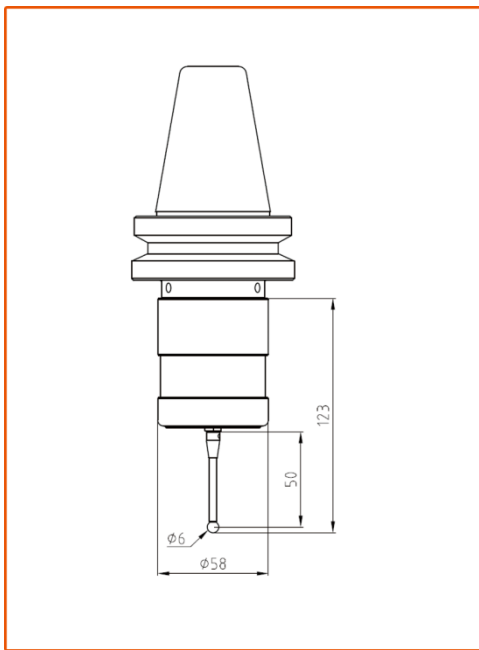
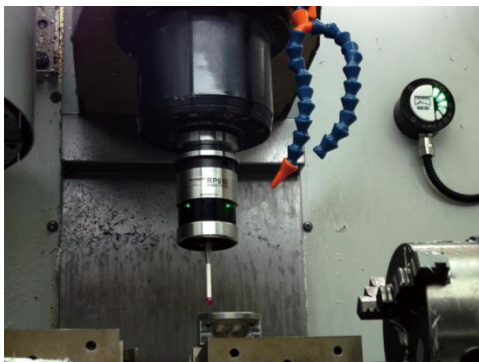


# WTS-20 Radio Probe system

## Composition of Probe System

WTS-20 radio probe system include three pieces of hardware and one software package; The software package model is SP-W10, the three pieces of the hardware are:

- 1) RP610M radio probe (including optional shank and stylus );
- 2) RP610T radio tool setter;
- 3) RSI-20 radio receiver(the standard cable length 8m/the optional lengthened cable).



## Application

- ◆ Setting work-piece coordinate system and machining zero points automatically before processing;
- ◆ Detect and control the key dimensions, position coordinates and their precision automatically between two processes;
- ◆ Detect precision of the key dimensions, shapes, position after processing.

## Technical Parameters

1) The technical parameters of RP610M radio probe :

- ◆ Stylus sensing direction:  $\pm X, \pm Y, +Z$ ;
- ◆ Stylus sensing over-travel :  $X-Y \pm 15^\circ, Z +5 \text{ mm}$ ;
- ◆ The adjusting range of trigger force in Z direction: 500-1000 g;
- ◆ Trigger force in X-Y surface: 50g-100g;
- ◆ Unidirectional repeatability ( $2\sigma$ ) :  $\leq 1 \mu\text{m}$ ;
- ◆ Radio signal receiving/sending distance :  $\leq 14 \text{ m}$ ;
- ◆ Working days of new batteries ( 5% utilization rate in a single shift): 280 days;
- ◆ Seal grade: IP68.

2) RSI-20 radio receiver technical parameters:

- ◆ Radio signal receiving/sending distance:  $\leq 14 \text{ m}$ ;
- ◆ Input voltage is  $24 \pm 10\% \text{ V DC}$  and output load current is 50 mA.

## Technical Characteristics

- ◆ Probe switch on/off method: Range on/off、M code on/off;
- ◆ Radio code signals are used to transmit information between the probe and the receiver. The time to transmit and to decode a group of signals is less than 1ms;
- ◆ The transmission frequency of the radio signal is within 2.4 G-2.483 G, the number of transmission channel is 16;
- ◆ Output four kinds of SSR signals to machine control system when probe is in the states of trigger、error、probe batteries low and output pulse;
- ◆ The RSI-20 receiver can change its logical state of the output signal by setting;
- ◆ The LED lights in the receiver show the working status of the probe system.

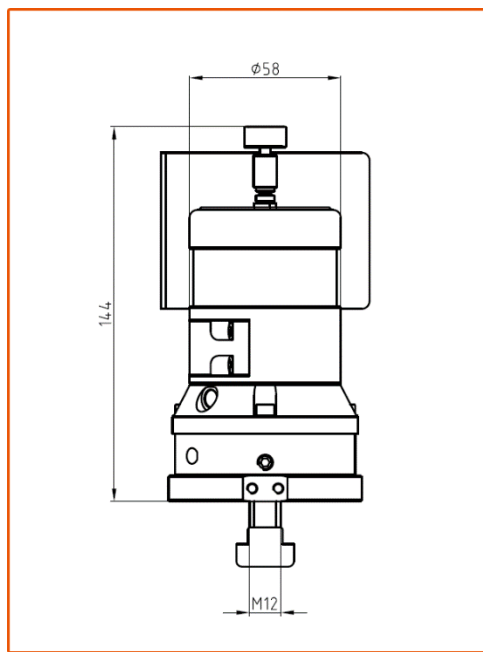
## Applicable equipment

- ◆ Various specifications of machine center, large-scale gantry machine, five-axis CNC machine tools and so on.
- ◆ Various specifications of CNC lathes, turning machine center, CNC turning-milling machine center.

## Composition of tool setter

RP610T radio tool setter includes:

- ◆ Model of the standard stylus: M0-S25-CPF16
- ◆ Battery specification: 14250, 3.6V, 1000mAh; 2 ps.;
- ◆ Mounting base;
- ◆ Protects plate



## Application

- ◆ Set lengths parameter of cutting tools automatically before CNC processing;
- ◆ Detect wear and breakage of cutting tools automatically between two processes or after the CNC processing;
- ◆ Through checking cutting tool parameters to control the change of machining precision from the temperature change of the machine;

## Technical Parameters

1) The technical parameters of RP610T radio tool setter :

- ◆ Stylus sensing direction:  $\pm X, \pm Y, +Z$ ;
- ◆ Stylus sensing over-travel :  $X-Y \pm 15^\circ, Z +5 \text{ mm}$ ;
- ◆ The adjusting range of trigger force in Z direction:  $600 \pm 30\text{g}$ ;
- ◆ Trigger force in X-Y surface: 50g-100g;
- ◆ Unidirectional repeatability ( $2\sigma$ ) :  $\leq 1 \mu\text{m}$ ;
- ◆ Radio signal receiving/sending distance :  $\leq 14 \text{ m}$ ;
- ◆ Working days of new batteries ( 5% utilization rate in a single shift): 280 days;
- ◆ Seal grade: IP68.

## Technical Characteristics

- ◆ Probe switch on/off method: Range on/off、M code on/off;
- ◆ Radio code signals are used to transmit information between the probe and the receiver. The time to transmit and to decode a group of signals is less than 1ms;
- ◆ The transmission frequency of the radio signal is within 2.4 G-2.483 G, the number of transmission channel is 16;
- ◆ Output four kinds of SSR signals to machine control system when probe is in the states of trigger、error、probe batteries low and output pulse;
- ◆ The RSI-20 receiver can change its logical state of the output signal by setting;
- ◆ The LED lights in the receiver show the working status of the probe system.

## Applicable equipment

- ◆ Various specifications of machine center, large-scale gantry machine, five-axis CNC machine tools and so on.
- ◆ Various specifications of CNC lathes, turning machine center, CNC turning-milling machine center.

## Basic configuration

### 1) RP610M Probe

- ◆ Standard stylus model: M4-P50-RB6-S36;
- ◆ Battery specification: 14250, 3.6V, 1000mAh; 2 ps.;
- ◆ Usually, the probe shank is 7:24 taper shank with the BT or ISO standards, the common models are 30#,40#,50# and etc.; the shank with the HSK or other standards can also be used.

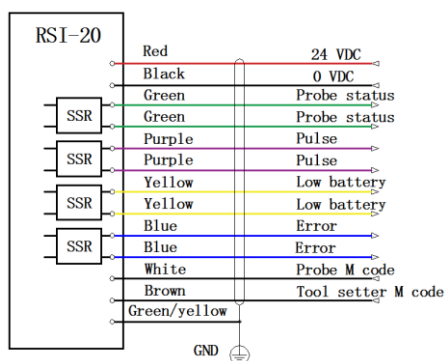
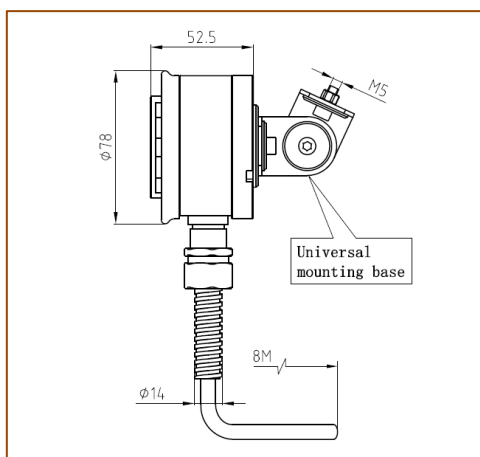
### 2) RP610T tool setter

- ◆ Model of the standard stylus:M0-S25-CPF16

- ◆ Battery specification: 14250, 3.6V, 1000mAh; 2 ps.;

### 3) RSI-20 Receiver

- ◆ The cable length usually is 8 meters with 13 cores' shielded cable;
- ◆ Fixed bracket with universal adjustment function is equipped.



## Notes:

- ◆ As for the software package, please consult the our sales staff about whether the CNC system of the machine tool can be equipped with probe; Some CNC systems needs additional settings to use probe;
- ◆ As for the probe's taper shank, verify the standards and specifications of the spindle taper hole for the machine tool before ordering the probe; The taper shank with unusual standard or specification will lead to the probe price increase and the delivery time extend, The tapered shank we provided for the probe does not include the pull stud;
- ◆ As for function of the M code on/off, when purchasing the WTS-20M probe system, you should figure out whether there are two spare M codes in the CNC control system cabinet for the probe to use;
- ◆ As for special stylus, checking whether the standard stylus equipped with the RP610M and RP610T probe can meet the requirements and thinking whether it is necessary to order a special stylus;
- ◆ As for the cable length, verify if the 8-meter cable equipped with the RSI-20M receiver is enough for installing it in the machine tool. If it is not, the additional instruction is required when ordering the product;
- ◆ As for the installation of the RSI-20 receiver, if user does not want to drill a hole on the machine tool cover when installing the receiver, an additional magnetic sucker can be ordered to install the receiver without hole. But buying magnetic sucker may affect the product delivery time.