

Summary

Thermo Nicolet FTIRs are often left powered ON according to the user manual. This means both the laser and IR source are on during this time. In addition to providing Mid IR light, the IR source also acts as an oven and will reduce the humidity level within the instrument. When FTIR instruments are left on 24/7 the typical lifetime for an IR source is 1-2 years. The question often asked, if one only uses the FTIR 1-2 times a week should it be left on 24/7? We recommend if the desiccant is well maintained (or purged with dry air) and assured the instrument is dry on the inside, then the unit can be powered off and only turned on when needed if less the 2-3 times per week.

Replacement of the IR source is often needed due to:

- Low amplitude in the Interferogram (Max is less than 2 at Gain=1). Often times an error will occur (warning) during startup in Ominic, stating low amplitude.
- Higher RMS noise levels will occur in the performance tests as shown in the advanced diagnostics or in Valpro.

Installation

Installation is very simple. One connector, one screw, the IR source it can only go in one way.

1. Turn off FTIR and remove the main cover (three threaded knobs on the bottom in the front of the instrument).
2. Unplug and remove the old IR source.
3. Re-install the new source.
4. Power the FTIR up.
5. Go into Experiment > Diagnostics tab, then hit Align.
6. This will maximize the interferogram. Record the interferogram Maximum in your log book and the date the IR source was installed. This can be used for future reference if/when your signal to noise drops or low amplitude error occurs.
7. If you periodically need to validate your FTIR with Valpro, it is usually re-validated the time the new IR source is installed.

Note: Red connector is for the Mid IR source, the white connector is for the Tungsten source (if you have a MID-NIR dual detector system).



The brass knurled screw is not removed (just loosened) so the small flat rectangular plate can be rotated and allow to remove/install the source.