

± 0

Zero Presetting



Abrasion & Breakage Detection



Length Compensation

<https://t-sense.tw>

Z AXIS TOOL SETTER



Since 2012 producing tool setters

Z axis Only

Contact type Only

High Precision Only

Simple

Practical

Durable

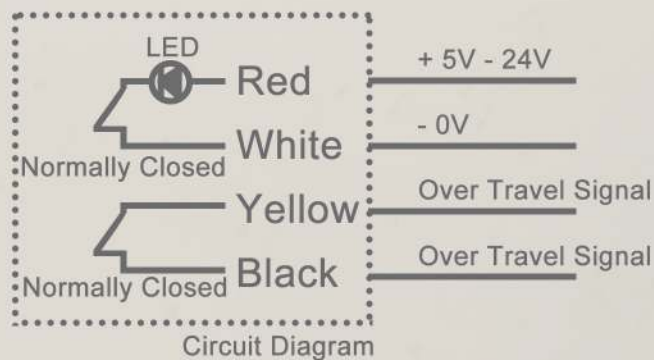
Reliable

Made in Taiwan



T10Z

Automatic Type
Tool Setter
For CNC Machine Centers



<https://t-sense.tw>

0.001mm

Repeatability
Operating Speed at
50-1500 mm/min

10mm

Contact Surface
Tungsten Carbide
HRA90.5+ AlTiCrN Coating

IP67

Ingress Protection

1.5N

Contact Force

2.5mm

Over Travel Signal
B:NC from Skip Signal

5mm

Stroke Total Distance



Dimensions

PDF file download link



3D CAD

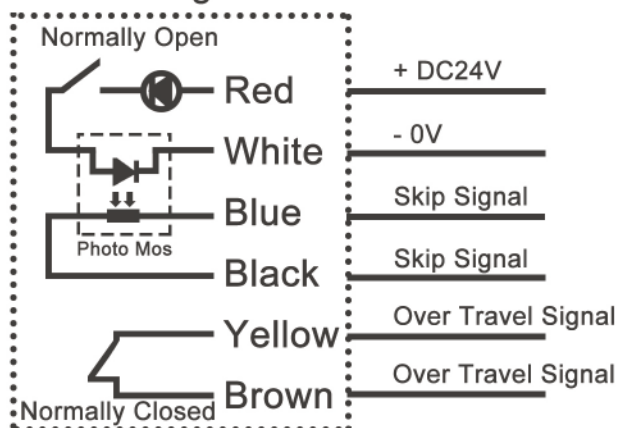
STEP file download link





Made in Taiwan

Circuit Diagram



T20Z

Automatic Type
Tool Setter
For CNC Machine Centers

tsense@tsense-tw.com
<https://t-sense.tw>

0.001mm

Repeatability
Operating Speed at
50-1500 mm/min

20mm

Contact Surface
Tungsten Carbide
HRA90.5+ AlTiCrN Coating

1.5N

Contact Force

IP67

Ingress Protection

2.5mm

Over Travel Signal
B:NC from Skip Signal

5mm

Stroke Total Distance

Dimensions

PDF file download link



3D CAD

STEP file download link



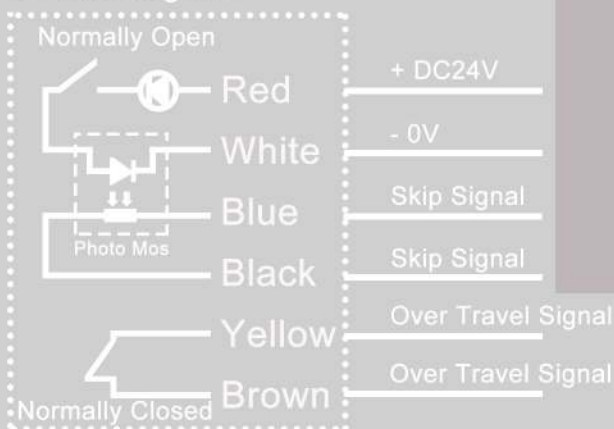


T30Z

Automatic Type
Tool Setter
For CNC Machine Centers



Circuit Diagram



3D CAD

STEP file download link



0.001mm

Repeatability
Operating Speed at
50-1500 mm/min

30mm

Contact Surface
Tungsten Carbide
HRA90.5+ AlTiCrN Coating

0.5mm

Pretravel Distance

6mm

Over Travel Signal
B:NC from Skip Signal

Dimensions

PDF file download link



Quick Cable Connector

Optional (Default fixed)
Easy to be Installed & Removed

2.5N

Contact Force

12mm

Stroke Total Distance



T40Z

Automatic Type
Tool Setter
For CNC Machine Centers



Circuit Diagram



3D CAD

STEP file download link



0.001mm

Repeatability
Operating Speed at
50-1500 mm/min

40mm

Contact Surface
Tungsten Carbide
HRA90.5+ AlTiCrN Coating

0.5mm

Pretravel Distance

6mm

Over Travel Signal
B:NC from Skip Signal

Dimensions

PDF file download link



IP68

Ingress Protection

2.5N

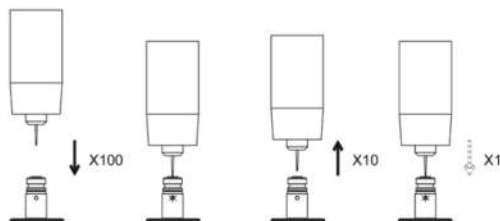
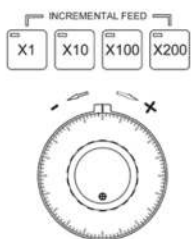
Contact Force

Quick Cable Connector

Optional (Default fixed)
Easy to be Installed & Removed

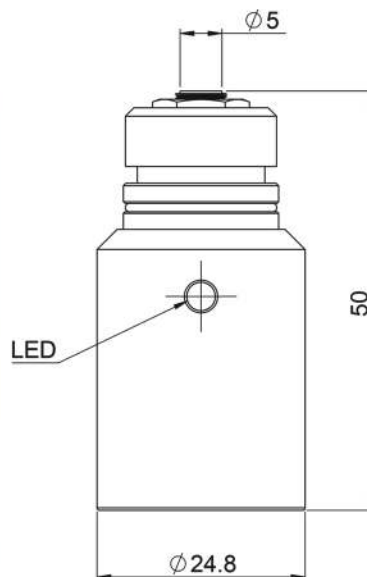
12mm

Stroke Total Distance

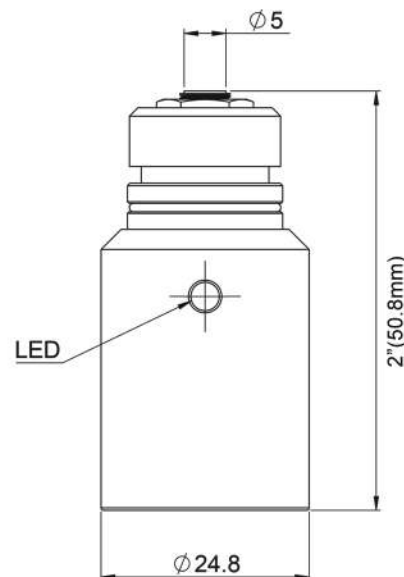


tsense@tsense-tw.com

BTS-55



BTS-520



BTS_{series}

Manual Type
Z axis Tool Setter
For Very Tiny Tools
Diameter $\geq 0.07\text{mm}$

1.0N

Contact Force

250 hours

Continues LED ON
Battery Lifetime

0.001mm

Repeatability

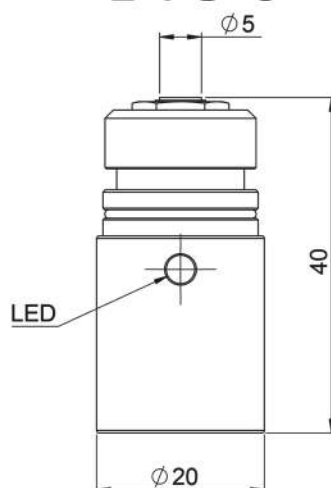
IP67

Ingress Protection

2mm

Stroke

BTS-5



https://t-sense.tw



Operation method

Automatic type / wire to the CNC machine controller and the detection procedure will process automatically by CNC machine. Manual type / an operator is needed to move the tool to touch the sensor, observing the changing of LED signal to find out the position.

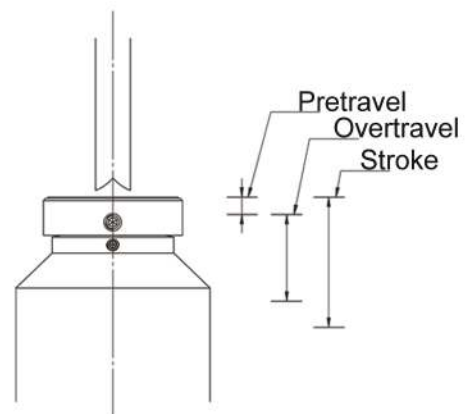


Ball bearing

Compared with a thrust bearing, a ball bearing equipped tool setter have a better advantage over higher precision, longer service life, lower friction and vibration. T-SENSE Technology is a company fully experienced in manufacturing high precision ball bearings since 1978.

Contact protection

The contact rating is DC5V to DC24V, and current should be limited below 20mA. A electronic protection device is designed to reduce the damage from rush current higher than 20mA or ESD. A mechanical protection device is designed to protect the internal structure being damaged by a rapid returning or tool shifting horizontally.



Pretravel / Overtravel / Stroke

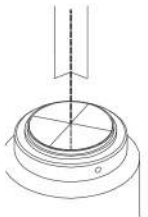
Pretravel is the distance from free position to skip signal point. Overtravel is the distance from skip signal point to emergency stop signal. Stroke means total distance from free position to operating limit position. Pretravel distance helps tool setter have a better anti-shock capability. The longer the overtravel distance is, the less chance of colliding happens.

Terms of warranty

1. Warranty period is valid for 15 months.
2. Within the warranty period, malfunctioning products will be exchanged for new products or repaired for free.
3. The coverage is limited to T-sense products only, any other related loss or damages resulting from the malfunctioning product is not covered by the warranty.
4. Malfunctions occurred due to using products in manners deviated from precautions, specification and usage procedures described in this catalogue or our website is not covered by the warranty.
5. Please note that service fee is not included in the price list of products.

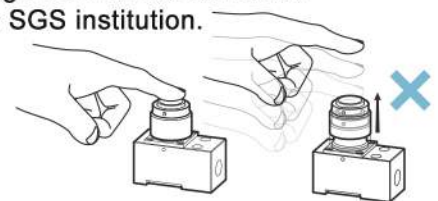
Mounting

1. Be aware not to drop the sensor when mounting. It is a very high sensitive device.
2. Mounting, wiring and removing the sensor should be operated when the power is OFF.
3. Forcefully rotating the contact may cause an internal damage.
4. Please program the machine to stop within the stroke range of the sensor.
5. Install the sensor to a rigid place where there is no machining vibrations.
6. T-sense is a professional sensor manufacturer. If any requirements related to machinery programming, please turn to CNC machine makers.
7. For no-pretravel distance sensors, chatter or bouncing may trigger the sensor unexpectedly. Please turn ON the signal detection function when measuring to avoid the situation.



Fingers and water

1. Pressing with fingers and then releasing the sensor rapidly may damage the internal contacts.
2. The water and dust protection of all T-sense sensors are certified by SGS institution.
3. Please note that adhesive and sealants may be eroded by coolant.
4. Cables are not waterproof and may be damaged by cutting chips. Equipped a proper length of protection conduit is needed.



Tool contact

1. For repeatability of T30Z and T40Z: operation speed at 0.001mm:1500mm/min is performed perfectly in recently manufactured CNC machines but may not work for all kinds of machines. Please test and find your own best operation speed for your machines.
2. Please operate at a lower speed when the diameters of contact tool is $\phi 0.07\text{mm}$ to $\phi 0.9\text{mm}$.

Cable connector

The water-resistant standard of quick connector type is IP67. Use tool to fasten the connector after plugging in. Plugging in the connector only by hand is not suggested.



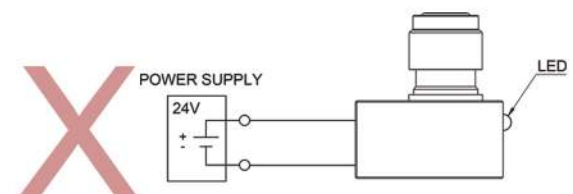
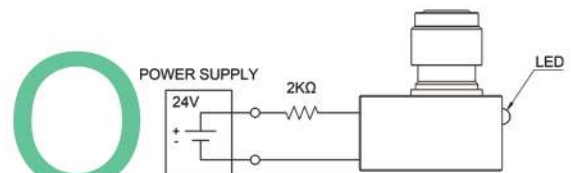
Normal Connector

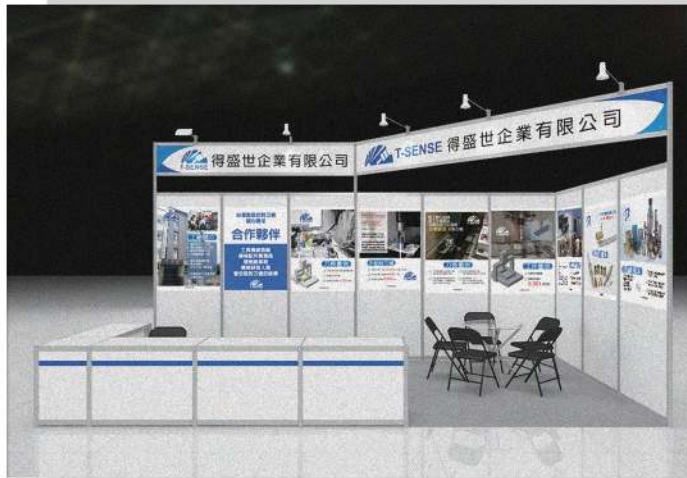


Quick Connector

Electronic

Do not connect sensors directly to power supply. A current-limit resistor is needed to protect LED. (2V) from being burned.





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