Online detection of machine tools

Evolution technology

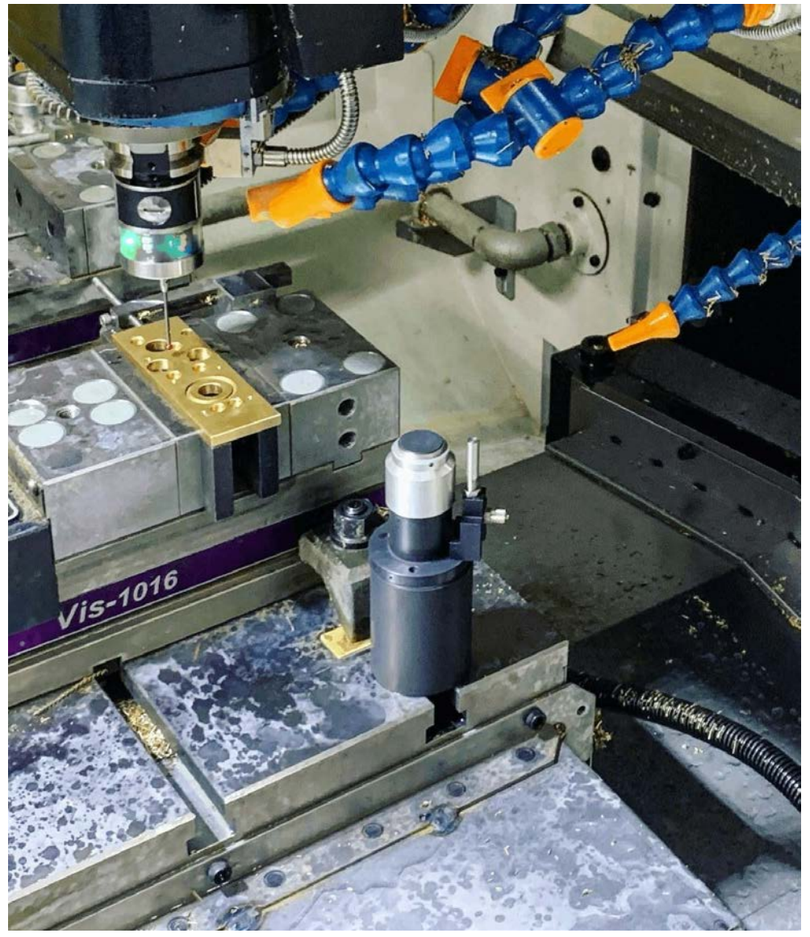
Suzhou EVO Technology Co., Ltd

Tel:86-9032448599(whatsapp)

Web:https://www.evo-mech.com

Email:evotech2023_1@163.com

Add： Building 1, Chengbei Lake Commercial Center, No. 1188 Chengbei Road, Yushan Town, Kunshan City, Suzhou City, Jiangsu Province



Suzhou EVO Technology Co., Ltd

THE EYE OF MACHINE TOOL PROCESSING,

THE RULER OF INTELLIGENT MANUFACTURING

CONTENTS

I Company Profile

Suzhou EVO Technology has been committed to the research and development and customization of precision measurement solutions for more than ten years, striving to become a leading brand in precision measurement and automated testing. EVO Technology will focus on equipment research and development and innovation to help precision manufacturing companies improve product quality and reduce yield rates.

Our customers are all over the world, including many domestic listed precision manufacturing companies, major customers in the automotive industry, as well as minimally invasive medical, large machinery, aerospace engines, etc. Shipbuilding, automation system suppliers. EVO Technology always puts customers first and provides customers with comprehensive, cost-effective professional services.

At present, we have high-quality distribution channels in China, and our domestic market share ranks among the top.

We are now recruiting entrepreneurs from all over the world to get rich together.

Our factory

" Machine tool measurement system

The machine tool measurement system includes machine tool probe measurement and in-machine tool measurement. It is the recognized preferred solution in the machining industry.

Manual alignment and detection of tools and workpieces may reduce processing efficiency and benefits. Probe measurement and tool setting systems can help manufacturers reduce scrap rates, avoid machine tool downtime, and improve workpiece quality.

Probe measurement solution:

1. Automatically find the center and align the workpiece
2. Automatically find the reference for the workpiece
3. Accurately measure the workpiece after sequencing

Tool setting measurement solution:

1. Set the length and diameter of the new tool
2. Detect tool wear and update
3. Detect tool breakage

cnc

lathe

Grinder

Other automation equipment

" Machine tool measurement system-Adaptation system

FANUC

SIEMENS

OKUMA

MAKINO

HEIDENHAIN

brother at your side

MITSUBISHI

Sodick

röders TEC

Mazak

KITAMURA

DMG MORI

SYNTEC

FAGOR

华中数控

MORE…

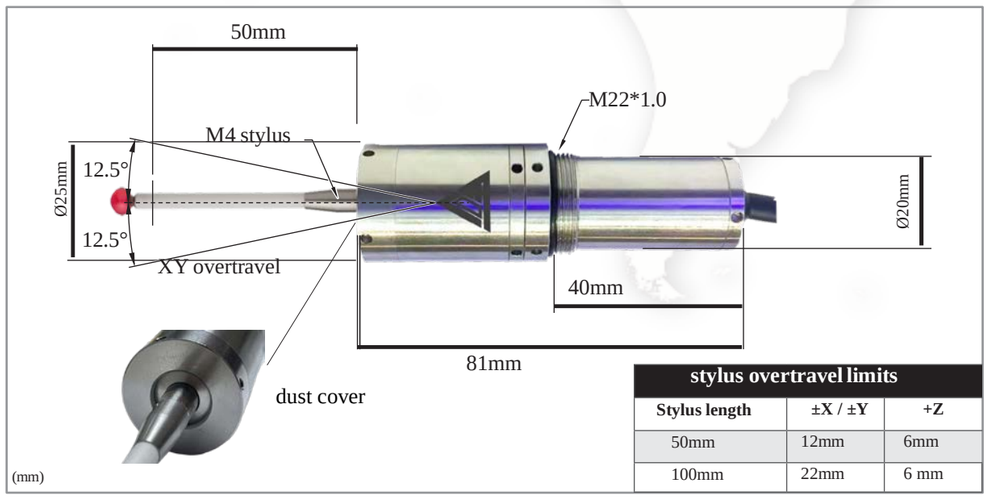
1.1 Probe Series-Wired Probe System

ELP25N hard-wired probe

Specification

Principal application	It is used for workpiece detection and workpiece alignment on engraving machine, highlight machine and grinding machine	
Transmission type	cable	
Cable range	Standard 2 m (line length can be customized)	
Cable material	Oil resistant, bending resistant, high flexibility drag chain cable	
Recommended styli	Ceramic, lengths 30 mm to 100 mm	
Weight without cable support	160 g	
Switch-on method/switch-off methods	Trigger open → No trigger close	
Sense directions	±X,±Y,+Z	
Unidirectional repeatability	*1μm 2σ(50 mm styli at a standard test speed of 480 mm/min)*	
Trigger life	>8million	
styli force		
XY low force	1 N	
XY high force	1.5N	
Z force	5.5 N	
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

ELP25N dimensions



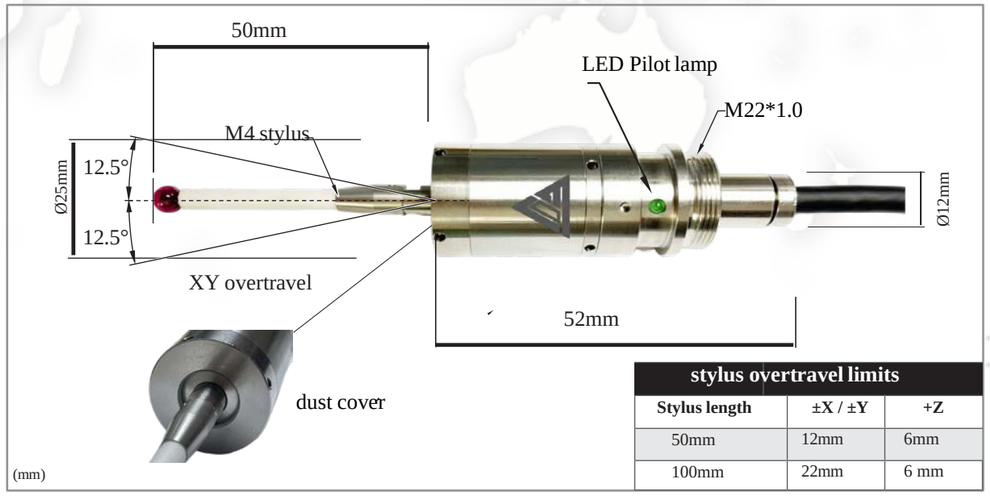
stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

ELP25 hard-wired probe(LED)

Specification

Principal application	It is used for workpiece detection and workpiece alignment on engraving machine, highlight machine and grinding machine	
Transmission type	cable	
Cable range	Standard 5 m (line length can be customized)	
Cable material	Oil resistant, bending resistant, high flexibility drag chain cable	
Recommended styli	Ceramic, lengths 30 mm to 100 mm	
Weight without cable support	80 g	
Switch-on method/switch-off methods	Trigger open → No trigger close	
Sense directions	±X,±Y,+Z	
Unidirectional repeatability	*0.5μm 2σ(50 mm styli at a standard test speed of 480 mm/min)*	
Trigger life	>10 million	
styli force		
XY low force	0.6 N	
XY high force	1.2 N	
Z force	4.5 N	
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

ELP25 dimensions



stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

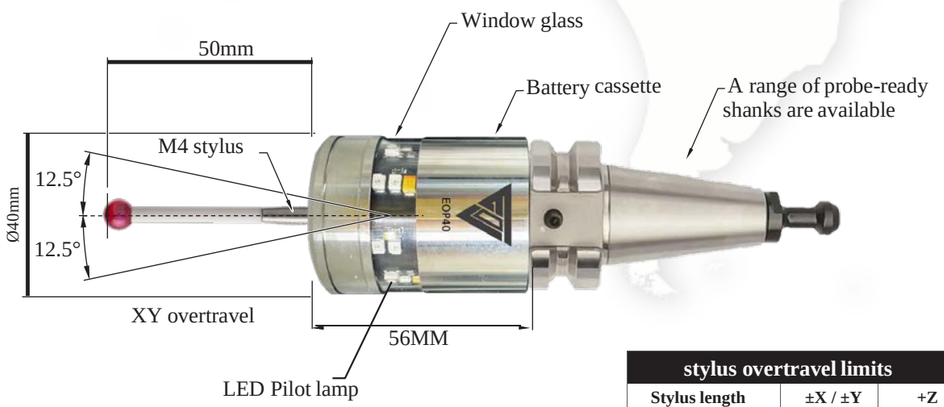
1.2 Probe Series-Wireless probe system

EOP40 Optical machine tool probe

Specification

Principal application		Used for workpiece inspection and alignment on machining centers and lathes, composite machine tools.
Transmission type		360° infrared optical transmission
Operating range		Up to 5 m
Recommended styli		Ceramic, lengths 50 mm to 150 mm
Weight without shank		280g
Switch-on method/switch-off methods		Trigger open → No trigger close (no need for M code control)
Battery life 2 X 3.6 V L14250(Brand: SAFT)	**Standby life**	3 year
	Continuous use	4000 hours maximum,Depends on the number of triggers
Sense directions		±X, ±Y, +Z
Unidirectional repeatability		1.00μm 2σ(50 mm styli at a standard test speed of 480mm/min)
Trigger life		>10 million
styli force		
XY low force		0.45 N
XY high force		0.85 N
Z force		5.75 N
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

EOP40 dimensions

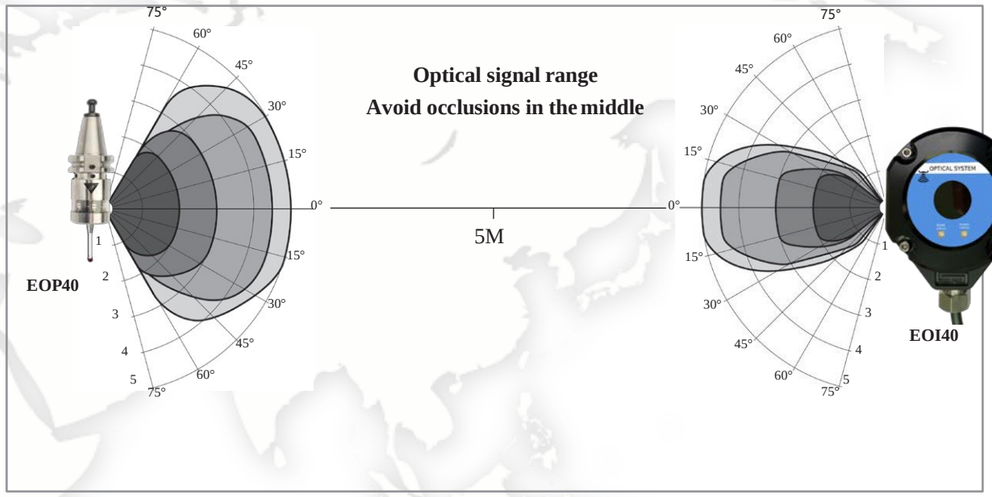


(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

EOP40 and EOI40 signal transmission

The EOP40 optical probe has a 360° transmission range, as shown below. The probe system should be positioned during installation so that it can achieve the best signal transmission over the entire shaft travel range of the machine.



The products of optical transmission of products, they do not need to match, can be exchanged.

❖ **Warning:**

The natural reflective surface on the machine may affect the signal transmission range.

Coolant residue that accumulates on the receiver can adversely affect transmission performance. It should be wiped frequently to ensure that the signal transmission is not affected in any way.

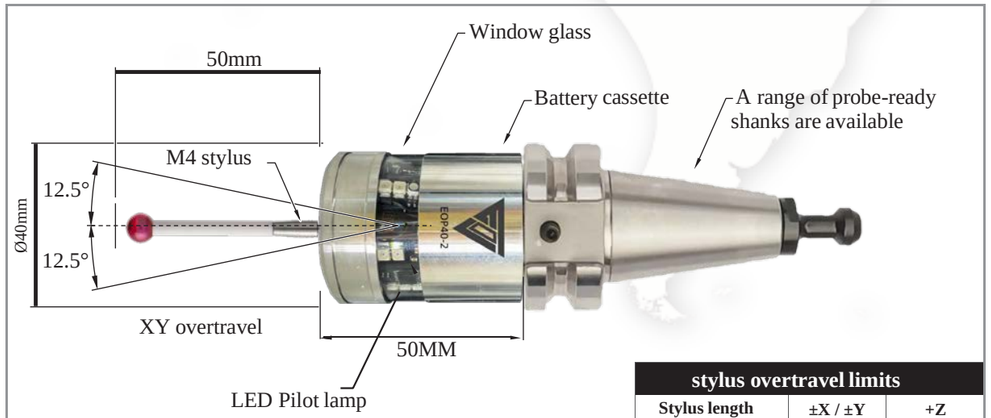
1.2 Probe Series-Wireless probe system

EOP40-2 Optical machine tool probe

Specification

Principal application		Used for workpiece inspection and alignment on machining centers and lathes, composite machine tools.
Transmission type		360° infrared optical transmission
Operating range		Up to 5 m
Recommended styli		Ceramic, lengths 50 mm to 150 mm
Weight without shank		250g
Switch-on method/switch-off methods		Optical open → Optical off (need for M code control)
Battery life **2 X 3.6 V** **L14250(Brand: SAFT)**	**Standby life**	Standby life: 1500 days maximum, dependent on switch-on/switch-off option
	Continuous use	Continuous use: 2000 hours maximum, dependent on switch-on/switch-off option
Sense directions		±X, ±Y, +Z
Unidirectional repeatability		1.00μm 2σ(50 mm styli at a standard test speed of 480mm/min)
Trigger life		>10 million
styli force		
XY low force		0.45 N
XY high force		0.85 N
Z force		5.75 N
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

EOP40-2 dimensions

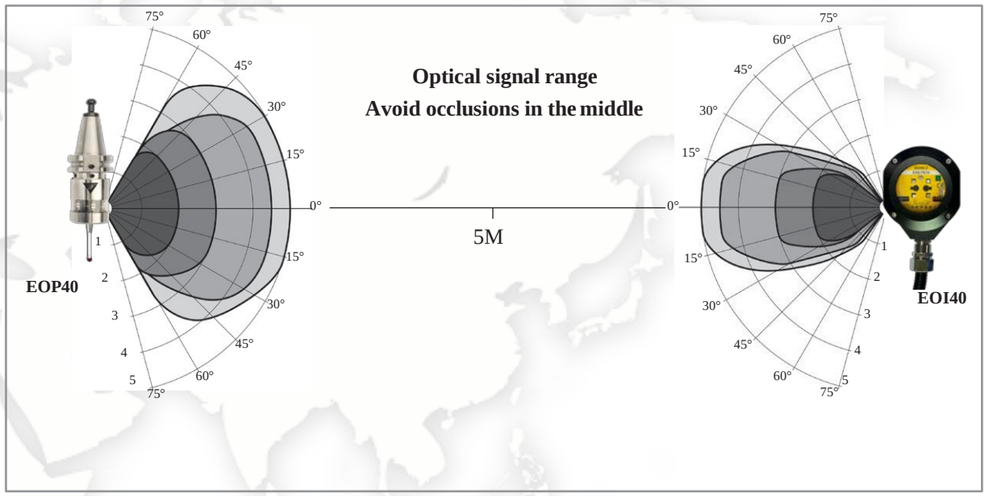


(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

EOP40-2 and EOI40-2 signal transmission

The EOP40-2 optical probe has a 360° transmission range, as shown below. The probe system should be positioned during installation so that it can achieve the best signal transmission over the entire shaft travel range of the machine.



The products of optical transmission of products, they do not need to match, can be exchanged.

❖ **Warning:**

The natural reflective surface on the machine may affect the signal transmission range.

Coolant residue that accumulates on the receiver can adversely affect transmission performance. It should be wiped frequently to ensure that the signal transmission is not affected in any way.

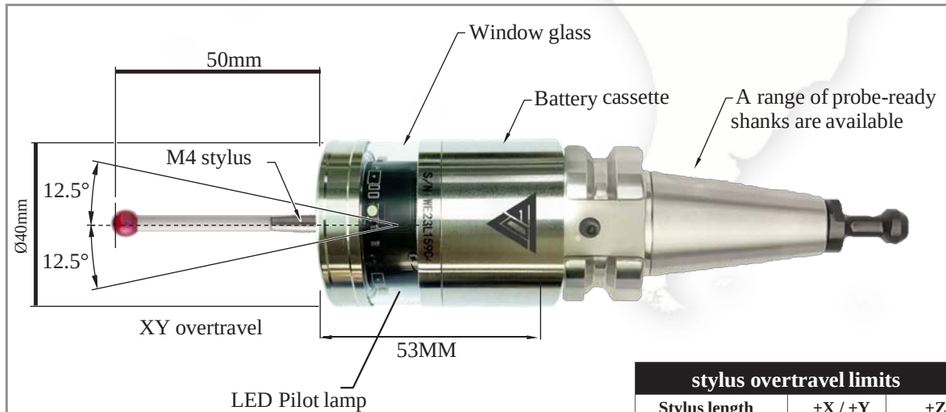
1.2 Probe Series-Wireless probe system

ERP40 Radio machine tool probe

Specification

Principal application		Used for workpiece inspection and alignment on machining centers and lathes, composite machine tools.
Transmission type		360° infrared radio transmission
Operating range		Up to 10 m
Recommended styli		Ceramic, lengths 50 mm to 150 mm
Weight without shank		280g
Switch-on method/switch-off methods		Trigger open → No trigger close (no need for M code control)
Battery life **2 X 3.6 V** **L14250(Brand: SAFT)**	**Standby life**	3 year
	Continuous use	4000 hours maximum,Depends on the number of triggers
Sense directions		±X, ±Y, +Z
Unidirectional repeatability		1.00μm 2σ(50 mm styli at a standard test speed of 480mm/min)
Trigger life		>10 million
styli force **XY low force** **XY high force** **Z force**		0.45 N 0.85 N 5.75 N
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

ERP40 dimensions

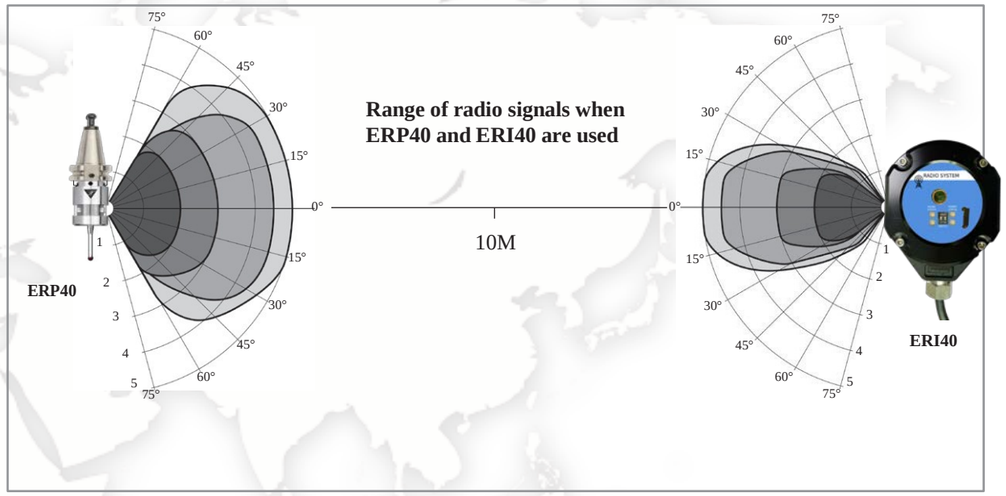


(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

ERP40 and ERI40 Signal transmission

The ERP40 radio probe has a 360° transmission range, as shown below. The probe system should be positioned during installation so that it can achieve the best signal transmission over the entire shaft travel range of the machine.



Wireless transmission and optical transmission products are different and need to be matched. We will set them up in the factory.

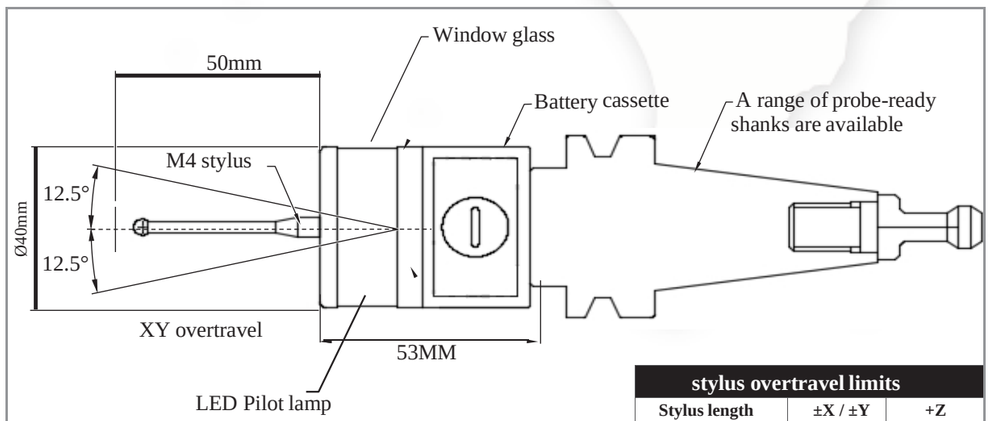
1.2 Probe Series-Wireless probe system

ERP40-*2* Radio machine tool probe

Specification

Principal application		Used for workpiece inspection and alignment on machining centers and lathes, composite machine tools.
Transmission type		360° infrared radio transmission
Operating range		Up to 10 m
Recommended styli		Ceramic, lengths 50 mm to 150 mm
Weight without shank		280g
Switch-on method/switch-off methods		Radio open → Radio close (need M code control)
Battery life **2 X 3.6 V** **L14250(Brand: SAFT)**	**Standby life**	3 year
	Continuous use	4000 hours maximum,Depends on the number of triggers
Sense directions		±X, ±Y, +Z
Unidirectional repeatability		1.00μm 2σ(50 mm styli at a standard test speed of 480mm/min)
Trigger life		>10 million
styli force		
XY low force		0.45 N
XY high force		0.85 N
Z force		5.75 N
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

ERP40-*2* dimensions

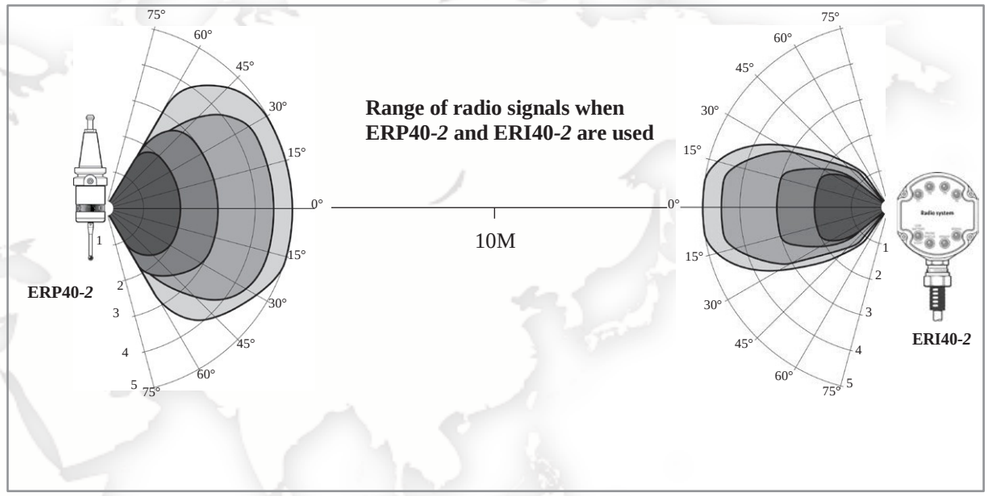


(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

ERP40-*2* and ERI40-*2* Signal transmission

The ERP40-2 radio probe has a 360° transmission range, as shown below. The probe system should be positioned during installation so that it can achieve the best signal transmission over the entire shaft travel range of the machine.



Wireless transmission and optical transmission products are different and need to be matched. We will set them up in the factory.

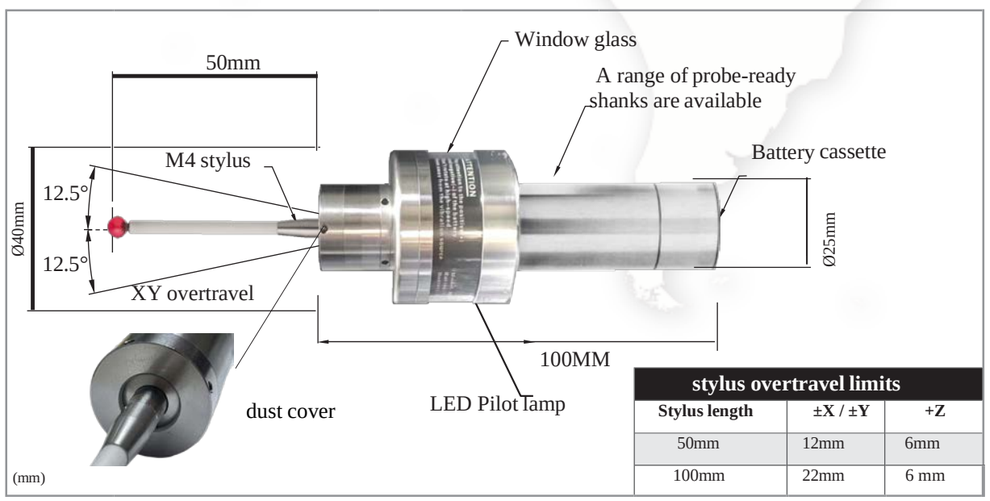
1.2 Probe Series-Wireless probe system

ERLP40 Radio lathe tool probe

Specification

Principal application		Used for workpiece inspection and alignment on lathes, composite machine tools.
Transmission type		360° infrared radio transmission
Operating range		Up to 10 m
Recommended styli		Ceramic, lengths 50 mm to 150 mm
Weight without shank		280g
Switch-on method/switch-off methods		Trigger open → No trigger close (no need for M code control)
Battery life **2 X 3.6 V** **L14250(Brand: SAFT)**	**Standby life**	3 year
	Continuous use	4000 hours maximum,Depends on the number of triggers
Sense directions		±X, ±Y, +Z
Unidirectional repeatability		1.00μm 2σ(50 mm styli at a standard test speed of 480mm/min)
Trigger life		>10 million
styli force **XY low force** **XY high force** **Z force**		0.45 N 0.85 N 5.75 N
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

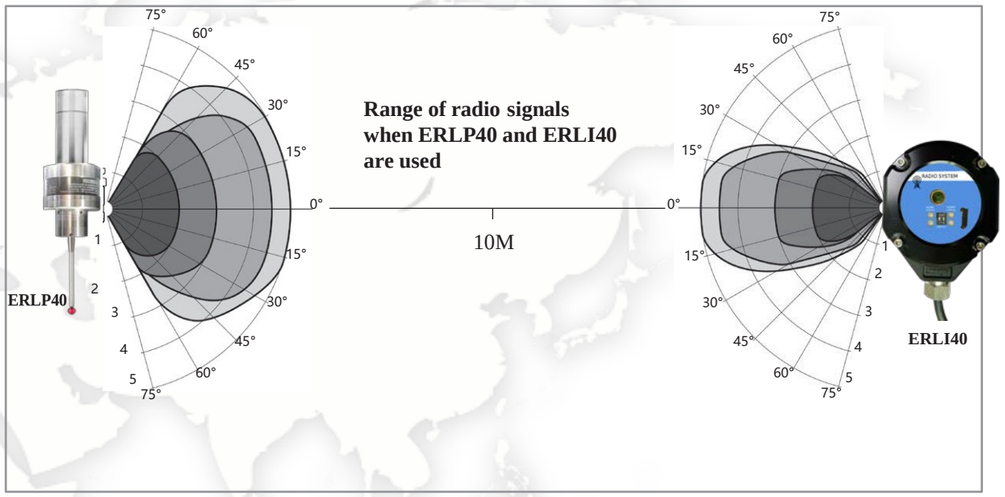
ERLP40 dimensions



stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

ERLP40 and ERLI40 Signal transmission

The ERLP40 radio probe has a 360° transmission range, as shown below. The probe system should be positioned during installation so that it can achieve the best signal transmission over the entire shaft travel range of the machine.



Wireless transmission and optical transmission products are different and need to be matched. We will set them up in the factory.

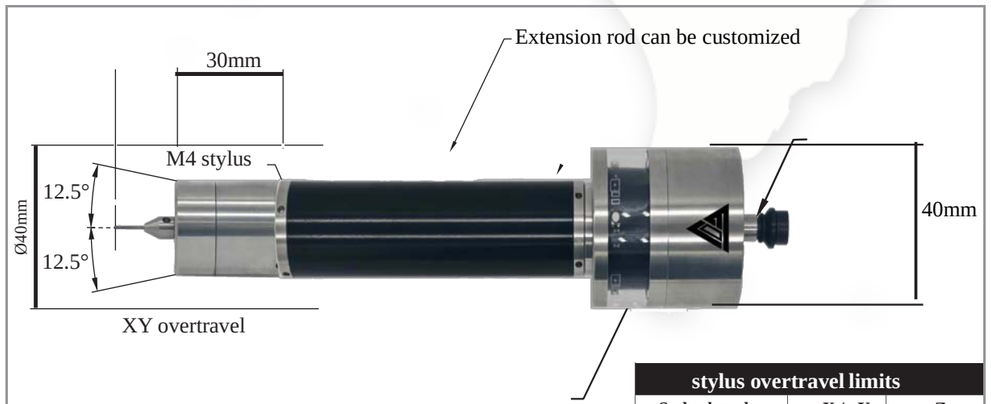
1.2 Probe Series-Wireless probe system

CRP40 Combined Radio probe

Specification

Principal application		Used for workpiece inspection and alignment on lathes, composite machine tools.
Transmission type		360° infrared radio transmission
Operating range		Up to 10 m
Recommended styli		Ceramic, lengths 50 mm to 150 mm
Weight without shank		280g
Switch-on method/switch-off methods		Trigger open → No trigger close (no need for M code control)
Battery life **2 X 3.6 V** **L14250(Brand: SAFT)**	**Standby life**	3 year
	Continuous use	4000 hours maximum,Depends on the number of triggers
Sense directions		±X, ±Y, +Z
Unidirectional repeatability		1.00μm 2σ(50 mm styli at a standard test speed of 480mm/min)
Trigger life		>10 million
styli force		
XY low force		0.45 N
XY high force		0.85 N
Z force		5.75 N
Environment	IP rating	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

CRP40 dimensions

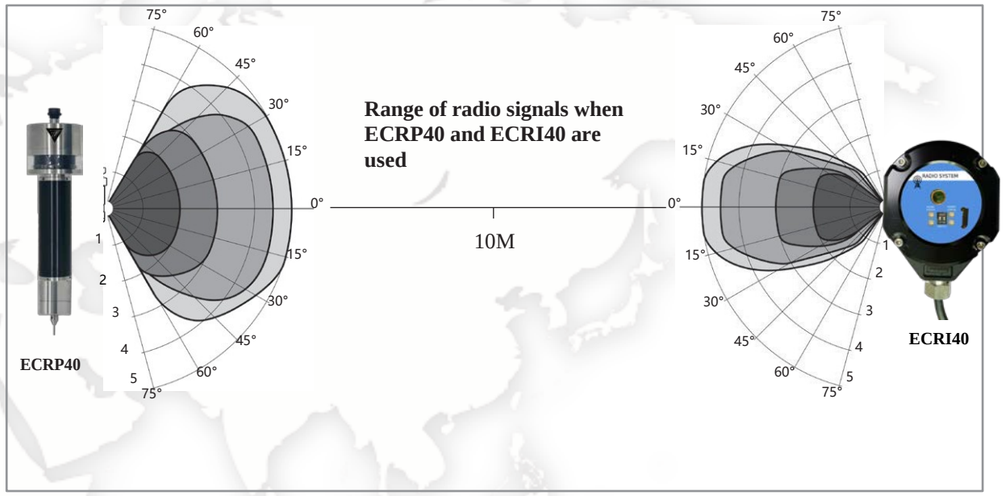


(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

ECRP40 and ECRI40 Signal transmission

The ECRP40 Combined radio probe has a 360° transmission range, as shown below. The probe system should be positioned during installation so that it can achieve the best signal transmission over the entire shaft travel range of the machine.



Wireless transmission and optical transmission products are different and need to be matched. We will set them up in the factory.

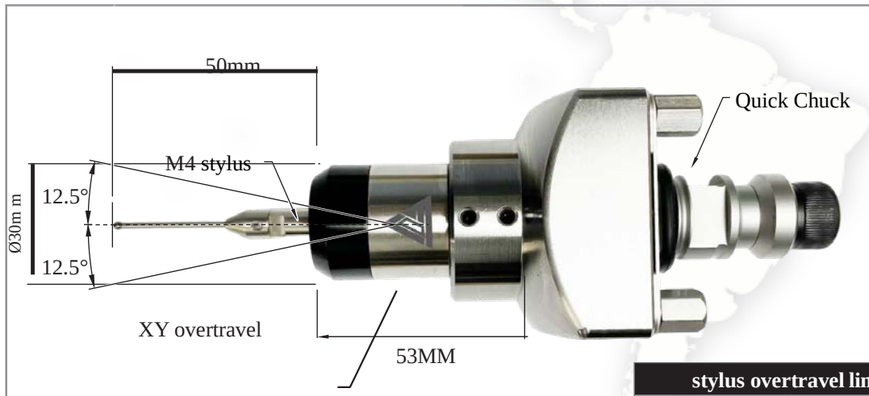
1.3 Probe Series-EDM probe

EDMP30 EDM probe

Specification

Main application	Used for workpiece inspection and centering on sElectrical Discharge Machining tools.	
Recommended stylus	Metal, length 50 mm to 150 mm	
Weight (withouthandle)	500g	
Trigger direction	±X, ±Y, +Z	
Repeat accuracy	1.00μm 2σ	
Trigger life	>10 million times	
Features	The stylus part adopts a soft contact structure. The probe products adopt modular design, which greatly reduces the maintenance cost in the future. Supports mainstream EDM systems on the market, such as Sodick, Makino, Charmilles, GF, etc.	
Environment	IP	IP68
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

EDMP30 dimensions



(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

1.4 Probe Series-VMM probe

CP25 VMM probe

Specification

Main applications	for vmm detection	
Transmission method	Cable	
Cable range	Regular 1.5M, customizable	
Cable material	Oil-resistant, bend-resistant, highly flexible drag chain cable	
Recommended stylus	Ceramic, length 30 mm to 100 mm	
Weight without cable support	160 g	
Opening method/closing method	trigger on → Standby not triggered	
Perceived direction	±X.±Y.+Z	
Unidirectional repeatability	1μ (50 mm stylus, standard test speed 480 mm/min)	
Trigger life	>8 million times	
working environment	Protection level	IP67
	storage temperature	-25 °C~+70 °C
	working temperature	+5 °C~+55 °C

CP25 dimensions

(mm)

stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

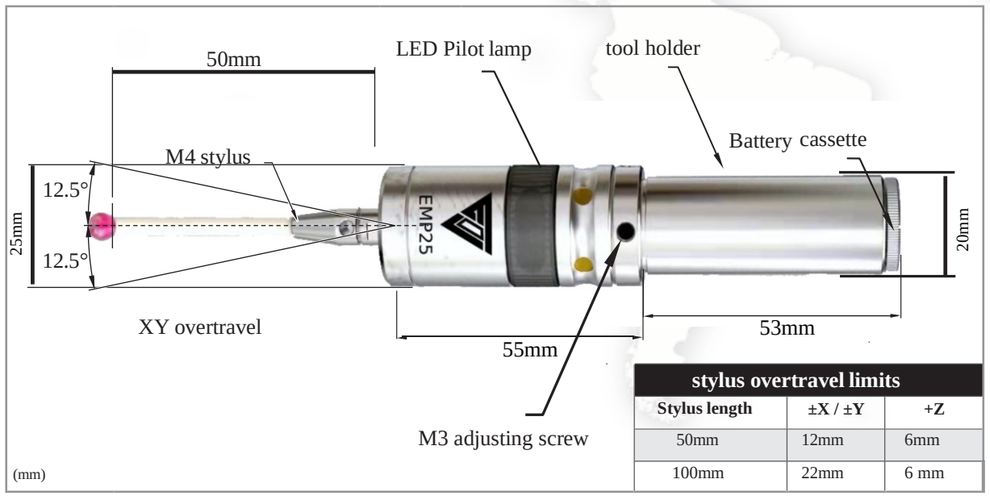
1.5 Probe Series-Other probe

EMP25 Manual machine tool probe

Specification

Principal application	Used for workpiece inspection and alignment on machining centers	
Recommended styli	Ceramic, lengths 50 mm to 150 mm	
Weight without shank	100g	
Switch-on method/switch-off methods	Trigger open → No trigger close	
Sense directions	±X, ±Y, +Z	
Unidirectional repeatability	2.00μm 2σ	
Trigger life	>10 million	
styli force **XY low force** **XY high force** **Z force**	 0.75 N 0.85 N 5.75 N	
Environment	IP rating	IP67
	Storage temperature	-25 °C~+70 °C
	Operating temperature	+5 °C~+55 °C

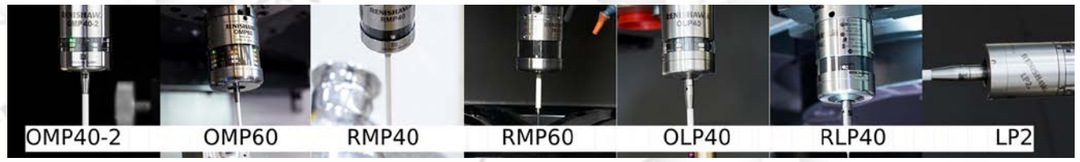
EMP25 dimensions



stylus overtravel limits		
Stylus length	**±X / ±Y**	**+Z**
50mm	12mm	6mm
100mm	22mm	6 mm

CNC machine tool probe

Renishaw series



Marposs series

Hexagon series

2.1 Toolsetter series-Contact

ETMP21W

with overtravel (OT) signal

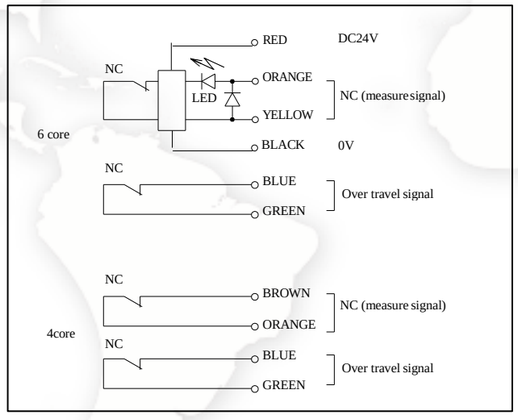
- Used for CNC glass machine, dispensing machine tool measurement, wear, damage detection.
- Alarm signal will occur when exceeding the travel, which can prevent damage accidents

Replaceable p21

■Specification

Product Name	**ETMP21W**
Contact diameter	Φ10mm
Contact surface	grind
Contact material	Superhard alloy
Action mode Output	NC
mode Pretravel	NC
Stroke Repeatability	0.5mm
Contact life time	5mm
Protective Contact	0.002mm (operating speed of 50-200mm/min)
Force Contact rating	>5 million
Protective	IP67
Contact Force	1.5N(Installation status: Vertical)
Contact rating	DC5V to DC24V Steady state current less than 10m A Inrush current below 20mA
Cable	5m Oil resistance ·6 core Φ3.7MM, Tensile strength 30N, bending radius R7
Protective pipe	1.5m metal Minimum bending radius R25
LED indicator	6 cores with LED,4 core without LED
Over travel signal	NC [About 2.5mm from the detection signal]
Contact rating	DC24V 100mA

■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- The feed speed should not be less than 10mm/ min when used

ETM26D-20W

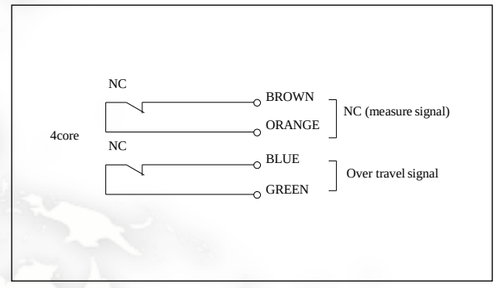
Φ20 contactsurface

- Used for Woodworking machinery tool measurement, wear, damage detection
- With overstroke alarm signal

■Specification

Product Name	**ETM26D-20W**
Contact diameter	Φ20mm
Contact surface	grind
Contact material	Superhard alloy
Action mode	NC
Output mode	NC
Pretravel	0.mm
Stroke	8mm
Repeatability	0.002mm (operating speed of 50-200mm/min)
Contact life time	>5 million
Protective	IP65
Contact Force	1.3N （Installation status: Vertical）
Contact rating	DC5V to DC24V Steady state current less than 10m A Inrush current below 20mA
Cable	2m Oil resistance ·4core
Protective pipe	0.5m metal
Over travel signal	NC [About 2.5mm from the detection signal]
Contact rating	DC24V 100mA

■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- The feed speed should not be less than 10mm/ min when used

2.1 Toolsetter series-Contact

ETM26D-20A

Φ20 contact surface，Can be customized toΦ 30，40, Φ60, Φ80, Φ100,

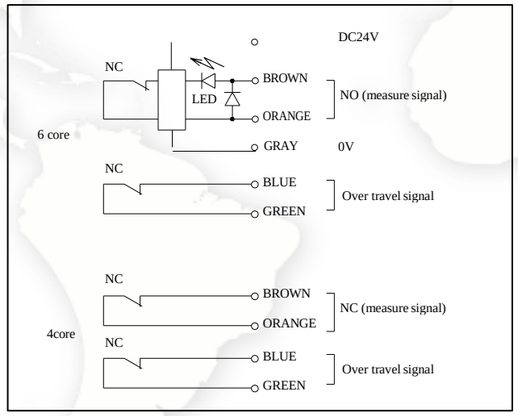
- Used for CNC machine tool measurement, wear, damage detection
- With overstroke alarm signal
- Made of aircraft grade aluminum

Replaceable TM26D

■Specification

Product Name	ETM26D-20A
Contact diameter	Φ20mm
Contact surface	grind
Contact material	Superhard alloy
Action mode	NC
Output	NO
Pretravel	0.5mm
Stroke	5mm
Repeatability	0.002mm (operating speed of 50-200mm/min)
Contact life time	>5million
Protective	IP68
Contact Force	1.5N （Installation status: Vertical）
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance ·6 core/4core
Protective pipe	1.5m metal Minimum bending radius R25
LED indicator	Turn off normally and light up when measuring
Over travel signal	NC [About 2.5mm from the detection signal]
Contact rating	DC24V 100mA

■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- The feed speed should not be less than 10mm/min when used

ETM24E-20/40/60/80A

Φ20 contact surface，Can be customized toΦ 40, Φ60, Φ80, Φ100,

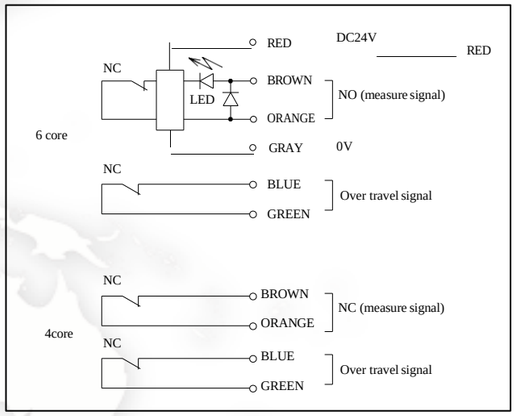
- Used for CNC machine tool measurement, wear, damage detection
- With overstroke alarm signal
- 304 stainless steel

Replaceable TM24E

■Specification

Product Name	ETM26E-20A
Contact diameter	Φ20mm
Contact surface	grind
Contact material	Superhard alloy
Action mode	NC
Output	NO
Pretravel	0.5mm
Stroke	5mm
Repeatability	0.002mm (operating speed of 50-200mm/min)
Contact life time	>8million
Protective	IP68
Contact Force	1.5N （Installation status: Vertical）
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance ·6 core/4core
Protective pipe	1.5m metal Minimum bending radius R25
LED indicator	Turn off normally and light up when measuring
Over travel signal	NC [About 2.5mm from the detection signal]
Contact rating	DC24V 100mA

■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- The feed speed should not be less than 10mm/min when used

2.1 Toolsetter series-Contact

ETM26D-Photoelectric induction

Φ20 contactsurface

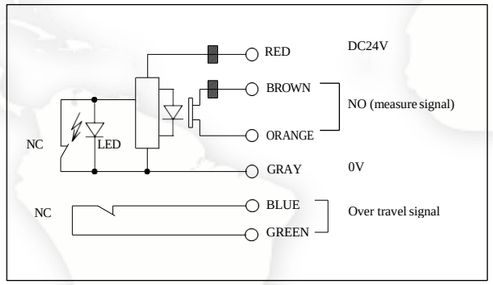
- Used for CNC machine tool measurement, wear, damage detection
- With overstroke alarm signal
- The internal structure is non-contact

Replaceable TM26D,TM24E

■Specification

Product Name	**ETM26D-P**
Contact diameter	Φ20mm
Contact surface	grind
Contact material	Superhard alloy
Action mode	NC
Output mode	NO
Pretravel	1mm
Stroke	5mm
Repeatability	0.001mm (operating speed of 50-200mm/min)
Contact life time	>8million
Protective	IP68
Contact Force	1.5N （Installation status: Vertical）
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance ·6 core Φ4.8MM, Tensile strength 30N, bending radius R7
Protective pipe	1.5m metal Minimum bending radius R25
LED indicator	Turn off normally and light up when measuring
Over travel signal	NC [About 2.5mm from the detection signal]
Contact rating	DC24V 100mA

■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- The feed speed should not be less than 10mm/min when used

5-ETM27R

Φ12.7contact surface

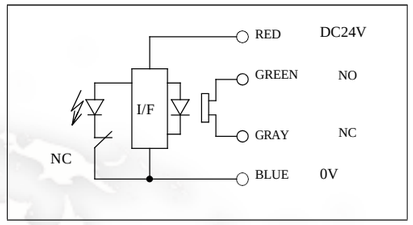
- Can cope with drilling, end milling cutter, and other types of tools.
- 70% space saving
  Small design construction, can also be installed in narrow Spaces.
- Dust cover protection to prevent contamination

replacement for TS27R

■Specification

Product Name	**5-ETM27R**
Contact diameter	Φ12.7×10mm
Contact material	Superhard alloy
Action mode	NC
Output mode	NO
Pretravel	0mm
Trigger travel	+X=2.0 -X=1.0 ±Y=2.0 Z=1.9
Repeatability	0.002 (2σ) (Operating speed 50 ~ 200mm/min)
Contact life time	>5 million
Protective	IP68
Contact Force	X=1.0N Y=1.5N Z=1.0N
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance ·4 core
Protective pipe	1.5m plastic protective tube
LED indicator	no

■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- Clean the tool and tool setting surface before inspection

2.1 Toolsetter series-Contact

ETM27R-led

Φ12.7contact surface

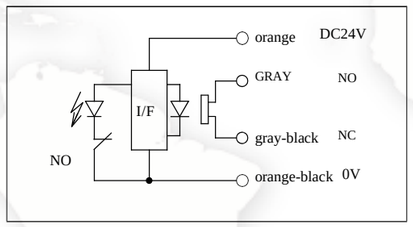
- Can cope with drilling, end milling cutter, and other types of tools.
- 70% space saving
  Small design construction, can also be installed in narrow Spaces.
- Dust cover protection to prevent contamination

replacement for TS27R

■Specification

Product Name	**5-ETM27R-L**
Contact diameter	Φ12.7×10mm
Contact material	ceramics
Action mode	NO
Output mode	NO
Pretravel	0mm
Trigger travel	+X=2.0 -X=1.0 ±Y=2.0 Z=1.9
Repeatability	0.002 (2σ) (Operating speed 50 ~ 200mm/min)
Contact life time	>5 million
Protective	IP68
Contact Force	Adjustable force
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance ·4 core
Protective pipe	1.5m plastic protective tube
LED indicator	Lights up when triggered

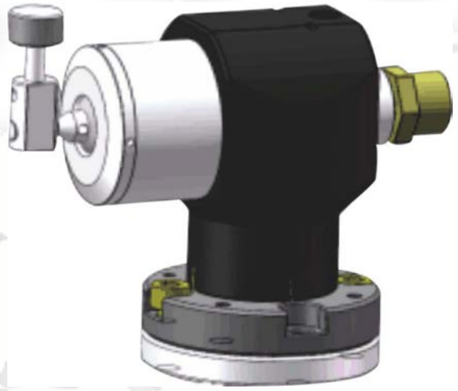
■Circuit Diagram



■ Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- Clean the tool and tool setting surface before inspection

OTM-Optics



Φ12.7contact surface

- Can be used with drills, end mills and other tools.
- Save 70% of space, small design structure, can also be installed in narrow spaces.
- Optical transmission, no cable obstruction

Replacement for OTS

■ Specification

Product Name	**OTM**
Contact diameter	Φ12.7×10mm
Contact material	Carbide
Action mode	NO
Output mode	NO
Pretravel	0mm
Trigger travel	+X=2.0 -X=1.0 ±Y=2.0 Z=1.9
Repeatability	0.002 (2σ) (Operating speed 50 ~ 200mm/min)
Contact life time	>8million
Protective	IP68
Contact Force	Adjustable force
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance
LED indicator	Lights up when triggered

■receiver

■ Warning

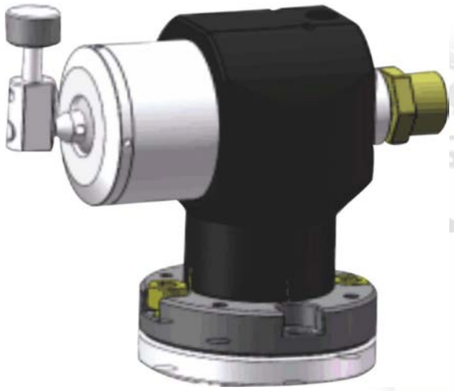
- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- Clean the tool and tool setting surface before inspection

2.1 Toolsetter series-Contact

RTM-Radio

Φ12.7contact surface

- Can be used with drills, end mills and other tools.
- Save 70% of space, small design structure, can also be installed in narrow spaces.
- Optical transmission, no cable obstruction



Replacement for OTS

Specification

Product Name	**RTM**
Contact diameter	Φ12.7×10mm
Contact material	Carbide
Action mode	NO
Output mode	NO
Pretravel	0mm
Trigger travel	+X=2.0 -X=1.0 ±Y=2.0 Z=1.9
Repeatability	0.002 (2σ) (Operating speed 50 ~ 200mm/min)
Contact life time	>8million
Protective	IP68
Contact Force	Adjustable force
Contact rating	DC5V to DC24V Steady state current less than 10mA Inrush current below 20mA
Cable	5m Oil resistance
LED indicator	Lights up when triggered

■receiver

Warning

- When high-pressure coolant or water jet violently impacts the tool face or sleeve protective cover, please set a separate protective cover
- Coolant used, set to water-soluble coolant (alkaline)
- Clean the tool and tool setting surface before inspection

EBK-90

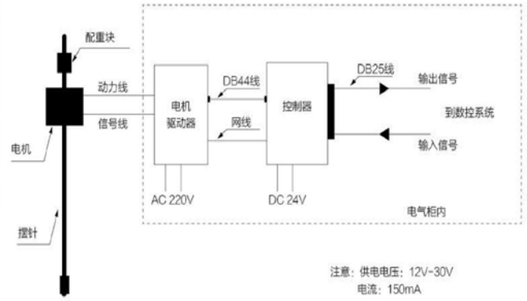
- Can detect drills, end mills and other tools.
- Save 70% of efficiency without interrupting processing
- The compact design can also be installed in narrow spaces.

Replacement BK90

Specification

Product name	**LBK-90**
Contact piece diameter	20mm
Contact materials	super carbide
action mode	Motor drive
Output mode	NO
Angle travel	160°
Trigger stroke	+X=2.0 -X=1.0 ±Y=2.0 Z=1.9
Accuracy	0.5-2mm damage adjustable, minimum detectable drill diameter 0.5mm
Maximum number of supported tools	256
protection level	IP67
triggering force	0.1N, calculated with a rotation axis of 100mm
Connect electrical	DC5V to DC24V Steady-state current less than 10mA Surge current less than 20mA

■Circuit Diagram



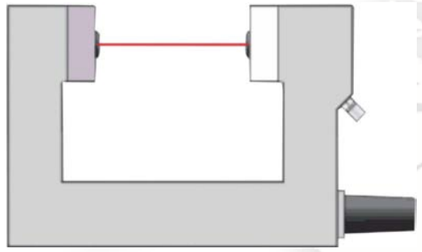
Warning

- The paddle cannot be moved when the power is on.
- Be sure to calibrate first, then measure.
- Clean the tool and the tool surface before checking if frequent alarms occur.

2.2 Toolsetter series-Contactless

LTM

- Laser measurement is used, non-contact and wear-free.
- Can measure small tools and special-shapedtools
- Tool length, tool diameter, wear measurement and damage detection

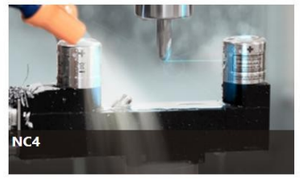


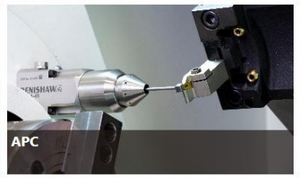
Specification

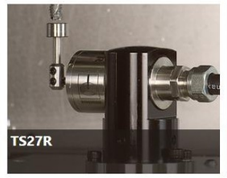
Product name	**LTM**
Laser safety level	IIlevel
Laser type	UV laser/405±5nm/<1mW
Protection level	IP68 (under working gas source state)
input/output	Optocoupler input/output/analog output, RS-232 communication interface
Repeatability	0.4um
Minimum tool diameter	20um
Tool diameter range	Vertical installation: Φ20um-Φ500mm Horizontal installation: Φ20um-Φ100mm
power supply	>DC 20-26V
Air source	0.4MPa~0.6MPa. The air source must meet the first-level air quality requirements of GB/T 13277.1-2023 (water, oil, and dust particles larger than 0.1um must not enter the product through the air source). If this cannot be achieved, please use our company's air source filter device.
weight	1700g
Storage/operating temperature	-10~+50℃/+5~+45℃
LED indicator light	Trigger light

CNC machine tool setter

Renishaw series







Marposs series

Metrol series

3 Software-3D Measurement

■ Developed based on UG programming software, programming is possible without converting the drawing format

■ Easy to learn, you can define the measurement elements by clicking with the mouse

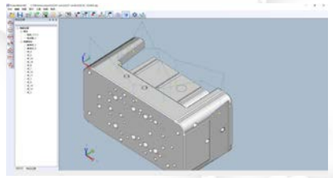
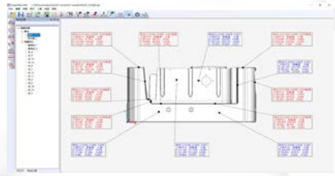
■ Path simulation anti-collision detection function ensures the safe completion of the entire measurement task

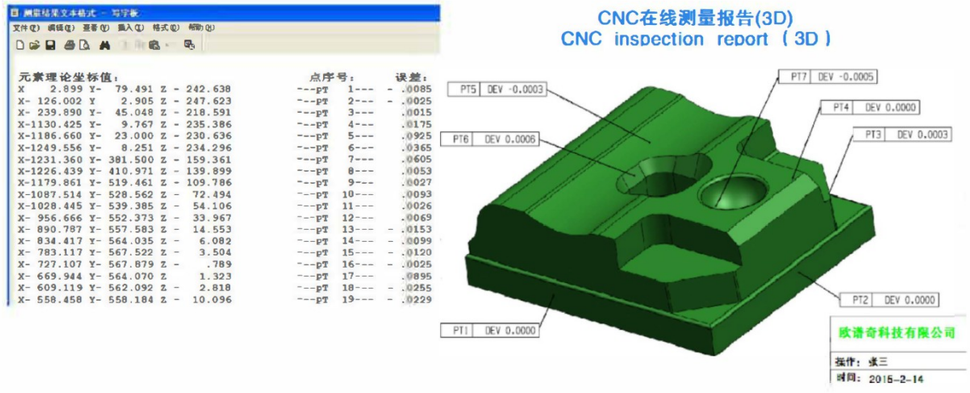
■ Offline programming, does not occupy machine tool processing time

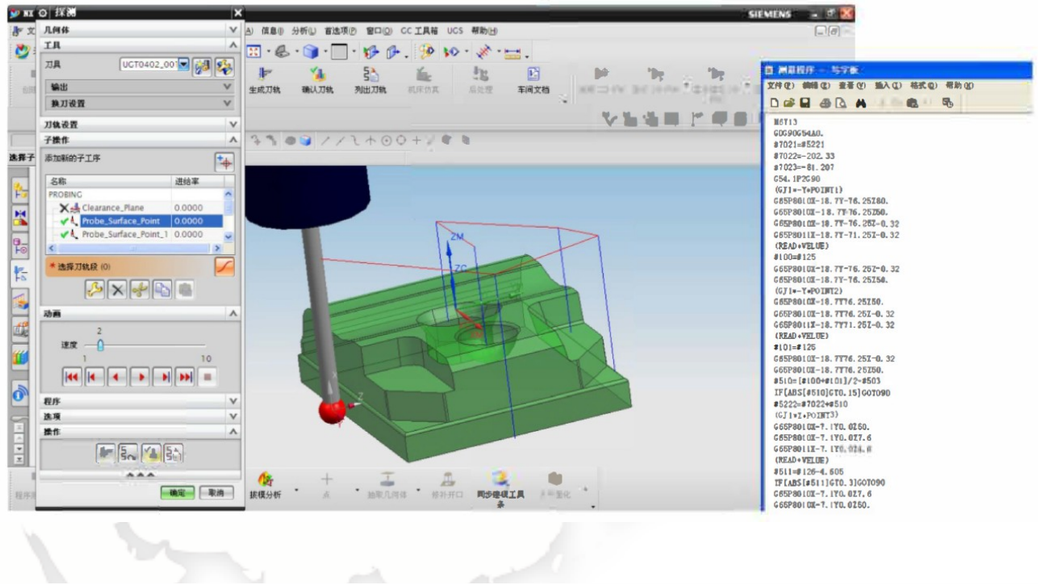
■ Normal planning of the measurement path can ensure the accuracy of surface measurement

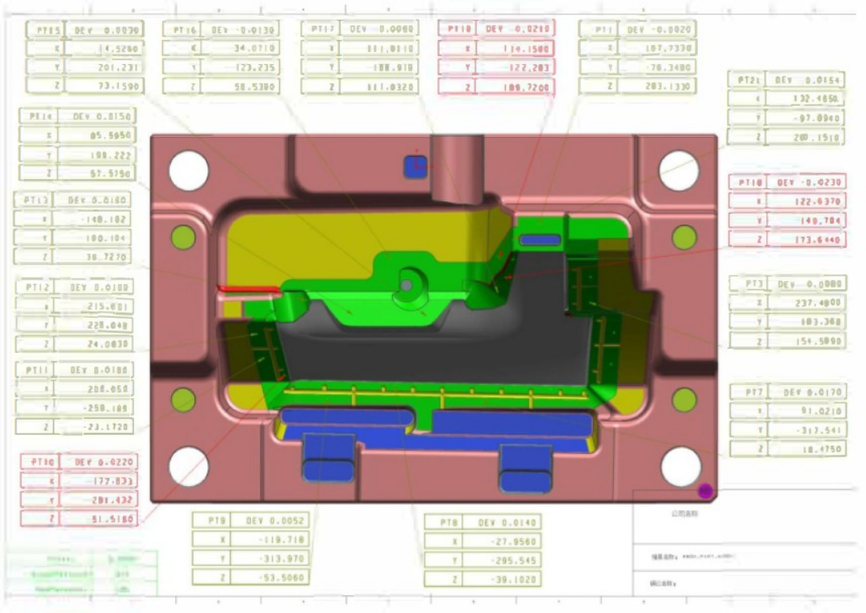
■ Can realize the inspection report without UG

■ Can develop and provide special inspection solutions and report templates according to customer needs

hardware	software	
probe	programming	Test report
		
Contact probe	The detection program can be written through three-dimensional graphics, which is intuitive, simple and safe.	It can read the measurement data of on-machine inspection, combine it with 3D images, and generate inspection reports. It is intuitive and easy to manage.







4 Accessories-Probe Shank

BT series: BT30,40,50

ISOseries:ISO20,25,30,40,50

HSKseries:HSK32,40,50,63,100

SKseries:SK40,50

CATseries:CAT40,50

4 Accessories-Stylus and calibration sphere

The importance of a stylus for precision measurement

The stylus is the first connection between the CMM and the workpiece, so it is vital that the stylus provides the highest possible accuracy at the point of contact. When measuring with a touch probe, the machine tool uses the stylus to collect data points on the surface of the workpiece. Each point generated by the trigger is defined by X, Y and Z coordinate values. Features, size, form and position are then calculated from these points.

III 3D Scanner and more-creaform

Creaform, a brand of AMETEK, is a technological pioneer and industry model in the field of 3D measurement technology and 3D engineering services. It specializes in the research and development, manufacturing and sales of 3D portable and automated measurement technology products and engineering services, while providing innovative application solutions such as 3D scanning, reverse engineering, quality control, non-destructive testing, product development and numerical simulation (FEA/CFD). Many industries including automobiles, aerospace, manufacturing, consumer products, research and education, NDT, heavy industry and power generation benefit from these innovative technology products.

- Product Development and Design
- Reverse Engineering
- Non-Destructive Testing (NDT)
- Science and Education
- Quality Control and Quality Assurance
- Maintenance, Repair, and Overhaul
- Medical
- Other Applications

III 3D Scanner and more-creaform

Portable 3D Scanners

Creaform develops a variety of 3D portable scanners for several applications, serving the needs of the aerospace, automotive and oil & gas industries. Learn more about the MetraSCAN 3D, HandySCAN 3D and Go! SCAN 3D solution suites.

HandySCAN 3D|BLACK Series
Optimized to meet the needs of design, manufacturing and metrology professionals, the HandySCAN 3D|BLACK Series is the premier 3D scanner for accurately and reliably measuring parts of any size, material, or complexity. It delivers results within seconds, anywhere.

HandySCAN 3D|SILVER Series
The HandySCAN 3D|SILVER Series is optimized to meet the needs of technology innovators and engineering professionals looking for a powerful, accessible, and reliable way to improve product development, shorten time-to-market, and reduce development costs.

Go!SCAN 3D
The Go!SCAN 3D is our fastest, user-friendly handheld 3D scanner. A powerful tool during the product development phase, the Go!SCAN 3D quickly measures any complex surface making it possible to “get it right” the first time.

MetraSCAN 3D
The MetraSCAN 3D optical CMM scanner line-up is specifically designed for manufacturing and metrology professionals who do not want to compromise on quality or efficiency. It can withstand any production environment, including shop floor vibrations, part movements and environmental instability—all while accelerating 3D measurement workflows.

HandySCAN 3D|MAX Series
Combining the effect of portability, accuracy, speed, and simplicity, which are inherent to the HandySCAN 3D line-up, the new MAX Series is optimized to acquire highly accurate 3D measurements on large and complex parts typically present in the aerospace, transportation, energy, mining, and heavy industries.

III 3D Scanner and more-creaform

Automated quality control solutions

Creaform's R-Series product line is perfect for manufacturing companies that want to maximize quality control without compromising on productivity and eliminate bottlenecks at the CMM through 3D scanning processes.

R-Series

Detect Quality Issues Faster and Make Better Decisions

Designed for automated quality control applications, the R-Series™ 3D scanning solutions are perfect for manufacturing companies who want to increase their productivity by measuring more dimensions on more parts without compromising on accuracy.

The MetraSCAN 3D-R™ is a powerful, innovative robot-mounted optical CMM scanner that can be seamlessly integrated into automated quality control processes for at-line inspection in mass production. Its cutting-edge technology enables manufacturing companies to detect quality issues faster.

The CUBE-R™ leverages the power of the MetraSCAN 3D-R in a high-productivity industrial measuring cell that has been designed to be integrated into factories for at-line inspections. Compared to traditional CMMs, the CUBE-R is much faster, providing a gain in productivity and better efficiency.

III 3D Scanner and more-creaform

Coordinate measuring machines

Accuracy and simplicity combined with portability
The HandyPROBE™ line-up is a portable optical CMM specifically designed for use on the shop floor. Thanks to its metrology-grade accuracy and dynamic referencing capabilities, the HandyPROBE delivers unmatched accuracy regardless of the measurement setup, instabilities of the environment and user experience level.

Without the requirements of a rigid measurement setup, the complete measuring system—the part, optical tracker, and wireless probe—can all be moved freely at any time during the measurement sequence.

Creaform’s MaxSHOT 3D™, a photogrammetry optical coordinate system, is a game changer for product development, manufacturing, quality control and inspection teams. It is the ideal solution to achieve the highest measurement accuracy and efficiency for large-scale projects and parts from 2 to 10 m. Imagine obtaining accuracy levels better than 0.015 mm/m. Gain peace of mind knowing that your measurements are always right on the dot.

What’s more, thanks to sophisticated, proven user guidance technology and easy-to-use software, technicians of all levels—even non-metrology experts— can use the MaxSHOT 3D. Contrary to traditional photogrammetry, the MaxSHOT 3D features automatic feedback before final measurements captured. Never take a bad image again!

III 3D Scanner and more-Scantech

Scantech is a global provider of comprehensive 3D visual digital solutions. Its main business is the research and development, production and sales of 3D visual digital products and systems. The company has been deeply engaged in the professional field of 3D visual digital software and hardware for many years. Its products mainly cover two differentiated tracks: industrial-grade high-precision and professional-grade high-cost performance. Its main products include portable 3D visual digital products, tracking 3D visual digital products, industrial-grade automated 3D visual inspection systems, and professional-grade color 3D visual digital products.

Reverse engineering

3D inspection

3D printing

3D visualization

Virtual assembly

Finite element analysis

Handheld 3D System

Scantech is a global leader in 3D scanning technology, offering top-of-the-line 3D scanners and processing systems that cater to a wide array of industries.

KSCAN-X Intelligent and Wireless Large-area 3D Scanner

The KSCAN-X is a cutting-edge wireless 3D scanner designed for large-scale measurements. With adaptive photogrammetry, ultra-wide scanning, and fast, high-precision performance, it excels in aerospace, heavy industry, and rail applications.

SIMSCAN 42/30/22 Smart Handheld 3D Scanner

The only hand-sized 3D handheld scanner in the market so far which is reddot design award 2021 winner. SIMSCAN 3D portable scanner can be used in various areas including inspection, prototyping and 3D printing. Capturing intricate details due to shorter distance of two camera; Better 3D Scanning in narrow space; Multiple scan modes.

SIMSCAN-E Intelligent, Wireless and Palm-Sized 3D Scanner

The SIMSCAN-E stands out with its wireless 3D scanning. It features 63 blue laser lines that enable efficient scanning, allowing users to quickly assess the geometry and dimensions of various parts. Additionally, it utilizes 17 parallel laser lines for rapid and precise detail capture. With a measurement rate of up to 6.3 million measurements per second, it combines portability with high-speed accuracy for complex scanning tasks.

KSCAN-Magic Series 3D Object Scanner

Versatile 3D laser scanner designed for industry use, consists of five standard working modes, especially the global initiative infrared laser technology for super-wide measurement.

AXE-B 3D Scanner

The built-in photogrammetry allows to conduct large-sized measuring just by one handheld 3D scanner. When working with Scantech automated 3D system, AXE 3D scanner will realize continuous online batch 3D inspection.

III 3D Scanner and more-Scantech

iReal 2E 3D Body Scanner

To collect highly accurate 3D models of objects with various textures, sizes, and geometry, iReal color 3D scanner applies super HD texture capturing algorithm. Expanded Vision for Effortless Smooth.

3DeVOK MQ 3D Color Scanner

3DeVOK MQ features 22-line infrared laser and large-format infrared speckle dual-light source technology, enabling wireless free scanning and eliminating cable constraints. It offers an intuitive experience for effortlessly capturing data anytime, anywhere—bringing your creativity to life with ease.

iReal M3 Color 3D Scanner

iReal M Series Color 3D Scanner enables smooth 3D data acquisition in different applications, be it scanning humans or objects, inside or outside. iReal M brings professional 3D digitization solutions to 3D engineers, 3D designers, and scientific researchers to fulfill their demands of industrial design, art design, medical design, human body digitization, etc.

3DeVOK MT Professional 3D Scanner

The 3DeVOK MT is a high-performance, versatile 3D scanner combining industrial-grade laser and speckle technology. With professional software, flexible settings, and intuitive interaction, it boosts efficiency. Ideal for artistic design, reverse engineering, measurement, visualization, 3D printing, research, and education, it excels in scanning various objects with precision and reliability.

MSCAN-L15 Photogrammetry System

Due to super wide scanning area, MSCAN series photogrammetry measurement system is a great accuracy booster for large-scale project like aerospace and energy field with maximum volumetric accuracy of 0.012 mm/m.

III 3D Scanner and more-Scantech

Tracking 3D System

This professional 3D optical measurement system boasts a super-fast scanning rate, setting a new standard in efficiency. Crafted with aerospace-grade carbon fiber materials, it ensures a robust and durable 3D measurement experience.

TrackScan Sharp-S Optical 3D Scanning System

The TrackScan Sharp-S optical 3D scanning system offers an 8.5-meter tracking distance and 135-m³ tracking volume. With 99 laser lines and a measurement rate of up to 4.86 million measurements per second, it ensures precise results. Fully battery-powered with wireless data transfer, it provides seamless scanning. Achieving a maximum volumetric accuracy of 0.048 mm (10.4 m³), it's perfect for stringent industrial measurements.

TrackScan-P 3D System

TrackScan-P series 3D system delivers 2,600,000 measurements/s and reaches accuracy of 0.025 mm. This 3D system is ideal for medium to large-sized workpieces without attaching markers.

NimbleTrack Wireless 3D Scanning System

The compact NimbleTrack system redefines precise and dynamic measurements for small-to-medium-sized parts. It features fully wireless 3D scanning and optical tracking, thanks to powerful onboard edge computing and built-in batteries. Users can expect an ultimate 3D scanning experience with efficient and reliable measurements across various applications.

TrackProbe 3D Probing System

The TrackProbe 3D probing system is impressively accurate, portable, and user-friendly, making it easy to ensure high-quality measurements in large measurement volumes, at long distances, and in harsh conditions. It is suitable for various tasks on the shop floor, such as fixture adjustment, benchmark marking, and more.

NIMBLETRACK-CR Wireless 3D Scanning System

NimbleTrack-CR is an advanced wireless 3D scanning system designed for ultimate detail capture. Its portable, high-performance design makes it ideal for industrial quality control, research, and heritage preservation, pushing the boundaries of 3D digitization.

III 3D Scanner and more-Scantech

Automated 3D System

In the realm of factory automation, where precision is non-negotiable, automated 3D scanning takes center stage. Scantech's automated 3D system stands out with exceptional compatibility, seamlessly integrating with our diverse range of scanners, including the composite 3D scanner, handheld 3D scanner, global 3D scanner, and tracking 3D scanner.

M-Track 3D System

M-Track supports visual perception, target recognition, and path planning. It can plan paths for different tasks ranging from object transporting to grinding, coating, and welding for flexible and automatic production.

AutoScan-T 3D System

Engineered to industrial standards to guarantee the highest accuracy and efficiency, AutoScan-T combines a high-precision optical TrackScan 3D system with a collaborative robot.

AM-CELL C Series Optical Automated 3D Measurement System

The AM-CELL C is an optical automated 3D measurement system designed for efficient and automated inspection of medium-to-large-sized parts. It includes a robot, positioner, and tracking station. With innovative modular units, it supports various layouts and flexible deployment. The newly upgraded software, DefinSight-AM, enhances efficiency in diverse production environments, making it an ideal tool for intelligent manufacturing.

AM-DESK 3D System

AM-DESK features a compact size, high scalability, safety and reliability, which can quickly cater to various industrial applications for small-sized parts. It is an ideal choice to reduce costs and enhance efficiency.

AutoScan-K 3D System

Intelligent automated 3D measurement offers a completely automated solution for on-batch inspection, allowing a 3D system that is repeatable and trackable to give you a set of results that can increase your products' accuracy and efficiency.

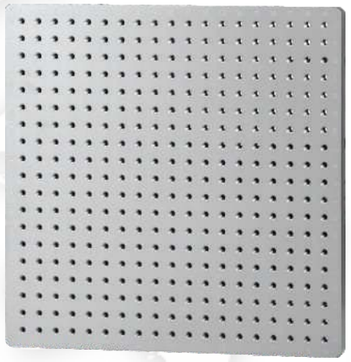
III 3D Scanner and more-CMM Fixtures

CMM Flexible Fixture System

CMM fixtures are widely used in various fields, such as electronics, aerospace, automotive plastics and medical. They are applicable to all models and sizes of three-dimensional coordinate measuring machines and image measuring machines. Flexfix fixtures can make your measurements more flexible, with better repeatability and more standardized. It can help users save time and costs, and also achieve fast and reliable fixing functions.

CMM fixture components (60,98,108,pc)

All components are precision manufactured using anodized film. Each component is laser marked so all combinations of components can be repeated for subsequent inspections. This helps eliminate variations between different parts or operators, improving measurement accuracy and repeatability.



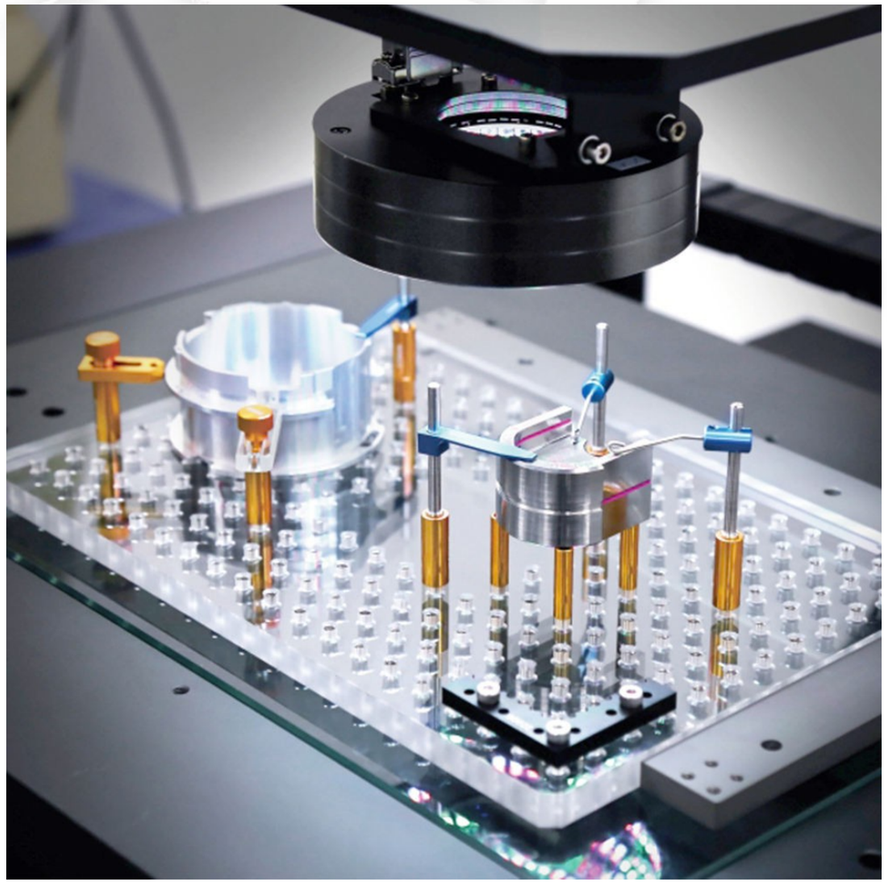
Specifications
(length x width x height)
300x300x16mm
400x400x18mm
500x500x20mm
600x600x20mm Customizable

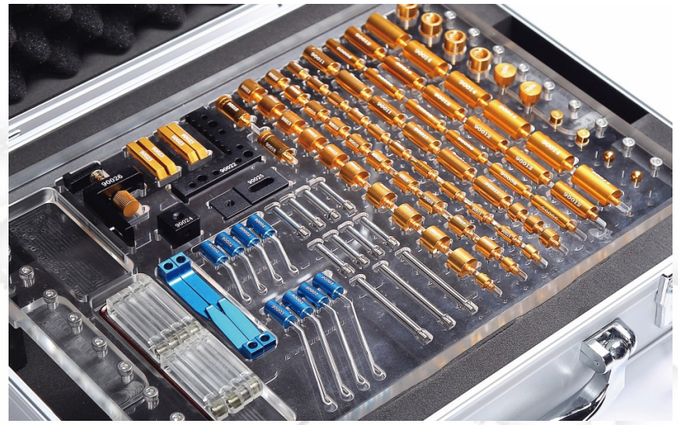
The base plate is available in a variety of sizes. It can be widely used in coordinate measuring machines of different sizes and can also meet the fixing requirements of parts of different sizes. CMM fixture base plates require complex manufacturing processes, including CNC machining, precision grinding, ISE coating and laser marking to make the plate have high accuracy, flatness and reliability. In addition to standard sizes, we also provide customized sizes and threads.

III 3D Scanner and more-VMM Fixtures

VMM Flexible Fixture System

The application of vision measuring machines always comes with different parts of different shapes or materials. Some even do not have any effective reference planes and cannot be accurately positioned on the workbench. Developing a specific fixture for each component should be inefficient and costly. VMM fixture kits and base plates can help users save time and cost, while also enabling fast and reliable fixing functions.





VMM fixture assembly (112pc)

All components are precision manufactured using anodized film. Each component is laser marked so all combinations of components can be repeated for subsequent inspections. This helps eliminate variations between different parts or operators, improving measurement accuracy and repeatability.

Base plate size

300*200mm, M4 threaded hole
300*300mm, M4 threaded hole
400*400mm, M4 threaded hole

Customizable

VMM measurement requires the function of contour measurement application, so the fixture base is made of acrylic material with high transmittance, which can ensure the straight light path of the contour light and maintain the original measurement accuracy of the machine.

An L-shaped magnetic quick installation angle is also provided, and users only need to place and measure, which greatly improves the measurement efficiency.