



MPMS Application Note 1014-205

Color-Coded Cables

Color-Coded Cables

The cables that supply power and information to the various components of the MPMS probe are color-coded. Color-coding helps prevent accidental insertion of a cable into the wrong connection. Some of the cables fit into more than one connection. Inserting the wrong cable into a connection can damage components and hinder the operation of the MPMS probe.

Six color-coded cables run from the MPMS console cabinet to the MPMS probe. Table 1 indicates each connector's color, name, and interfacing components.

Color	Name	Interfacing Components
Red	Magnet current cable	<ul style="list-style-type: none"> Supplies current to superconducting solenoid
Blue	Utility cable	<ul style="list-style-type: none"> Magnet persistent switch Impedance heater Longitudinal SQUID heater Transverse SQUID heater (if installed) Extended dynamic range (if installed) Magnet voltage leads Helium-level meter Impedance thermometer Magnet reset option (if installed)
Black	Temperature control module cable	<ul style="list-style-type: none"> Platinum thermometer Germanium thermometer Gas heater Chamber heater Airlock limit switch Purge button
Green	Sample transport cable	<ul style="list-style-type: none"> Supplies power to sample transport motor, yellow cable connector, and sample transport limit switches
Yellow	Sample rotator cable (if installed)	<ul style="list-style-type: none"> Supplies power to sample rotator motor and sample rotator limit switch
Gray	Oven cable (if installed)	<ul style="list-style-type: none"> Oven thermometer Oven heater

Table 1. Color-Coded Cables

Cables Without Color-Coded Connectors

All other cables are used with the SQUID electronics and are not color-coded.

Each SQUID has two yellow cables with triax connectors. Although these cables are identical and interchangeable, they must be connected to the proper connections (bias to bias, mod to mod). One yellow triax cable connects to the probe connection, which is labeled RF BIAS, and to the Model 2000 connection that has the same label. The other yellow triax cable connects to the probe connection, which is labeled Ext. FB, and to the Model 2000 connection that has the same label. If your system has the transverse SQUID option, the same connections exist.

A gray cable connects from the bottom of the Model 2000 to port J-C9 on Model 1822. A system with the transverse SQUID option has two sets of these cables. Verify that you connect the cable from the transverse SQUID connectors on the probe to the Model 2000 port.