

Calibration Capability at Ophir

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

Laser absorption varies with wavelength, so it is not enough to calibrate at one wavelength. If the variation 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 is provided with an absorption correction curve activated by the wavelength of use. Going one step further, Ophir 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. We also 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 taken into consideration in the calibration and accounted for. For a complete 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	P,C	C	C	P,C	P	P	C	Spectral Curve		
Photodiode Sensors																														
PD300						•		•	•		•	•								•	•								•	
PD300-UV			•			•		•	•		•	•								•	•								•	
PD300-IR																•		•							•				•	
PD300-3W						•		•	•		•	•									•								•	
PD300-IRG																•		•						•	•				•	
IS-1-2W						•		•			•										•			•	•				•	
IS-6			•			•		•			•										•								•	
3A-IS								•					•								•								•	
Thermal Sensors																														
Low Power Broadband										•												•						•	•	
Standard Broadband<1000W										•												•						•	•	
Standard Broadband 1-15kW																•						•		•				•	•	
Helios																														
30K-W																														
120K-W																														
LP2 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, PD10-IR-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										•												•				•	•		•	