



Technical Note: 10000046

Using the Rotary Sensor Head with MDC-360/370

This document describes the programming and wiring required for the MDC-360/370 to control the crystal position of the RSH-600/601 Rotary Sensor Head.

REQUIREMENTS

This installation requires an MDC-360/370 controller with a Passive I/O card (PN#179216), a user supplied 120 VAC or 24 VDC power supply (depending on the RSH's solenoid valve type) and an air supply of 50 PSI. The MDC-360 will need one unused relay output to change crystal positions of the RSH as well as six inputs to read the crystal position from the RSH.

MDC-360/370 PROGRAMMING

- Following the steps below to program the MDC-360/370 to control the RSH sensor head.
- Press the program key and move to the Main Menu Screen. (Hold down the left arrow key)
- Select the Edit System Setup menu
- Select the Sensor Setup menu
- Enter the following parameter settings

1. Number of Crystals - 6
2. Shutter Relay Type - NONE
3. Control - Direct
4. Drive - Sngl Step
5. Feedback Type - Indiv
6. Rotator Delay - 10

ELECTRICAL CONNECTIONS

With the above parameter settings, the MDC-360/370 will create six position feedback inputs called "SensorN CrystalX" where N is the select sensor number and X ranges from 1 to 6. Each of these inputs must be connected to the six position output pins on the RSH-600/601. View the Program Inputs Menu of the MDC-360/370 to determine the pin number of these inputs. Connect each of the six Crystal Position outputs of the RSH to the "Sensor N Crystal X" inputs of the MDC-360/370.

The MDC-360/370 will have also created one output named "Sensor 1 Drive Up". View the Program Output menu screen to determine the pin numbers of this output. Connect one side of the external supply (24 VDC or 120 VAC) to one side of the RSH's solenoid valve. Be sure to use the proper polarity if using DC. Connect the other side of the supply to one terminal of the MDC-360/370's output. Connect the other MDC-360/370 output terminal to the other side of the RSH's solenoid valve.

TESTING

The final step is to create a test process to verify the programming and electrical connections. Create a process "TEST" with 6 materials where material 1 uses crystal 1, material 2 uses crystal 2 and so on. Do the following steps to create the "Test" process.

- Create six materials named 1 through 6 and set each Crystal # parameter accordingly (i.e. Material #1 = crystal #1, 2-2, etc.) (No other material parameters should be changed from the default setting.)
- Create the "Test" process with six layer where layer one uses material 1, layer two uses material 2, etc. (keep all layer thicknesses = 0)

To run the test, first press the "Status" Key until the "Source Status" and the "Sensor Status" appears on screen. Next, start the test process. If everything is working properly, the MDC-360/370 will rotate the RSH to crystal position #1 as displayed in the sensor status screen. Also verify that crystal health for crystal #1 is 99% (assuming the crystals in the RSH are new). At the start of the next layer, the MDC will then rotate the RSH to position #2. Run the entire process to verify that all six positions are selected and that all crystals are working.

If the MDC-360 indicates a Sensor Fault error, which means that the Rotator Delay Time expired before the MDC received the proper crystal position feedback from the RSH. In this case, check the following things to determine why the RSH would not rotate.

- Check that 50 PSI pressure is being supplied to the RSH's solenoid valve
- Check that either 24 volts DC or 120 volts AC (depending on the model of RSH) is supplied to the solenoid valve and one side of this external supply is routed through the "Sensor X Drive Up" relay output on the MDC-360/370.
- Check that each of the six position feedback outputs of the RSH are connected to the "Sensor X CrystalY" position inputs of the MDC-360/370.

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