

# TK-2

## User Guide Manual



*TK-2 Flying Probe Trouble shooting Tester*



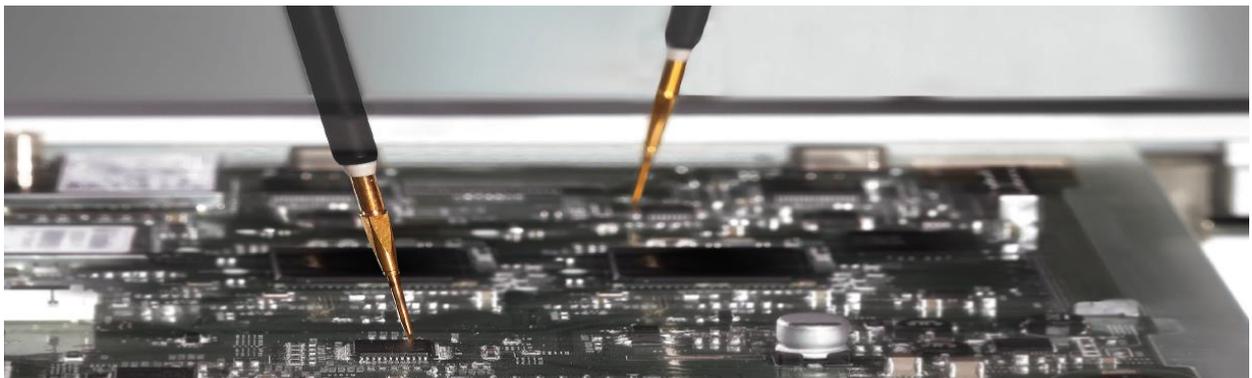
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## **Introduction of your TK-2**

Refer to these sections to learn more about your equipment in this manual

Equipment Features

Equipment Contents

Optional Equipment and Replacement Parts

Spare Parts

Warranty Information

## **Equipment Test Features**

- Vision Test
- VI Test
- Open & Short Test
- DMM Test
- Voltage Test ( On Powered )

## **Equipment Contents**

All necessary parts will be tested and installed along with equipment before shipped.



1) Equipment 2) DMM 3) Power Supply 4) Vision Camera

5) Multi- Function Unit 6) Industrial PC 7) UPS 8) All necessary Cables

### **Optional Equipment and Replacement Parts**

You could purchase other optional accessories and measurement on TK-2 to for your convenience and increase performance.

<b>Option or part</b>	<b>Part Number</b>
NI PXI 4072 with Chassis	TK_PXI
Handy Barcode Scanner	TK_HandySCN
Ticket Printer	TK_TKP
Probe	TK-2 Probe
Socket	TK-2 Socket
Probe Tool	TK-2 Probetool
CAD Convertor	TK2_CAD_Package

### **Spare Parts**

- Probe
- Socket
- Probe Replace Tool
- Diagnostic Board

### **Warranty Information**

Your TK-2 warranty is 12month from the day that setting on your facility.

Any damage from your operators fault, the warranty will not be covered.

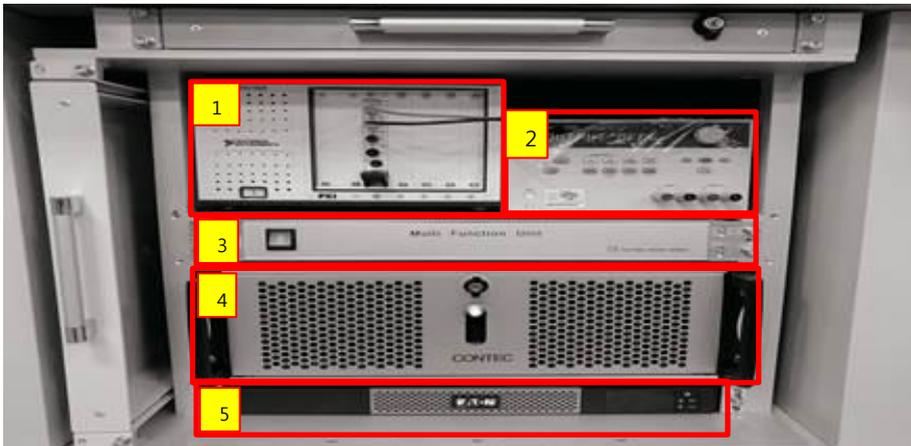
In addition, if you would like to extend your warranty, please contact your local authorized Dealer.



## TK-2 Part Locations

Warning: Do not disconnect delivered factory setting with all wires/cables connections.

### Equipment – Front Side



1. PXI-1033 , PXI-4027 (PXI-DMM) \*Optional
2. Power Supply E3646A
3. Multi-Function Unit Control
4. IPC
5. UPS

### Equipment Right Side



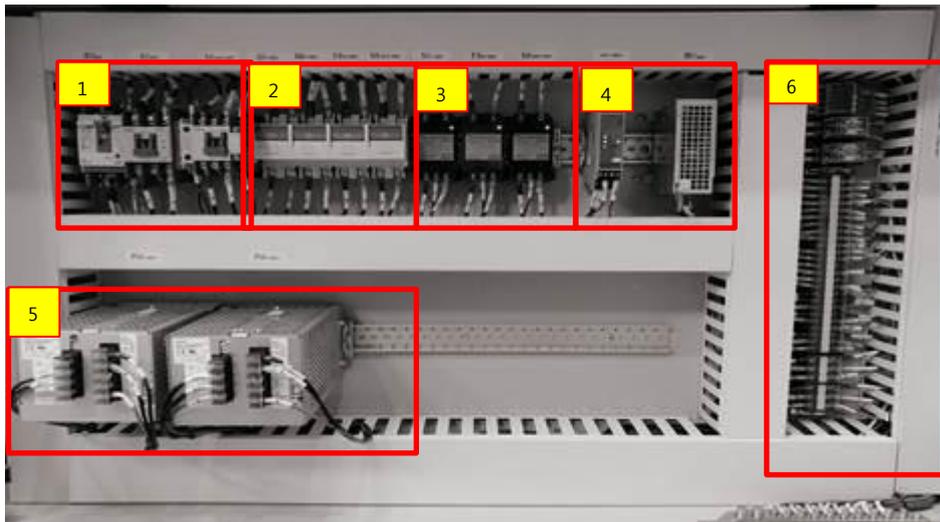
1. AC Servo Controller
2. DC Servo Controller
3. Terminal Block (DC)

4. Terminal Block (IO)

5. MMC Terminal

6. Servo Filter

### Equipment Left Side



1. Circuit Breaker (AC)

2. Circuit Breaker (DC)

3. Noise Filter

4. Safety Module & SMPS

5. SMPS (DC Power)

6. Connecting Terminal Block

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### Setting up the Equipment

Equipment only needs to plug to the electrical outlet or extension core

#### **Equipment Placement**

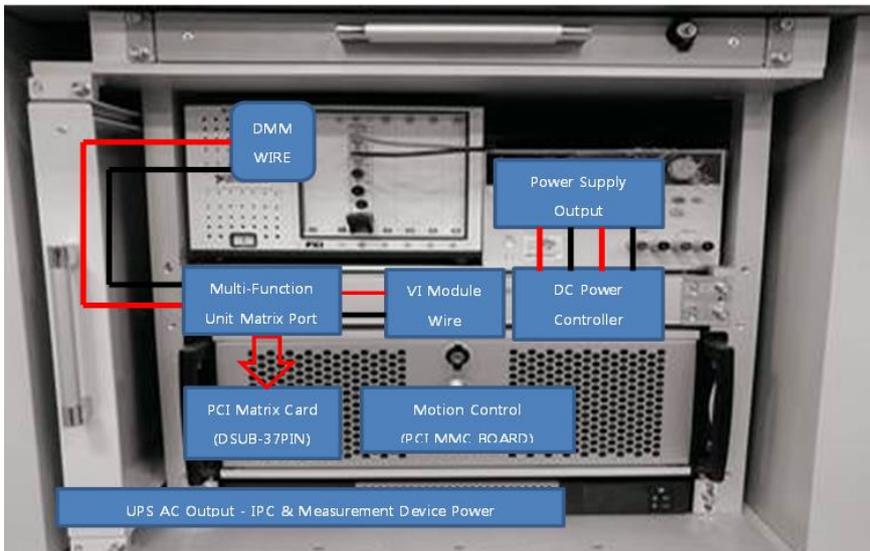
You can place the equipment on hard and flat surface.

Make sure feet are tighten to the flat surface ground

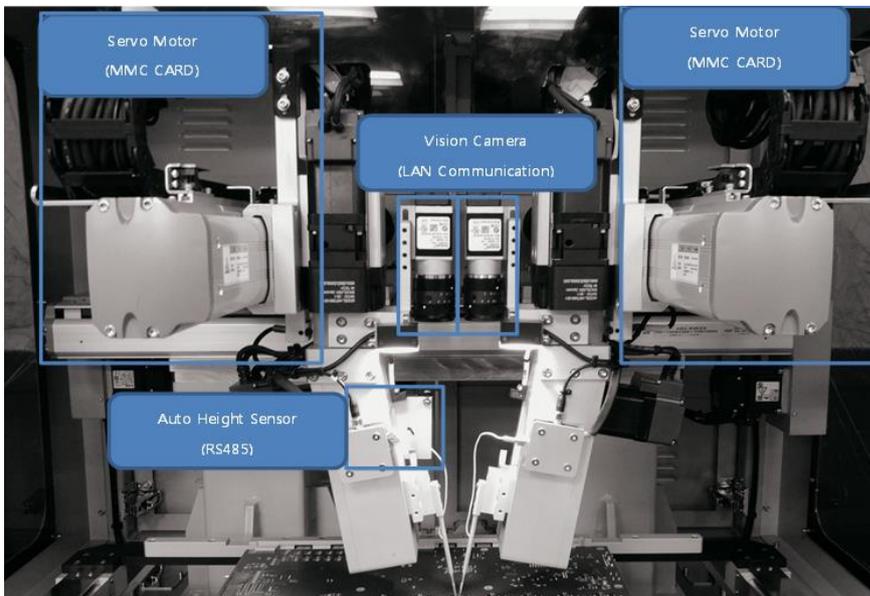
Plug to electrical outlet or extension cord.

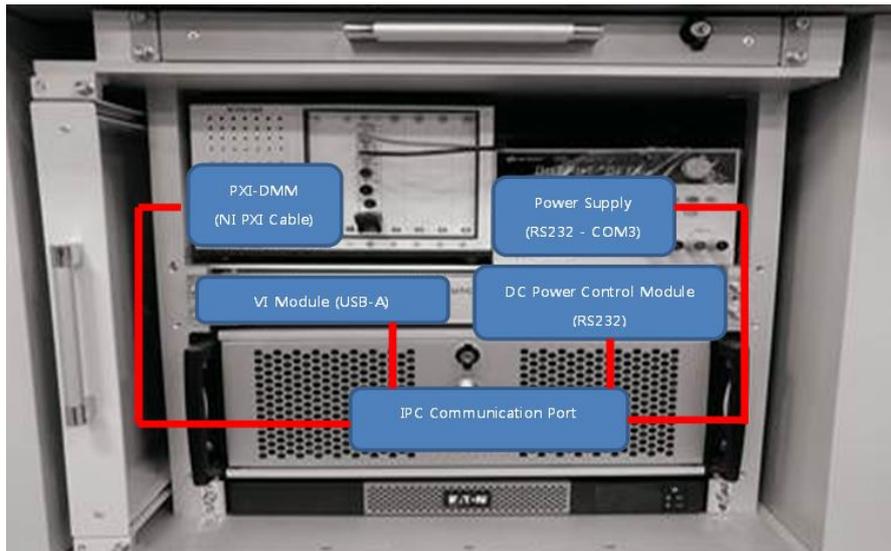
## Equipment Connections

### Measurement Connection



### Communication Connection





## Using Basic Equipment Features

Follow the instruction in this section to use your equipment's basic features

- Foot Adjustment
- Plug into Electrical Outlet
- Turning On the Power
- Turning On the UPS
- Turning On the PC
- Loading PCBA in Fixture Guide
- Creating a New ID
- Turning off the Power

### **Foot adjustment**

You can adjust to foot toward to clock wise to tighten the foot to the surface ground.



- Please use spanner to tighten all each foot.

### Plug into electrical outlet

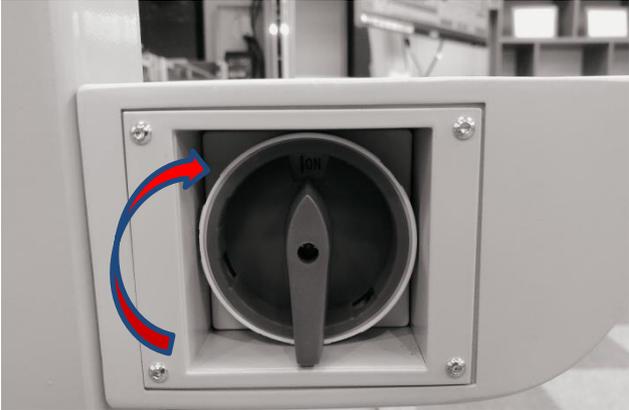
Directly plug into electrical outlet to supply power into the equipment



- TK-2 has two options for electrical power for 110V and 220V

### Turing on the power

Turing Power Switch knob toward to clock wise to turn on the power



**Turning on the UPS**



- Press power button following from the picture to turning on the UPS

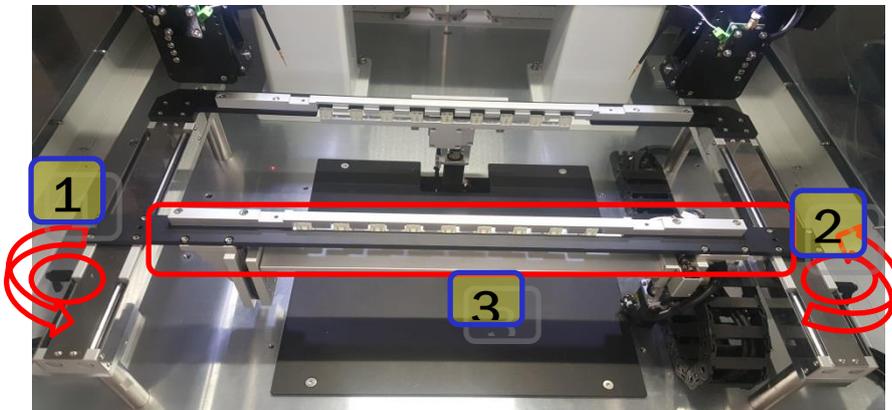
**Turning on the PC**



Turn PC cover key knob to the right side

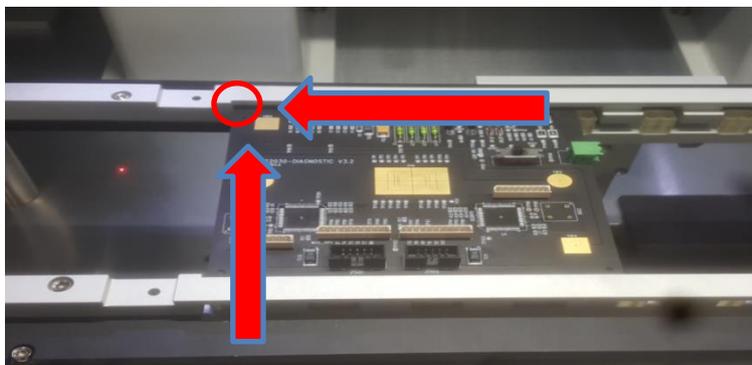
Press the power button

### Loading PCBA into a Fixture Guide



When you open the cover door, LED on the top of the equipment lights up. Release the fixing levers 1 and 2 as shown in the picture to adjust the position of the bar (PCB guide bar) 3, fix the PCB to be fixed, then lock the fixing levers 1 and 2 again.

**\*When the object approaches the area through the safety area sensor, the motion stops. For the safety of the user, the operation should be performed when the motion is stopped.**

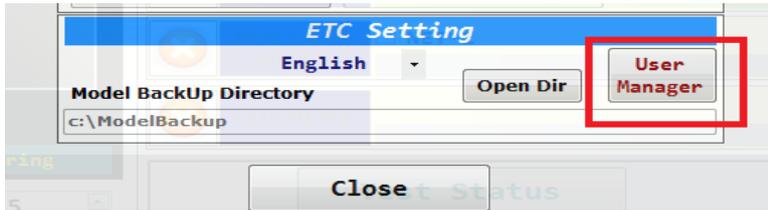


< Adjusting PCB> - PCB need to touch the edge of PCB guide

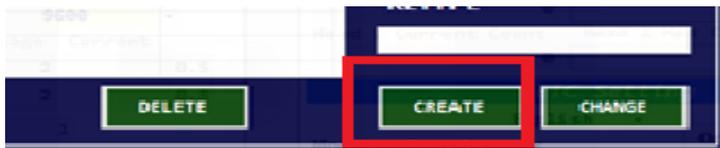
### Creating a ID



"Click" system setting from the right corner from the main screen

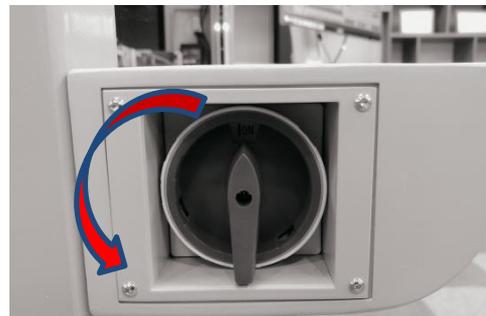


"Click" User Manager from bottom right ETC Setting



"Click" creates from the login window from bottom right to create a new ID for an operator and new project

### Turning off the Power



Turn off the UPS Power- Press the power button

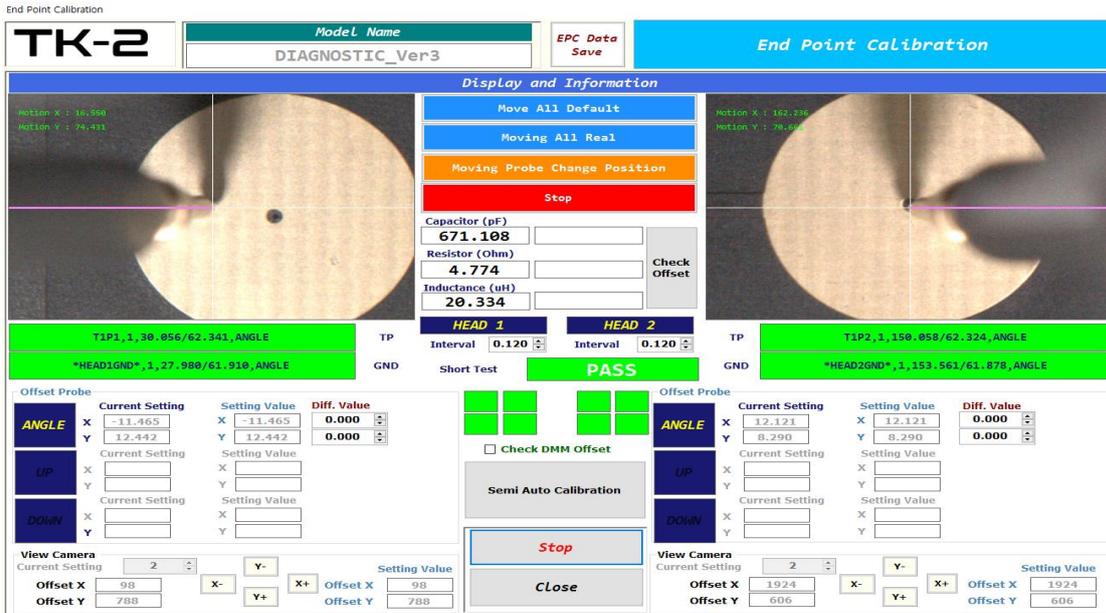
Turn off the main switch – turn into left down

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### Probe Calibration

When you received equipment, it is mandatory to do end point calibration. (Probe Adjustment)

**(End Point Calibration)**



1. Load the diagnostic board on top of the fixture guide and register Diagnostic Model.
2. "Click" model teaching
3. Operate the compensation
4. "Click" End Point Calibration.
5. From the end point calibration, "click" Semi auto calibration
6. Until open and short test result becomes pass adjust the Diff Value (mm) + or -0.05mm and "click" semi auto calibration to be confirm
7. "Click" view camera to each head of vision view + and – of probe end calibration as same point
8. "Click" EPC Data Save

## Equipment Maintenance

The equipment needs maintenance to keep working at its best. The following guide will support how to maintain your equipment.

Area	Parts	Content	Maintenance	Maintenance Period			
				Daily	Weekly	Monthly	
H A R D W A R E	Pressure	Service Unit	1. Filter Blockage	◆			
			2. Moisture	◆			
			3. Supply Air Pressure	◆	◆		
			4. Supply Insert-Gas Pressure	◆			
			5. Air leakage				
		Cylinder	1. Cylinder Rod Packing		◆		
		Solenoid- Valve	2. Fitting Air Cover Attachment		◆		
		X-Y-Z -R-T Robot	LM-Guide	1. Stroke Movement	◆		◆
	3. Grease Area						
	Connecting Area		1. Connecting Damage and Lose Check		◆		
	Step Motor		1. Stroke Movement	◆			
		2. Sensor Activation	◆				

Area	Parts	Content	Maintenance	Maintenance Period		
				Daily	Weekly	Monthly
		Clamp	1. Check Clamp Bolt Lose		◆	
H	Door	Rear Door	2. Door		◆	

A R D W A R R E			3. Door Open Sensor	◆			
		Front		1. Acrylic Damage		◆	
				2. Cover Window Sensor	◆		
	X-Y-Z	Cable Duct		1. Cable Abrasion			◆
				2. Cable Duct Abrasion			◆
		Movement Vibration		1. Vibration Check	◆		
P L C	PC	MMC Board		1. Status Check	◆		
				2. Booting Status Check	◆		
				3. Virus Check	◆		
				4. Filter clean	◆		
	Monitor	Monitor		1. Monitor surface (Scratch)	◆		
				2. Monitor Panel	◆		
				3. RGB Connector Connection	◆		
				4. Power Cable Connection	◆		
	Control- Box	Step Driver		1. Power Supply Status			◆
				3. Step Driver Cleaning			◆
				4. Bolt Lose			◆
		I/O-Board		1. I/O Board Check		◆	
			2. I/O Connection Status		◆		

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## **Equipment Specification**

Main Body Dimensions: 1200(W) x 1100(L) x1700(H) mm

Probing Area: 360(W) x 220(L) mm

Single Probe Repeatability: +/- 50 micron (0.05mm)

Component Height: 0-40mm

Measurement Speed 5/Sec

Weight: 800Kg

Flying Probe Head: 2 Heads

Min Contact Pad: 100 micron (0.1mm)

Min Contact Pitch 500 micron (0.5mm)

## **Testability & Measurement**

VI Curve Test: Yes

Capacitor: Yes

Diode VZ Measure: Yes

Zener Diode: Yes

Digital TR: Yes (Diode Test/ Resistor Test)

Photocoupler: Yes (Diode Test/ Resistor Test)

Short: Yes

Open: Yes

DC Voltage: Yes

Resistor: Yes

On Powered Test: Yes (Edge Type)

FET on Resistance: Yes (Diode Test/ Resistor Test)

Vision Test: Yes (Pattern matching)

### **Additional Feature**

Component Height Measurement: Yes (Laser Height Sensor)

Barcode Reading: Yes (1D/2D Barcode)

### **Optional**

Accessories: Handy Scanner, Ticket Printer & Others

CAD convertor

National Instrument PXI (PXI-4072,1033)

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### **Notice**

#### **Important Safety Information**

Caution: Please do not put your hand inside of equipment during the test period.

Warning: Please do not attempt to disconnect wires or cables when power is on.

Warning: Please do not pull a probe from the socket by the force. Please follow correct guidance for your replacement.