

Calibration Capability at Ophir

Calibration is perhaps the most important of our products. In order to ensure the best possible calibration of your laser measuring instrumentation, Ophir takes a number of extra steps not taken by other vendors.

As can be seen by the absorption graphs in the sensor section, laser absorbers vary with wavelength, so it is not enough to calibrate at one wavelength. If the variation in absorption with wavelength is small, then the sensors are calibrated at several laser wavelengths and each laser covers a range of wavelengths. If the absorption variation with wavelength is considerable, the sensor software is provided with an absorption correction curve that is activated by selecting the wavelength of use. In addition to the above, only Ophir goes one step further and checks the curve at a number of NIST and PTB traceable wavelengths and corrects it if necessary. To do this, we have a complete line of calibration lasers so that we can always calibrate at or near the customer's wavelength. These lasers include powers up to 1000W and both CW and pulsed lasers. In addition, we have a number of sensors calibrated at NIST and PTB used as calibration standards. Below is a list of the calibration wavelengths used at Ophir in calibrating our standard catalog sensors.

In addition to calibration variation with wavelength, there are other possible sources of calibration error such as nonlinearity variation with position on the surface and for pyroelectric sensors, pulse frequency. All of these factors are carefully taken into consideration in calibration and accounted for. For a complete discussion and analysis of Ophir calibration accuracy and error budget, please see our website at:

www.ophiropt.com/calibration-procedure/tutorial

Special Calibration

In addition to standard calibration wavelengths shown below customers can have their Ophir sensor calibrated at additional wavelengths for more accuracy. Please consult your Ophir agent for special requests.

Wavelengths of Calibration per Sensor Type

Wavelength	193	248	254	266	355	365	410	436	488	532	577	633	675	750	755	808	905	980	1014	1046	1064	1070	1310	1550	2100	2940	10600	Spectral Curve		
Pulsed/Continuous	P	P	C	P	P	C	C	C	C	P,C	C	C	C	C	P	C	P	C	C	C	C	P,C	C	C	P	P	C	10600	Spectral Curve	
Photodiode sensors																														
PD300																														
PD300-UV																														
PD300-IR																														
PD300-3W																														
PD300-IRG																														
IS-1																														
IS-6																														
3A-IS																														
Thermal sensors																														
Standard Broadband<1000W																														
Standard Broadband 1-15kW																														
Helios																														
30K-W																														
120K-W																														
LP1 type																														
Comet 10K																														
Comet 1K																														
P type																														
PF type																														
PF with diffuser																														
HE type																														
HE with diffuser																														
EX type																														
SV type																														
Pyroelectric sensors																														
PD10-C, PD10-pj-C																														
PD10-IR-pj-C																														
PE9-C																														
PE9-ES-C																														
PE10-C																														
BB type																														
BF type																														
BF with diffuser																														
Metallic (standard)																														
PE50BB-DIF-C																														
PE50-DIF-ER-C																														
PE50-DIF-C																														
PE100BF-DIF-C																														