

>185.85546 67816.122287 577
>198.65646 65612.232829 955
>198.65546 65612.232829 95556
>152.698016 68818.282399 92356
>198.643636 78617.732289 783
>124.634546 78672.237779 683
>458.11142 83417.732397 876
>145.523286 64486.222689 986
>140.77060 32814.077060 328

MODEL 6015T



Automated Primary Thermometry Bridge

- DCC Technology
- Current Reversal
- Front and Rear Panel Inputs
- Accuracy: <0.02 PPM
- Noise: <2nV
- IEEE488 and Manual Operation

MODEL INFORMATION

The Model 6015T is designed for automated resistance thermometry applications and provides the best accuracy and convenience based on the most recent developments in current comparator technology. The Model 6015T is completely self-calibrated directly against two stable standard resistors of equal value, where only the short-term drift of the resistors is important.

The Model 6015T is a fully automated resistance ratio bridge based on the Direct-Current-Comparator (DCC) principle, avoiding all polarization effects in PRT's caused by AC bridges (NOTE 1). Using innovative technology, the 6015T's speed and measurement accuracy accounts for increased interest and preferred status among many national laboratories. Self-calibration for verifying the linearity of the DC Comparator can be performed at any time.

The Model 6015T is ideal for temperature

measurement. The maximum ratio of 1.5:1 improves the overall noise level while automatic current reversal insures that all dc offsets and thermal emf's are eliminated. Reversals are selectable from 2 seconds and the 6015T will track temperature changes up to 10% of full scale.

The Model 6015T can measure both ratio and resistance and has rear and front panel connections and the number of inputs can be expanded to 40 when used with a ten and/or twenty channel, low thermal matrix scanner (Models 4210A/4220A). Measurements are performed automatically with Measurements International's operating software.

The 6015T includes a wide range of features specifically tailored for temperature metrology. These include programmable currents with $\sqrt{2}$ or $1/\sqrt{2}$ excitation, selectable filters and manual or IEEE488 modes of operation.

>163,65546 67810,72037 971
 >198,65546 65612,23-2829 955
 >198,65546 65612,23-2829 95556
 >152,698016 68818,28-2399 92356
 >198,643636 78617,73-2289 783
 >124,634546 78672,23-7779 683
 >458,11142 83417,73-2397 876
 >145,523286 64486,22-2889 986
 >140,77060 32814,07-7060 328 56-20



Specifications:

Accuracy:	<0.02 PPM (Completely Self-Checking)
Resolution:	0.001 PPM of Full Scale
Measurement Time:	20 Seconds for Full Balance
Variable Incremental Balance:	2 to 1000 Seconds
Warm Up Time:	None
Differential and Absolute Measurement:	Ratio and Ohms
Thermometer Measurement Range:	0.1 to 1k Ω (UUT and/or Standard)
Traceability to National Standards:	Completely Self Checking w/ 2 Std. Resistors
Maximum Ratio:	1.5 : 1
Linearity:	<0.01 PPM (Completely Self Checking)
Bandwidth:	0.5 to 0.001 Hz (2 to 1000 Seconds)
External Standards:	AC or DC Standard Resistors
Sensor Current:	10uA to 150mA - $\sqrt{2}$ or $1/\sqrt{2}$ at any value
Bridge Balancing:	Front Panel or Software Controlled
Lead Connections:	<i>True Four Wire (No Series Lead Resistance)</i>
Analog Output:	Null Balance 0 - +5V
Stability:	<0.01 PPM/Year
Filter Selection:	0.3s, 1.0s, 3s
Sensor Current Accuracy:	100 PPM
Noise:	<2nV
Temperature Coefficient:	0
Insulation Resistance:	>10 ¹¹ Typically 10 ¹²
Output Impedance:	Infinite
Ambient Temperature:	10°C to 35°C

Dimensions (W x D x H):

266mm x 451mm x 306mm

Weight:

22.7 kg

Disributed By:



Operating Power:

50/60 Hz 40 VA
 110/120/220/240 Vac

How to Order:

Model: 6015T -Thermometry Bridge

NOTE 1:TEMPMEKO 99: CALIBRATION OF SPRTs IN THE SUB RANGE BETWEEN THE TRIPLE POINT OF Hg AND THE MELTING POINT OF Ga, Piero Marcarino, Peter P.M. Steur, Roberto Dematteis CNR - Istituto di Metrologia "G.Colonnetti" (IMGC), Torino, Italy

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Data Subject to Change - Rev. 1

Corporate Headquarters

Measurements International
 PO Box 2359, 118 Commerce Drive
 Prescott, Ontario, Canada K0E 1T0
 Phone: (613) 925-5934
 Fax: (613) 925-1195
 Email: sales@mintl.com

Toll Free: 1-800-324-4988

Worldwide Offices

MI-USA

Phone: (407) 706-0328
 Fax: (407) 706-0318
 Email: sales@mintl.com
 Toll Free: 1-866-684-6393

MI-China

Phone: 86-10-64459890
 Fax: 86-10-64459871
 Email: sales@mintl.com

MI-Europe

Phone: (420) 731-440-663
 Fax: (420) 572-572-358
 Email: sales@mintl.com



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