

LACO TECHNOLOGIES

TEMPERATURE CONTROLLER

HC-1000

Designed for simple, trouble-free temperature control of LACO vacuum systems, the HC-1000 controller is ideal for vacuum ovens and thermal systems with associated equipment such as heating elements, thermocouples and vacuum feedthroughs. With standard FM approved over-temperature protection, the HC-1000 features a main power disconnect and quick start or stop of the heating process via a selector switch on the front panel. The controller is housed in a Nema 4 enclosure and utilizes digital PID control technology with solid state relays.



HC-1000 Temperature Controller

APPLICATION EXAMPLES

- Vacuum Ovens
- Vacuum Bakeout
- Vacuum Drying
- Altitude Simulation
- Package Testing
- Product Testing
- Research & Development

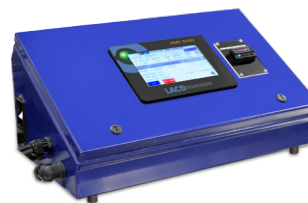
STANDARD FEATURES

- 1/16 din temperature controller with digital display (UL and CE approved)
- All heating circuits include over-current protection
- Control modes include: PID control with Auto-tune, On/Off, Manual, or Ramp/Soak
- Single temperature zone control
- Includes FM approved over-temp controller (1/32 din)

For manual or auto heat control, automated thermal cycles and ramp rates, heat setpoint PID control (up to 2 zones), and multiple temperature reading display, upgrade to the HVC-2500.



HVC-2500 Heat & Vacuum Controller



HVC-3500 Thermal Vacuum Controller

For fully customizable software for heating and cooling control, automated thermal cycles and ramp rates, heat setpoint PID control for multiple zones, and multiple temperature reading display, upgrade to the HVC-3500.

SPECIFICATIONS

COMPONENT	DESCRIPTION
Communication Interface	RS485
Electrical Requirements	110-240 VAC (15 amps max)
Dimensions	6" D x 10" W x 12" H
Configuration	Table Top, Cart or System Frame Mount
Recipes	Temperature
Temperature Inputs	K, J, T, E, N, R, S, B, L, U, TXK, Platinum RTD, and Analog

VACUUM & TEMPERATURE CONTROLLERS

LACO CONTROLLER SPECIFICATIONS

	VC-1000	VC-2500	VC-3500	HC-1000	HVC-2500	HVC-3500
						
Description	Vacuum Control Package	Vacuum Controller	Vacuum Controller	Heat Controller	Heat & Vacuum Controller	Thermal Vacuum Controller
Control System	N/A	Micro Controller with 7-inch Color Touch Screen	Micro Controller with 7-inch Color Touch Screen	N/A	Micro Controller with 7-inch Color Touch Screen	Micro Controller with 7-inch Color Touch Screen
Communication Interface	N/A	RS232	RS232/Ethernet	RS485	RS232	RS232/Ethernet
Electrical Requirements	110-250 VAC (5 amps max)	110-240 VAC (15 amps max)	120 VAC/15 Amp or 208-240 VAC/15 Amp	110-240 VAC (15 amps max)	120 VAC/20 Amp or 208-240 VAC/20 Amp	120 VAC/20 Amp or 208-240 VAC/20 Amp
Dimensions	8" D x 8" W x 7.5" H	8" D x 12" L x 9" H	12" D x 12" L x 9" H	6" D x 10" W x 12" H	12" D x 24" L x 9" H	12" D x 24" L x 9" H
Configuration	Table-top or Cart Mount	Table-top, Cart, or System Frame Mount	Table-top, Cart, or System Frame Mount	Table-top or System Frame Mount	Table-top, Cart, or System Frame Mount	Table-top, Cart, or System Frame Mount
Recipe Types	N/A	Vacuum, Time, and Hold	Vacuum, Time, and Hold	N/A	Vacuum, Time, Hold, and Heat	Vacuum, Time, Hold, and Temperature
Recipe Configurations	N/A	Up to 5 configurable recipes	Up to 20 configurable recipes	N/A	Up to 5 configurable recipes	Up to 20 configurable recipes
Software Customization	N/A	No	Yes	N/A	No	Yes
Data Storage	N/A	USB Drive	Micro SD Card, USB Drive	N/A	USB Drive	Micro SD Card, USB Drive
Turbo Pump Control	N/A	N/A	Auto	N/A	N/A	Auto
Valve Operation Mode	Manual Vent and Evacuation, Auto Evacuation	Manual or Recipe	Manual or Recipe	N/A	Manual or Recipe	Manual or Recipe
Vacuum Level	Atm to 10 ⁻³ Torr	Atm to 10 ⁻³ Torr	Atm to 10 ⁻⁷ Torr	N/A	Atm to 10 ⁻³ Torr	Atm to 10 ⁻⁷ Torr
Vacuum Pump On/Off Relay Option	N/A	Yes	Yes	N/A	Yes	Yes
Vacuum Valve Type	Electric	Electric	Electric or Pneumatic	N/A	Electric	Electric or Pneumatic
Temperature Control Type	N/A	N/A	N/A	Heat	Heat	Heat or Cool
Temperature Reading Display	N/A	N/A	N/A	Single	Multiple	Multiple
Temperature Setpoint PID Control	N/A	N/A	N/A	1 Zone	1 or 2 Zones	Multiple Zones
Heat Overtemperature Alarm	N/A	N/A	N/A	No	Yes	Yes
Vacuum Units	Torr	Torr, psia, psig, inHgA, inHg, mbar, Atm, Pa, feet, meters, hPa, microns	Torr, psia, psig, inHgA, inHg, mbar, Atm, Pa, feet, meters, hPa, microns	N/A	Torr, psia, psig, inHgA, inHg, mbar, Atm, Pa, feet, meters, hPa, microns	Torr, psia, psig, inHgA, inHg, mbar, Atm, Pa, feet, meters, hPa, microns