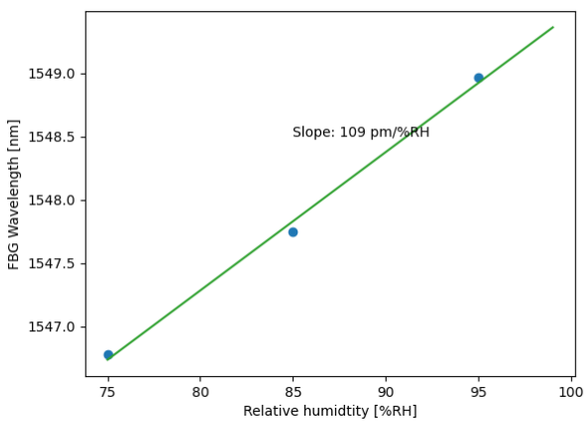
SHUTE Sensing Solutions A/S was founded in 2015 at the Department of Photonics Engineering at the Technical University of Denmark (DTU). SHUTE has developed a novel and unique microstructured polymer optical fiber (mPOF) sensor system, which enables real-time monitoring of **s**train/stress, **hu**midity, **te**mperature and vibrations in points along a hair-thin optical fiber. Hence the name SHUTE.

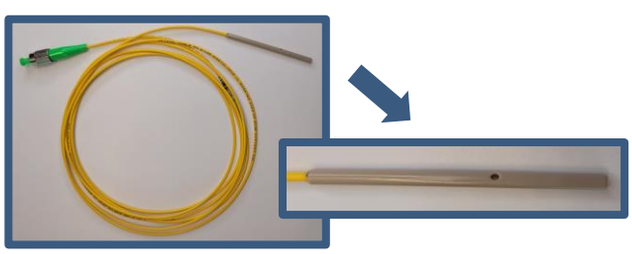
SHUTE 1550nm mPOF Humidity Sensor

SHUTE has patented the world's first commercial mPOF sensor system, which precisely measures humidity and can survive even in 100% RH for a longer period of time. Up until today this technology has only been available for 850nm interrogators. We now introduce the 1550nm mPOF Humidity Sensor, for usage together with a C-band interrogator.

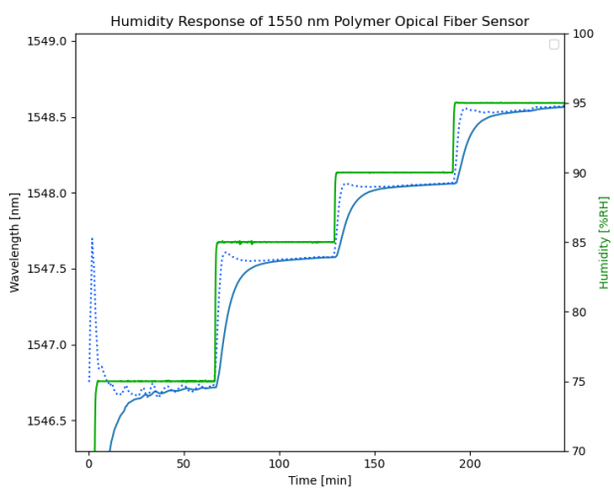


The plot on the left shows the linear relationship between nm change and RH%.

The sensor comes with a choice of housing to protect the sensor but can also be used without for quicker response time. For added operating length a silica optical fiber extension can be used.



- PMMA microstructured polymer optical fiber, single mode
- FC/APC optical fiber connector
- PEEK or stainless steel housing
- Nylon fiber insulation



This left plot shows the characterization of a PMMA fiber sensor (no Housing), in a 20°C temperature-controlled environment. With simple signal processing humidity level can be predicted in minutes (dotted line).

SHUTE sensors have been tested in different composites like concrete & MGO sidings and for monitoring humidity in oil, etc.

- Center wavelength: Ca. 1547nm
- Operating range: 0-100%RH, tested up to 50°C
- Physical dimensions sensor: L: 2.5m, Ø: 3.2mm
- Physical dimensions sensor house: L: 60mm, Ø: 3.2mm

For more information visit www.shute.dk or feel free to call us on +45 2338 6728 to discuss how SHUTE technology can assist you in optimizing your sensing needs.