

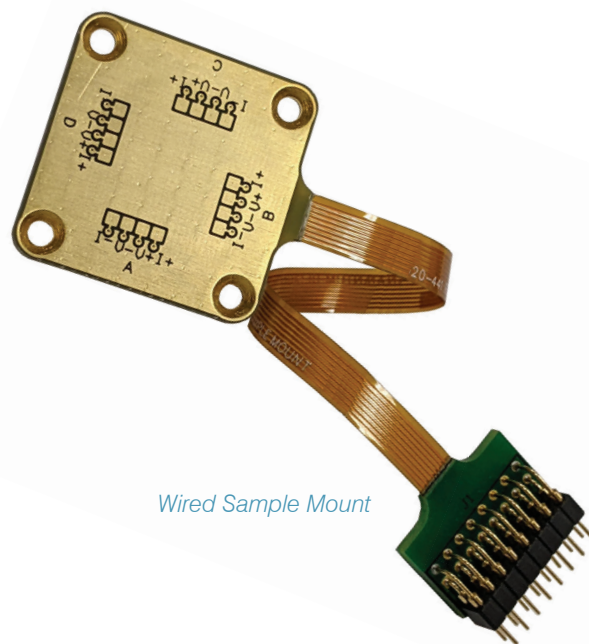
X150 - Wired Sample Mount Kit

Optical measurements often require electrical contact (for gating and transport measurements) while focusing a microscope objective on the sample.

The Wired Sample Mount provides a gold-plated copper plane that is thermally connected to the X132 Thermal Link plate and provides 16 pre-wired pads for connecting electrical leads to your sample. Unlike standard chip carriers, the mount's copper plane makes metallic contact through solid copper to the Thermal Link plate – this will typically cool mounted samples to within < 50 mK of the Thermal Link temperature.

An integrated flexible circuit carries the 16 wires to the pod flange. The Wired Sample Mount is designed to be used with OptiCool's Standard Sample Wiring (X300).

The Wired Sample Mount Kit includes 4 Wired Sample Mounts, the mating PC board that goes on the Pod flange, and the associated mounting screws.



Wired Sample Mount

OptiCool Wiring and Feedthrough Options

Wiring and feedthrough options are available to get electrical and optical signals into and out of the OptiCool cryostat. Pick from these options to meet your experimental needs. Each is described in more detail on the following pages.

- **X300 Standard Sample Wiring.** 16 wires (8 twisted pairs) for user signals.
- **X301 3-Axis Positioner Wiring.** Used to drive piezo positioners.
- **X310 RF Coax Wiring.** Four coax lines for signals up to 20 GHz.
- **X280 Optical Fiber Feedthrough.** Feed four or more optical fibers into the sample volume. Can also be used for other items such as gas tubes.

The wiring options are permanently mounted in the cryostat, so are usually installed at the factory. The fiber feedthrough is easily installed or removed by the end user.

To use the wiring, simply wire from the pod connectors to your hardware. When the pod is inserted into OptiCool, connections are automatically made to the cryostat wiring (fiber connections must be made manually). The signals then run from your experiment to the OptiCool front panel. All the wiring is thermally anchored inside the cryostat, ensuring the wires will not disrupt your sample's temperature.

Please contact Quantum Design to discuss the best wiring combination for your needs.

* Specifications:

- Compatible with full OptiCool temperature and magnetic field range
- Mounts to X132 Thermal Link Plate and compatible with X140 Rapid Thermal Stage
- Electrical connections: 16 connections (8 pairs)
Pads for wire bonding or soldering
Pads arrange in 4 four-probe sets
Automatic connections from pads to OptiCool front panel (no manual wiring)

Wired Sample Mount attached to Thermal Link plate

