Nonlinear Crystal Oven for Up to 15 mm Length Crystals, Imperial

NLCH1



Description

Thorlabs' NLCH1 Nonlinear Crystal Oven is designed for controlling the temperature of nonlinear crystals with lengths of up to 15.00 mm for second harmonic (SHG) and sum frequency (SFG) generation. Our LBO crystals can be mounted by first removing the cover from the oven via four M2.5 x 0.45 cap screws, and then removing the two interior M2.5 x 0.45 cap screws and aligning the pins with the holes on the specialized crystal housing. The oven can heat mounted crystals from ambient temperature to 200 °C.

One HR10CAB1 3 m long, male-to-male Hirose connector cable is included with the oven.

Specifications

Specification	Value
Compatible Crystal Lengths	Up to 15.00 mm[a]
Operating Temperature	Ambient to 200 °C
Clear Aperture	Ø0.18" (4.6 mm)
Beam Height	1.00" (25.4 mm)
Input Voltage	24 V Max
Heater Power	15 W Max @ 24 V
Heater Resistance	38.4 Ω
Electrical Connection	6-Pin Female Hirose[b]
Dimensions (H x W x D)	1.87" x 2.51" x 1.95" (47.4 mm x 63.8 mm x 49.5 mm)
Weight	0.22 kg
Recommended Controller	TC300B

a. Compatible with Our NLCL1, NLCL2, NLCL4, NLCL6, and NLCL7 Mounted LBO Nonlinear Crystals

b. Compatible with the HR10CAB1 6-Pin Hirose Cable (Included) and the HR10AD1 Hirose Cable to Breakout Box

Recommended TC300B Controller Settings	
Thermistor Type	NTC1
Thermistor Beta Value	3976 K
R0	10 kΩ
T0	25 °C
Temp Resolution Setting	High Resolution
Temperature Max	200 °C
Sample PID Configuration[a]	P: 0.06 A/K, I: 16.75 A/K·s, D: 4.18 A·s/K

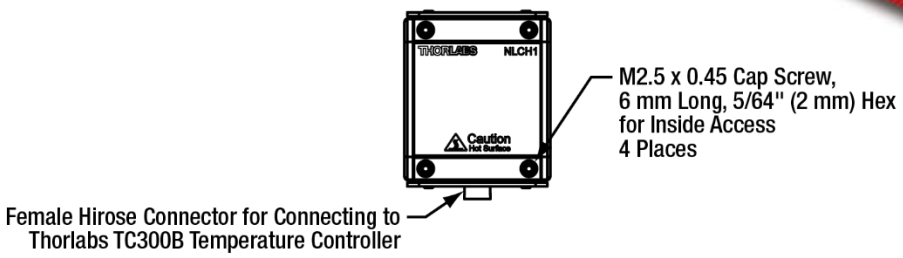
a. These PID settings are an example starting point. We recommend running the "AutoTune" function.

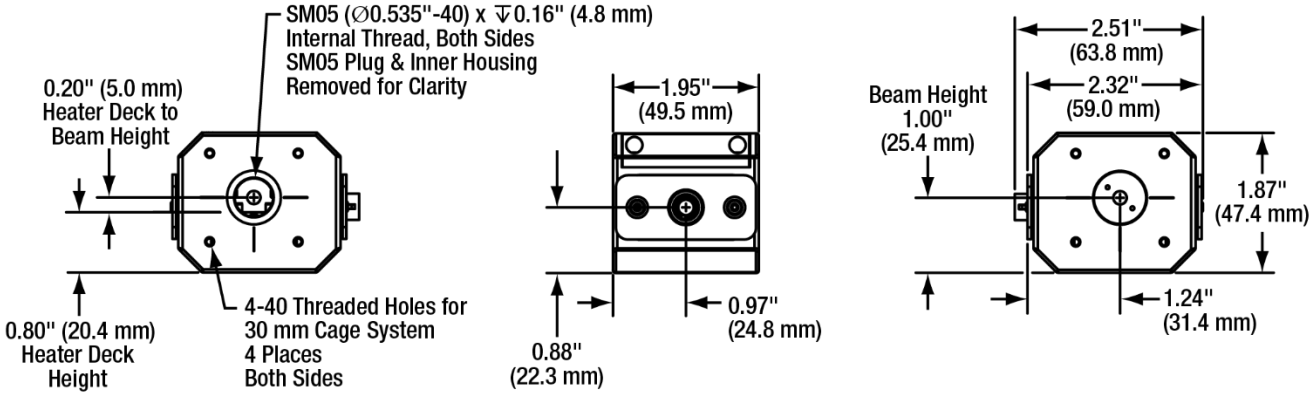
Pin Diagram

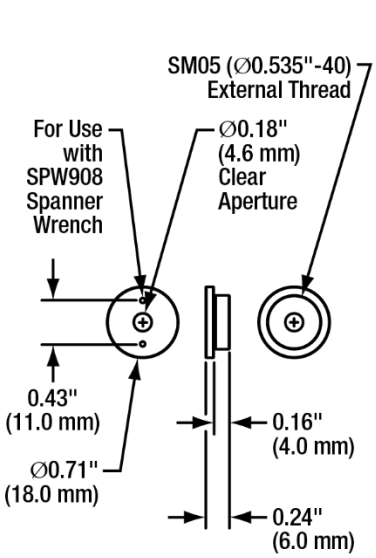


Pin	Connection
1	Heater Input
2	Heater Input Return
3	Not Connected
4	Thermistor Input (+)
5	Thermistor Input Ground
6	Not Connected

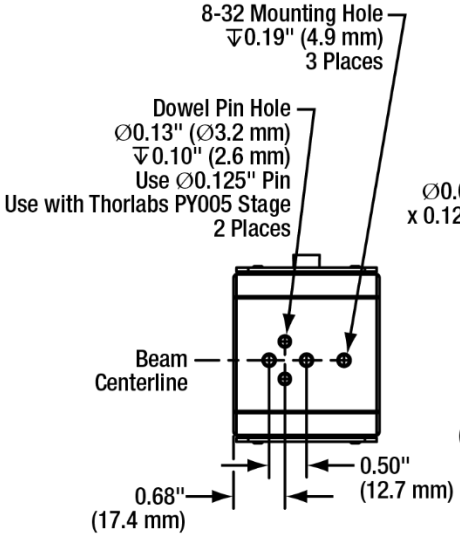
Drawing

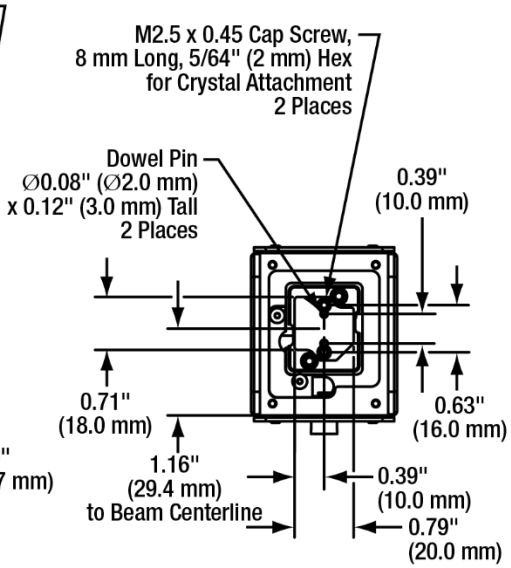






SM05 Plug Both Sides





Heater Deck Mount Parameters