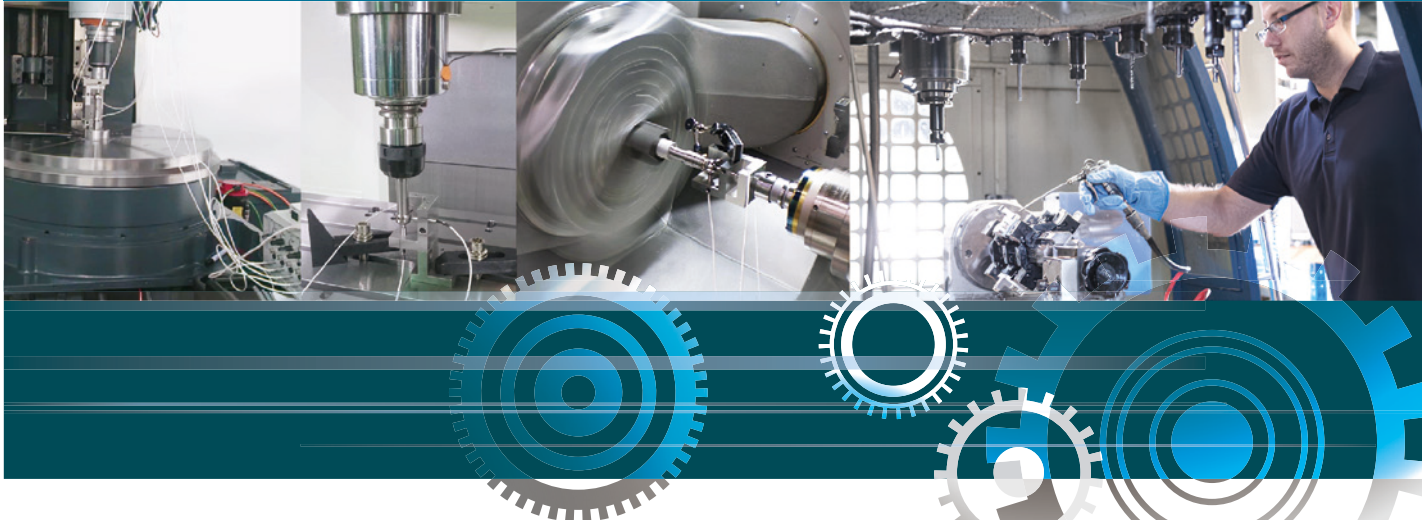


## STDM V2

### Machine Tool & Spindle Thermal Drift Measuring System



#### Analyze Performance of your Machine Tool Troubleshooting and Process Improvement

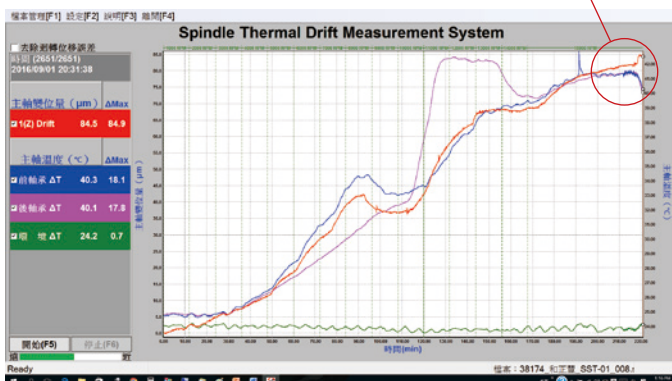
STDM (Spindle Thermal Drift Measuring) is a measuring device for detecting the thermal growth and thermal drift of the machine tool.

**Thermal growth** : Thermal deformation is the main error source of the machine tools. The distortion and bending of the structure caused by heat during the machine tool operating would influence the position of tool to generate geometric accuracy error and drilling cylindricity error. Nonuniform heat source leads the spindle to tilt and further makes bad behavior of drill, planeness and roughness. Measuring the thermal distortion help you to understand the warming time of the machine tool for thermal stability to enhance the processing accuracy.

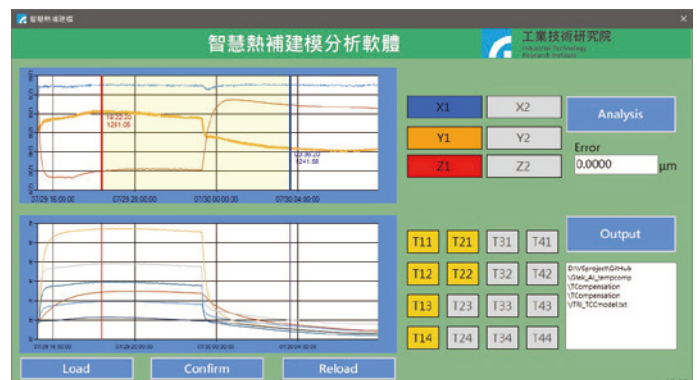
#### Software

##### Measurement screen

*The distortion exceeds 80  $\mu\text{m}$  for Z axis during 1 hour.*



##### Channel settings screen



## Hardware

- STDM V2 Data acquisition system
- 3 units of capacitive sensor
- 8 units of PT100 temperature sensor
- Master Target and sensor nest (Option)



## Specification

STDM V2		
Input Displacement	1-CH / 3-CH / 5-CH	
Input Temperature	3-CH / 8-CH	
ADC Resolution	24 bits	
Max. sampling rate	Temperature: 2Hz, Displacement: 102.4kHz	
Input impedance	1MΩ	
Ethernet output	RJ45 ( Ethernet )	
<b>Sensors</b>		
Capacitive sensor	LION CAP100e/ C9.5-5.6-2.0 (range: 250~2250 um, resolution: : 0.5μm)	
Temperature	PT100 / 4 wired (range: -20°C-140°C, resolution: 0.1°C)	
<b>Master Target</b>	<p>Dimensions: Dia. 20 mm X 158.8 mm</p> <p> <math>\varnothing .7874^{+.0000}_{-.0002}</math>  <math>\varnothing 20mm^{+.000}_{-.005}</math>            0.375" 9.5mm            0.375" 9.5mm            Clamping Surface            2.63" 67mm            Precision Measurement Surfaces            6.25" 158.8 mm         </p>	Option
<b>Probe Nest</b>	<p>Dimensions: 3 Probe Nest (4900-0001 8mm Probes) (4900-0010 3/8" Probes, no longer available)</p> <p>           5 Probe Adapter (4900-0002 8mm Probes)            (4900-0015 3/8" Probes, no longer available)            19.1mm (0.75") 5X            76.2mm (3.00")            174.8mm (6.88")            193.8mm (7.63")            98.6mm (3.88")            63.9mm (2.51")            63.9mm (2.51")            54.1mm (2.13")            101.6mm (4.00")            101.6mm (4.00")         </p>	Option



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