

Temperature Measurement of Steel and Metal in Liquid Metal Foundries



THE TASK

Accurate temperature measurement of liquid metal during casting process

Accurate temperature measurement of liquid metal during the casting process is essential to ensure the quality and consistency of the final product. The ideal pouring temperature depends on the alloy as different metals and alloys require specific melting and pouring temperatures. The alloy must be melted to the correct temperature to avoid unwanted phase changes, which can result in the end product being too brittle or undergoing unwanted reactions like oxidation.

Dip thermocouples are still widely used in spite of their drawbacks. Because the thermocouple must be placed into the hot metal, the operator is at risk of liquid metal splashes in high-heat environments. The thermocouple can only be used once, so there are financial and environmental costs to the measurement.

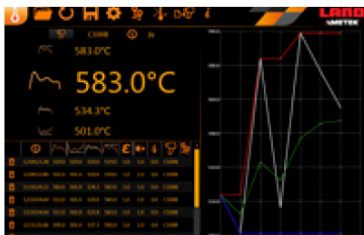


THE SOLUTION

CYCLOPS MELTMASTER (C055L)

The CYCLOPS MELTMASTER (C055L) portable application pyrometer, is a dedicated high-precision, portable non-contact pyrometer, designed for accurate measurement of liquid metal temperatures in the range of 1000 to 2000 °C / 1832 to 3632 °F. The Cyclops MM provides a much better solution as operators can record temperatures from a safe distance, not having to get within close range of the process and a single Cyclops MM can make thousands of measurements during its lifetime.

With Through-The-Lens sighting, what you see is what you measure. When taking measurements, all processed temperature values are shown continuously on the display internally and externally when the trigger is pressed (Peak, Continuous, Average, Valley and Meltmaster temperature). Emissivity compensation is available through an icon-based menu. The operating waveband is carefully selected to minimize emissivity-related errors and the MeltMaster algorithm is designed to mitigate atmospheric interferences such as steam or hot sparks.



Cyclops Logger Software



Cyclops in use



Jumbo LED Display
(Connects to Cyclops via Bluetooth)

BENEFITS

Advantages for foundry casting processes

Accurate sighting

High quality lens optics providing clear, detailed views. Wide angle (9°) field of view and small, clearly defined (1/3°) measurement area. Focusing is fixed at 5 m / 16 ft.

Easy to operate

Numerous easily-set operating modes guarantees simple single-handed operation even in hazardous conditions. Easy to use controls to select required mode from the icon based menu.

Risk reduction

Measurements taken at a distance for increased operator safety.

Robust & Durable pyrometer

Instrument casing allows for extended periods of exposure to harsh environments and protects against temperatures, bumps and drops.

Advanced Data Logging

Internal data logging up to 9999 readings - onboard storage for single handed operation without the need for separate storage device.

Cost-cutting benefits

C055L significantly reduces use and cost of disposable dip type thermocouples.



CYCLOPS MM (C055L)
1000 - 2000 °C / 1832 - 3632 °F



CYCLOPS Thermal Cover

