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Certificate Number 351

BC2001 (MkIII)
Block Calibrator

£980
(Block 1B Build)

The BC2001 (MkIII / 'Mark 3') Dry-well Block Temperature Calibrator is designed to check the accuracy of temperature sensors and thermometers. Its hand-held size means true portability, even to the tightest corner of your plant.

It's simple and convenient to use and even at 350°C its stainless steel case is cool enough to hold in your hand. Because the BC2001's aluminium block is fan assisted it heats, cools and stabilises in minutes - much quicker than many larger block calibrators. A stability indication light shows when it has stabilised at temperature after an adjustable duration. The BC2001's compact size, low cost, and yet high accuracy make it ideal for use as part of your quality and traceability regime in the factory or the laboratory.

The BC2001 is constructed with a single fixed aluminium block with a number of wells (holes/pockets). The default build, Block 1B, has wells with a variety of common probe sizes and is typically available from stock or on a short lead-time. Units with Other Build Options are built when ordered and are typically available with lead-times of a few weeks. Special Build Options are longer, contact us for more details. Since the block is fixed, the block cannot be changed by the user or modified for another block. If more versatility is required, see our UBC2001, UBC2020, and UBC2010 models which take interchangeable sleeves in a wider range of popular probe sizes.

General Specifications

Range: 30°C* to 350°C (86°F to 662°F †)
* From 10°C above ambient temperature.

Size: (WxHxD) Body: 120mm x 50mm x 160mm, Extremities: 140 x 60 x 190mm (without lead)
(Body: 5" x 2" x 6.5" approx., Extremities: 5.5" x 2.4" x 8" approx.)

Weight: 1.3kg (2.9lbs) unit only, 2.5kg (5.5lbs) with carry case and power lead.

Power:
240V builds: 230V ac ±15%, 50/60Hz, 150W. Comes with UK 13A style plug lead.
110V builds: 115V ac ±15%, 50/60Hz, 150W. Comes with 16A round yellow plug lead.
DV builds: Dual Voltage, user selectable via switch on the rear.
230V ac or 115V ac ±15%, 50/60Hz, 180W. Comes with UK 13A style plug lead.
The detectable lead connects via an IEC 60320 C14 inlet. Other leads are available at additional cost:
EU (CEE7/7): £5 / €5. 110V 16A round yellow (IEC60309): £5. USA (NEMA 5-15P): £5 / $5.

Certification: UKAS (ISO17025) Calibration & Thermal Survey optional at extra cost.

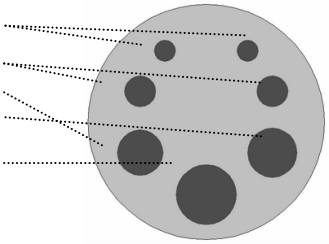
Carry Case: Foam lined black plastic case included as standard. Size: 300 x 130 x 350mm (WxHxD)

Warranty: 2 years, RTB (details on last page).

This datasheet applies to the current model only, for information on units purchased previously please contact us. Appearances may vary. Prices exclude VAT and carriage. Prices correct at the time of publication. Price and specification subject to change without notice.

Block Specifications

Standard Build Option

		Block 1B Build (default) *(same block as previous MkII generation)*	
		100mm Wells (only)	80mm Wells (only)
Accuracy:- (With built-in display.)	30 to 180 °C	± 0.35°C (±0.63°F)	± 0.6°C (±1.08°F)
	181 to 280 °C	± 0.50°C (±0.90°F)	± 1.0°C (±1.80°F)
	281 to 350 °C	± 0.65°C (±1.17°F)	± 1.4°C (±2.52°F)
Stability:-	30 to 180 °C	± 0.10°C (±0.18°F)	
	181 to 280 °C	± 0.15°C (±0.27°F)	
	281 to 350 °C	± 0.25°C (±0.45°F)	
Radial (Well-to-well) Uniformity:	30 to 180 °C	0.6°C (/ ± 0.3°C)	0.3°C (/ ± 0.15°C)
	181 to 280 °C	0.8°C (/ ± 0.4°C)	0.4°C (/ ± 0.20°C)
	281 to 350 °C	1.0°C (/ ± 0.5°C)	0.5°C (/ ± 0.25°C)
Partial Immersion Uniformity: (At 20mm back.)	30 to 180 °C	0.6°C (/ ± 0.3°C)	0.6°C (/ ± 0.3°C)
	181 to 280 °C	1.4°C (/ ± 0.7°C)	1.4°C (/ ± 0.7°C)
	281 to 350 °C	1.8°C (/ ± 0.9°C)	2.4°C (/ ± 1.2°C)
Block Details: *Note: Blocks are build options and are not interchangeable or rebuildable.*		Well Depth: 100mm (4"), except 2.2mm wells that are 80mm (3.2"). 2x 2.2mm 2x 3.2mm 1x 4.7mm 1x 5.1mm 1x 6.2mm 	
For Probe Diameters:		Metric: 1.5mm, 2mm, 3mm, 4.5mm, 6mm Imperial: 3/16"	
Heating Time: 20°C to 350°C		10 minutes, plus 4 minutes stabilisation time (14 minutes total)	
Cooling Time: 350°C to 70°C		19 minutes	
Supply Voltage:		Single Voltage Builds (240V / 110V)	
Price (ex VAT) **:**		**£980**	

Other Build Options and Special Build Options are listed on the next pages.

Ordering Codes

TMS Stock Code: BC2001/1/240/C

= Variant code: BC2001M3/1B/240/C

= BC2001 (MkIII), Block 1B, 240V, °C (no buzzer test circuit).

Model & Mark:	/	Block Build:	/	Voltage Build*:	/	Temperature Scale†:
BC2001M3		1B		240		C = °C
		1C		110		F = °F
		2B		DV =240/110V Selectable		
		2C				
		[*Special Block*]				

Other Build Options:
/B = Buzzer Thermostat Test Circuit

* Voltage Build option availability is determined by the block.

† Temperature Scale (°C/°F) cannot be changed by the user.

Differences in MkIII from MkII

- Larger display and buttons.
- Faster cooling.
- Quieter fan (when not cooling).
- Dual Voltage build option.*
- All stainless steel construction.
- Buzzer test circuit option.

Buzzer Thermostat Test Circuit option +£40

An optional extra feature of a test circuit and buzzer can be fitted, for accurately checking thermostat switching temperatures (both Normally Open and Normally Closed types via different connections). The user sets a slow ramp rate for gradual temperature change. The buzzer then sounds when the thermostat switches.

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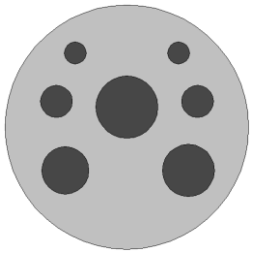
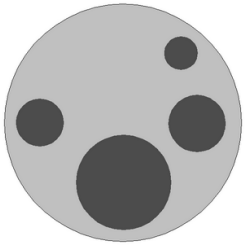
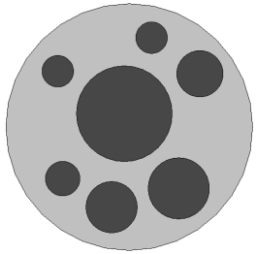
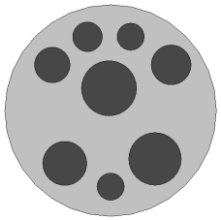
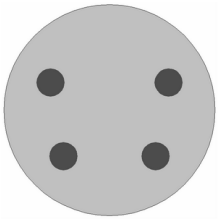
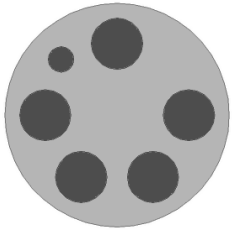
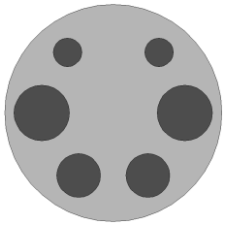
Block Specifications

Other Build Options
(Built when ordered)

		Block 1C *Lead-time 4-8 weeks.*		Block 2B *Lead-time 2-6 weeks.*	Block 2C *Lead-time 6-10 weeks.*
		100mm Wells (only)	80mm Wells (only)	Well Depth: 100mm (4").	Well Depth: 100mm (4").
Accuracy:- (With built-in display.)	30 to 180 °C	± 0.35°C (±0.63°F)	± 0.6°C (±1.08°F)	± 0.6°C (±1.08°F)	± 0.6°C (±1.08°F)
	181 to 280 °C	± 0.50°C (±0.90°F)	± 0.9°C (±1.62°F)	± 0.9°C (±1.62°F)	± 0.9°C (±1.62°F)
	281 to 350 °C	± 0.65°C (±1.17°F)	± 1.4°C (±2.52°F)	± 1.4°C (±2.52°F)	± 1.4°C (±2.52°F)
Stability:-	30 to 180 °C	± 0.10°C	(±0.18°F)	± 0.2°C (±0.36°F)	± 0.2°C (±0.36°F)
	181 to 280 °C	± 0.15°C	(±0.27°F)	± 0.3°C (±0.54°F)	± 0.3°C (±0.54°F)
	281 to 350 °C	± 0.25°C	(±0.45°F)	± 0.4°C (±0.72°F)	± 0.4°C (±0.72°F)
Radial (Well-to-well) Uniformity:	30 to 180 °C	0.6°C (/ ± 0.3°C)	0.3°C (/ ± 0.15°C)	1.4°C (/ ± 0.7°C)	1.4°C (/ ± 0.7°C)
	181 to 280 °C	0.8°C (/ ± 0.4°C)	0.4°C (/ ± 0.20°C)	2.0°C (/ ± 1.0°C)	2.0°C (/ ± 1.0°C)
	281 to 350 °C	1.0°C (/ ± 0.5°C)	0.5°C (/ ± 0.25°C)	2.8°C (/ ± 1.4°C)	2.8°C (/ ± 1.4°C)
Partial Immersion Uniformity: (At 20mm back.)	30 to 180 °C	0.6°C (/ ± 0.3°C)	0.6°C (/ ± 0.3°C)	0.6°C (/ ± 0.3°C)	0.6°C (/ ± 0.3°C)
	181 to 280 °C	1.4°C (/ ± 0.7°C)	1.4°C (/ ± 0.7°C)	1.4°C (/ ± 0.7°C)	1.4°C (/ ± 0.7°C)
	281 to 350 °C	1.8°C (/ ± 0.9°C)	2.4°C (/ ± 1.2°C)	2.4°C (/ ± 1.2°C)	2.4°C (/ ± 1.2°C)
Block Details: *Note: Blocks are build options and are not interchangeable or rebuildable.*		Well Depth: 100mm (4"), except 2.2mm wells at 80mm (3.2"). 2x 2.2mm 2x 3.2mm 1x 4.7mm 1x 5.2mm 1x 6.2mm 		3.2mm 4.7mm 6.3mm 9.5mm 	2x 3.2mm 3.5mm 4.7mm 5.2mm 6.2mm 9.7mm 
For Probe Diameters:		Metric: 1.5mm, 2mm, 3mm, 4.5mm, 5mm, 6mm Imperial: 3/16"		Metric: 3mm, 4.5mm, 6mm, 9mm	Metric: 3mm, 3.3mm, 4.5mm, 5mm, 6mm, 9mm, 9.5mm Imperial: 1/8", 3/16", 3/8"
Heating Time: 20°C to 350°C		15 minutes, plus 4 minutes stabilisation time (19 minutes total)		10 minutes, plus 4 minutes stabilisation time (14 min.)	15 minutes, plus 4 minutes stabilisation time (19 min.)
Cooling Time: 350°C to 70°C		21 minutes		19 minutes	21 minutes
Supply Voltage:		Dual Voltage Selectable		Single Voltage Builds	Dual Voltage Selectable
Price (ex VAT) **:**		**£1040**		**£1080**	**£1080**

In addition to our standard blocks, over the years TMS has produced a number of customised variations for other probe size combinations. We can manufacture units with these blocks as a Special Build Option on request, with typical lead times of 5-12 weeks. Specifications with pink shading are based on partial test results or conservative estimation and are subject to confirmation. New bespoke designs of block, customised to your requirements, may also be available on request. Please contact us with your requirements for current pricing and availability.

Special Build Options		**Special Block 'J'**	**Special Block 'L'**	**Special Block 'N'**	**Special Block 'Q'**	**Special Block 'T2'**
Accuracy	35 - 180°C	± 0.8°C	± 0.7°C	± 0.25°C	± 0.40°C	± 0.40°C
	181 - 280°C	± 1.2°C	± 1.0°C	± 0.45°C	± 0.60°C	± 0.60°C
	281 - 350°C	± 1.8°C	± 1.6°C	± 0.65°C	± 1.20°C	± 0.90°C
Stability	35 - 180°C	± 0.2°C	± 0.10°C	± 0.15°C	± 0.10°C	± 0.15°C
	181 - 280°C	± 0.3°C	± 0.15°C	± 0.20°C	± 0.15°C	± 0.20°C
	281 - 350°C	± 0.4°C	± 0.25°C	± 0.30°C	± 0.25°C	± 0.30°C
Radial Uniformity	35 - 180°C	1.4°C (/±0.7)	1.4°C (/±0.7)	0.3°C (/±0.15)	0.5°C (/±0.25)	0.8°C (/±0.4)
	181 - 280°C	2.2°C (/±1.1)	2.2°C (/±1.1)	0.5°C (/±0.25)	0.8°C (/±0.4)	1.4°C (/±0.7)
	281 - 350°C	2.8°C (/±1.4)	2.8°C (/±1.4)	0.8°C (/±0.40)	1.4°C (/±0.7)	2.0°C (/±1.0)
Partial Immersion Uniformity	35 - 180°C	0.8°C (/±0.4)	0.8°C (/±0.4)	0.6°C (/±0.3)	0.8°C (/±0.4)	0.8°C (/± 0.4)
	181 - 280°C	1.6°C (/±0.8)	1.6°C (/±0.8)	1.6°C (/±0.8)	1.6°C (/±0.8)	1.6°C (/±0.8)
	281 - 350°C	2.4°C (/±1.2)	2.2°C (/±1.1)	2.2°C (/±1.1)	2.4°C (/±1.2)	2.4°C (/±1.2)
Block Details: Wells are 100mm deep, unless stated otherwise. *Note: Blocks are build options and are not interchangeable or rebuildable.* *Appearances may vary.*		2x 3.2mm 3.5mm 4.2mm 4.7mm 5.2mm 6.2mm 6.5mm 	4.2mm, 6.2mm, 8.2mm, 10.2mm 	4x 3.2mm 	3.2mm, 5x 6.2mm 	2x 3.2mm 2x 4.9mm 2x 6.2mm 
For Probe Diameters:		Metric: 3mm, 3.3mm, 4mm 4.5mm, 5mm, 6mm Imperial: 1/8", 3/16", 1/4"	Metric: 4mm, 6mm, 8mm, 10mm	Metric: 3mm	Metric: 3mm, 6mm	Metric: 3mm, 4.5mm, 6mm Imperial: 3/16"
Heating Time (total) **:**		19 Minutes	19 Minutes	14 Minutes	19 Minutes	14 Minutes
Cooling Time :		21 Minutes	21 Minutes	19 Minutes	21 Minutes	19 Minutes
Supply Voltage:		Dual Voltage	Single Voltage	Single Voltage	Single Voltage	Single Voltage

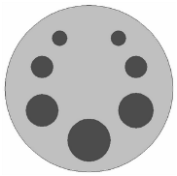
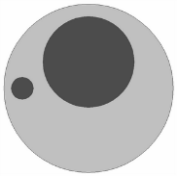
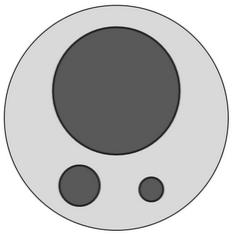
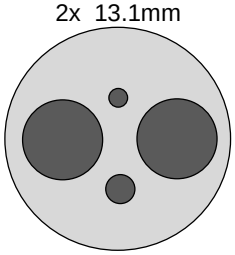
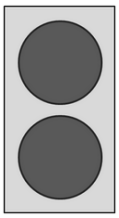
Optional UKAS Calibration (at TMS standard points) +£240

The calibration of the block calibrator in 1 well at 3 temperatures: 60, 150 and 300°C at full and partial immersion, and 1 survey of all wells at 150°C. Lead time is typically 6 to 10 days (on top of availability of the block calibrator). For calibration at different temperature points, additional survey points, in a specified well (or wells), please contact us for a price.

UKAS CALIBRATION 0461

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).

Block Calibrator range from TMS Europe

HOT				
	BC 2001 350 °C	**UBC 2001** 350 °C	**UBC 2010** 500 °C	**UBC 2020** 500 °C
	Multi-Well (Choice of fixed block)	1x Interchangeable Small Sleeve	1x Interchangeable Large Sleeve	2x Interchangeable Small Sleeves
	Block 1B Build (default)  2.2, 3.2, 4.7, 5.1, 6.2mm	13.1mm  3.2mm	19.5mm  6.3mm 3.2mm	2x 13.1mm  3.2mm 6.2mm
COLD				 13.1mm 13.1mm 2x Interchangeable Small Sleeves
	UBC 1021 -10 to +110 °C	**UBC 1001** -15 to +125 °C	**UBC 1051** -30 to +125 °C	*From ambient of 20°C*

MADE IN BRITAIN

TMS Europe Ltd was established in 1979 and has designed and manufactured block calibrators in the UK since 1999.

After Sales Service & Warranty

Each unit has a 2 year return to base warranty against manufacturing defects from the date of purchase from TMS Europe and covers normal use of the unit in accordance with its instruction manual.

It does not cover excessive 'wear and tear', stuck probes or damage caused by liquid or oil ingress or incorrect supply voltage selection. Under the warranty any manufacturing defects will be rectified by TMS Europe at no charge. 'Return to base' means the customer is responsible for return of the unit to TMS Europe's site (Derbyshire, UK) for assessment with a view to repairing under warranty.

For any work performed that is solely covered by the warranty TMS Europe will provide return shipment of the unit within the UK and Republic of Ireland at no charge. Whilst TMS Europe stocks a range of spares and aims to resolve any warranty repairs quickly, typically within 3 - 8 working days, the warranty does not guarantee this or any provision of a loan unit while the customer's unit is with us.

TMS *Ref-Therm* Thermometers

3mm probe reference thermometers with 0.01° resolution. With UKAS calibration at multiple points. Right-angled probes are also available.

An external reference standard can be sent away for calibration, separate from the block calibrator, to save time.