

PMA 4100 Series CALReady™ Detectors

The PMA4100 Series CALReady™ Photostability detectors are process control detectors that have the capability of being calibrated in the field by the end user.

The PMA 4100-420 Detector System has two detector types, the PMA 4110-420 UVA Detector and the PMA 4130-420 Photopic Detector. The detectors detect light from their respective spectral bands and send a current proportioned signal on a 4 – 20 mA current loop. The PMA 4110-420 Detector is sensitive to the 320 – 400 nm spectral band and has a maximum (20 mA) sensitivity of 1.000 W/cm². The PMA 4130-420 Detector is sensitive to the CIE Weighted Photopic spectral range, 480 - 620 nm, and has a maximum (20 mA) sensitivity of 5000 Lux.

This CALReady™ detector system includes reference detectors, transfer calibrated from NIST traceable standards. One Reference detector is available to calibrate the Process detector for the Photopic range and one Reference detector is available to calibrate the Process detector for the UVA. The software system can perform an *in situ* transfer calibration when connected via the USB.

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U.S.Pat.5,946,641
U.S.Pat.5,790,432

FEATURES

- High sensitivity
- Dynamic range 2×10^5
- Excellent long term stability
- Cosine corrected
- NIST traceable calibration
- Radiometric units and max. exposure time
- Field Calibration

APPLICATIONS

- Photostability

SL3310 Calibration software

The unique feature of infield calibration is capable through use of the SL3301 software that can be installed on a laptop computer to meet performance standards.



Photopic Detector Specifications:

- **Spectral response:** Follows CIE photopic spectral luminous efficiency curve (400-700nm) Figure 1
- **Angular response:** 5% for angles <60°
- **Range:**
PMA2130 - 150,000 Lux, 220 W/m², 14,000 ft-cd
PMA2130L - 1,500 Lux, 2.2 W/m², 140 ft-cd
PMA2130H - 1,500,000 Lux, 2200 W/m², 140,000 ft-cd
- **Display resolution:**
PMA2130 - 1 Lux, 0.001 W/m², 0.1 ft-cd
PMA2130L - 0.01 Lux, 0.00001 W/m², 0.001ft-cd

PMA2130H - 10 Lux, 0.01 W/m², 1 ft-cd

- **Operating environment:** 32 to 120 °F (0 to +50 °C) no precipitation
- **Cable:** 5ft (1.5m)
- **Diameter:** 1.6" (40.6 mm)
- **Height:** 1.8" (45.8 mm)
- **Weight:** 7.1 oz. (200 grams)

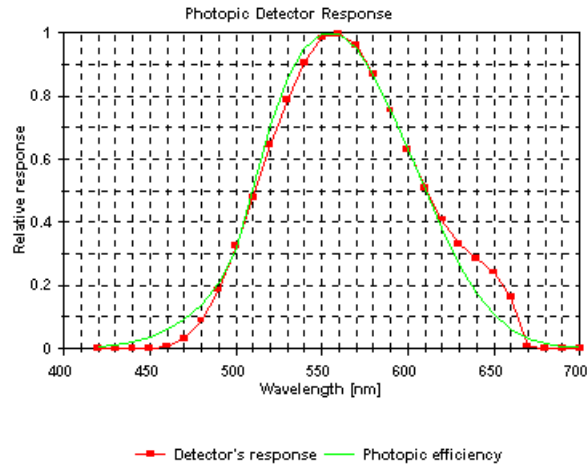


Figure 1 - Photopic Spectral Response

UVA Detector Specifications:

- **Spectral response:** 320-400nm, figure 2
- **Angular response:** 5% for angles <60°
- **Range:** 200 [mW/cm²] or 2000 [W/m²]
- **Display resolution:** 0.001 [mw/cm²], 0.01[W/m²]
- **Operating environment:** 32 to 120 °F (0 to +50 °C) no precipitation
- **Temperature coefficient:** <0.1%/°C
- **Cable:** 5ft (1.5m)
- **Diameter:** 1.6" (40.6 mm)
- **Height:** 1.8" (45.8 mm)
- **Weight:** 7.1 oz. (200 grams)

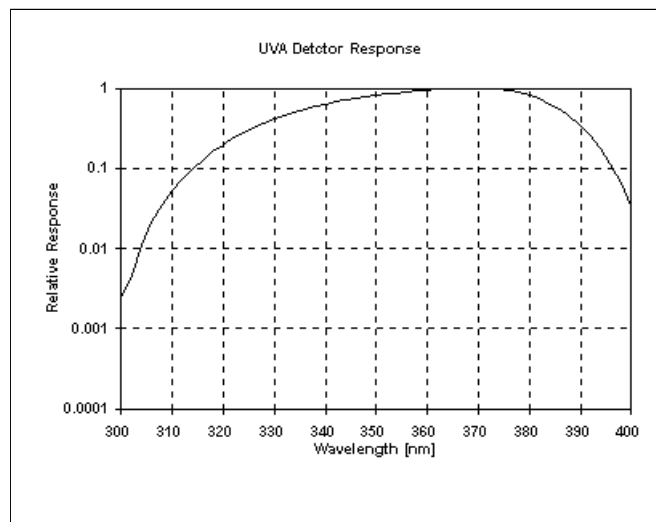


Figure 2- UVA Spectral Response