TRANSMILLE
SOLUTIONS IN CALIBRATION

TRANSMILLE 3200B ELECTRICAL TEST EQUIPMENT CALIBRATOR

EXTENDED SPECIFICATIONS

Warm Up Time	Double the time since last used up to 20 minutes maximum	
Standard Interfaces	USB (Universal Serial Bus)	
Temperature Performance	Storage : -5°C to +60°C Operation : 0°C to +50°C	
Relative Humidity	Operation : <80% to 30°C, <70% to 40°C, <40% to 50°C Storage : <95%, non-condensing	
Altitude	Operation : 3000m (10,000ft) Maximum Transit : 12000m (40,000ft) Maximum	
EMC & Safety	The calibrator line input plug must be earthed See D.O.C for full details	
Line Power	Line Voltage : 100V or 110V or 230V Line Frequency : 50Hz / 60Hz Line Voltage Variation : -6% +10%	
Power Consumption	100 Watts	
Connections	PAT Testing Connection	1x IEC Plug
	LOOP & RCD Testing Connection	1x UK / European / Australian / USA type socket
	Insulation Tester Connection	1xBlack : 1xRed 4mm Low Thermal Sockets
	PAT Ground Connection	1x 4mm terminal post
	USB Interface	1x Female 'B' type socket
Display Information	Type	Blacklit blue on white STN Type
	Viewing Area	133mm * 39mm
	Resolution	240 x 64 dots
	Backlight Type	LED
	Brightness	230 to 260 cd/m^2
Indicators	PAT Testing Connection	Red LED above plug
	LOOP & RCD Testing Connection	Red LED above socket
	Insulation Tester Connection	Red LED above terminals
Keyboard	Rubber Key	
Fuses	Loop (Live)	5A Anti-Surge
	Mains	2A
	Loop (Neutral)	5A Anti-Surge
	RCD	2A
	ACV	100mA
	PAT	1A
	Insulation Resistance	100mA
Isolation	Outputs are opto-isolated from mains earth and the USB interface Maximum common mode voltage between earth and the low terminals 30 Volts ac/dc.	
Dimensions & Weights	Calibrator Only	43cm x 46cm x 14cm : 12kgs
	Calibrator in Shipping Box	81cm x 60cm x 35cm : 15kgs
Warranty Period	1 Year	
Recommended Service Interval	1 Year	
Supplied Connections	1x USB Interface Lead 1x 1m PAT Test Lead	
Mounting Kit (optional)	3U rack mount kit	
Case Colour	Cream (RAL9002)	

Continuity Resistance

Standard Accuracy†

Range	Type	Resolution	1 Year Accuracy		
			%	±	mΩ
0 - 9.999 Ω	Continuously Variable	1mΩ	1	±	25
10 - 99.99Ω	Continuously Variable	10mΩ	1	±	25
100 - 999.9 Ω	Continuously Variable	100mΩ	1	±	250
1 - 4.999 kΩ	Continuously Variable	1Ω	1	±	2500
5 - 50 kΩ	Continuously Variable	10Ω	1	±	25000

High Accuracy (Option)†

Range	Type	Resolution	1 Year Accuracy		
			%	±	mΩ
0 - 9.999 Ω	Continuously Variable	1mΩ	0.25	±	10
10 - 99.99Ω	Continuously Variable	10mΩ	0.25	±	10
100 - 999.9 Ω	Continuously Variable	100mΩ	0.25	±	100
1 - 4.999 kΩ	Continuously Variable	1Ω	0.25	±	1000
5 - 50 kΩ	Continuously Variable	10Ω	0.25	±	10000

Maximum Test Current 300mA
Test current maximum can be exceeded for a maximum of 5 seconds

Continuity Current Measurement

Accuracy†

Range	Load	Accuracy		
		%	±	Counts
0 to 320mA	1Ω	1.3	±	6

† Note : All specifications specified relative to calibration standards

Insulation Resistance

Standard Accuracy†

Range	Type	Resolution	Maximum Voltage/Power[1]	1 Year Accuracy %
0.01Ω to 5MΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	0.3
5.01MΩ to 2GΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	3

High Accuracy (Option)†

Range	Type	Resolution	Maximum Voltage/Power[1]	1 Year Accuracy %
0.01Ω to 5MΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	0.1
5.01MΩ to 2GΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	1

Note 1 : An option is available to increase the maximum insulation test voltage for Testers incorporating Active Guard.

IOGΩ Range (Option)†

Range	Type	Resolution	Maximum Voltage/Power[1]	1 Year Accuracy %
2GΩ to 10GΩ (Option)	Continuously Variable	10kΩ	1.1kV or 1 Watt	5

Note : Can be fitted to Standard or High accuracy models

Insulation Test Voltage Measurement

Accuracy†

Ranges	Current Load	Resolution	1 Year Accuracy %	±	Counts
50V • 100V • 250V • 500V • 1kV	0.5mA / 1mA	0.1V	1	±	8

AC Voltage Output

Accuracy†

Ranges	Resolution	1 Year Accuracy %	±	Counts
100V • 200V • 230V • 300V • 400V	0.1V	0.2	±	1

† Note : All specifications specified relative to calibration standards

RCD Trip Time

RCD Time can be selected from pre-set points or via keyboard in 10ms steps

Accuracy†

Range	Resolution	Accuracy
20ms to 5s	10ms	±0.7ms

RCD (Residual Current Device) Current Measurement

Trip Current Range 2mA to 3000mA
Current Multiplier 0.5, 1, 2, 5
3200 Keypad Input : 2mA to 1000mA in 1mA steps

Accuracy†

Range	Resolution	Series Resistance	1 Year Accuracy		
			%	±	Counts
2mA to 10mA	0.01mA	100 Ohms	1.2	±	6
10.01mA to 30mA		100 Ohms	1.2	±	6
30.1mA to 100mA		10 Ohms	1.2	±	6
100.1mA to 300mA		10 Ohms	1.2	±	6
300.1mA to 1A		1 Ohm	1.2	±	6
1.01A to 3A		0.1 Ohm	1.2	±	6

Range selection automatic, depending on trip value : All ranges 15% Overrange

Additional Features	
Current Modes	½I • I •2I •5I
Display Modes	0°, 180° of Phase & Half Wave / DC

Intelligent Protection :

The 3200 incorporates a pre-test scan where power is ramped up to the UUT - the test is automatically aborted if a faulty UUT is detected.
This avoids further damage to the UUT and safeguards the 3200.

Current measurement :

DC coupled True RMS allowing accurate measurement of both sinusoidal current and half wave (positive or negative)

Intelligent firmware captures and analyses the current waveform automatically discarding pre-test (no-trip) currents and switch on spikes automatically capturing and measuring only the true test current.

RCD Current Duration

RCD current duration is the measurement of the period the fault current flows

RCD Current Duration	
Measurement Range	10ms to 5s
Resolution	0.1ms
1 Year Timing Accuracy†	0.4ms

† Note : All specifications specified relative to calibration standards

Loop Resistance

Accuracy†

Nominal Resistance Values	Resolution	1 Year Accuracy %	±	mΩ
0.05Ω	0.1mΩ	0.5	±	4
0.1Ω	0.1mΩ	0.5	±	4
0.22Ω	0.1mΩ	0.5	±	4
0.33Ω	0.1mΩ	0.5	±	4
0.5Ω	0.1mΩ	0.5	±	4
1Ω	0.1mΩ	0.5	±	4
5Ω	0.1mΩ	0.5	±	4
10Ω	0.1mΩ	0.5	±	4
100Ω	1mΩ	0.5	±	4
1kΩ	1mΩ	0.5	±	4

Power Dissipation :

All resistors are 50W : Maximum test current for 200ms = 40A
Thermal protection is provided in the event of overheating.

Intelligent Protection :

The 3200 incorporates a pre-test scan where power is ramped up to the UUT - the test is automatically aborted if a faulty UUT is detected.
This avoids further damage to the UUT and safeguards the 3200.

Manual Loop Correction

Correction range 0.001 to 2 Ohms - manually entered using 3200 keypad

Auto Loop (Option)

The auto loop function automatically corrects for supplied loop impedance.

Maximum Correction	2Ω
Resolution	100uΩ
Accuracy	±18mΩ
Measurement Current	4A

† Note : All specifications specified relative to calibration standards

All PAT functions are isolated from mains earth to enable calibration of PAT testers which cannot function with connections to ground.

PAT Earth Bond Resistance

Accuracy†

Nominal Resistance Values	Resolution	1 Year Accuracy %	±	mΩ
0.05Ω	0.1mΩ	0.5	±	4
0.1Ω	0.1mΩ	0.5	±	4
0.22Ω	0.1mΩ	0.5	±	4
0.33Ω	0.1mΩ	0.5	±	4
0.5Ω	0.1mΩ	0.5	±	4
1Ω	0.1mΩ	0.5	±	4
5Ω	0.1mΩ	0.5	±	4
10Ω	0.1mΩ	0.5	±	4
100Ω	1mΩ	0.5	±	4
1kΩ	1mΩ	0.5	±	4

PAT Earth Bond Current Measurement

Range	Resolution	1 Year Accuracy %	±	Counts
100mA	1mA	1.5	±	6
10A	10mA	1.5	±	6
30A	10mA	1.5	±	6

Load Resistance : 0.1Ω or 0.02Ω

PAT Insulation Resistance

Standard Accuracy†

Range	Type	Resolution	Maximum Voltage/Power[1]	1 Year Accuracy %
0Ω to 5MΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	0.3
5MΩ to 2GΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	3

High Accuracy (Option)†

Range	Type	Resolution	Maximum Voltage/Power[1]	1 Year Accuracy %
0Ω to 5MΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	0.1
5MΩ to 2GΩ	Continuously Variable	10kΩ	1.1kV or 1 Watt	1

† Note : All specifications specified relative to calibration standards

PAT Leakage Current

Accuracy†

Range	Resolution	1 Year Accuracy		
		%	±	Counts
2mA	1uA	1.5	±	2
4.7mA	1uA	1.5	±	2
7.7mA	1uA	1.5	±	2

PAT Leakage Test Voltage

Accuracy†

Range (RMS)	Resolution	1 Year Accuracy		
		%	±	Counts
100V to 300V	0.01V	1.5	±	9

PAT Load Testing

Accuracy†

Range	1 Year Accuracy		
	Ohms	±	%
Short Circuit	-	-	-
Open Circuit	-	-	-
0.13kΩ	440Ω	±	5

PAT Flash Voltage Measurement (Accessory)

Accuracy†

Class	Range	Resolution	Load Resistance	1 Year Accuracy		
				%	±	Counts
Class 1 (1.5kV)	1kV to 1.8kV	1V	600kΩ (2.5mA@1.5kV)	4	±	10
Class 2 (3kV)	2kV to 3.6kV	1V	1.2MΩ (2.5mA@3kV)	4	±	10

PAT Flash Current Measurement (Accessory)

Accuracy†

Range	Resolution	1 Year Accuracy
		%
1mA to 3mA	10uA	5

† Note : All specifications specified relative to calibration standards

AC Voltage Output

Accuracy†

Ranges	Resolution	1 Year Accuracy		
		%	±	Counts
100V • 200V • 230V • 300V • 400V	0.1V	0.2	±	1

Line Voltage Measurement

Accuracy†

Range	Resolution	1 Year Accuracy		
		%	±	Counts
Nominal Line Voltage ± 30V*	0.1V	0.8	±	6

* Example - For 230V Line voltage, range is 200V to 260V

† Note : All specifications specified relative to calibration standards

AC/DC VOLTAGE MEASUREMENT

Range	Resolution	Accuracy (1 Year Rel.)		
		%	±	Counts
3kV	10V	0.5	±	3
12kV	10V	0.5	±	3

AC/DC CURRENT MEASUREMENT

Range	Resolution	Accuracy (1 Year Rel.)		
		%	±	Counts
200uA	100nA	0.5	±	4
2mA	1uA	0.5	±	3
20mA	10uA	0.5	±	3

Due to continuous development specifications may be subject to change.

We truly believe in offering Solutions in Calibration, offering bespoke solutions for calibration laboratories and manufacturers across the globe. Our mission statement is not just a phrase, it is our design and support philosophy, offering support and advice that cannot be found elsewhere with a friendly atmosphere.

Transmille was founded in 1995 as a commercial calibration service, and soon after began to develop and manufacture a range of electrical calibration products and software to answer a growing requirement for solutions to common problems. Following this small beginning, Transmille has worked year on year to provide unique equipment and software to benefit calibration laboratories and manufacturers across the globe.

Ever since releasing the very first products Transmille have continued to innovate and develop new products for the metrology community, from world first products such as the 2100 Electrical Test Equipment calibrator, through to the worlds lowest cost multi product calibrator the 1000 series.

Transmille now produce over 600+ calibration instruments per year, shipping instruments to customers ranging from National Standards Laboratories and manufacturers through to small calibration test houses around the world.

An unrivalled commitment to quality and innovation drives Transmille forwards, with a dedicated design and support team in house with a combined experience of over 60 years in manufacture and design of electrical calibration products and software.

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