

SLICE-QT Four-Channel Temperature Controller Quick Start Guide

Model No. SLICE-QT

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Please read [Limited Warranty](#) and [General Warnings and Cautions](#) prior to operating the SLICE-QT.

[SLICE-QT Owner's Manual](#) [SLICE-QT](#) web page.

Description

The SLICE-QT is a high-precision temperature controller (see [figure 1](#)).



Fig. 1: The SLICE-QT



Purchase Includes

- SLICE-QT Temperature Control Unit
- AC power cord with appropriate wall plug for you location (if known)
- Four single-ended 6-ft control cables¹⁾

List of Symbols

	Warning. Pay special attention to procedures and notes.
	Potential for electrical hazard.

Getting Started

- When presented with a given view, it is possible to select the functionality or change the values in any field bordered in **blue**. When a particular field is actively being edited, its border will be **yellow**.
1. Using [table 1](#), make connections from the SLICE-QT to your thermal plant via the cables supplied by Vescent. Ensure the shield of the cable is well connected to the metal sleeve on the cable connector.
 2. Use the supplied AC power cord to provide power to the SLICE-QT. The power converter inside the unit will accept any line voltage within the range in [table 2](#).
 3. Turn on the SLICE-QT with the power switch on the back of the unit located on the power entry module.
 4. Touch a Channel Label icon to enter the Channel Details screen.
 5. Touch the Setpoint Temperature Icon to enter in the desired set point temperature.
 6. Touch Settings > Limits
 1. Set the absolute minimum and absolute maximum temperature allowed for your plant.
 2. Set the lock range. This range determines over what value of $\Delta T = T_{act} - T_{set}$ the system is considered to be locked. If ΔT is outside of this range, the Error field will change from green to yellow. This range will appear as yellow dashed lines on the plot of ΔT vs. time on the Channel Detail screen.
 7. Touch Settings > PID
 1. Set the PID parameters for your plant
 1. Touch each window to set the given parameter
 2. We recommend the Ziegler-Nichols method of setting your PID parameters²⁾
 8. Touch the OFF icon to engage the temperature servo
 9. Monitor on the performance screen to ensure system settles

Connector Pin Number	Color	Function	AWG
1	Red	TEC/Heater+	18
2	Black	TEC/Heater-	18
3	White	Thermistor+	22
4	Blue	Thermistor-	22
Metal Sleeve	Drain Wire		24

Tab. 1: Cable pinout

You may purchase more cables separately from Vescent Photonics. We do not recommend making cables, but if you do so, make sure the metal sleeve (drain) is well.

The SLICE-QT will accept input line voltages within the ranges in [table 2](#).

Parameter	Value	Units
Input Line Voltage	90-250	VAC
Frequency	50-60	Hz
Phase	1	phase

Tab. 2: Input Voltage Specifications

Front Panel

Rear Panel

1)

More cables may be purchased separately

2)

A usable discussion of the Ziegler-Nichols method can be found here:

http://faculty.mercer.edu/jenkins_he/documents/TuningforPIDControllers.pdf

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