LAND

CYCLOPS 100

A new generation of high precision portable infrared thermometers

An AMETEK® Company

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.

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.

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

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).

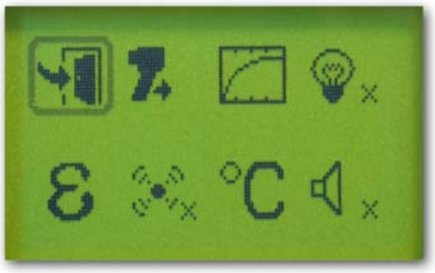
When the trigger is released the last reading is held and logged to the DL-1000.

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

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