

# Z-Arm 1832/Z-Arm XX32



## High precision

Repeatability  
 $\pm 0.02\text{mm}$

## Z-axis customization

0.1-0.5m

## Large arm span

J1 axis 160mm  
J2 axis 160mm

## Competitive price

Industrial-level quality  
Consumptive price

## Model Definition

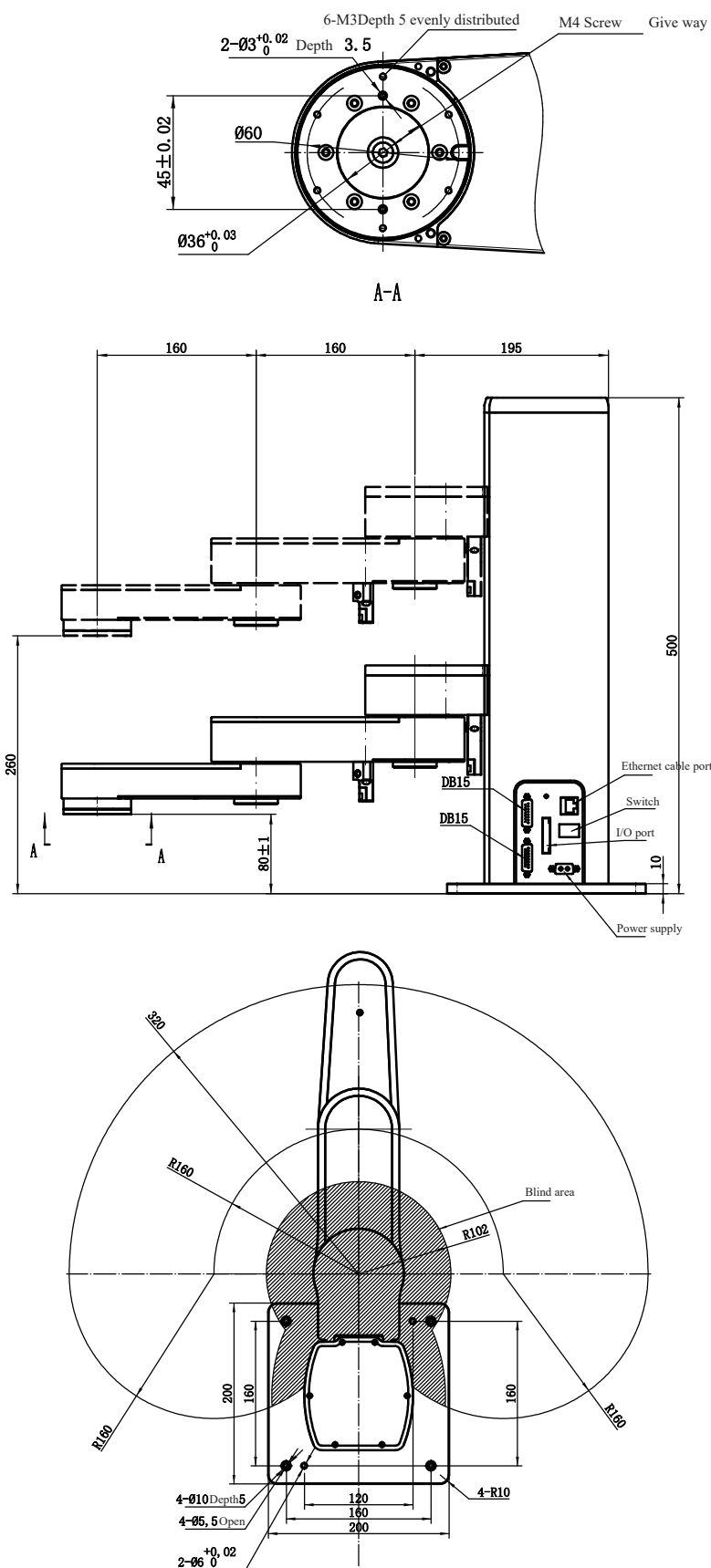
# Z-Arm T1832C0-FXXX-01

T	18	32	C	0	FXXX-01
Blank: Four axis F: Five axis T: Three axis S: Six axis	If z-axis stroke is 180, here is 18	If robot arm span is 320, here is 32	Collaborative C Non-collaborative N	0 is silver color 1 is black color	F: Non-standard customized option, if it is a standard product, it is blank XXX: XXX: Customer label number 01: version number

## Specification Parameter

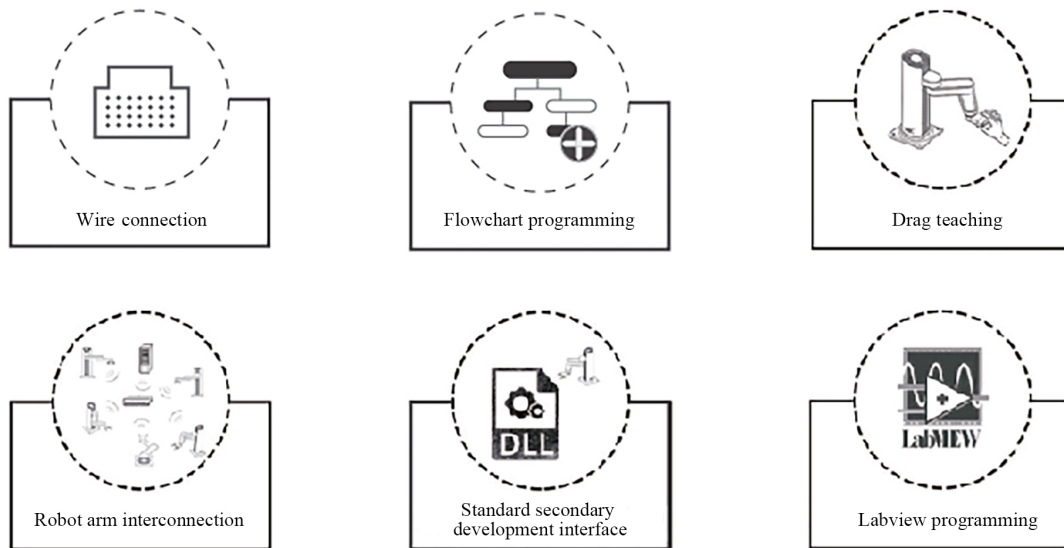
Z-Arm XX32 Collaborative robot arm	Parameters
1 axis arm length	160mm
1 axis rotation angle	$\pm 90^{\circ}$
2 axis arm length	160mm
2 axis rotation angle	$\pm 143^{\circ}$
Z axis stroke	Height can be customized
R axis rotation range	$\pm 1080^{\circ}$
Linear speed	1017mm/s (payload 0.5kg)
Repeatability	$\pm 0.02\text{mm}$
Standard payload	0.5kg
Maximum payload	1kg
Degree of freedom	4
Power supply	220V/110V50-60HZ adapt to 24VDC peak power 320W
Communication	Ethernet
Expandability	Built-in integrated motion controller provides 24 I/O
Z-axis can be customized in height	0.1m-0.5m
Z-axis dragging teaching	/
Electrical reserved interface	/
Compatible HITBOT electric grippers	Z-EFG-8S/Z-EFG-20
Breathing light	/
Second arm range of motion	Standard: $\pm 143^{\circ}$
Optional accessories	/
Use environment	Ambient temperature: 0-55°C Humidity: RH85 (no frost)
I/O port digital input (isolated)	9+3
I/O port digital output (isolated)	9+3
I/O port analog input (4-20mA)	/
I/O port analog output (4-20mA)	/
Robot arm height	500mm
Robot arm weight	180mm stroke net weight 11kg
Base size	200mm*200mm*10mm
Distance between base fixing holes	160mm*160mm with four M5*12 screws
Collision detection	√
Drag teaching	√

## Motion Range and Dimensions



Remark: There is a cable below the robot arm, which is not shown in the figure, please refer to the actual product.

## Instructions



## Interface Introduction

The Z-Arm 1832 robot arm interface is installed in 2 locations, the back of the robot arm base (defined as A) and the bottom of the last arm (defined as B). The interface panel at A has a power switch interface (J1), 24V power supply interface DB2 (J2), output to user I/O port DB15 (J3), user input I/O port DB15 (J4) and IP address configuration buttons (K5), ethernet port (J6), system input/output port (J7). The interface panel B has a I/O aviation socket for controlling electric grippers.

## Interface Diagram and Instructions for Use

### 1. General diagram of the base interface A (shown in Figure 1)

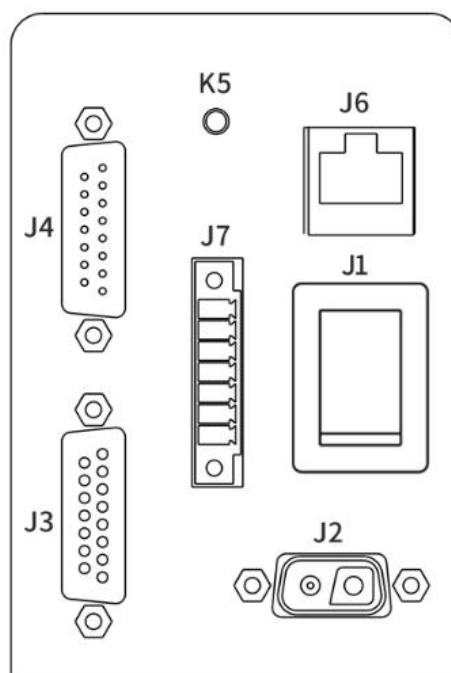


Figure 1



## 2. Figure 1 interface definition description

- (1) J1 is the power switch interface, which is used to control the power on and off;
- (2) J2 is the power input port, 24V DC voltage source input;
- (3) J3 is the I/O output port, with 9 groups of internal optocoupler isolated NPN outputs;
- (4) J4 is the user I/O input port, with 9 sets of internal optocoupler isolated inputs;
- (5) K5 robot arm IP address configuration button, press and hold the button to power on, the robot arm enters the IP address configuration state;
- (6) J6 is the ethernet port, used for computer communication;
- (7) J7 is the I/O input expansion port, with 3 input and 3 output.

## 3. The internal circuit design of the J3 and J4 interfaces in Figure 1

- (1) J3 interface DB15 male pin definition (shown in Figure 2)

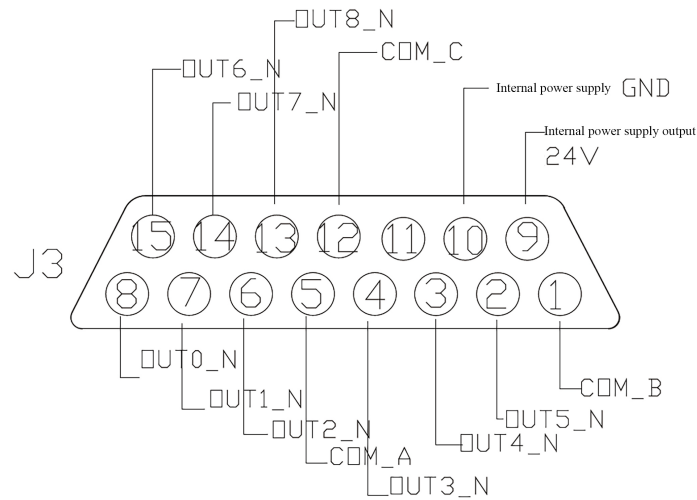


Figure 2

- (2) J3 I/O output port internal simplified circuit design (shown in Figure 3)

There are 9 output ports for I/O output, OUT0\_N OUT1\_N OUT2\_N share COM\_A, OUT3\_N OUT4\_N OUT5\_N share COM\_B, OUT6\_N OUT7\_N OUT8\_N share COM\_C, built-in ordinary optocoupler isolator, open-collector output.

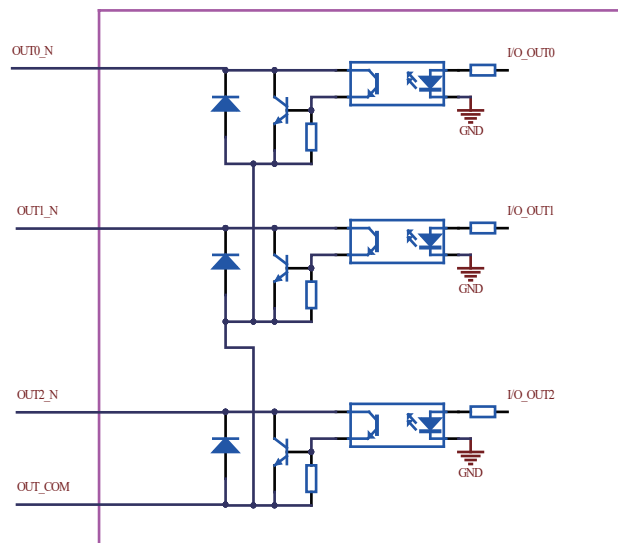


Figure 3

(3) The definition of J4 interface DB15 female (shown in Figure 4)

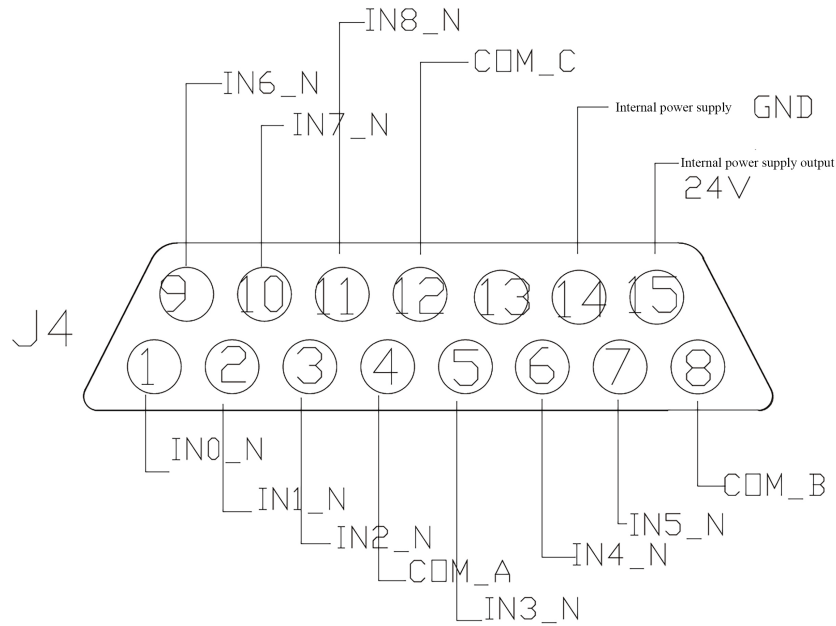


Figure 4

(4) J4 I/O input port internal simplified circuit design (shown in Figure 5)

There are 9 input ports for the robot I/O input, IN0\_N IN1\_N IN2\_N share COM\_A, IN3\_N IN4\_N IN5\_N share COM\_B, IN6\_N IN7\_N IN8\_N share COM\_C, built-in optocoupler isolator, electrical isolation, strong anti-interference ability, working drive current is recommended at about 10mA, the current is too small to affect the drive performance, and the typical input voltage is 24V.

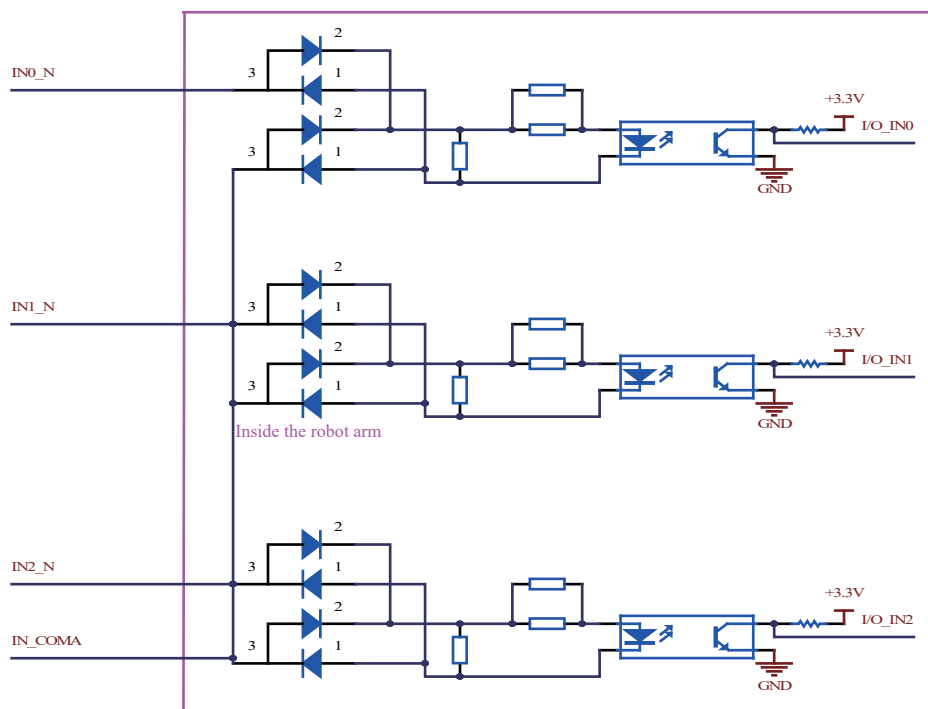


Figure 5

(5) J7 interface male pin definition (shown in Figure 6)

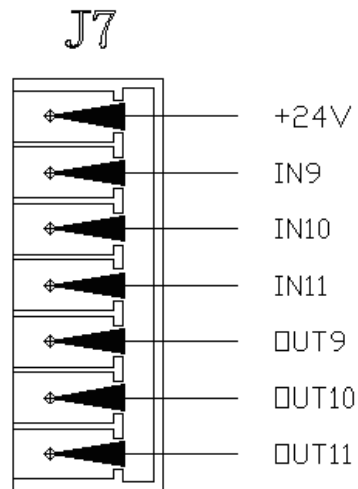


Figure 6

(6) J7 I/O input port internal simplified circuit design

There are 3 input ports of the robot arm I/O input. IN9, IN10 and IN11 share the internal GND. When the +24V terminal is connected to the IN port, the robot has signal output.

(7) J7 I/O outlet internal simplified circuit design

There are 3 outputs of the robot arm I/O input, OUT9 OUT10 OUT11 share the internal GND, NPN type output, when the output is valid, the output voltage is 0V (refer to 24V on the port).

4. B interface control EFG-20 electric gripper diagram, as shown in Figure 7

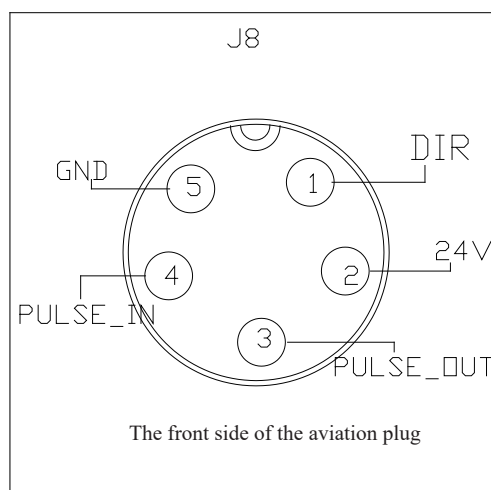


Figure 7

**Note:**

- Pin 1 is the internal output direction control.
- Pin 2 is the internal power supply 24V output.
- Pin 3 is the internal control pulse output.
- Pin 4 is the pulse control input.
- Pin 5 is the internal power supply GND.

## Precautions

### 1. Payload inertia

The payload center of gravity and the recommended payload range with the Z axis movement inertia are shown in Figure 8.

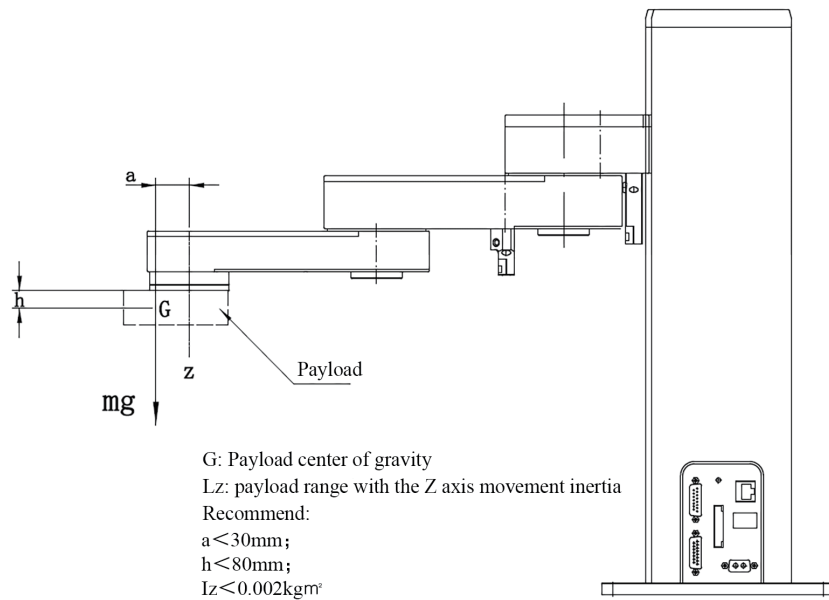


Figure 8 XX32 series payload description

### 2. Collision force

Trigger force of horizontal joint collision protection: the force of XX32 series is 30N

### 3. Z-axis external force

The external force of the Z axis shall not exceed 100N

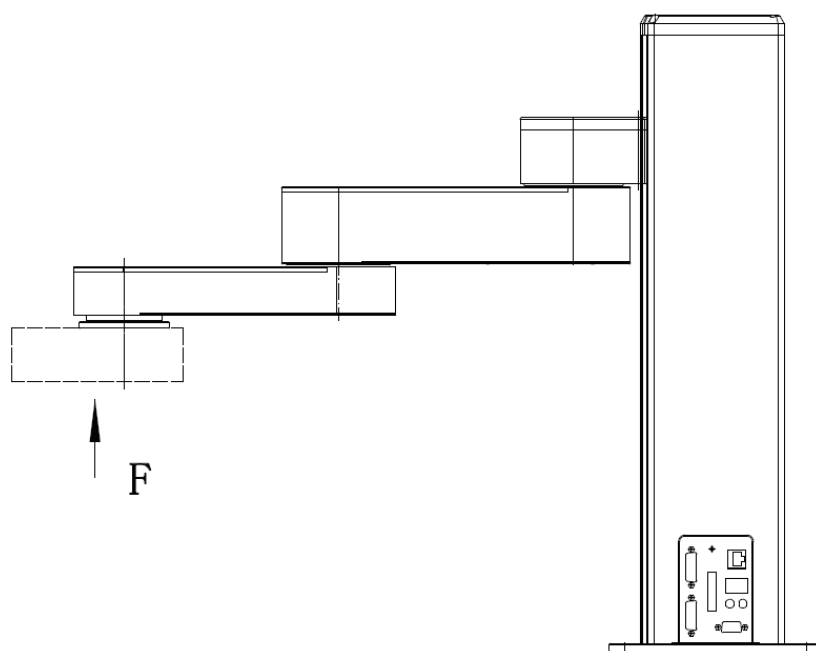


Figure 9

4. Note for installation of customized Z axis, see Figure 10 for details

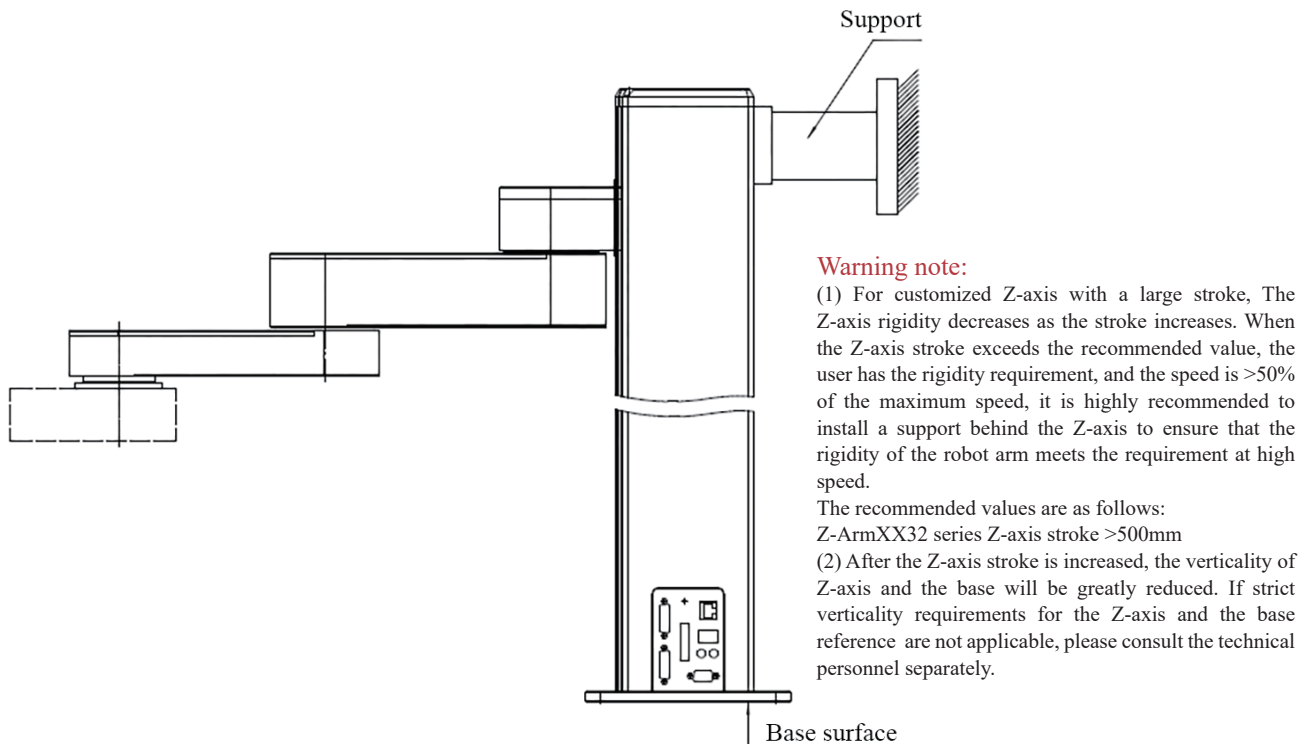


Figure 10

5. Power cable hot-plugging forbidden. Reverse warning when the positive and negative poles of the power supply are disconnected.

6. Do not press down the horizontal arm when the power is off

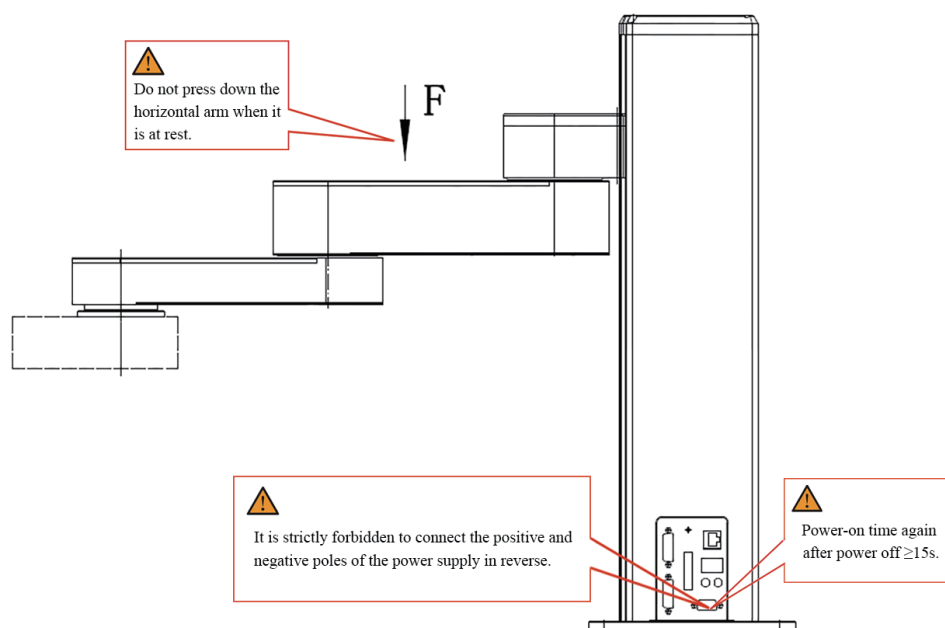


Figure 11

### DB15 Connector Recommendation

Recommended model: Gold-plated male head with ABS shell YL-SCD-15M

Gold-plated female with ABS shell YL-SCD-15F

Size Description: 55mm\*43mm\*16mm

(Refer to Figure 12)



Figure 12

### Robot Arm Compatible Grippers Table

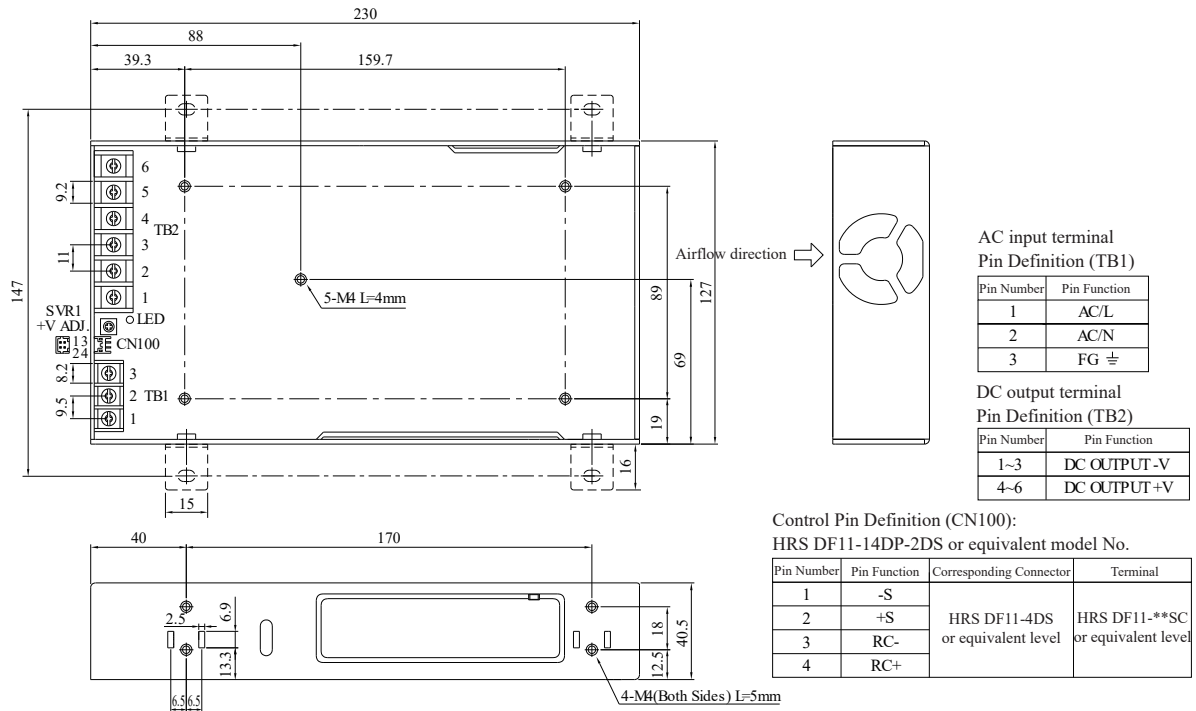
Robot arm Model No.	Compatible grippers
XX32	Z-EFG-8S NK/Z-EFG-20 NM NMA

## Power Adapter Installation Size Diagram

XX32 configuration 24V 500W RSP-500-SPEC-CN power supply

Robot arm body size

Machine case number: 26A Unit: mm



## Diagram of the External Use Environment of the Robot Arm

