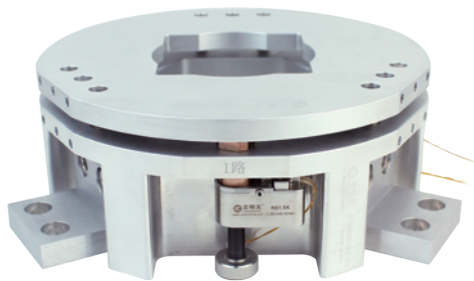




# ZT50N81K8 Piezo Screw Leveling Platform

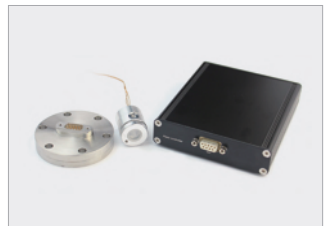
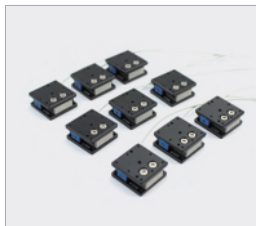
## User Manual

Version: V1.0



This document describes the following products:

- ZT50N81K8



# DECLARATION

Thank you for choosing CoreMorrow's products!

This user manual is applicable to ZT50N81K8 piezo screw leveling platform. For your smooth and correct use of this product, please read this manual carefully before use. Please follow the instructions in the manual installation and use procedures. Improper operation may cause injury to the operator or damage to the product. Therefore, the entire installation and operation process should be completed by a professional with a certain foundation and understanding of the product principle, or under the guidance of a professional.

If the product is disassembled or modified without permission, our company will not be responsible for any consequences arising therefrom.

It is illegal to change the product model and other false sales of our products. Users are advised to be vigilant. Once you find out or be deceived, contact us directly, we will crack down on illegal activities and prevent deception and economic losses. CoreMorrow will certainly investigate legal responsibility of the illegal subject and related parties.

With the continuous development and innovation of technology, we will add the latest information to the manual as needed without notice. Please contact us if you need any information.

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## 1. Introduction

### 1.1 Purpose and content

- ▶ The manual is mainly for your smooth and correct use of piezo products.
- ▶ The manual contains all necessary information for ZT50N81K8 piezo screw leveling platform.
- ▶ The manual describes the precautions during installation and use.

### 1.2 Symbol and meaning



**DANGER:** Improper handling may could cause injury to the operator.



**Attention:** Improper handling can cause damage to the equipment.

- ▶ No order between items.
  1. Please operating in order.
  - 2.

### 1.3 Expected reader

The manual default user has knowledge of ZT50N81K8 piezo screw leveling platform and controllers, and has a basis for its installation and use.

### 1.4 Manual lost replacement

If the manual is accidentally lost, please contact our customer service department, we will send you the latest version of user manual.

## 2. Safety Guide

ZT50N81K8 piezo screw leveling platform is designed with advanced technology and safety standards, for safety and proper use of the product, please pay attention to following points when using:



Temperature changed and pressure will charge the piezo product. It will remain charged for a period of time disconnected from the controller, so the operator should pay attention when using it:

- ▶ Do not disassemble ZT50N81K8;
- ▶ Discharge ZT50N81K8 before installation, it could be achieved by connecting to the controller;
- ▶ Do not pull out the controller during operation;
- ▶ Before using, please check whether the connecting wire of the product is in good condition, whether the product and the controller are effectively protected from grounding, in case of danger, please strictly regulate the operation during operation, do not touch it after power on.



In order to prevent damage to the product caused by improper operation, please pay attention to following points when using:

- ▶ ZT50N81K8 is used as much as possible in dust-free, oil-free, lubricant-free environments;
- ▶ Since the product adopts flexible structure design, it is recommended that the load not exceed the bearing capacity of the product. Pay attention to the torque when loading. Do not twist or twist the load surface to avoid damage to the structure;
- ▶ Do not disassemble the product to avoid product damage;
- ▶ Avoid stretching and bending the cable interface to prevent damage to the cable;
- ▶ Please use the dedicated cable provided by us to connect ZT50N81K8 and piezo controller;
- ▶ Please do not use cable extension wire, if need longer cable, please contact us.

## 3. Product Overview

### 3.1 Product Introduction

ZT50N81K8 piezo screw leveling platform is designed specifically for three-axis leveling. It has 3 linear actuation points, for  $\theta_x$ ,  $\theta_y$  deflection and Z-direction lifting to adjust the platform, It can be applied to different applications under various conditions.

### 3.2 Product Features

- ▶ Three-dimensional deflection motion
- ▶ Sub- $\mu$ rad angular resolution
- ▶ Power-off self-locking
- ▶ More flexible with motorized operation

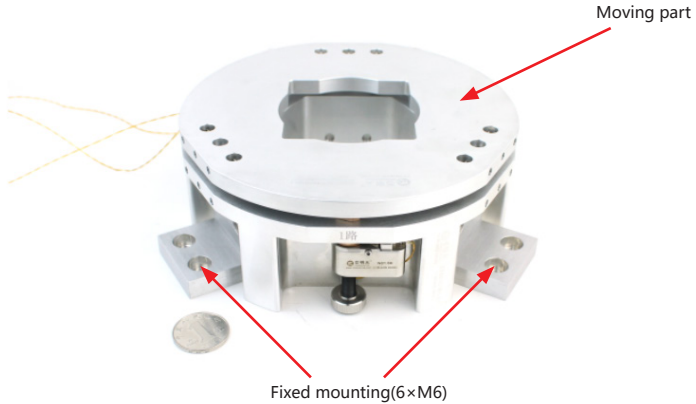
## 4. Operating Environment

- ▶ Operating temperature: 0~50°C
- ▶ Environment free of dust, clean, and non-corrosive substances
- ▶ Relative humidity: <60%

## 5. Installation and Operation

Before installation, first check the safety, such as whether the cable is damaged or broken, and whether the power supply has grounding protection.

## 5.1 Installation and announcement

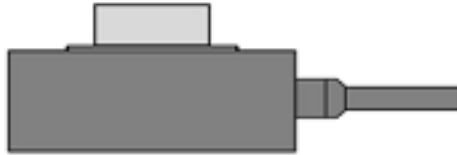


1. Gently push moving part to moving direction, turn the locking knob to tighten the moving part.
2. Fix ZT50N81K8 with M6 pan head screws.
3. Install load and tighten properly to ensure positioning accuracy.
4. Connect the cable to corresponding interface of piezo controller according to the label on the connector.

## 5.2 Load

When installing the load, ensure that the load mass is less than the max load of ZT50N81K8 , and install the load as much as possible at the center of the moving surface.

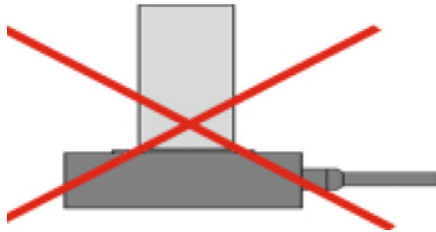
The correct placement of the load is shown below:



Load applied to the center of ZT50N81K8

For protection, we don't recommend the load is too high. If it is used a higher load, please reduce the position center of the load gravity.

The error placement method is as follows:

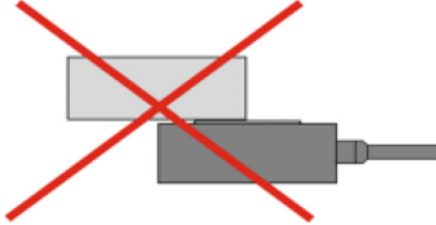


Try not to let the load center of gravity exceed ZT50N81K8

It is forbidden to load the load on one side of ZT50N81K8, which would cause serious damage to the product.



As shown in the following figure:



Do not load longer loads and add to the side of ZT50N81K8

**Note:**

- ▶ Avoid stretching and bending cables.
- ▶ Please connect ZT50N81K8 and controller with special cable provided by CoreMorrow.
- ▶ Please do not extend the cable without authorization, please contact us if you need a longer cable.

### 5.3 Operating

Please confirm the following information before starting the power supply:

- ▶ The environment meets requirements of piezo products operating environment.
- ▶ The fixing screws must be tightened.

The above information is determined to perform controller related operations:

1. Please carefully read piezo controller user manual before operating, then start the controller;
2. Set the piezo controller to zero;
3. It could work normally within the rated voltage range of ZT50N81K8.
4. Please set the piezo controller to zero after used.
5. If abnormal noise or oscillation occurs during use, immediately turn off the power and check parameter settings.

## 6. Transportation and Inspection

### 6.1 Transportation

Product is packed in carton. The transportation is carried out under the condition of packaging. This product can be transported by various means of transportation under normal conditions. During transportation, it should avoid direct rain and snow, avoid contact with corrosive substances, and avoid strong collision, try to avoid improper behavior such as squeezing, irregular placement.

### 6.2 Unpacking inspection

Please check below information:

- ▶ Before opening the package, please carefully check the packaging for damage, bruising, wetting, moisture, deformation, etc.
- ▶ Please check the parts on a case-by-case basis based on the supply contract and the packing list.
- ▶ Whether there is obvious damage on the surface of the product.
- ▶ Whether the product identification is clear and complete.
- ▶ Whether the connector is loose, the connection line is broken or not, etc.

If any of the above occurs, please make a detailed record and take a photo, and please contact us immediately.

#### **Precautions:**

- ▶ Please handle gently when unpacking to avoid permanent damage to the products caused by bumps.
- ▶ Please do not use heavy tools or use rough methods to open them.
- ▶ Please do not discard all packaging materials for return shipments.

## 7. Maintenance and processing

### 7.1 Problem Processing

- ▶ If the user has problems that could not be solved. Please record the fault situation and contact with us. The professional technical engineer would help solve the problem.
- ▶ Problems caused by improper operation are not covered by the warranty;
- ▶ CoreMorrow is not responsible for any problems caused by dismantling ZT50N81K8 without permission.

### 7.2 Daily maintenance

- ▶ If the product is not used for a long time, please store it in an room environment with no dust, good ventilation, clean and non-corrosive substances.
- ▶ Please do not loosen the screws on the stage structure, avoiding to affect the accuracy.

#### **Daily cleaning:**

- ▶ Please disconnect ZT50N81K8 to controller, then clean the surface of it.
- ▶ When cleaning, first wipe a small amount of detergent with a towel and gently wipe the surface of ZT50N81K8, then wash it with alcohol. Please do not use ultrasonic waves for cleaning.

## 8. Customer Service

If you have questions about the products you are currently using, please let us know the following information:

- ▶ Product model number and related number.
- ▶ Controller model for this product.
- ▶ Software driver version for this product.
- ▶ Computer operating system for installing supporting software.

## 9. Contact us

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**CoreMorrow Official and CTO WeChat are below:**

