

9411

ZERO SETTER (WITH CABLE) OPERATION MANUAL



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EN -- Please scan the QR code or visit the website for operation manual.

IT -- Scansiona il codice QR oppure visita il sito web per il manuale d'uso.

CZ -- Pro návod prosím naskenujte QR kód nebo navštivte webovou stránku.

ES -- Por favor, escanee el código QR o visite la página web para ver el manual de instrucciones.

FR -- Veuillez scanner le QR Code ou visiter notre site web pour accéder aux manuels d'utilisation.

DE -- Bitte scannen Sie den QR-Code oder besuchen Sie die Website für die Bedienungsanleitung.

PT -- Para aceder ao manual de instruções, por favor, faça a leitura do código QR ou visite o nosso site.

MN-9411-E

V1

Attention

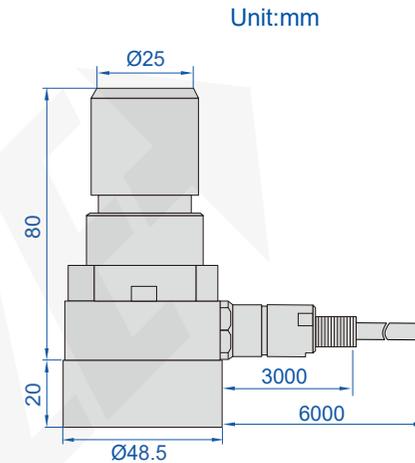
- Be sure to read this manual thoroughly before beginning to use the Model 9411 Tool Setter.
- Before installing the 9411 tool setter, you should first check whether the logic of the output signal of the tool setter matches the requirements of the CNC system of the machine tool, and then use a multimeter to check whether the status of the output signal of the tool setter is normal.
- After installing the tool setter on the machine, always manually verify that the machine's CNC system is receiving and processing the tool setter's output signals correctly before testing the automatic tool setting operation.
- If the user installs and uses the tool setter without following the above procedure, a mismatch between the output signal of the tool setter and the signal required by the machine's CNC system may result in incorrect operation of the automatic tool setting process, which may damage the tool setter or even the machine tool.
- It is recommended to use a tool with a diameter of 0.5mm or more for tool setting.

Description

- The 9411 Cable Communication Tool Setter consists of a tool setter body, a mounting base and tool setting software, which is mainly used for tool setting and checking on various machining centres, CNC boring and milling machines, etc. The tool setter can be used to set and check tools on a wide range of machining centres and CNC boring and milling machines;
- The tool setter has a special trigger mechanism inside the body, so that when the tool comes into contact with its counterface and the position of the counterface changes slightly, the trigger mechanism immediately triggers the internal circuitry of the tool setter, generating a trigger signal. This trigger signal continues until the tool setting surface is fully restored to its original position.

Specification

Main dimensions



SPECIFICATION

Height	80mm (the height is 100mm after adding the mounting base)
Diameter of zero setter	25mm
Downward travel	5mm
Axial reset force	6N±0.3N
Repeated trigger accuracy	≤1μm
Hardness of the zero setter	HRA90-93
Class of protection	IP68
Cable length *	6m (stainless steel sheath 3m)
Input voltage	24V±10% (DC)
Load current	max: 50mA
Signal type and logic **	SSR (NC/NO)

*The length of the cable can be customized

**Before purchasing, it is necessary to confirm whether the working logic of the tool setter output signal matches CNC control system

Brief introduction



NOTE: The Air Blow Cleaning Kit (Model 9411-C1) is an optional accessory designed specifically for the Model 9411 Tool Setter that uses compressed air to clean the face of the tool set.

Installation of Blow Cleaning Kit

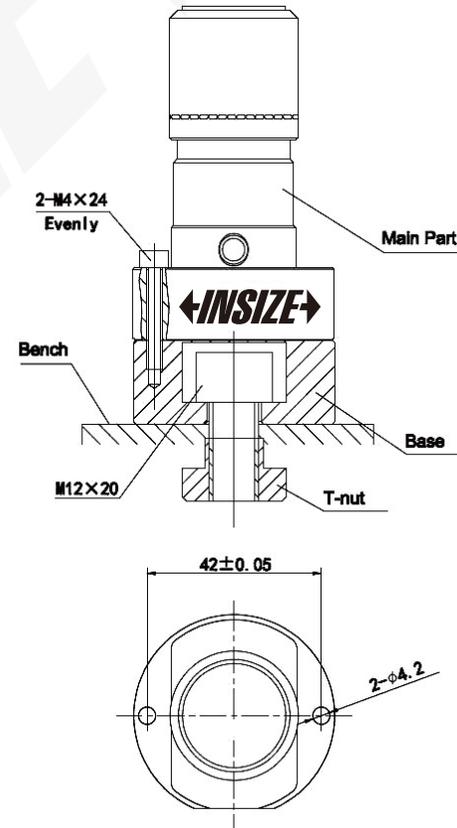


Installation and Adjustment

- It can be installed on the bench with the T slot and base by the following steps:
- (1) Put the T-nut into the T-slot and move it to the suitable place;
 - (2) Put a M12×20 screw into the hole on the base and tighten it into the T-nut;
 - (3) Let the φ4 holes align of the setter with the corresponding holes on the base;
 - (4) Screw in two M4 screws and tighten them.

Attentions:

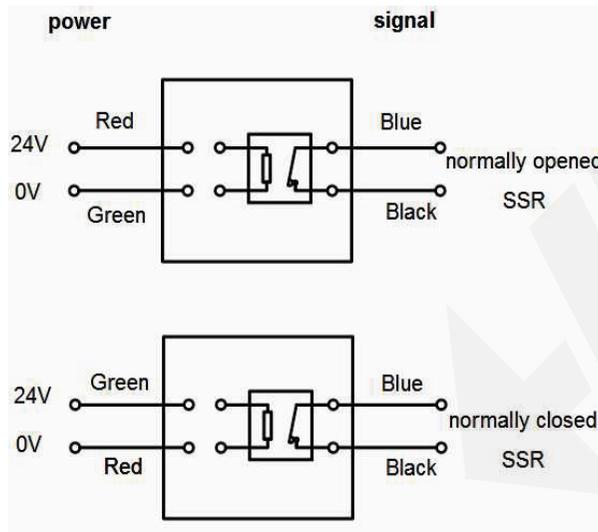
- (1) Please clean up the bench, the underside of the tool setter and the surface of the base before installing, make sure that there are no chips, impurities and greases.
- (2) The parallelism between the working plane and the bench which will influence the measuring accuracy has been adjusted to standard value before leaving the factory, you can use it directly without any adjustment. If you find the accuracy is low, please call our sales manager for detail solutio



Connect the tool setter to the CNC system

When the tool to be measured is in contact with the tool setting surface, the tool setter outputs a switching signal to the CNC system of the machine tool; at the same time, as an indication signal, the red indicator lamp on the tool setter body lights up. As shown in the figure below, the signal cable of 9411 tool setting device is a four-core (red, green, black and blue, four colors) shielded oil-proof cable.

Logic state one: the red line connected to the positive pole of the 24V DC power supply, the green line connected to the negative pole of the power supply, the black and blue lines connected to the signal input, at this time, the tool setter to the machine tool system to provide a normally open switching signal. Logic state 2: The green wire is connected to the positive terminal of the 24V DC power supply, the red wire is connected to the negative terminal of the power supply, and the black and blue wires are connected to the signal inputs; at this time, the tool setter provides a normally closed switching signal to the machine system. Users can choose to connect according to the input signal state that can be recognized by the machine tool.



Routine maintenance of the tool

Before each use of the Model 9411, it is recommended that compressed air be blown over the face of the tool and the surface of the tool to be measured. It is important to ensure that the face of the tool is clean and the surface of the tool to be measured is free of metal cutting debris and oil, as this may cause distortions in the measured data.

If the tool setter has not been used for a long period of time, it should be used in a low-speed, single-step operation to test the automatic measurement process to see if it is completely correct, and if any anomalies are found, the cause should be identified and the fault eliminated before continuing to use the tool setter.

The tool setter cables are subject to constant movement during the operation of the machine and should be inspected periodically for completion of the cables. Damage to the cables, cable glands, and stainless steel sheaths should be dealt with promptly, as failure to do so may result in serious consequences such as damage to the tool setter or to the equipment.

Note: The Model 9411 Tool Setter is a precision device and should be used and stored in a manner that prevents it from being subjected to strong shocks and vibrations; the oscillating mechanism of the tool setting surface has a certain mechanical fatigue life, so it should not be used to press down on the tool setting surface too much during normal times.

Functions of tool setting

1. Automatic calibration of the tool block center position
2. Standard tool length setting
3. Semi-automatic and fully automatic tool setting for tool lengths



4. Automatic detection of tool wear and breakage



troubleshooting

1. When the tool setting device occurs abnormal phenomenon, should be in accordance with the following order to find the cause of the failure: check the tool setting device program is correct; check the tool setting device triggered by the red indicator light is normal light; check the tool setting device and the CNC machine system connected to the cable signal line (black and blue line) whether the signal output; check the tool setting device and the CNC machine system between the cable, the cable plug, the connector is connected to normal; check the output power supply of the CNC machine system is normal; check the tool setting device is connected to the cable, the cable plug, the connector is normal. Check whether the output power of the CNC machine tool system is normal.
2. When abnormal phenomenon occurs in the accuracy of tool setting, should be in the following order to find the cause of the failure: check whether the tool setting surface of the tool setter is damaged, whether there is residual metal chips or other small particles on the surface of the tool setter; check whether the tool is adhering to the foreign body; check whether the reset of the surface of the tool setter is normal.

If the user checks the specific cause of the malfunction but is unable to eliminate the malfunction or determine the cause of the malfunction, please contact our technical service department to report the malfunction.