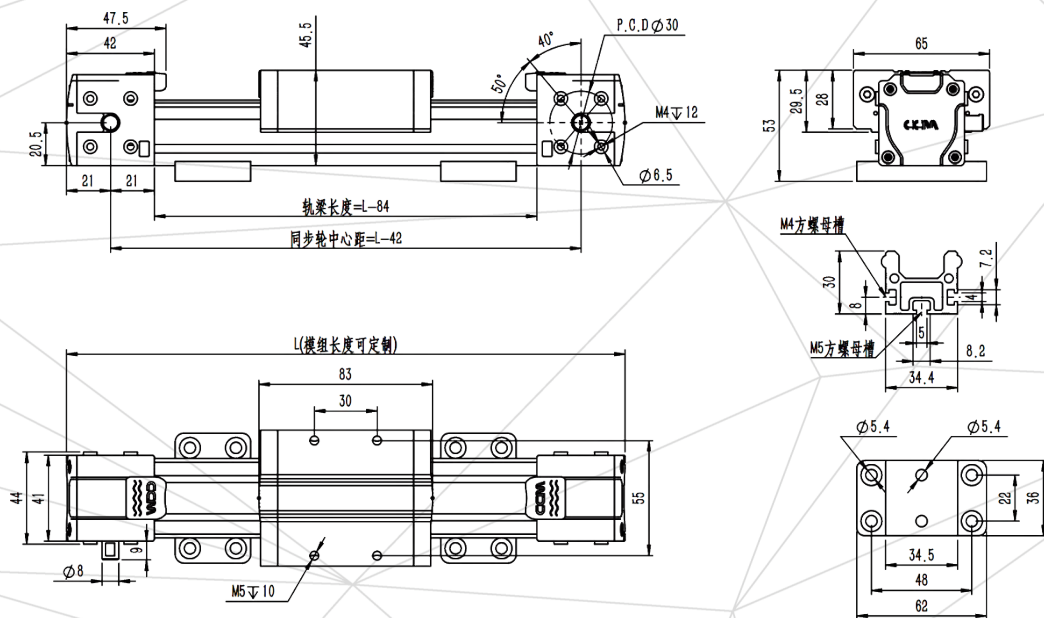
*Rail beam length is customized, the unit is millimeter, such as GL800，GL1000，GL1200….

- ■ Model：WH35
- ■ Guide Width：35 MM
- ■ Max Load：3 KG
- ■ Pitch：63 MM
- ■ Straightness：0.03 / 300 MM
- ■ Recommended speed：0.3~1.2M/S
- ■ Input Torque：≤1 N.M

- ■ Customized Length：Up to 1.5 meters

  * Length of 50mm increase and decrease, such as 1000mm, 1050mm, 1100mm…

- ■ Belt Spec.：PU-3M-15(Stainless Steel)
- ■ Synchronous Wheel Spec.：HTD3M-21Z
- ■ Applicable Motor and Mounting Way

  I. Stepper Motor: Nema 17 (Direct Connection)；Nema 23 (DC)

  II. Servo Motor: 100W (Direct Connection)

For sliding linear module, the components of slider is made from polymer composite material, which needs to avoid high temperature working environment to cause unusual slide.

Model		WH35
Carriage Parameter	Fx max (N)	90
	Fy max (N)	250
	Fz max (N)	210
	Mx max (N.M)	8.1
	My max (N.M)	9.6
	Mz max (N.M)	4.2

最大负载系数（Max Load Factor）$=\dfrac{Fy}{Fymax}+\dfrac{Fz}{Fzmax}+\dfrac{Mx}{Mxmax}+\dfrac{My}{Mymax}+\dfrac{Mz}{Mzmax}\leq1$

* The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

WH100

WH Series

■ Dimensions（Unit：mm）

M6▽16
30°
60°
83
123
68
107
M6方螺母槽
M6方螺母槽
轨梁长度=L-141
P.C.D Φ48
L(模组长度可定制)
66
24
Φ12
M5▽10
107

*Rail beam length is customized, the unit is millimeter, such as GL1000, GL1200, GL1400....

- Model：WH100
- Guide Width：100 MM
- Max Load：30 KG
- Pitch：125 MM
- Straightness：0.05 / 300 MM
- Recommended speed：0.5~1.5M/S
- Input Torque：≤4.5 N.M

- Customized Length：Up to 6 meters
  * Length of 50mm increaseand decrease, such as 1000mm, 1050mm, 1100mm...
- Belt Spec.：PU-K5M-33
- Synchronous Wheel Spec.：HTD-K5M-25Z
- Applicable Motor and Mounting Way
  I. Stepper Motor: Nema 23 (Direct Connection/Speed Reducer Set)；Nema 34 (DC/Speed Reducer Set)
  II. Servo Motor: 400W (or 200W/750W)

For sliding linear module, the components of slider is made from polymer composite material, which needs to avoid high temperature working environment to cause unusual slide.

Model	WH100
Fx max (N)	650
Fy max (N)	500
Fz max (N)	500
Mx max (N.M)	38
My max (N.M)	50
Mz max (N.M)	30

Carriage Parameter

最大负载系数（Max Load Factor）$= \frac{Fy}{Fymax} + \frac{Fz}{Fzmax} + \frac{Mx}{Mxmax} + \frac{My}{Mymax} + \frac{Mz}{Mzmax} \leq 1$

◆ The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)

Auxiliary Parts

A Motor Brackets
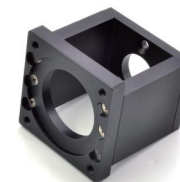
40-W40 45	57-W4045	57-W5060	86-W5060	42-H35	80-W5060	H80 Motor Mount
42-W40 45	60-W4045	60-W5060	—	—	90-W5060	—

B Speed Reducers
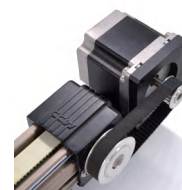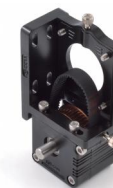
57-W4050	57-W50	60-W50	86-W50	57-W45A	Nema 23 Central Speed Reducer Set	400W Servo Central Speed Reducer Set
60-W4050	57-W60	60-W60	86-W60	—	Nema 34 Central Speed Reducer Set	—

C Structural Attachments

Rail Mount	T shape connector	L shape connector	H80 Rail Mount	Coupler	Double Slider Connecting Plate	Tripod
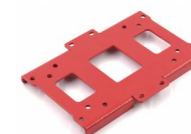
D Other Parts

Optical Sensor	Proximity Sensor	Synchronous belt	Stepper Motor	Servo Motor	Planetary Reducer	PLC Singlechip

Introduction to Fittings Assembly

Speed Reducers

Optional specifications :
100W / 200W / 400W / 750W Servo Motor

Stepper Motor or Servo Motor

According to the motor specifications selected by customers, the corresponding motor mounting is provided.

Central Speed Reducer

Optional specifications :
57/86 Stepper Central Speed Reducer ,
60 servo Central Speed Reducer.

Motor Brackets

Optional specifications :
Nema 23 Stepper Motor 、
Nema 34 Stepper Motor 、
400W Servo Motor 、
700W Servo Motor.

Coupler

L shape connector

Optional specifications : L1 / L2 / L3 / L4 / Ly Shape connector

A. L 连接板
A. L Shape connector

B. Ly 连接板
B. Ly Shape connector
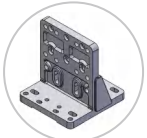
C. Ly2 连接板
C. Ly2 Shape connector

Rail Mount

Optional specifications : DJ40 、DJ45 、DJ50 、DJ60.

* 压脚套件 Rail Mount

T shape connector

Optional specifications : T1 / T2 / T3 / T4 Shape connector

A. T shape connector

B. Double Slider Connecting Plate

Proximity Sensor

Optional specifications: NPN(NO) 、NPN(NC) 、PNP(NO) 、PNP (NC)

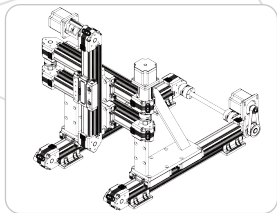## Optical Sensor

Optional specifications : NPN 、PNP .

Common Structures
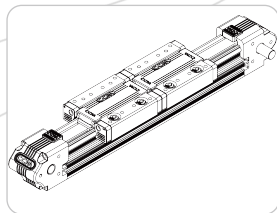
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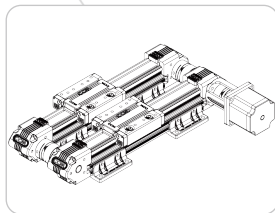
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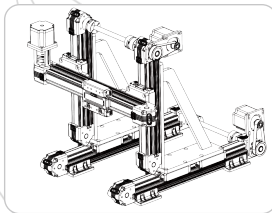

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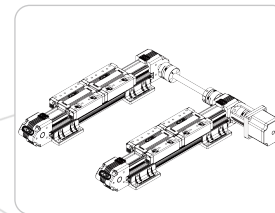
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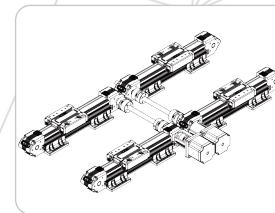
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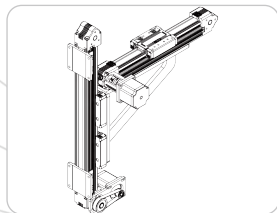
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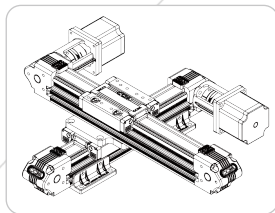
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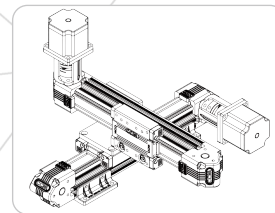
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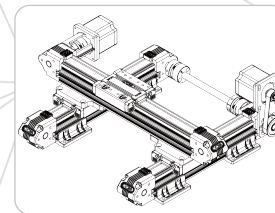
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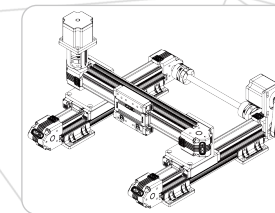
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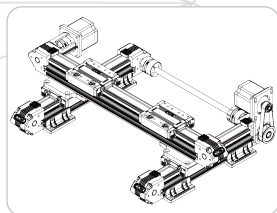
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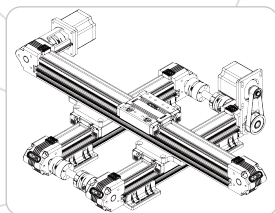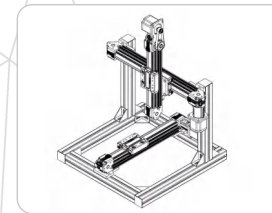

NO.2 07
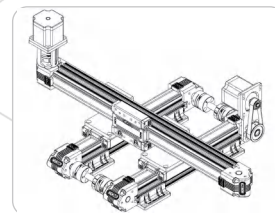
NO.2 08
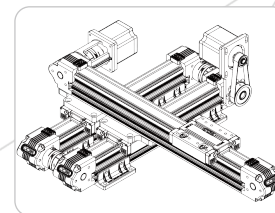
NO.2 09

NO.2 10

——— NO.2 11 ———

——— NO.2 12 ———

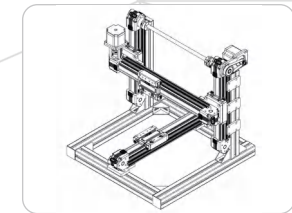——— NO.3 01 ———
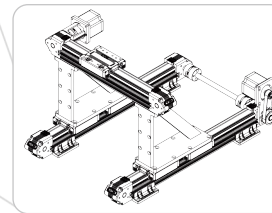
- Versatile design for various configuration,the length of linear rail can be customized as per your requests.

- We provide high quality,protable and long service life linear rail,which can achieve mounting multi-carriages flexibly and maintenance-free.

——— NO.3 02 ———

——— NO.3 03 ———

——— NO.3 04 ———

- There are nut grooves on the aluminium profile to fix the linear rail and others.

- Multi-applications rail mount can be conveniently used to connect the linear rail and finish mounting the linear modules in the short time.

- Special design of the carriage to achieve to adjusting the tension of carriage and belt easily and quickly.

——— NO.3 05 ———

——— NO.3 06 ———

——— NO.3 07 ———

——— NO.3 08 ———

——— NO.3 09 ———

Examples of application

Time-lapse tracking dolly , laser cutting and engraving machines , CNC machines , glue dispenser , 3D printing , medical devices , spray machinery , lab testing ,optics inspection , factory conveyors ,etc

3D Printing

Industrial Adhesive

Intelligent Warehouse Storage
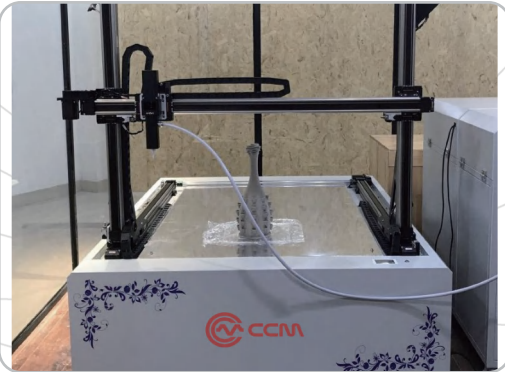
Applicable module structure:

XYZ Linear Module 、
XYZ Gantry Robot 、
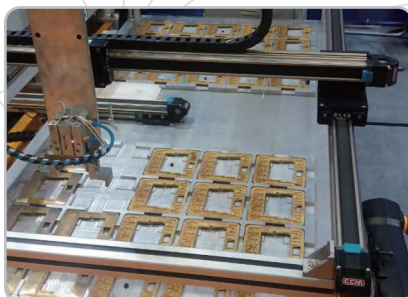Aluminum Frame XYZ Linear Stage ...

Applicable module structure:

XY Linear Module 、
XYZ Gantry Robot 、
Aluminum Frame XYZ Linear Stage ...
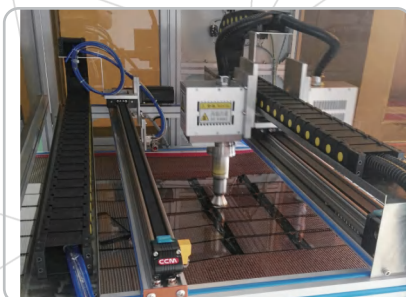
Applicable module structure:

XY Linear Module 、
XYZ Gantry Robot 、
Aluminum Frame XYZ Linear Stage ...

Industrial Machine

Applicable module structure：

XY Linear Stage、
XYZ Linear Stage ...

Plasma cleaning machine

Applicable module structure：

Parrallel Axis Linear Module、
XY Linear Stage

Vacuum packing
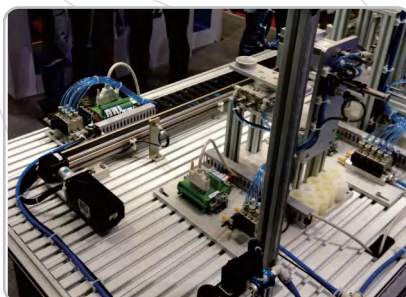
Applicable module structure：

XY Linear Stage

Photography

Applicable module structure：

Single module、
Parallel Axis Linear Module ...

industrial production

Applicable module structure：

XYZ Linear Stage、
XYZ Gantry Robot ...

New energy manufacturing

Applicable module structure：

Single module、
Parallel Axis Linear Module ...
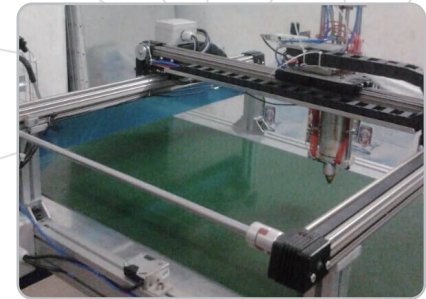
TV Wall

Applicable module structure：

Single module、
Parallel Axis Linear Module ...

Automatic sewing machine
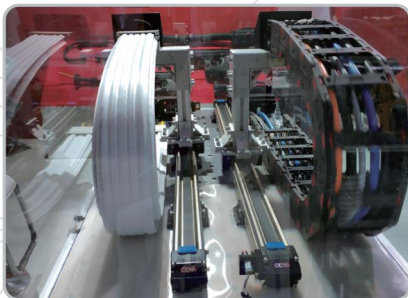
Applicable module structure：

Single module

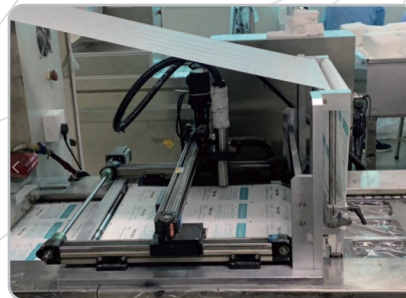### Glue dispensing

Applicable module structure：

Single module、
Parallel Axis Linear Module ...

Transmission feeding

Applicable module structure：

XY Linear Stage、
XYZ Linear Stage ...

Automatic spurting

Applicable module structure：

Aluminum Frame XYZ Linear Stage、
XYZ Linear Stage ...

Multi-media
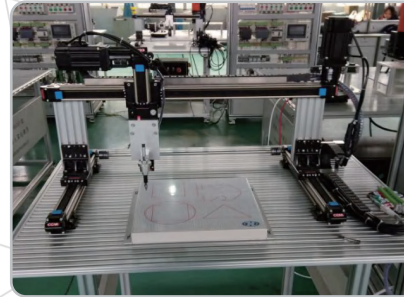
Applicable module structure：

Single module、
Parallel Axis Linear Module ...

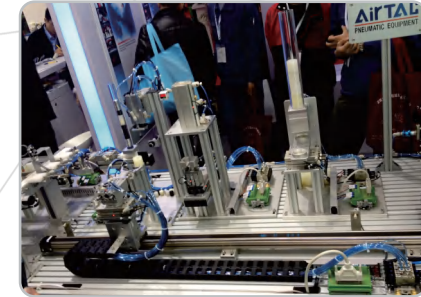## Glue dispenser machine

Applicable module structure:

XY Linear Stage、
XYZ Linear Stage ...
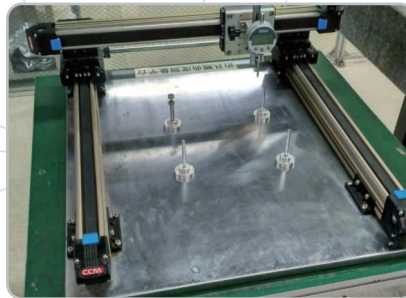

Laser Machine

Applicable module structure:

XYZ Gantry Robot、XYZ Gantry Stystem ...

Teaching equipment

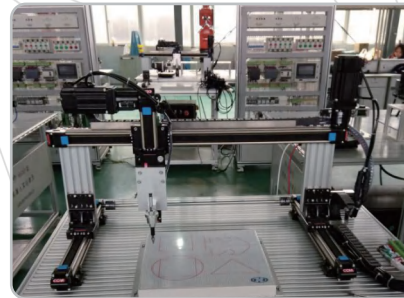**Applicable module structure:**

Single Module、
XY Linear Stage 、
XYZ Linear Stage

Measuring Equipment

Applicable module structure:

XY Linear Stage、
XYZ Linear Stage ...

industrial production

Applicable module structure:

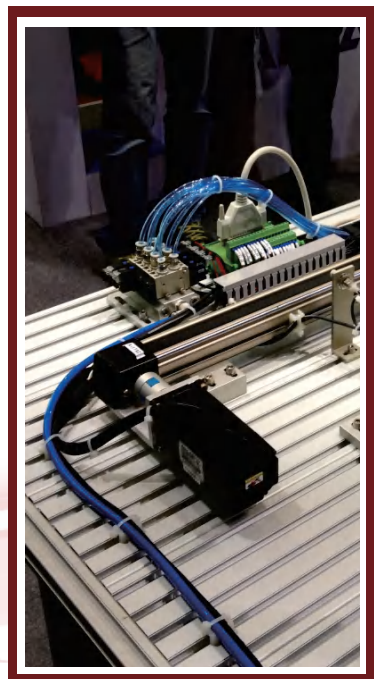XY Linear Stage、
XYZ Linear Stage ...

Agricultural Automation

Applicable module structure:

Single module、
Parallel Axis Linear Module ...

Low noise linear modules

Website

Express