Calibration Capability at Ophir

Calibration is perhaps the most important of our products. In order to insure 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 1 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 400W 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

Pulsed/Continuous	193	248	254	266	355	365	436	532	577	633	675	755	808	820	905	980	1014	1064	1310	1550	1600	2100	2940	10600	Spectral curve
	P	P	C	P	P	C	C	P,C	C	C	C	P	C	C	P	C	C	P,C	C	P,C	C	P	P	C	
Photodiode sensors																									
PD300							●		●	●						●	●								●
PD300-UV			●			●	●		●	●							●								●
PD300-IR														●		●				●					●
PD300-3W							●		●	●						●	●								●
PD300-IRG														●		●	●		●	●	●				●
3A-IS							●			●	●						●								
Thermal sensors																									
Standard Broadband<1500W								●										●						●	
Standard Broadband>=1500W																		●						●	
30K-W																		●							
100K-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	●				●													●		●					
PE10-C	●				●													●							
BB type																		●							
BF type	●	●			●			●										●					●		●
BF with diffuser	●	●			●			●										●				●	●		●
Metallic (standard)		●			●													●					●		●
PE50BB-DIF-C								●										●				●			
PE50-DIF-ER-C								●										●				●	●		
PE50-DIF-C	●	●																●				●	●		
PE100BF-DIF-C								●										●		●					