

MA20 Module Instructions

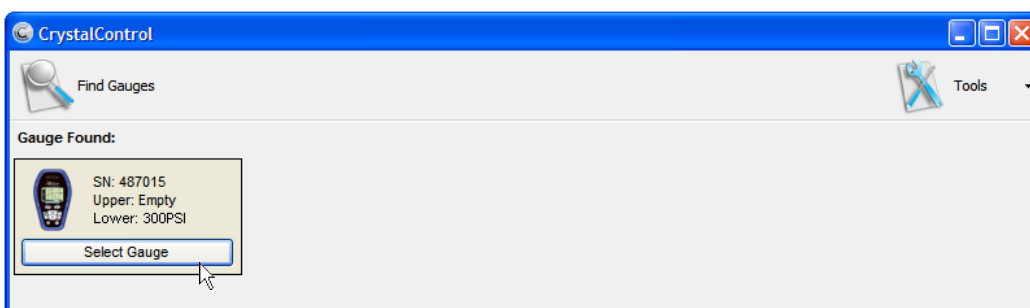
The MA20 requires the following support to operate properly:

1. CrystalControl 1.2 or greater
2. nVision Chassis firmware R080005 or greater
3. Setup of Switch Test

Note: Failure to complete these items may result in the module not being recognized by the nVision Chassis or the lack of CrystalControl functionality.

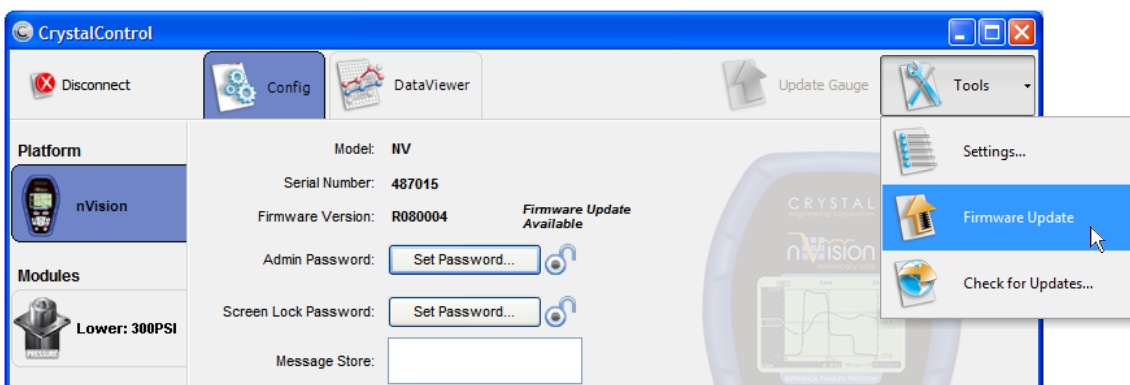
Installing and Using your MA20 Module

1. Upgrade to CrystalControl 1.2:
 - a. Using the included CD or from the Crystal Engineering website:
www.crystalengineering.net/downloads
2. Upgrade your Chassis firmware to R080005 or greater:
 - a. Connect to the nVision using CrystalControl 1.2 or greater.
 - b. Click **Select Gauge** to enter CrystalControl.



Note: In this example the Upper module is unpopulated.

- c. In the upper right corner click the **Tools** button and then select **Firmware Update**:




- d. Update your Chassis firmware to R080005 or greater by first selecting the **Chassis** checkbox, and then selecting **Update Gauge**.

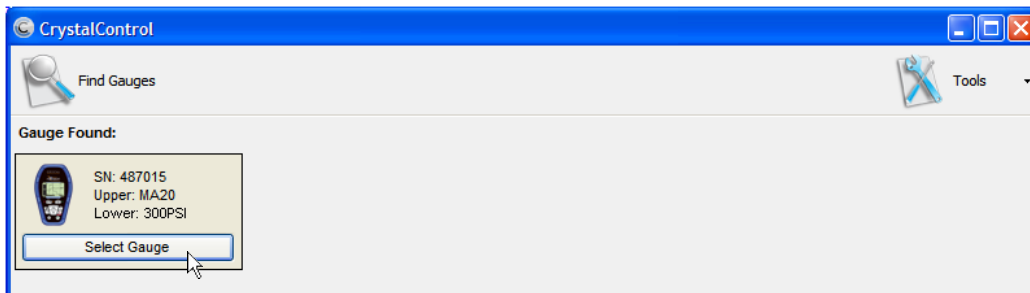


- e. When the Firmware Updating of the nVision Chassis is complete, CrystalControl 1.2 will revert back to the Home screen.

3. Install the MA20 module:

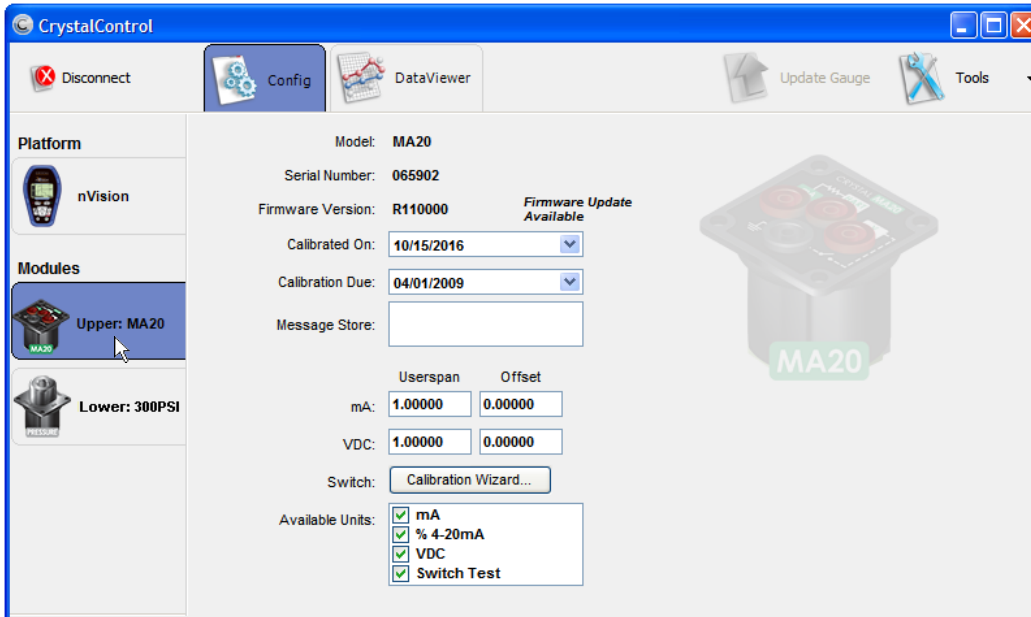
- Disconnect the nVision USB cable.
- Remove the 4AA battery module.
- Install your MA20 into your nVision Chassis in the desired bay using the Module Installation Instructions (P/N 4118).
- Reinstall the 4AA battery module and power up your nVision with the  (Power) button.
- Reconnect the nVision USB cable.

4. Click **Select Gauge** to enter the features of CrystalControl.

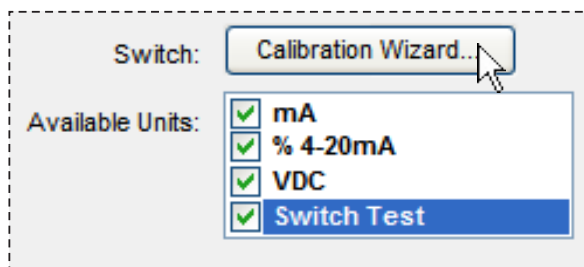


Setting up the Switch Test mode

1. Setup the Switch Test on the MA20:
 - a. From the Home screen click on **Select Gauge**.
 - b. Click to select the **MA20 Module** from the left side tabs.



- c. Setup the Switch Test through Calibration Wizard:
 - i. Click the **Calibration Wizard** button.



- ii. Install your Red and Black test leads into the Switch Test locations as shown in the wizard. Ensure that the leads are not connected together forming a closed circuit.
 - iii. Press **Start**. The application will survey the circuit in the open state.
 - iv. When prompted by "Waiting for switch to close...", connect the red and black test leads together creating a closed circuit. The application will survey the circuit in the closed state.
 - v. Select **Finished**.
 - vi. Update your Gauge by selecting the **Update Gauge** button.



Your nVision with MA20 is fully functional and ready to use.

CRYSTAL
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