LANDCAL

A RANGE OF TEMPERATURE CALIBRATION SOURCES

CALIBRATION SOURCES

ETA Process Instrumentation
www.etapii.com
sales@etapii.com
tel 978.532.1330
New England

Martech Controls
www.martechcontrols.com
sales@martechcontrols.com
tel: 315.876.9120
Upstate New York

LAND

AMETEK®
PROCESS & ANALYTICAL INSTRUMENTS

QUALITY CUSTOMER SOLUTIONS

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AMETEK LAND HAS BEEN MANUFACTURING PRECISION MEASURING EQUIPMENT SINCE 1947.

WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH APPLICATIONS ACROSS DIVERSE INDUSTRIES SUCH AS STEEL AND GLASS MAKING, POWER GENERATION AND CEMENT MANUFACTURE.

As part of AMETEK Process & Analytical Instruments Division since 2006, our customers benefit from the worldwide AMETEK sales and service team.

The comprehensive range of Landcal blackbody calibration sources, both primary and reference available, enables high-precision calibration of radiation thermometers under on-site and laboratory conditions.

Providing un-matched precision, our comprehesive range of six calibration sources lets you calibrate thermometers (pyrometers), line scanners and thermal imagers across a temperature range of -10 °C to 1600 °C (15 °F to 2900 °F).

Providing near perfect blackbody conditions, calibrations are made with an extremely high level of stability and accuracy. Calibration traceable to national standards delivering confidence in your measurements.

All calibration requirements are covered, with low, medium and high range temperature versions available in bench-mounted, portable and transportable versions.

TWO ROUTES TO NATIONAL STANDARDS

Landcal primary sources use a certified probe installed in the radiation cavity to achieve traceability to National Standards. Reference sources can achieve traceability by comparison to a certified thermometer, or by purchasing the source with a calibration certificate.

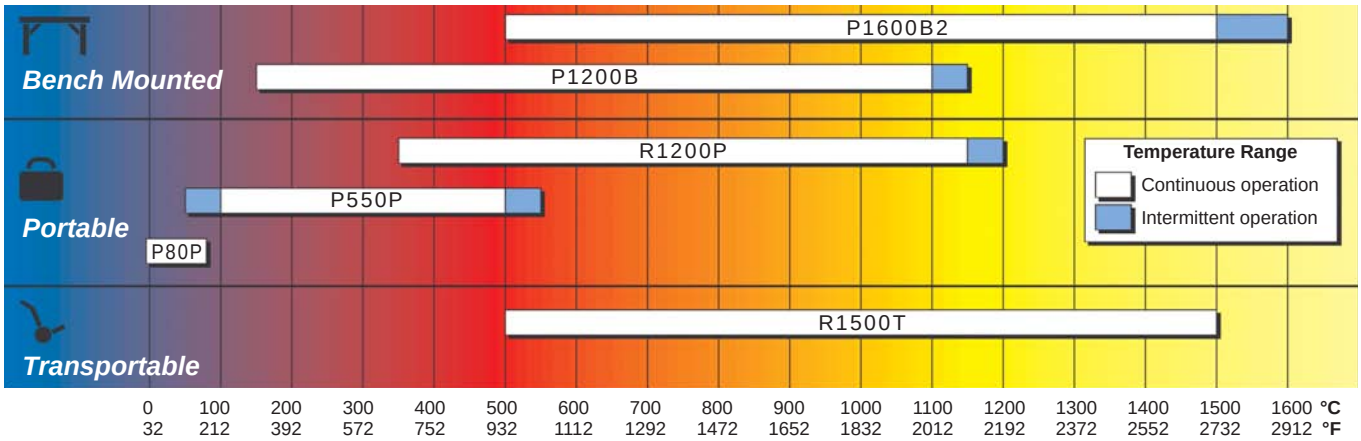
WIDE TEMPERATURE RANGE

Between them, the models in the Landcal range cover a temperature range from sub-zero Celsius levels (-10 °C, or 15 °F) to very high temperatures (1600 °C, or 2900 °F), ensuring a suitable match to your thermometer.

SIX MODELS TO SUIT YOUR NEEDS

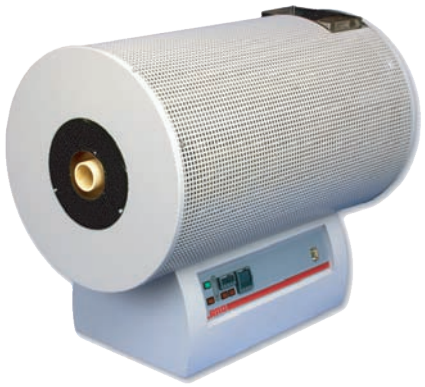
All of AMETEK Land's thermometers (pyrometers), line scanners and thermal imagers are covered by the Landcal range. Whatever your temperature measurement technology, there's a calibration source that fits your system, with portable, transportable and bench-mounted versions available.

CALIBRATION SOURCE TEMPERATURE APPLICATIONS



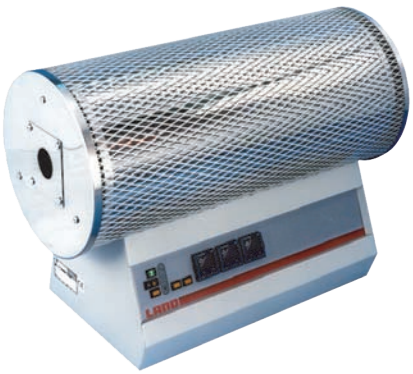
MODELS & SPECIFICATION

LANDCAL P1600B2



LANDCAL P1600B2 - PRIMARY SOURCE	
Maximum temperature:	1600 °C/2900 °F
Recommended temp.:	500 to 1550 °C/950 to 2850 °F
Heating rate:	1.5 hours to 1400 °C/2550 °F
Stability:	With the source controlling at temperature the radiance temperature will vary by less than ±0.2°C (±0.4 °F) over a 60 minute period
Radiation cavity:	Silicon carbide
Dimensions:	50mm/2.0in dia. x 300mm/12in
Sighting tube extension:	49mm/1.9in dia. x 100mm/4.0in
Emissivity:	0.998
Heating elements (6):	SiC 151/356/20/25.4/7.4
Control thermocouple:	Pt 13% Rh/Pt, Type R
Controller types...	Master: Eurotherm with RS232C serial interface Over-temperature: Eurotherm
Power requirement:	220/240V a.c. 50 to 60Hz, or 415/240V or 380/220V (3 phase)
Power consumption:	7.0kVA, 2.3kVA per phase (3 phase)
Measuring thermocouple:	Type B (6/30), R (0/13) or S (0/10)
Dimensions:	865 x 500 x 700mm/ 34.0 x 19.6 x 27.5in (L x W x H)
Weight:	62.0kg/136.6lb

LANDCAL P1200B



LANDCAL P1200B - PRIMARY SOURCE	
Maximum temperature:	1150 °C/2100 °F
Recommended temp.:	150 to 1100 °C/300 to 2000 °F
Heating rate:	2 hours to 1000 °C/1850 °F
Stability: vary by less	With the source controlling at temperature the radiance temperature will than ±0.2 °C (±0.4 °F) over a 60 minute period
Radiation cavity:	Silicon carbide
Dimensions:	50mm/2.0in dia x 300mm/12.0in
Sighting tube extension:	100mm/4.0in
Emissivity:	0.998
Heating elements:	Resistance wire
Control thermocouple:	Nicrosil-Nisil, type N
Controller type:	Eurotherm with RS232C serial interface
Power requirement:	220/240V or 110/120V a.c., 50 to 60Hz
Power consumption:	3.0 kVA
Measuring thermocouple:	Type B (6/30), R (0/13) or S (0/10)
Dimensions:	700 x 360 x 535mm/27.6 x 14.2 x 21.1in (L x W x H)
Weight:	33.0kg/73.0lb

LANDCAL P550P

LANDCAL P550P - PRIMARY SOURCE	
Max. temperature range:	50 to 550 °C/120 to 999.9 °F
Recommended temp.:	100 to 500 °C/210 to 930 °F
Heating rate:	60 min (approx.) to 500 °C/930 °F
Radiation cavity:	Type: Blackened aluminium, 120° cone
Dimensions:	65mm/2.6in dia x 160mm/6.3in
Emissivity:	>0.995
Controller:	Eurotherm with RS 232C serial interface
Uncertainty of PRT:	<±0.2K/0.4 °F
Power requirement:	110/120V a.c. or 220/240V a.c., 50 to 60 Hz
Power consumption:	0.8 to 1.0kVA
Dimensions:	315 x 260 x 185mm/ 12.4 x 10.2 x 7.3in (L x W x H)
Weight:	11kg/24.2 (nett)/13kg/28.6lb (gross)

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LANDCAL P80P

LANDCAL P80P - PRIMARY SOURCE	
Maximum temperature:	80 °C/175 °F
Recommended temp.:	-10 to 75 °C/15 to 167 °F
Heating rate:	60 min. (ambient to 75 °C/167 °F)
Cooling rate:	90 min. (20 to -10 °C/68 to 15 °F) depending on ambient temp.
Radiation cavity:	Type: Blackened aluminium, 120° cone
Dimensions:	50mm/2.0in dia x 155mm/6.0in
Emissivity:	>0.995
Controller:	Eurotherm with RS232C serial interface
Uncertainty of PRT:	<±0.1 °C/0.2 °F at 50 °C/120 °F
Power requirement:	110/120V a.c. or 220/240V a.c., 50 to 60 Hz
Power consumption:	0.2kVA
Overall dimensions:	315 x 260 x 185mm/ 12.4 x 10.2 x 7.3in (L x W x H)
Weight:	11kg/24.2lb (nett)/13kg/28.6lb (gross)

LANDCAL R1500T

LANDCAL R1500T - REFERENCE SOURCE	
Maximum temperature:	1500 °C/2750 °F
Recommended temp.:	500 to 1500 °C/950 to 2750 °F
Heating rate:	30 min. to 1450 °C/2650 °F
Stability:	<±1K/2 °F over 30 minutes at set temperature
Radiation cavity	Type: Silicon carbide, 120° cone
Diameter:	45mm/1.8in dia x 100mm/4.0in
External aperture:	40mm/1.6in dia
Emissivity:	Approx 0.99 at short wavelengths
Controller:	Eurotherm with RS232C serial interface
Power requirement:	110/120V a.c. or 220/240V a.c., 50 to 60Hz
Power consumption:	3.0kVA
Overall dimensions:	500 x 380 x 540mm/ 19.7 x15.0 x 21.3in (L x W x H)
Weight:	26kg/57.3lb(nett)/32kg/70.5lb (gross)
Uncertainty (400 to 1500°C):	±3K/6 °F (with traceable certificate)

LANDCAL R1200P

LANDCAL R1200P - REFERENCE SOURCE	
Maximum temperature:	1200 °C/2200 °F
Recommended temp.:	350 to 1150 °C/650 to 2100 °F
Heating rate:	25 min to 1150 °C/2100 °F
Radiation cavity:	Type: Heat resisting steel (Kanthal APM), 120° cone
Dimensions:	55mm/2.2in dia x 110mm/4.3in
External aperture:	30mm/1.2in dia
Emissivity:	>0.98 at short wavelengths
Controller:	Eurotherm with RS232C serial interface
Indicator:	Eurotherm
Power requirement: D	ual voltage 115V or 230V a.c., 50 to 60Hz selectable
Power consumption:	1.1kVA
Overall dimensions:	200 x 300 x 340mm/ 7.9 x 11.8 x 13.4in (L x W x H)
Weight:	8.8kg/19.5lb
Uncertainty (400 to 1100°C):	±3K/6 °F (with traceable certificate)

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MARCOM0444 Landcal Brochure Rev 3

CONTACT US

ETA Process Instrumentation
www.etapii.com
sales@etapii.com
tel 978.532.1330
New England

Martech Controls
www.martechcontrols.com
sales@martechcontrols.com
tel: 315.876.9120
Upstate New York