Q u a n t u m   D e s i g n

PPMS Service Note 1384-701

Installation Verification Procedure
for the Horizontal Rotator Option

We prepared this installation verification procedure for you to confirm **USERTEMP** is activated and properly working for the Horizontal Rotator Option. **USERTEMP** is the command used to reassign the Horizontal Rotator's thermometer as the PPMS system thermometer. **USERTEMP** is automatically activated upon completion of loading your configuration file. This service note provides an abbreviated procedure for installing the Horizontal Rotator Option, configuring the motor and index catch disk, and turning on the rotator thermometer. You can find more detailed instructions in the *PPMS Horizontal Rotator Option User's Manual*.

Note: Be sure to have the Resistance Bridge Board Option installed and the gray lemo cable from the Model 6000 connected to the probe head.

1. Set the PPMS temperature to 300 K and wait for it to stabilize. Continuously vent the sample chamber.

2. Mount the motor and support on the probe head.

    a   Flip the centering clip on the motor and support to the horizontal position.

    b   Place the motor and support on top of the probe head.

    c   Firmly squeeze the two flange clamps on the motor and support until they click into place.

    d   Firmly turn the centering clip down to lock against the probe head and to capture the two flange clamps.

    e   Insert the motor cable's DB-9 connector to P10-MOTOR on the Model 6000 rear panel.

3. Insert the Horizontal Rotator probe into the sample chamber.

    a   Slowly and carefully lower the probe into the sample chamber until it just rests at the bottom of the chamber.

    b   Slowly and gently turn the probe handle in order to find the position into which it sets. The mating contact at the base of the sample space is keyed to assure proper contact.

    c   Grip the probe handle and firmly push down the probe 0.2″ or until it completely seats.

d   Purge and seal the sample chamber.

4. Do not situate the motor onto the index catch disk. To configure the motor and index catch disk:

   a   Open the **PPMS Control Panel** application.

   b   Open the **Sample Motion** window by clicking the **Sample <u>M</u>otion** button.

   c   Set the following parameter in the **Sample Motion** window.

      i)   Click **Move to Index and Define As**.

      ii) Key-in -10 in the **deg** entry field. Click the **OK** button.

      iii) If the message "Index Switch Reached. Move to Index and Redefine."appears, click the <u>**Ignore**</u> button, then the **OK** button.

   d   Verify proper motion control. **Click Move to Specified Position**.

      i)   Key-in 180. Click the **OK** button. Wait for the motor to stop turning.

      ii) Turn the vernier dial to 180 degrees.

      iii) Situate the motor onto the index catch disk. Make sure that the motor engages the two pins on top of the rotator.

   e   Check the Horizontal Rotator range of motion.

      i)   With **Move to Specified Position** activated, key-in 369. Click the **OK** button. Make sure that the vernier dial reads 369 degrees.

      ii) With **Move to Specified Position** activated, key-in -10. Click the **OK** button.

      iii) With **Move to Specified Position** activated, key-in 0. Click the **OK** button. Make sure that the vernier dial reads 0 degrees.

      iv) Click the <u>**Close**</u> button.

5. Turn on the rotator thermometer.

   a   Open the **ROM Configuration** program in the PPMS directory of the PPMS computer and select **File** | **Send**.

   b   Look in the **c:\ppms\hrotator** directory. Select the configuration file, **HR###.CFG**. (### = serial number of your rotator)

   c   Click **OK**.

The rotator is now ready to use. When you remove the horizontal rotator, turn off its thermometer according to the following procedure:

1. Open the Monitor 6000 program in the PPMS directory of the PPMS computer.

2. In the blue entry field of the Monitor 6000 window, type USERTEMP 0 1.8 1.7 (insert spaces between the numbers)

3. Press **ENTER**. The rotator thermometer will no longer be the controlling thermometer.