

XenoCal® Sensors

Precision is crucial ...

Precision is crucial for all testing equipment and especially so for laboratory weathering instruments. Accurate irradiance and temperature control are key parameters in determining the quality, reliability and consistency of the test results generated. With this accuracy in mind, Atlas® has developed XenoCal sensors to provide user-friendly, precise calibration for all Atlas xenon testing instruments.

Our irradiance and temperature sensors owe their supreme precision to the combination of high-quality components and the subsequent calibration procedure in our ISO 17025 accredited laboratory. Another important feature of the XenoCal is its suitability for use at the sample level, made possible via the micro-design. Modern digital technology and Windows compatible software complete this accurate and highly practical family of sensors.

The XenoCal Series comprises both temperature sensors and radiation sensors. The temperature sensors are used to measure and calibrate black standard temperature (BST) and white standard temperature (WST). The radiation sensors are designed for the measurement and calibration of radiant exposure and irradiance.

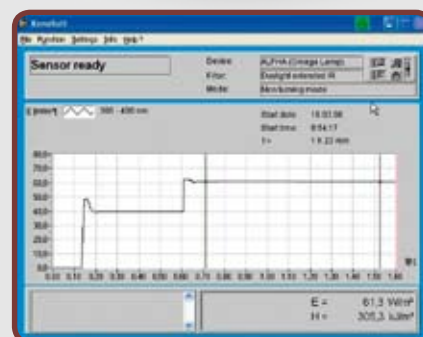
Recent members of the XenoCal Sensor Series ...

XenoCal BB 300-400 BST

This sensor combines two weathering parameters – irradiance in the UV range 300 to 400 nm and black standard temperature – in the same sensor. A combination sensor of this kind provides highly accurate measurements, as both values are measured at the same time at the sample level. The simultaneous measurement also saves valuable time and money.

XenoCal LUX

This sensor is custom-made for the SUNTEST® CPS/CPS+ and XLS/XLS+ instruments that have become industry standards over the years, especially for photostability testing in the pharmaceutical industry. The pharmaceutical industry conducts tests in accordance with ICH Guidelines, specifying typical dosage measurements in Lux hours or citing radiant exposure in Lux. The XenoCal LUX supports calibration of the SUNTEST in Lux and compliance with the required test times.



*Graphical Display by means of
XENOSOFT™ Analytical Software*



XenoCal Sensor in a Xenotest® Chamber

Temperature Sensors

The online measurement of the effective surface temperature of a sample is a technically complex process which is susceptible to errors. The preferred alternative method, therefore, is to measure the temperature of standardized black and white coated metal plates as a limit value. The black standard temperature (BST) indicates the highest possible surface temperature of a black sample and the white standard temperature (WST) the lowest possible surface temperature of a highly reflective white sample. The actual surface temperature of a sample, which is affected by its color and absorption properties, lies somewhere between these two limits.

The following temperature sensors are available for BST and WST:

- XenoCal® BST: Measurement/Calibration BST
- XenoCal WST: Measurement/Calibration WST

Radiation Sensors

Radiation sensors are mainly used for the measurement and readout of irradiance (W/m^2) and radiant exposure (kJ/m^2). XenoCal radiation sensors are predominantly used for calibrating laboratory instruments during artificial weathering, as requested by many national and international standards. All XenoCal sensors measure at the sample level and feature digital technology.

The following radiation sensors are available for different wavelength ranges:

- XenoCal WB 300-800: wideband sensor (300 - 800 nm)
- XenoCal BB 300-400: broadband sensor (300 - 400 nm)
- XenoCal NB 340: narrowband sensor (340 nm)
- XenoCal NB 420: narrowband sensor (420 nm)
- XenoCal LUX: wideband sensor with lux filter for the visible range



General Dimensions & Specifications

L x W x H [cm]:	16 x 4 x 4
Weight [g]:	390 / 430
Housing:	Anodized aluminum
Power supply:	Lithium battery
Interface:	RS 232 C

Technical Data	Radiation Sensors					Combined Sensors	Temperature Sensors	
	XenoCal WB 300-800	XenoCal BB 300-400	XenoCal NB 340	XenoCal NB 420	XenoCal LUX	XenoCal BB 300-400 BST	XenoCal BST	XenoCal WST
Spectral Range [nm]	300-800	300-400	340	420	VIS	300-400	-	-
Measurement Range E [W/m^2], [klx]	0-3500	0-350	0-3,5	0-3,5	0-500	0-350	-	-
E-Resolution [W/m^2], [klx]	1	0,1	0,001	0,001	0,1	0,1	-	-
Cosinus Response, 0° - 60° [%]	± 4	± 4	± 4	± 4	± 4	± 4	-	-
Measurement Range T [°C]	-	-	-	-	-	0-130	0-130	0-130
T-Resolution [°C]	-	-	-	-	-	0,1	0,1	0,1
Operating Range Ambient Air Temperature [°C]	0-80	0-80	0-80	0-80	0-80	0-80	0-80	0-80
Operating Range Relative Humidity [%]	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100
Response Time [ms]	500	500	500	500	500	500	500	500
Memory Frequency	1/min	1/min	1/min	1/min	1/min	1/min	1/min	1/min
Max. Offline Measurement Time [h] at 1/min	100	100	100	100	100	100	100	100

Please contact your local Sales or Service Representative for the appropriate XenoCal to be used with your Atlas weathering instrument.