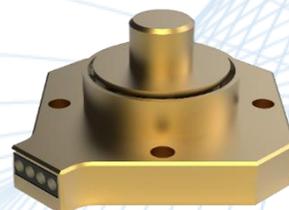


# ATSM™

## Agile Temperature Sample Mount

For temperature dependent applications, the ATSM provides unparalleled temperature control and mechanical performance.



# ATSM provides the solution for the highest level of positional stability for step-static and dynamic temperature changes from <4K to 350K.

## Low Drift & Fast Settling Time

Designed as an integrated unit, the Agile Temperature Sample Mount combines multiple technologies into a single package. The unique position stabilizing support structure optimizes stage mechanical stiffness and rigidity while providing the thermal performance required for fast temperature changes. The structure reduces thermal contraction to below 30µm over the entire temperature range from <4K to 350K.



- Extremely low drift of <30 µm over the full temperature range
- Controlled with high-speed temperature controller for rapid thermal response & time to stability
- Heating/cooling rate of 300 K / 5 mins
- Eliminates the need to re-focus after small temperature changes
- Stabilization maintained throughout a measurement
- ATSM integrates with quick-change DC and RF sample mounts for electrical measurements
- Easily added to your existing Montana Instruments Cryostation

## Quick Sample Exchange

As shown in the image below, a removable sample mount can clamp to a small, extruded boss on the ATSM, allowing the full ATSM assembly to remain in place during sample exchange. This option facilitates quicker sample changes and can also be used in conjunction with special electrical sample mounts to allow for quick connection of wire bonded samples.

## Thermal Control

An integrated Cernox™ thermometer and heater provide reliable and responsive thermal control. The system is controlled from a high-speed temperature controller for rapid thermal response and time to stability. The low-profile sample mount allows you to get the most out of high numerical aperture and low working distance optical setups, such as when used with the Montana Instruments' Cryo-Optic® product.



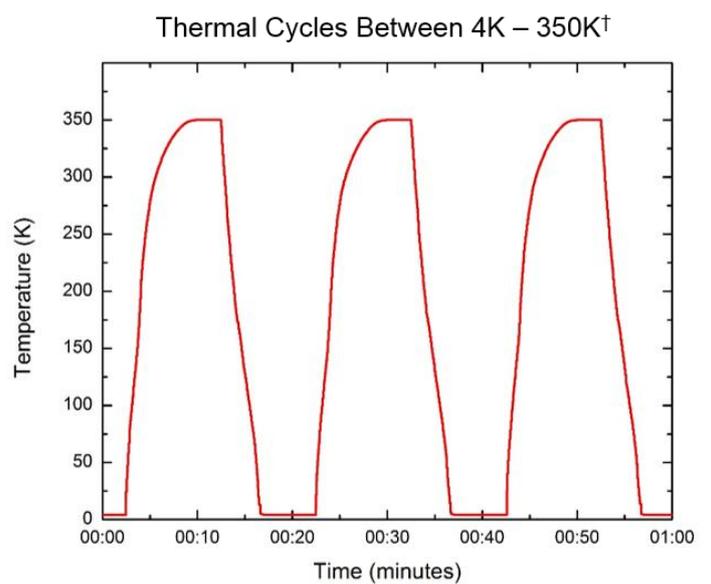
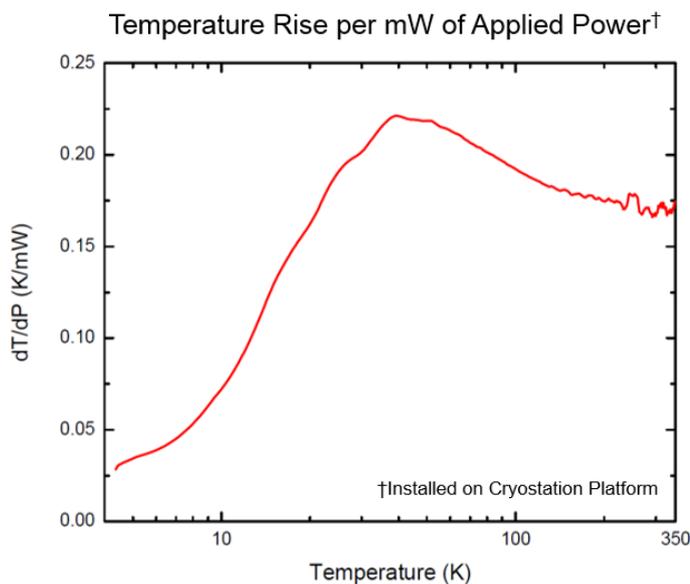
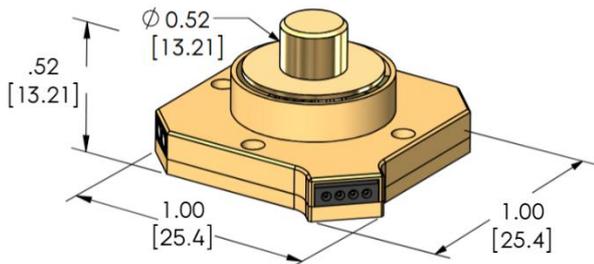
# SPECIFICATIONS

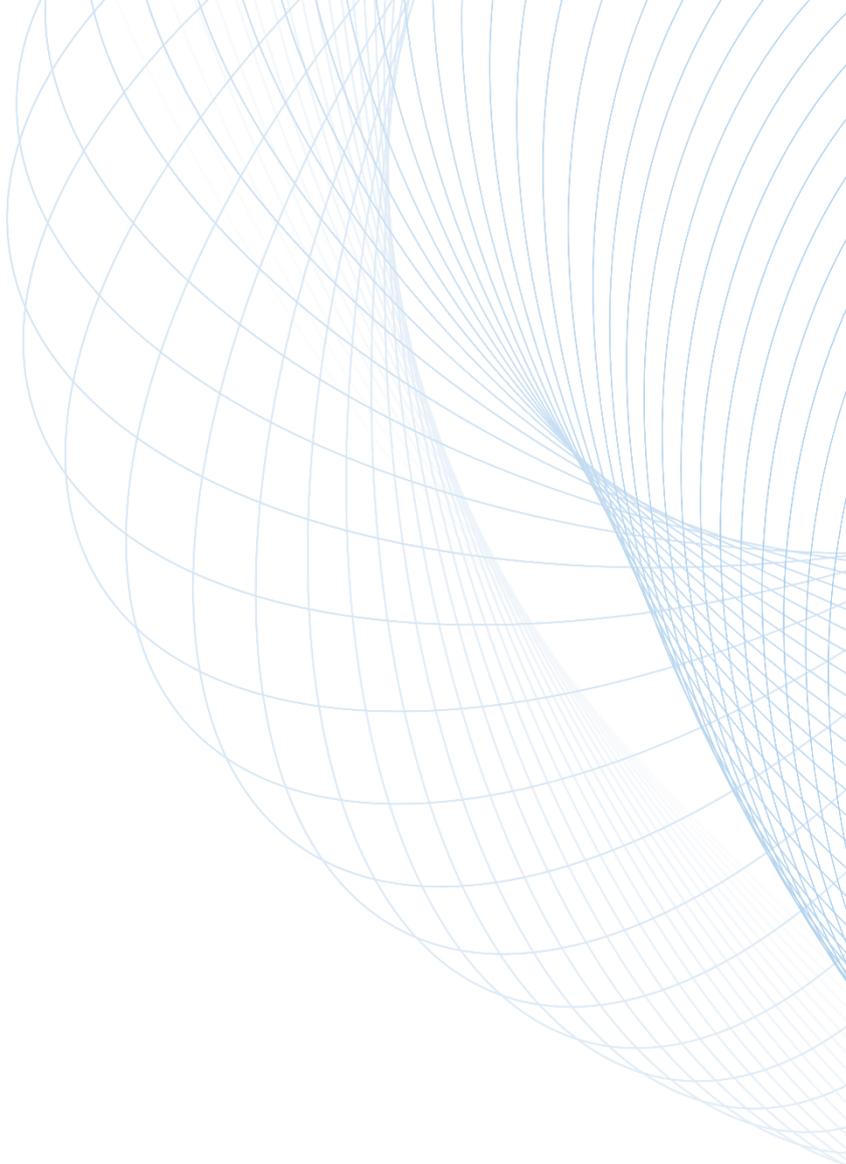
Range	Base – 350 K
Temperature Stability	<50 mK (p-p) <sup>2</sup>
Thermometer	Cernox CX-1050-HT
Mechanical Drift Over Full T Range	<30 $\mu\text{m}^3$
Resonance Frequency	>5 kHz
Typical Heating Rate	300 K / 5 min
Typical Cooling Rate	300 K / 5 min
Temperature Gradient	0.2 K above base
Control Connections	2 heater + 4 thermometer

NOTES:

1. Unless otherwise specified all specifications are at system base temperatures (<4K)
2. Stability over 15 minutes
3. Measured at center and edge of 3x3 calibrated grating

# DIMENSIONS





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