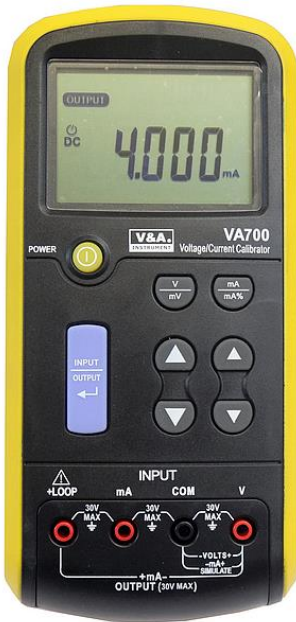


VA700, VA710, VA720 Hand-held Process Calibrators



VA700
Volt & mA
Calibrator



VA710
Thermocouple
Calibrator



VA720
Pt100 RTD
Calibrator

These temperature & process calibrators perform two functions:

In **Input Mode**, they accurately measure sensors and probes or signal transmitters and displays them as a temperature or mA current / percentage.

In **Output Mode**, set the required temperature or mA current / percentage, and they accurately generates their own signal to simulate the required signal to an instrument (such as chart recorder, temperature controller, PLC, etc).

These functions make them very useful tools for calibrating, checking accuracy or fault-finding temperature and process equipment in many industrial applications.

TMS Europe offers UKAS calibration at standard points as an optional extra on these instruments and supplies them from UK stock, typically for next day delivery.



See them in action in our video:

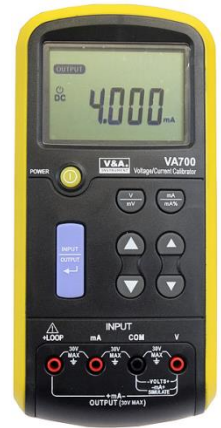
<https://tmseurope.co.uk/news/2015/process-calibrators-with-ukas-calibration>



TMS Europe Ltd is a UKAS accredited calibration laboratory No. 0461. We are ISO 17025 accredited for calibration on site and in our laboratory, as defined in our Schedule Of Accreditation (see www.tmseurope.co.uk/soa).

VA700 Volt/mA Process Calibrator

The VA700 is a process calibrator with volt and mA (milli amp) measurement and simulation. It is designed for calibrating process instruments, sensors and transmitters.



- Provides adjustable 0 to 24mA and 0 to 20V calibration source
- Works with externally powered loops or provides its own 24V loop power
- High accuracy maximum up to 0.015%
- Percentage Display Mode for current
- mA, %, V or mV units (depending on mode)
- Large 5 digit LCD
- Auto Power Off 30 minutes (can be set: 15-60 min or disabled), Low battery indication
- Supplied with test leads, connectors and soft carry case.
- Optional external power supply also available.
- UKAS (ISO 17025) calibration is optionally available.

DC Volts Input and Output

Range	Resolution	Accuracy
0 to 100 mV	0.01 mV	±(0.02% of reading + 3 counts)
0 to 20 V	0.001 V	±(0.02% of reading + 3 counts)

Input impedance: 2MΩ (nominal), <100pF

Voltage Driver capability: 1mA

DC mA (milliAmp) Input and Output

Range	Resolution	Accuracy
0 to 24mA	0.001 mA	±(0.015% of reading + 3 counts)
0 to 100%	Percentage display mode: 0% = 4mA, 100% = 20mA.	

Loop Power provided by calibrator: 24V ±10%.

Maximum load when using battery: 15mA @500Ω

Maximum load when external power supply (sold separately): 24mA @700Ω

Overload Protection: 125mA, 250V fast acting fuse

Over Voltage protection: 30V

Display: 88888 Counts, 64x42mm

Power Requirements: 6x AAA 1.5V Batteries (Supplied)

Size (LxWxH): 205 x 98 x 46mm

Weight (Inc Batteries): 472g

Optional UKAS Calibration, Standard Points:

Volts Input & Output Modes: 0 to 20V, every 2V

milli Volts Input & Output Modes: 0 to 100mV, every 10mV

milli Amps Input & Output Modes: 0 to 24mA, every 4mA

Other ranges or points can be done at additional cost.

TMS Stock Codes for ordering:	
VA700VOLTMACAL	Without calibration.
VA700VOLTMACAL-UKAS	With UKAS calibration at standard points.

VA710 Thermocouple Calibrator

The VA710 Thermocouple Calibrator is a precision source and measurement instrument for calibrating thermocouples and instruments.

- Measure or simulate thermocouples and millivolts
- 8 Types of Thermocouple:- J, K, N, R, S, T, E, B
- Built in Cold Junction Compensation (CJC)
- Displays of CJC (ambient) temperature.
- °C, °F or mV units (depending on mode)
- Large 5 digit LCD
- Auto Power Off 30 minutes (can be set: 15-60 min or disabled)
- Low battery indication
- Supplied soft carry case.
- Optional external power supply also available.
- UKAS (ISO 17025) calibration is optionally available.



Thermocouple Specification for Measurement (input) and Simulation (output)

TC Type	Range	Resolution	Basic Accuracy	Reference Junction / CJC Accuracy
Type J	-200 to 1200°C	0.1°C	± (0.3°C+10µV)	±0.3°C
Type K	-200 to 1370°C	0.1°C	± (0.3°C+10µV)	±0.3°C
Type N	-250 to 1300°C	0.1°C	± (0.3°C+10µV)	±0.3°C
Type T	-200 to 400°C	0.1°C	± (0.3°C+10µV)	±0.3°C
Type E	-200 to 950°C	0.1°C	± (0.3°C+10µV)	±0.3°C
Type R	-20 to 1750°C	1°C	± (1°C+10µV)	±0.3°C
Type S	-20 to 1750°C	1°C	± (1°C+10µV)	±0.3°C
Type B	600 to 1800°C	1°C	± (1°C+10µV)	±0.3°C

For example, total worst case accuracy when using the internal reference junction for Type K at 1000°C would be ±0.86°. From the basic accuracy of 0.3°C, plus 0.26°C (10µV at 1000°C for Type K), and plus 0.3°C for the CJC. For units that have been calibrated, refer to the calibration certificate for the results of your unit at specific values.

TC Type	Total worst case accuracy examples				
Type K	-200°C: ±1.23°C	0°C : ±0.86°C	500°C: ±0.84°C	1000°C: ±0.86°C	1370°C ±0.91°C
Type N	-200°C: ±1.61°C	0°C : ±0.99 °C	500°C: ±0.87°C	1000°C: ±0.87°C	1300°C ±0.88°C
Type T	-200°C: ±1.23°C	-100°C: ±0.96°C	0°C : ±0.86°C	200°C: ±0.79°C	400°C ±0.77°C
Type R	-20°C: ±3.3°C	0°C : ±3.3°C	500°C: ±2.3°C	1000°C: ±2.1°C	1750°C ±2.1°C

milliVolt Specification for Measure (input) and Simulate (output)

Range	Resolution	Accuracy
-10mV to 100mV	0.01mV (10µV)	±(0.025%+2counts)

Specification is for the unit in ambient temperature between 18 – 28°C. Temperature Coefficient outside this range (i.e. 0 – 18°C & 28 – 50°C) is ±0.02%/°C.

Display: 88888 Counts, 64x42mm
 Power Requirements: 6x AAA 1.5V Batteries (Supplied)
 Size (LxWxH): 205 x 98 x 46mm
 Weight (Inc Batteries): 472g

Optional UKAS Calibration, Standard Points:

Type K Measure & Simulate: 0, 200, 400, 600, 800, 1000, 1200°C
 Type N Measure & Simulate: 100, 300, 500, 700, 900, 1100, 1300°C
 Type R Measure & Simulate: 400, 600, 800, 1000, 1200, 1400, 1600°C
 milli Volt (mV) Measure & Simulate: 0, 10, 20, 30, 40, 50mV

Other ranges or points can be done at additional cost.

TMS Stock Codes for ordering:	
VA710TCCAL	Without calibration.
VA710TCCAL-UKAS	With UKAS calibration at standard points.

Thermocouple Test Leads and Connectors



TMS Europe's **UniLeadTC** system is designed to solve a number of problems when connecting thermocouples to hand-held instruments and other devices:


- Standard to Miniature Plug Converter
- Connect a standard sized thermocouple plug to your instrument's mini socket
- Extension lead for standard or mini plugs
- Gives a flexible lead for when connecting to thermocouples with a fixed plug

Lead Length: 0.5m
 Types: J, K, N, R/S, T, B



Miniature Quick Wire Thermocouple Plugs
 Useful for calibration and on-site work.

Need higher accuracy or working to AMS 2750?



TMS Europe's EzzyCal – 2750 is a hand-held thermocouple calibrator that is highly accurate, robust and user-friendly. It has been designed to meet the requirements of AMS 2750 as a Secondary Standard for laboratory or field tests.

The EzzyCal – 2750 provides 0.02% accuracy and comes with its own, unique, UKAS (ISO 17025) certificate of calibration attesting to its accuracy.

Its advanced functions such as scaling, present ramping and steps, all of which can be quickly and easily configured by the user as the job requires. It also offers data logging, with the ability to look back at recorded temperature data as a list of results or a trend graph.

VA720 Pt100 RTD Calibrator

The VA720 RTD (Resistance Temperature Detector) Calibrator is designed for calibrating, measuring and simulating RTD instruments.

- Measures and Simulates 7 Types of RTD, including Pt100 & Pt1000
- 4-wire, 3-wire & 2-wire modes
- °C, °F or ohms units (depending on mode)
- Large 5 digit LCD
- Auto Power Off 30 minutes (can be set: 15-60 min or disabled)
- Low battery indication
- Supplied with test leads, connectors and soft carry case.
- Optional external power supply also available.
- UKAS (ISO 17025) calibration is optionally available.



RTD Specification for Measurement (input) and Simulation (output)

Mode	Range	Total Accuracy (± °C)			Admit Excitation (mA)
		Input 4 wire	Input 2 or 3 wire	Output	
Pt 10 385	-200 to 800°C	Not Specified			0.1 to 3.0
Pt 50 385	-200 to 800°C	0.7	1.0	0.7	0.1 to 3.0
Pt 100 385	-200 to 800°C	0.33	0.5	0.33	0.1 to 3.0
Pt 100 JIS	-200 to 630°C	0.3	0.5	0.3	0.1 to 3.0
Pt 200 385	-200 to 250°C	0.2	0.3	0.2	0.1 to 3.0
	250 to 630°C	0.8	1.6	0.8	
Pt 500 385	-200 to 500°C	0.3	0.6	0.3	0.05 to 0.8
	500 to 630°C	0.4	0.9	0.4	
Pt 1000 385	-200 to 100°C	0.2	0.4	0.2	0.05 to 0.8
	100 to 630°C	0.2	0.5	0.2	

Resistance Specification for Measurement (input) and Simulation (output)

Range	Measure Accuracy 4 wire (± Ω)	Simulate Accuracy (± Ω)	Admit Excitation (mA)
0.00 Ω to 400.00 Ω	0.1	0.15	0.1 to 0.5
		0.1	0.5 to 3.0
400.0 Ω to 1500.0 Ω	0.5	0.5	0.05 to 0.8
1500.0 Ω to 3200.0 Ω	1	1	0.05 to 0.4
	2		

Admit Excitation current only applies in Simulate Mode (this might be marked on the connected device being tested or be in its manual). Admit Excitation current for the VA720 is 0.2mA

Temperature Resolution: 0.1°C or 0.1°F
 Resistance Range: 0.00 - 3200.0 Ohm
 Display: 88888 Counts, 64x42mm
 Power Requirements: 6x AAA 1.5V Batteries (Included)
 Size (LxWxH): 205 x 98 x 46mm
 Weight (Inc Batteries): 472g

Optional UKAS Calibration, Standard Points:

Pt100 Input Mode 2-Wire: -20, 0, 10, 20, 40, 60, 80, 100, 150, 200, 300°C

Pt100 Input Mode 2-Wire: -20, 0, 60, 200, 300°C

Pt100 Input Mode 4-Wire: -20, 0, 60, 200, 300°C

Pt100 Output Mode 2-Wire: -20, 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 150, 200, 300°C

Pt100 Output Mode 2-Wire: -20, 0, 60, 200, 300°C

Pt100 Output Mode 4-Wire: -20, 0, 60, 200, 300°C

Other ranges or points can be done at additional cost.

TMS Stock Codes for ordering:	
VA720RTDCAL	Without calibration.
VA720RTDCAL-UKAS	With UKAS calibration at standard points.



Optional Power Supply for VA700, VA710, VA720

TMS Stock Code: VA7PSU

A UK power supply AC adaptor for the VA 700, 710 & 720 calibrators. (Powers unit only, won't recharge the batteries.)



Re-calibration

As a UKAS accredited calibration laboratory, TMS Europe can offer re-calibration of these instruments, and others, at competitive prices.

TMS Europe Ltd is a UKAS accredited calibration laboratory No. 0461. We are ISO 17025 accredited for calibration on site and in our laboratory, as defined in our Schedule Of Accreditation (see www.tmseurope.co.uk/soa).

Part of a range of calibration solutions from TMS Europe



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