

Model 346 Cryogenic Temperature Controller

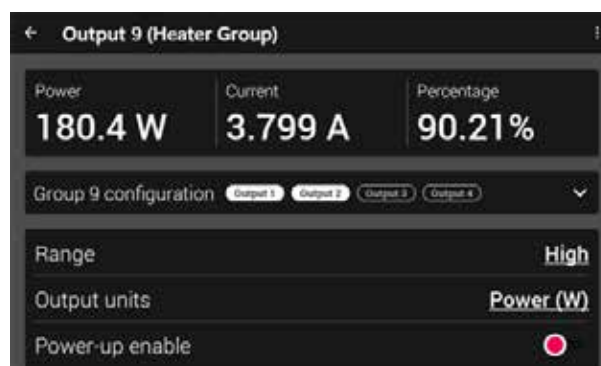
Lake Shore Cryotronics



- Best choice for large cryogenic systems requiring increased heater power
- Temperature control from 300 mK to 1,505 K
- 10 sensor inputs — expandable to 26 inputs with option cards
- 4 PID-controlled 100 W heater outputs (400 W total) for rapid warm-up
- 4 additional PID-controlled 1 W heater outputs

Heater groups — for when 100 W isn't enough

Combine multiple heaters into a single, high-powered group. The system treats the group as one heater, automatically balancing output across all heaters for efficient, uniform heating—perfect for locations with high thermal mass.



Smarter, faster sample exchange

When it's time to warm up the system and swap in a new sample, a new mode quickly brings the system to a safe opening state without risking condensation. With one button press, warm-up mode drives heaters to room temperature, monitors each location until stable, and then checks power usage to confirm there are no cold spots. Once complete, the user is alerted.



Next-Generation Temperature Controller

400 W of control power with measurements down to 300 mK

The Model 346 cryogenic temperature controller delivers rapid, precise temperature control so you can reach stable conditions faster and keep experiments on schedule. With four 100 W heater outputs, it warms up more than twice as quickly as the Model 336, minimizing downtime and maximizing productivity.

Equipped with 10 temperature sensor inputs as standard, all but the most complex systems can be fully monitored and controlled with ease. Each input can read down to 300 mK with the right Cernox or Rox sensor without self-heating, or up to 600 °C with 100 Ω platinum sensors. For more advanced systems, option cards can be added to increase the number of inputs to a maximum of 26, or push to higher temperature with the use of thermocouples.

Enhanced system control is achieved through two digital inputs for external triggering and two relays. The touchscreen interface ensures simple setup and monitoring, while the included ColdSync™ software facilitates advanced setup, initial configuration, and comprehensive data monitoring.

Option Cards

The Model 346 features four option card slots for sensor inputs, along with an additional slot for GPIB communication. Adding an option card does not occupy any existing inputs.

RTD/diode Option Card

Each option card increases the number of inputs by four. With four option card slots and 10 existing inputs, the total can be expanded to up to 26 inputs.

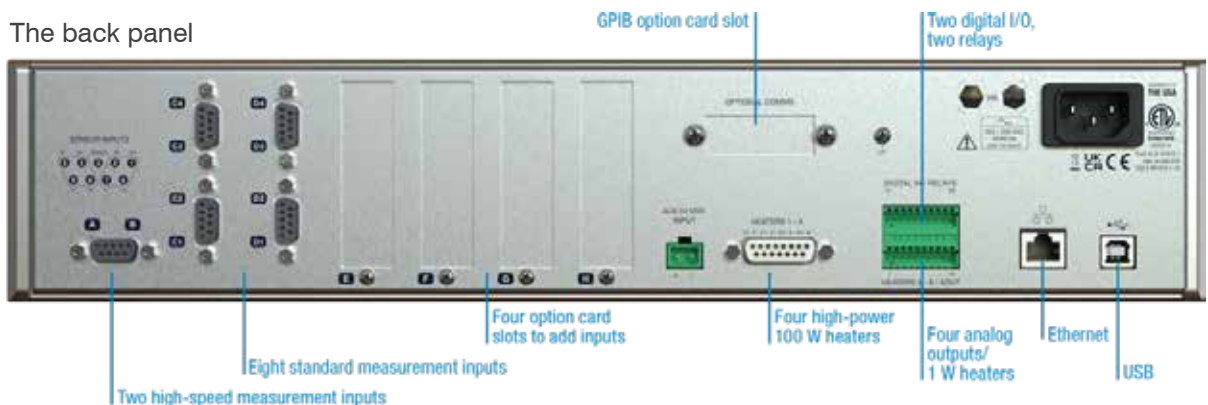
Thermocouple Option Card

Add thermocouple measurement capability for temperature readings up to 1500 K.

GPIB Option Card

Add GPIB communication via a dedicated option card slot, separate from the four slots designated for sensor inputs.

The back panel



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Specifications subject to change.
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