

Details I1



- Measuring is the decisive factor for the following process.
Sensor series minimizes machine down time.
- Quick detection of reference position.





The 3-dimensional touch sensor series that detect touch-position instantaneously.

3-D touch probe

POINT MASTER PRO
For all cutting tools, workpieces and machine tools

 11

For conductive materials

POINT MASTER
For use with conductive cutting tools, workpieces, and machine tools.  13

Detection with LED and beep



The all-rounder dial-read 3-D measuring instrument

3D MASTER RED

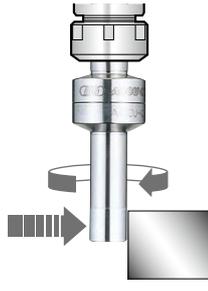
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Battery-less slide type simple edge finder

ACCU CENTER

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The **Automatic Touch Sensor Series** is also available for various measuring needs, such as for unmanned operation.



NEW ZERO SENSOR **OPT2500**

Advice  Make sure to check the coating material on the cutting tool before using conductive compact sensors. TiN coatings are conductive, but some multi-layer coatings do not conduct electricity. High speed machine tool spindles often use non-conductive ceramic bearings. Select sensors available for any material for use under nonconductive environments.

The 3-dimensional touch sensor that detects touch-position instantaneously.

PMPC Series

With battery alarm function

- Instantaneously detects reference points even on non-conductive workpieces and machines!
- Notification of touchpoint with LED and beep.



For all workpieces and machine tools



Notifies via LED

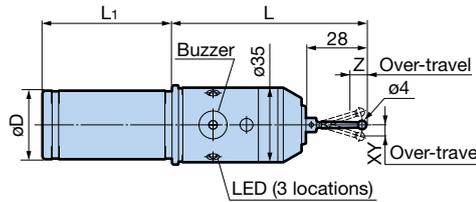


Notifies via buzzer



LED flashes to indicate that battery life is low

Cylindrical Shank Type



Model	øDh7	L	L ₁	Weight (kg)
PMPC-20	20	100	50	0.5
PMPC-32	32	90	60	0.7

1. **ST28-4R** stylus is included.

For stylus replacements, **I4**

BBT Shank Type (BIG-PLUS)

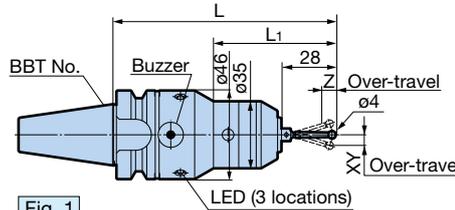


Fig. 1

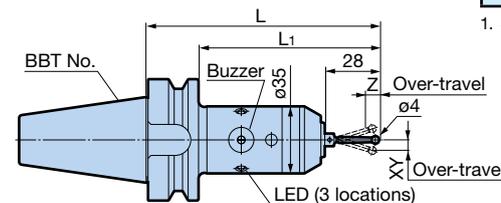


Fig. 2



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Model	Fig.	L	L ₁	Weight (kg)
BBT30-PMPC-115	1	115	63	0.8
BBT40-PMPC-120	2	120	93	1.3

1. **ST28-4R** stylus is included.

For stylus replacements, **I4**

Main Specifications

Repeatability	±1μm (2σ)		
Over-travel	XY ±12mm Z 5mm		
Measuring pressure	XY 0.4N Z 1.5N		
Battery	PMPC-20, 32	LR1 x 2P	
	BBT40-PMPC-120		
	BBT30-PMPC-115		

Battery life	PMPC-20, 32	280 continuous hours
	BBT40-PMPC-120	
	BBT30-PMPC-115	

1. The specifications above are values when **ST28-4R** stylus is used.

2. Repeatability is affected by stylus length.

3. There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

MEASURING TOOLS

POINT MASTER PRO

PMP Series

- Instantaneously detects reference points even on non-conductive workpieces and machines!
- Ideal for high-speed machining centers with ceramic bearings.

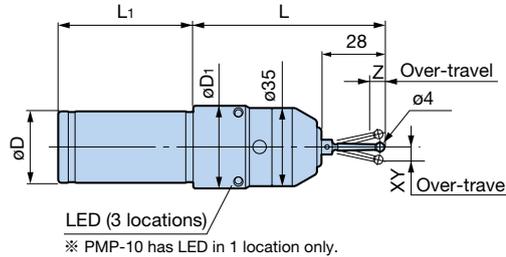


For all workpieces and machine tools



Notifies via LED

Cylindrical Shank Type

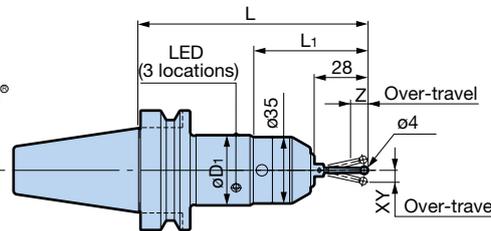


Model	øDh7	øD1	L	L ₁	Weight (kg)
PMP-10	10	35	75	49	0.4
PMP-20	20	37	90	50	0.5
PMP-32	32		80	60	0.6

1. ST28-4R stylus is included.

For stylus replacements, **I4**

BBT Shank Type



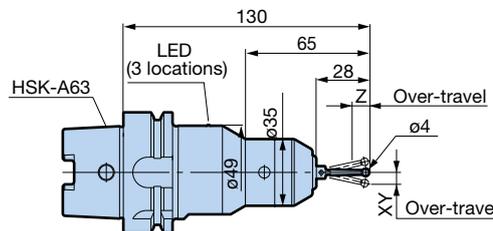
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

Model	øD ₁	L	L ₁	Weight (kg)
BBT30-PMP-115	46	115	63	0.8
BBT40-PMP-120	37	120	60	1.3
BBT50-PMP-150	37	150	60	3.8

1. ST28-4R stylus is included.

For stylus replacements, **I4**

HSK-A63 Shank Type (DIN 69893-1) (ISO 12164)

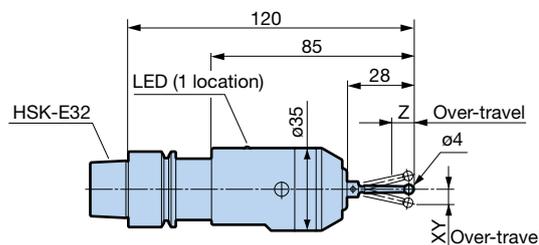


Model	Weight (kg)
HSK-A63-PMP-130	1.3

1. ST28-4R stylus is included.

For stylus replacements, **I4**

HSK-E32 Shank Type (DIN 69893-5)



Model	Weight (kg)
HSK-E32-PMP-120	0.5

1. ST28-4R stylus is included.

Main Specifications

Repeatability	±1μm (2σ)	
Over-travel	XY ±12mm Z 5mm	
Measuring pressure	XY 0.4N Z 1.5N	
Battery	PMP-10	Panasonic lithium battery BR435 x 1P
	PMP-20, 32 BBT40-PMP-120	LR1 x 2P
	HSK-A63-PMP-130 BBT30-PMP-115	CR2 x 1
	HSK-E32-PMP-120	SR44 x 2P
	BBT50-PMP-150	LR03 x 2P

Battery life	PMP-10	180 continuous hours
	PMP-20, 32 BBT40-PMP-120	500 continuous hours
	HSK-A63-PMP-130 BBT30-PMP-115	900 continuous hours
	HSK-E32-PMP-120	90 continuous hours
	BBT50-PMP-150	600 continuous hours

1. The specifications above are values when ST28-4R stylus is used.

2. Repeatability is affected by stylus length.

3. There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

POINT MASTER

PMC Series

- Instantaneous detection with LED and beep.
- LED flashes to notify low battery life while measuring workpieces.



For use with conductive workpieces and machine tools



Notifies via LED

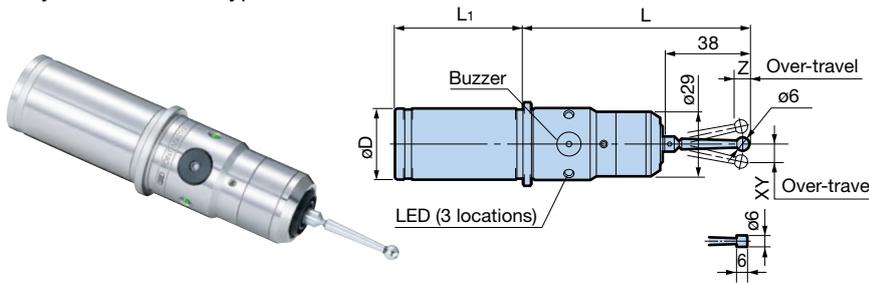


Notifies via buzzer



LED flashes to indicate that battery life is low

Cylindrical Shank Type

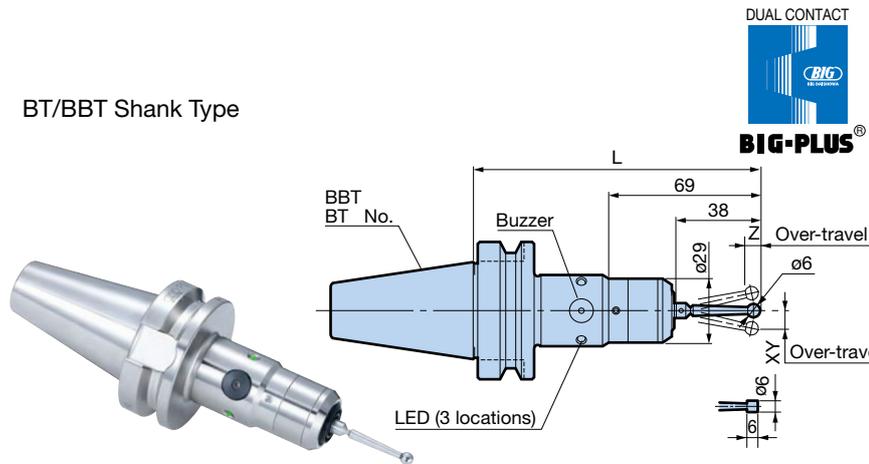


Model	øDh7	L	L ₁	Battery	Weight (kg)
PMC-20	20	110	50	LR1 x 2	0.4
-20S					
-32					
-32S	32	102	58	LR1 x 2	0.6

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.
2. Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER PRO.

For replaceable stylus, **I4**

BT/BBT Shank Type



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT Shank Type

Model	L	Battery	Weight (kg)
BBT40-PMC-130	130	LR1 x 2	1.2
-PMC-130S			
BBT50-PMC-160	160	LR03 x 2	4.0
-PMC-160S			

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.
2. Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER PRO.

Model	L	Battery	Weight (kg)
BT40-PMC-130	130	LR1 x 2	1.2
-PMC-130S			
BT50-PMC-160	160	LR03 x 2	4.0
-PMC-160S			

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.

For replaceable stylus, **I4**

Caution

Pullstud bolts with a center through hole cannot be used. Contact us if a center-through specification machine requires a pullstud bolt with a hole due to the coolant nozzle.

Main Specifications

Probe repeatability	±1 μm (2σ)	
Over-travel	XY ±12mm	Z 5mm
Measuring pressure	XY 0.6N	Z 2.7N
Battery life	PMC-20, 20S, 32, 32S	300 continuous hours
	BBT(BT)40-PMC-130, 130S	
	BBT(BT)50-PMC-160, 160S	

1. The specifications above are values when the standard accessory stylus is used.

PMG Series

- Instantaneous detection with LED.

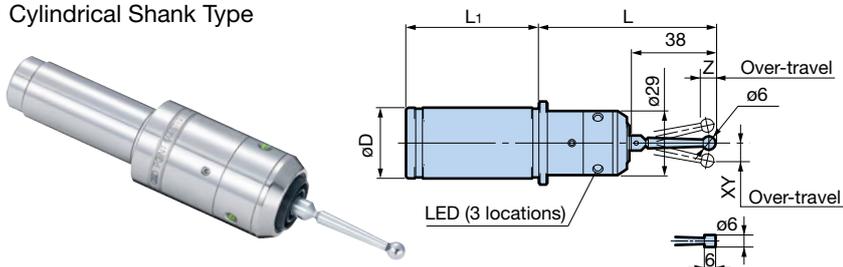


For use with
 conductive
 workpieces and
 machine tools



Notifies
 via LED

Cylindrical Shank Type

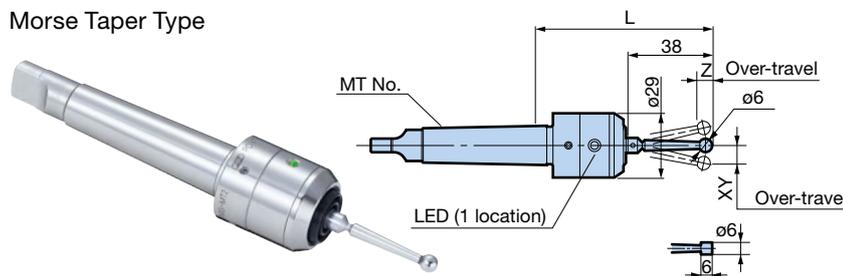


Model	øDh7	L	L ₁	Battery	Weight (kg)
PMG-10	10	75	50	Panasonic lithium BR435 x 1	0.2
-10S					
-20	20	90	50	LR1 x 2	0.3
-20S					
-32	32	80	60	LR1 x 2	0.5
-32S					

※ PMG-10 and PMG-10S have LED in 1 location only.

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.

Morse Taper Type



Model	MT No.	L	Battery	Weight (kg)
PMG-MT2	MT2	80	Panasonic lithium BR435 x 1	0.2
-MT2S				

1. LED in 1 location only.
 2. **ST38-6P** stylus is included. Model with an S at the end of the model number includes ø6 cylindrical **ST38-6X6** stylus.

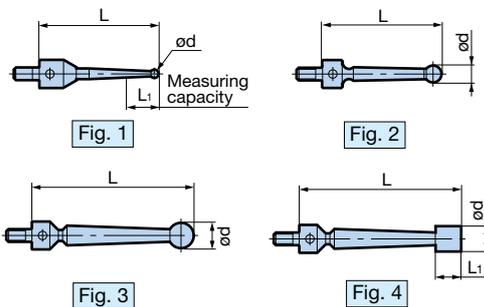
Main Specifications

Probe repeatability	±1 μm (2σ)		
Over-travel	XY ±12mm	Z 5mm	
Measuring pressure	XY 0.6N	Z 2.7N	
Battery life	PMG-20, 20S, 32, 32S	80 continuous hours	
	PMG-10, 10S, MT2, MT2S	150 continuous hours	

1. The specifications above are values when the standard accessory stylus is used.

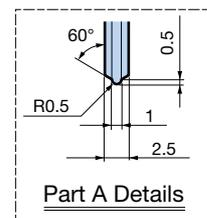
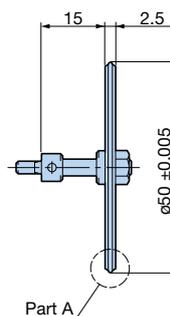
<Replaceable Stylus> Optional Product For PMPC, PMP, PMC, PMG Series

M3 threading has been applied to make the stylus replaceable, allowing replacement if it is damaged or according to the workpiece shape.



Model	Fig.	L	L ₁	ød	Weight (g)	Stylus Tip	Point Master Model
ST28 -1P	1	28	2	1	2.0	Carbide	PMG/PMC PMP/PMPC
-2P			8	2	2.0		
-3P			3	2.5			
-4P			4	2.9			
ST28 -4R	2	28	4	2.6	Ruby	PMP/PMPC	
ST38 -6P			3	38	-	6	4.8
ST38 -6 x 6	4	38	6	6	4.8	Steel (SUS)	PMG□□S/PMC□□S

※ ST38-6 x 6 stylus is exclusive for PMG □□ S/PMC □□ S models. Mounting on other models will negatively affect the runout accuracy.



Ideal for measuring the taper of irregularly shaped workpieces or plastic molds.

Model	ST15-50K
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※ Exclusive for PMG/PMC Series.

COMPACT SENSOR

3D MASTER RED

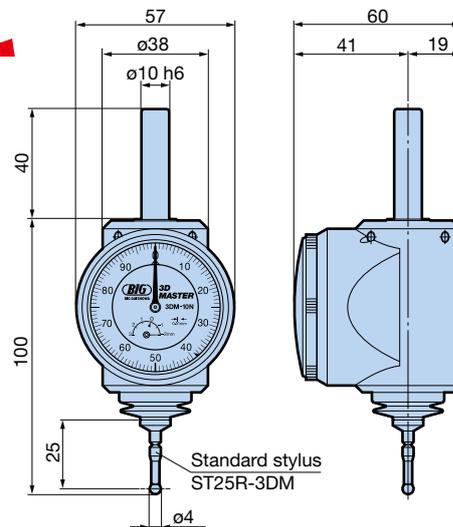
- XYZ direction measurement possible with a single tool.
- Can also measure non-conductive workpieces.
- Compact design that prevents interference with workpieces.
- Calculation of the stylus ball radius not required.



For all workpieces and machine tools



Now with a larger dial
NEW



Model	3DM-10N
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Main Specifications

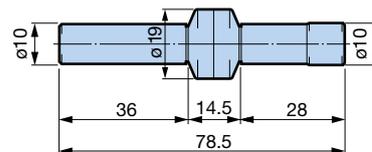
Min. scale	0.01mm
Repeatability	Within 0.01mm
XY Stroke	±4mm
Z Stroke	4mm
Weight	0.6kg
Accessory	Stylus: ST25R-3DM

The specifications above are values when the accessory ST25R-3DM stylus is used.

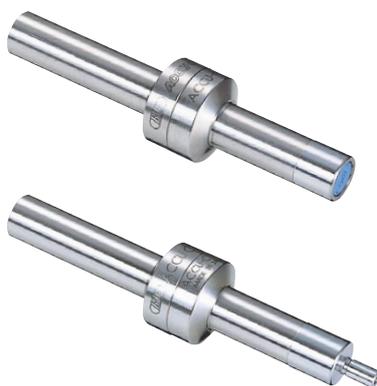
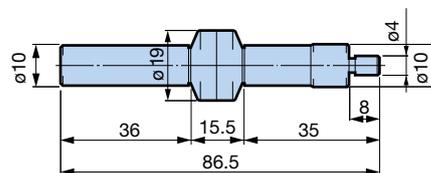
ACCU CENTER

- Simple mechanical design for high-precision positioning!
- Just touch the stylus to the workpiece surface to complete measurement.
- Repeatability within 3μm (when used on vertical machines).
- Hard chrome plated stylus for superior durability.

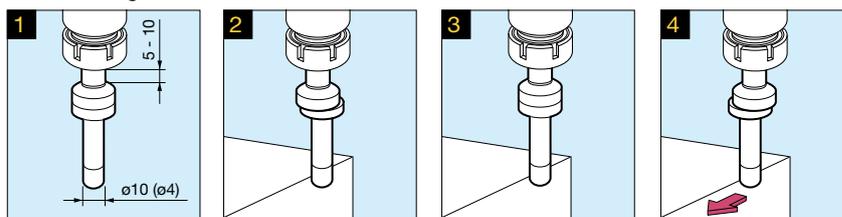
Model	ACCU-C10
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Model	ACCU-C104
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Measuring Method



1 Mount the $\phi 10$ straight part to a Milling Chuck or New Baby Chuck.

2 Press the stylus lightly with fingers to move off center and rotate at 400 - 600min⁻¹.

3 From the 2 position, touch the stylus to the workpiece; its runout will gradually decrease and it will seem to come to a stop.

4 From the 3 position, apply finer feed and keep the stylus in contact; it will begin to slide in one direction. Where it begins to slide, compensate the position by radius of the stylus 5mm(2mm) to detect the reference position.



Caution
Not suitable for horizontal type machines.