

LAND
instruments international



KE-TECH Kft.
1183 Budapest, Üllői út 470.
Tel.: (1) 290-0151, Fax: (1) 292-2159
E-mail: ketech@ketech.hu, www.ketech.hu



CYCLOPS 100

A new generation of high precision portable infrared thermometers



CYCLOPS 100

The new family of Bluetooth enabled portable infrared thermometers

Land **Cyclops 100** is a general purpose, high precision, portable infrared thermometer, designed for accurate measurement of temperatures in the range 550 to 3000°C/ 1022 to 5432°F.

The measured temperature is displayed in four simultaneous modes: continuous, peak, mean and valley, with user selected mode for the viewfinder display.

Accurate sighting is ensured by the clear, wide angle (9°) field of view and small, clearly defined (1/3°) measurement area. Focusing is variable from 1m to infinity, with close focus options available using auxilliary lenses.

Emissivity compensation is provided via the icon-based menu system.

The operating waveband has been carefully chosen to minimise errors due to uncertainty in emissivity and the effects of atmospheric vapour components.

Two models are available - **Cyclops 100** and **Cyclops 100B**. Both provide wired RS232 serial communications. The **Cyclops C100B** also features user-friendly 'Bluetooth' wireless communications.

Optics

Reflex optical system gives a precise definition of the target spot and simultaneous backlit display of user selected values in the viewfinder.

Menu Controls


Simple, easy to use controls to select required mode from the icon based menu.

Trigger

2-position trigger to take and store temperature readings

Connectivity

C100 model offers data logging to optional DL-1000 Datalogger via a wired connection.

 C100B model offers both wired and Bluetooth wireless data logging to DL-1000.

Features

- Digital signal processing
- High accuracy and repeatability
- Long term, drift free measurement
- Advanced spectral filtering to give enhanced performance
- Robust - ideal for industrial use
- Choice of data logged outputs
- Bluetooth option available
- Range of optional accessories
- Continuous, Peak, Valley and Averaging modes
- Multi functional display
- Flexible user configuration

Benefits

- No contamination, interference or damage to the process or material
- Accurate, reliable and stable temperature measurement to aid product quality control
- Maximize production rates and efficiency
- Proven, rugged casing ensures ability to withstand hostile environments
- Calibrated and traceable to National Standards - your guarantee of measurement accuracy - backed up by a support network which extends around the world

Multifunction Graphics Panel

The bright, back-lit external display panel provides an indication of status and configuration of the thermometer together with four simultaneous live measurement modes.

The panel displays a simple icon-driven, language-free menu system navigated via keypad controls.



- Mode selection
- Emissivity
- Window Compensation
- Communication Status
- Battery Status
- Alarm Status

The user highlights the mode to be displayed in the viewfinder.



Applications

Cyclops 100 is ideal for use in a wide range of industries and applications.

- Steel
- Glass
- Refractories
- Heat treatment
- Semi-conductors

● Flexible Operation

Three data output modes to the DL-1000 Datalogger software are available:

Classic mode - logs a measurement on each trigger release

Historic mode - logs continuous, average, peak and valley readings

Burst mode - logs a stream of measurements to the DL-1000 whilst the trigger is held pressed - approximately 30 to 35 readings/sec, up to a maximum of 999 readings



● Data Logger DL-1000

The Pocket PC based Cyclops DL-1000 Data Logging System provides a fast and simple method for logging temperature readings taken using Land Cyclops portable infrared thermometers.

If an iPAQ is being used stored readings can then be transferred using Microsoft ActivSync file transfer utility to a partnership PC.

The logged data can then be used for further analysis and trending purposes.

Datasheet PDS018 provides further details.

● Graphics Panel Menus

When the C100 is switched on the side-mounted LCD graphics panel activates. There are three data logging modes working in both wired and wireless communications format.

Classic mode - All four processed temperatures are displayed continuously on the graphics panel when the trigger is pressed.

Using the keypad the user can highlight their choice, which is then also displayed in the viewfinder.

In Classic mode the highlighted temperature is available serially (wired connection or wireless via Bluetooth).

When the trigger is released the last reading is held and logged to the DL-1000.

Continuous temperature - 0.5s display/serial updates when the trigger is pressed.

Average temperature - from when trigger pressed. Adjustable time constant.

Peak temperature - maximum from when trigger pressed.

Valley temperature - minimum from when trigger pressed.



● Bluetooth Option

Wireless data logging to Bluetooth-equipped iPAQ or PC/laptop with connections typically possible across separations of several metres.



● Accessories

A range of standard and optional accessories is available including:

Close up lenses to allow temperature measurement of small target areas.

Heat resistant jackets to provide protection against excessive heat and dust.



Target Size Table

Target distance	(m)	100	50	20	10	7	5	2	1
Measurement area	(mm)	576	287	114	57	39	28	11	4.8
Target distance	(ft)	328	164	65.6	32.8	22.9	16.4	6.5	3.2
Measurement area	(in)	22.6	11.2	4.48	2.24	1.53	1.10	0.43	0.18

Target size can be reduced to a minimum of 0.4mm/0.016in with optional close-up lenses

Dimensions



Specifications - CYCLOPS 100 and CYCLOPS 100B

Measurement range:	550 to 3000°C/1022 to 5432°F	Emissivity adjustment:	0.10 to 1.20 in 0.01 step graduations
Indication:	4-digit LCD in viewfinder; external backlit LCD display	Response time:	30ms
Measuring modes:	Continuous, Average, Peak, Valley	Display update time:	0.5s
Data logging:	To iPAQ or laptop/PC running DL-1000v2 software. Wired or wireless Bluetooth connection (C100B only)	Accuracy:	≤0.25%(K) of reading
Datalogging modes:	Classic, Historical, Burst	Repeatability:	≤0.1%(K) of reading
Optical system:	9° field of view; 1/3° measurement area (180:1 to 98% energy); eyepiece adjustable -3.75 to +2.5 diopters	Operating temp. range:	0 to 50°C/32 to 122°F
Focusing range:	1m/39.3in to infinity 450 to 620mm/17.7 to 24.5in with optional close-up lens 215mm/8.5in fixed focus	Power requirement:	One MN1604/6LR61/PP3 battery
Target size:	5mm at 1m/0.19in at 39.3in 1.8mm/0.07in with optional close-up lens 0.4mm/0.016in	Output:	RS232C. Bluetooth (C100B only)
Spectral response:	1µm with advanced spectral filtering	Weight:	0.83kg/1.8lb
		Sealing:	IP54/NEMA3
		Standard accessories:	Lens cap, protection window/filter, battery, wrist strap
		Optional accessories:	Close-up lenses, Data Logger DL-1000, HP iPAQ, rugged waterproof carry case

For further information please contact the appropriate office or visit our web site at: www.landinst.com

Land Instruments International
Infrared Temperature Measurement
 Dronfield S18 1DJ, England
 Telephone: (01246) 417691
 Facsimile: (01246) 410585
 Email: infrared.sales@landinst.com
 Internet: www.landinst.com

Land Instruments Sarl
Infrared Temperature Measurement
 7 Parc des Fontenelles
 78870 Bailly, France
 Téléphone: (1) 34 62 05 45
 Télécopie: (1) 30 56 51 12
 Email: commercial@landinst.fr
 Internet: www.landinst.fr

Land Instruments GmbH
Infrared Temperature Measurement
 Fixheider Str. 6
 51381 Leverkusen, Germany
 Telefon: 02171/7673-0
 Telefax: 02171/7673-9
 Email: infrarot@landinst.de
 Internet: www.landinst.de

Land DEL Infrared Pvt. Ltd
Infrared Temperature Measurement
 ACROPOLIS, 1st Floor, Marol Maroshi Rd
 Off. Military Road, Andheri (East)
 Mumbai, 400 059
 Telephone: (022) 5668 2072
 Facsimile: (022) 5668 2070
 Email: sales.mumbai@landdel.com
 Internet: www.landdel.com

Land Instruments Srl
Infrared Temperature Measurement
 Via dell'Industria, 2
 20037 Paderno Dugnano,
 Milano, Italy
 Telefono: 02/99040423
 Telefax: 02/99040418
 Email: info@landinst.it
 Internet: www.landinst.it

Land Instruments Ltd
 31-27 Toyotsuchou, Suita
 Osaka 564-0051, Japan
 Telephone: 06 6330 5153
 Facsimile: 06 6330 5338
 Email: info@landinst.jp
 Internet: www.landinst.jp

Land Instruments International
 Av. Horacio 1132 Planta Baja "B"
 Col. Polanco
 11550 Mexico, D.F.
 Telephone: 52 55 5281 1165
 Facsimile: 52 55 5281 5364
 Email: ventas@landinstruments.net
 Internet: www.landinstruments.net

Land Instruments International
Infrared Temperature Measurement
 Chile, 10-Edificio Madrid 92
 28290 Las Matas, Madrid, Spain
 Telephone: 91 630 0791
 Facsimile: 91 630 2918
 Email: land-infrared@landinst.es

Land Instruments International
Infrared Temperature Measurement
 10 Friends Lane
 Newtown, PA 18940-1804, USA
 Telephone: (215) 504-8000
 Facsimile: (215) 504-0879
 Email: irsales@landinstruments.net
 Internet: www.landinstruments.net

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Applies to the UK



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