

# CYCLOPS L

A FAMILY OF HIGH PRECISION PORTABLE  
NON-CONTACT THERMOMETERS



① 200 to 3000 °C / 392 to 5432 °F



**LAND**  
**AMETEK**<sup>®</sup>  
PROCESS & ANALYTICAL INSTRUMENTS



QUALITY CUSTOMER SOLUTIONS

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AMETEK LAND HAS BEEN BUILDING PRECISION MEASURING EQUIPMENT SINCE 1947.

WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH OUR PRODUCTS FINDING 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.

DESIGNED FOR ACCURATE TEMPERATURE MEASUREMENT IN ANY APPLICATION IN TEMPERATURE RANGES OF 200 TO 3000 °C / 392 TO 5432 °F

## The Cyclops family is the industry leading standard for high quality portable non-contact thermometers.

Using camera quality Through-The-Lens sighting, what you see is what you measure. The single handed, ergonomic design enables you to make temperature measurements in hostile environments. Hold on to a hand rail and simultaneously take safe and accurate temperature readings. The high quality fully focusable lenses ensure the smallest spot size measurements at any distance. On-board data-logging means accurate measurements stored directly to the instrument.

## TAKING A MEASUREMENT

ALL PROCESSED TEMPERATURE VALUES ARE SHOWN CONTINUOUSLY ON THE DISPLAY WHEN THE TRIGGER IS PRESSED.

- Peak temperature
- Continuous temperature
- Average temperature
- Valley temperature
- Meltmaster temperature - C055L Models only.

With on-board storage the Cyclops L range provides fast, simple data logging with Bluetooth and USB connectivity to download this data to PC or Mobile device for analysis and trending.

### Four trigger operating modes for datalogging are available:

- **Single Mode:** logs a measurement for each trigger release
- **Latch Mode:** logs continuous, average, peak and valley readings at user defined rate between trigger presses
- **Burst Mode:** logs a stream of measurements while the trigger is pressed - approximately 30 readings / sec
- **Route Mode:** Precisely execute pre-configured routes for consistent, long-term readings. Available using the standalone instrument or featuring increased functionality with the mobile software

## LOGGER SOFTWARE

Transfer data to a computer or rugged mobile device running Cyclops Logger software in order to view, analyze and record live temperature readings. All stored measurement data can be displayed on the Measurement screen which combines the current reading, table view and trend view.

The Trend View displays Peak, Instantaneous, Average and Valley temperatures, Logger settings, Route Manager, Background Correction plus Timed Logging (taking measurements at pre-defined intervals between 1 and 60 secs).



The Table View showing Instantaneous, Valley, Average and Peak, plus the unique Meltmaster temperature (on the 055 L model) readings.



When connected to a Cyclops thermometer, the Logger software records instantaneous temperature measurements each time the thermometer trigger is pressed.

The Cyclops Logger Software also allows you to manage the unique ROUTE configurations i.e. set up a sequence of measurement points covering your plant or process. Ensuring consistent, repeatable data for accurate trending.

Connection between the Cyclops L model thermometers and the computer can be either wireless (via Bluetooth®), or via a USB cable.



# SPECIFICATION & DESIGN



## 1: MENU CONTROLS

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

## 2: MULTI-FUNCTION DISPLAY

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

The panel displays an intuitive, icon-driven, language-free menu system navigated via key pad controls:

- Mode selection
- Emissivity
- Window Compensation
- Communication Status
- Battery Status
- Alarm Status
- Standalone Route Mode
- Clock

## 3: OPTICS

Through-The-Lens reflex optical system gives a precise definition of the target spot and simultaneous backlit display of user selected temperature mode in the viewfinder. A robust sapphire protection window is provided as standard on the 390L model.

## 4: CONNECTIVITY

Wireless Bluetooth® or USB technology offers datalogging using the Cyclops Logger software to a suitable industrial mobile or laptop/notebook, eliminating safety hazards when using cables.

## 5: RUGGED CASING

The instrument casing allows for extended periods of exposure to harsh environments.

## 6: EASY OPERATION

A number of carefully designed operating modes guarantees easy single-handed operation even in hazardous conditions.

## SOLUTIONS FOR YOUR APPLICATION

### C055L

TEMPERATURE RANGE:  
1000 TO 2000 °C/1832 TO 3632 °F  
APPLICATIONS:  
Ideal for Molten Metals

### C100L

TEMPERATURE RANGE:  
550 TO 3000 °C/1022 TO 5432 °F  
APPLICATIONS:  
Steel, glass, refractories, heat treating, semi-conductors

### C160L

TEMPERATURE RANGE:  
200 TO 1400 °C/392 TO 2552 °F  
APPLICATIONS:  
Steel, Heat Treatment such as welding, tempering, annealing, and semi-conductors

### C390L

TEMPERATURE RANGE:  
450 TO 1400 °C/842 TO 2552 °F  
APPLICATIONS:  
Ideal for Reformer and Heater Tubes, Reheat Furnaces

## ACCESSORIES

A RANGE OF STANDARD AND OPTIONAL ACCESSORIES IS AVAILABLE INCLUDING:

1. **Heat resistant jacket** to provide protection against excessive heat and dust
2. **Waterproof carry case** is available as an optional accessory. (Standard on the C055L with the Premium Kit)
3. **Long Eye Relief Eyepiece adapter** for when you are wearing protective goggles or a hard hat with face shield, e.g. when you cannot directly see through the eyepiece
4. **Close-up lenses** offered for the C100L and C160L models; these allow temperature measurement of small target sizes



## FEATURES & BENEFITS

### Standard Bluetooth and USB connectivity

- Wireless and USB options for communicating straight to a mobile device or PC

### Rugged instrument casing

- can withstand harsh environments for extended periods. Protected against high temperatures as well as bumps and drops.

### Calibrated and traceable to National Standards

- your guarantee of measurement accuracy

### Built in Route Mode

- Consistently execute pre-configured routes to ensure accurate readings and long term data trending

### Logger software

- data trending and analysis to identify on-site trends, improve process efficiency or protect assets and prolong their life cycles

### Internal Data Logging up to 9999 readings and 4 routes

- Onboard storage for single handed operation without the need for a separate storage device

# CYCLOPS

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NON-CONTACT THERMOMETERS

## SPECIFICATIONS

	C055L	C100L	C160L	C390L
Measurement range:	1000 to 2000 °C / 1832 to 3632 °F	550 to 3000 °C / 1022 to 5432 °F	200 to 1400 °C / 392 to 2552 °F	450 to 1400 °C / 842 to 2552 °F
Display:	5-digit LCD in viewfinder; external backlit LCD display			
Measuring modes:	Continuous, Peak, Valley and advanced Meltmaster	Continuous, Peak, Valley and Average	Continuous, Peak, Valley and Average	Continuous, Peak, Valley and Average
Data logging:	9999 readings and 4 routes internally; Mobile (4GB standard storage) or PC logger software ( via Bluetooth* or USB connector)			
Data logging modes:	Classic, Burst, Latched, Route			
Optical system:	9° field of view; eyepiece adjustable -3.75 to +2.5 diopters			
Focusing range:	Fixed focus, nominally at 5 m / 197 in. from thermometer body datum	1 m / 39.3 in. to infinity 450 to 620 mm / 17.7 to 24.5 in. and 215 mm / 8.5 in. fixed focus - with optional close-up lens	1 m / 39.3 in. to infinity 460 to 630 mm / 18.1 to 24.8 in. and 217 mm / 8.5 in. fixed focus - with optional close-up lens	1 m / 39.3 in. to infinity
Minimum target size:	Parallel 28 mm / 1.1 in target spot diameter from lens to 5 m / 197 in.	5 mm at 1 m / 0.19 in. at 39.3 in., 1.8 mm / 0.07 in. and 0.4 mm / 0.016 in. - with optional close up lens	5 mm at 1 m / 0.19 in. at 39.3 in., 2.0 mm / 0.08 in. and 0.5 mm / 0.2 in. - with optional close up lens	4.8 mm / 0.19 in. at 101.4 cm, / 39.9 in nominal from the thermometer body datum
Spectral response	Nominally 0.55 µm	1 µm with advanced spectral filtering	1.6 µm with advanced spectral filtering	Nominally 3.9 µm
Emissivity adjustment:	0.10 to 1.20 in 0.01 step graduations			
Response time:	30 ms	30 ms	30 ms	<500 ms (to 98%)
Display update time:	0.5 s			
Accuracy:	<0.5% (K) of reading	≤0.25% (K) of reading	≤0.25% +2 °C	<0.5% of reading
Measurement resolution:	0.1 °C / 1 °F			
Measurement field of view:	Fixed Focus	180:1 circular	180:1 circular	180:1 square
Repeatability:	<1 °C / 2 °F	≤1 °C / 2 °F	≤1 °C	≤1 °C / 2 °F
Operating temp range:	0 to 50 °C / 32 to 122 °F			
Power requirement:	One MN1604 / 6LR61 / PP3 Battery or USB			
Output:	Bluetooth* / USB Connector			
Weight:	0.83 kg / 1.8 lb.			
Sealing:	IP40			
Standard accessories:	Lens cap, protection window/filter, battery, wrist strap, protective lens hood, USB cable, CD with demo PC Logger Software			
Optional accessories:	Demo Data Logger software pre-loaded onto a mobile phone (supplied); or CD for PC/laptop; Close-up lenses, waterproof carry case, heat protection jacket, Long eye relief eyepiece	Demo Data Logger software pre-loaded onto a mobile phone (supplied); or CD for PC/laptop; Close-up lenses, waterproof carry case, heat protection jacket, Long eye relief eyepiece, Neutral Density filters: Options 1F or 2F - filters darken the image to provide better image contrast on bright targets, use two for higher temp. applications.	Demo Data Logger software pre-loaded onto a mobile phone (supplied); or CD for PC/laptop; Close-up lenses, waterproof carry case, heat protection jacket, Long eye relief eyepiece	Demo Data Logger software pre-loaded onto a mobile phone (supplied); or CD for PC/laptop; Close-up lenses, waterproof carry case, heat protection jacket, Long eye relief eyepiece

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SEE OUR OTHER RELATED LITERATURE FOR THE CYCLOPS L:



CYCLOPS LOGGER  
SOFTWARE

DISCOVER HOW OUR RANGE OF COMBUSTION  
AND EMISSIONS PRODUCTS OFFER A  
SOLUTION FOR YOUR PROCESS

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