



Module Installation Instructions

for Reference Recorder & Lab Reference



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PM, RTD100, and MA20 Modules



The nVision's upper and lower bays allow for removal of modules in the field. All module changes should be completed in a dry, clean environment (out of the outdoor elements).

Proper electrostatic discharge (ESD) grounding techniques should be taken into account prior to the module change over. If you desire to remove a module without installing a replacement, a module blank plate (P/N: BNKPLT) must be installed to ensure your IP67 rating and to protect the product.

WARNING: Do not install two MA20 modules simultaneously as it may permanently damage your nVision.

CAUTION: Do not proceed unless you have a suitable replacement module or blank plate for the module bay in question.

The following steps must be performed sequentially to properly complete the module change: Additional instructions for the MA20 module can be found in 4339 MA20 Module Instructions.

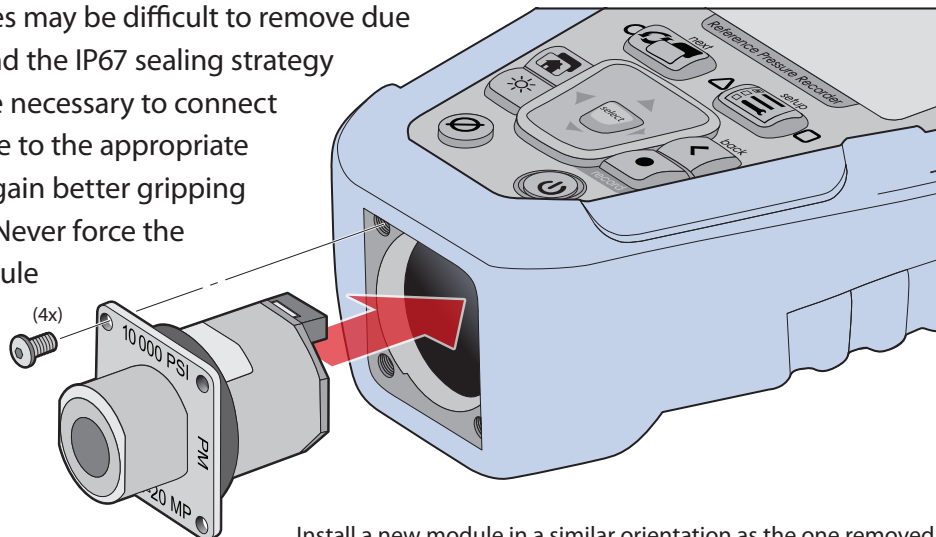
- 1 Before removing or replacing any modules, ensure that all recorded data has been archived properly through the use of **Export Data** in CrystalControl.
- 2 Place nVision on clean stable work surface. Clean exterior of the product, if necessary, to ensure no moisture or foreign matter will enter the enclosure when disassembled. Use of proper ESD grounding techniques is highly encouraged to prevent damage to the exposed module.
- 3 **nVision Reference Recorder;** Turn off nVision with the  (power) button, then remove the 4AA battery pack from the rear of the unit.
nVision Lab Reference; Turn off nVision with the  (power) button, then disconnect the power cord from the AC power source.

- 4 Remove USB power connection from the nVision chassis during module installation.

WARNING: Failure to disconnect nVision from 4AA, USB or AC power before module removal installation may cause damage.

- 5 Using a Torx T10 wrench, loosen the four screws retaining the module face plate and carefully pull the module out. Avoid twisting the module when removing from the nVision.

Note: Some modules may be difficult to remove due to the physical form and the IP67 sealing strategy employed. It may be necessary to connect a fitting or RTD cable to the appropriate module in order to gain better gripping power for removal. Never force the separation of a module from an nVision chassis.



Install a new module in a similar orientation as the one removed.

- 6 Note the correct orientation of module connector on rear of module (located up or closest toward the display) in relation to the nVision chassis during removal. Place the removed nVision module in the ESD bag for safe protection.
- 7 Install a new module in a similar orientation as the one removed in step 2 (rear module connector facing up to keypad of nVision). If improperly oriented the tri-lobe design of the module will not allow proper installation. Do not force installation of the module as permanent damage may occur. Ensure light lubrication of the module's unique quad-lobe o-ring (P/N: 4110) with Dow 111 silicon lubricant or equivalent to ensure an IP67 rated seal.

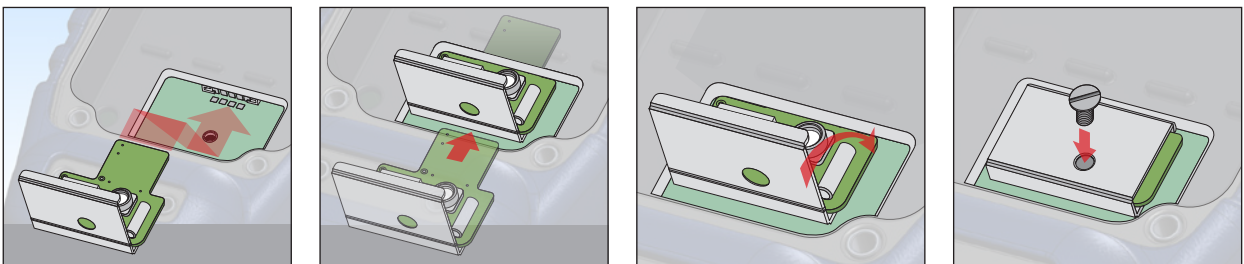
Note: If installing blank plate, instead of module, ensure part is oriented flat and evenly within the module bay for proper sealing.
- 8 Tighten face plate or blank plate screws to **50 in-oz (0.35 newton meter (N-m)) torque (T10 Torx)**.
- 9 Replace 4AA power module and tighten adequately to ensure IP67 seal. When power is first applied by the battery pack, the unit will automatically turn on. Ensure that nVision recognizes the new module by confirming in CrystalControl or the Summary screens.
- 10 Before using the nVision to record, **Erase All Data** using **setup** button **Recording/Erase All Runs** menu items.
- 11 nVision is now ready to use. If you have any problems during this process, check the Troubleshooting section of the nVision Operators Manual for relevant information or contact Crystal Engineering at www.crystalengineering.net or (805) 595-5477.

BARO Module

Installation of the BARO module should be done in a ESD compliant, dry, clean environment, using the instructions below.

CAUTION: The BARO module requires CPLD version 6 or greater to operate properly. If you have CPLD 5 or earlier the nVision must come to the factory for updating. You may determine your CPLD version in the the Chassis Summary screen or in CrystalControl.

- 1 Place nVision face down on clean stable work surface.
- 2 Remove USB power connection and power pack from the nVision
- 3 Remove your BARO module from factory packaging, grasp the cover and orient as shown.
- 4 Slide the BARO module into the connector system.
- 5 Insert included (3/8" 4-40 plastic) screw through cover and into nVision to secure BARO module properly.
- 6 Note: Remember to enable the module in CrystalControl if module is a new installation.



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