

Description

The TTV5 Control Unit is a fully-fledged system for operating a TTV5 chip with an electronic test board (ETB), integrating a DAQ unit and a power supply in a single device.

With the supplied Nanotest TTV5 Control software, the system can be quickly set up and made ready for measurement.

Optionally, an additional thermocouple DAQ unit can be used to measure up to four external temperature probe locations.

A compatible PC with Windows 11 is necessary for operation and must be provided separately.

The package includes a holder for mounting a water cooler, which is available as an optional accessory.



TTV5 control unit with holder and mounted cooler

General Information

Supported TTVs	1x TTV5 + ETB
Software	Nanotest TTV5 Control Software
Power rating	200 W/230 VAC; 100 W/110 VAC
Peripherals (optional, excl.)	PC, Displace, Mouse, Keyboard
Rated voltage range	100 – 240 V
Rated input current	0.91 A / 1.90 A @ 230VAC / 110V AC
Rated line frequency	50 Hz/60 Hz
Weight	1.5 kg
Dimensions	51 x 17.4 x 44 cm ³ (w x h x d)



TTV5 control unit front side

Power Supply

Power supply type	Weidmüller PRO PM
Number of power supplies	1
Max. voltage output	48 V
Max. current output	3.3 A
Max. power per unit	140 W

PC system requirements and DAQ

Operation system	Windows 11
USB connections	1x USB-C
DAQ-Card	NI-USB-6421
Optional: cDAQ-Modul	NI-cDAQ-T1100-Bundle

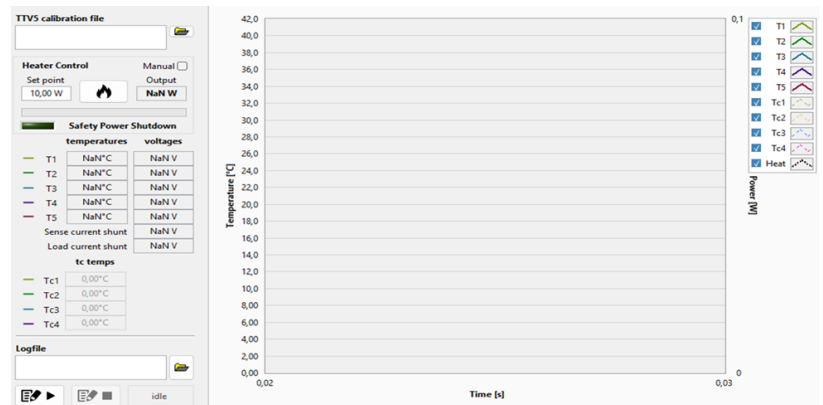


TTV5 control unit back side

TTV Control Software (included)

The TTV5 Control software allows easy control and readout of the TTV5. It can display the current measurements and record data.

Data acquisition rate	Up to 1 Hz
Data plotting	Temperature over Time Power over Time
Log-file format	*.csv
Features	Calibration file import Shut-off temperature



TTV5 control software

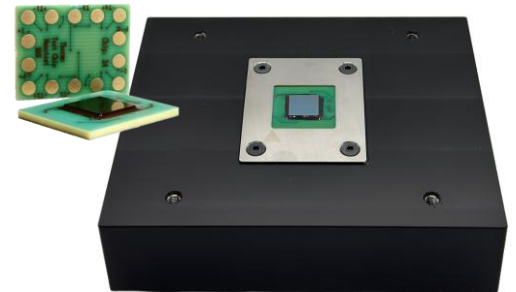
TTV5 + Electronic Test Board (in Holder)

The TTV5 utilizes the entire chip surface, covered by a single, uniform heater. Equipped with five temperature sensors, it enables precise, in-situ observation of the temperature distribution. Its user-friendly interface allows easy customization of temperature profiles, utilizing four-wire sensing for accurate measurements.

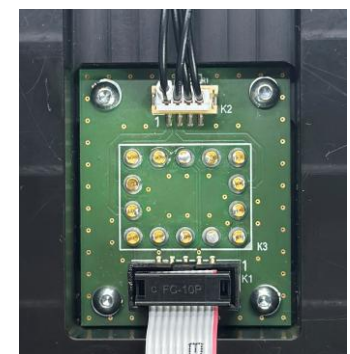
Mounted in a holder, the Electronic Test Board (ETB) connects the TTV5 via 14 spring contact pins while pressing it against the ETB with a 1.5 mm press plate. The five RTD sensors and the heater are linked to the control unit via the ETB using two electrical connectors, with the RTDs powered by a current source.

Optionally, the TTV5 can be soldered onto the ETB and mounted into another system using four mounting holes.

Die size	9.8 x 9.8 mm ²
Heater zones	One heater with 15.5 ± 0.5 Ω
Sensors	5x RTD temperature sensors with 3.3 ± 0.1 Ω @ RT
Substrate size	20 x 25 mm ²
Max. heating power:	140 W (Appropriate cooling provided)
ETB	
TTV 5 connection	14x Spring contact pins
RTD supply	Constant current via power connector
Connections	One Power Connector One Sensing Connector (RTD data and bias current)
Dimension	49 x 40 mm ²
Mounting holes	4x Ø 3,2 mm holes with distance 39 mm x 30 mm
Features	Supplies 5 RTDs and reads temperature values with a rate of up to 1 Hz and accuracy of 0.5 K
Holder	
Pressing plate	1.5 mm thick plate plus four M3 countersunk head screws
Cooler mounting	M3 Holes with distance 78 mm for CPU coolers
Dimensions	12 x 10 x 3 cm ³



TTV5 front/back side, mounted in Holder



Electronic Test Board (ETB) backside

Application remarks

The offered products are supposed to be used for characterization purposes. The application of the data from the test die to a functional system lies in the responsibility of the user. Nanotest makes no warranty, express or implied including the implied warranties of merchantability and fitness for a particular purpose, that the user's system designed using that data will perform as intended.