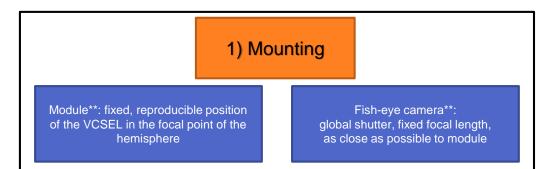




Guideline for eye safety measurements

A short step by step guide

pmdtechnologies – 2017-02-20



3) Analysis 2) Measurement 1) Create limits for validation***: 2) Create background subtracted statistics of ,good' devices image, define field of illumination (Fol) Imager configuration 2*: → define intensity limits and noise region Imager configuration 1*: ToF module: active illumination ToF module: active illumination fisheye camera: 25 frames fisheye camera: 25 frames 3) Further analysis: hot spot detection 4) Apply limits*** to result in a pass/fail exposure time: same as in noise region, calculation of hot spot exposure time: no saturation configuration 1 decision factor for Fol, ...

- * provided by pmdtechnologies ag
- ** provided by ODM
- *** initial values provided by pmdtechnologies ag

1) Mounting

Module** in fixed, reproducible position in the aperture of the integration sphere

2) Measurement

Imager configuration 1*:
Standard use case

Measurement of the mean optical power with integrating sphere

Imager configuration 3*: Increased exposure time (110% of standard), 25% duty cycle

Test of average power protection circuit (step 1)

Imager configuration 2*: Reduced exposure time (40% of standard), 100% duty cycle

Test of peak power limiting circuit

Imager configuration 4*: Increased exposure time > eye safety threshold

Test of average power protection circuit (step 2)

3) Analysis

Imager configuration 1*:
Measured optical power value
within limits***?

Imager configuration 3*:
Increased exposure time leads to
more optical power compared to
standard configuration?

Imager configuration 2*:
Measured optical power value
within limits***?

Imager configuration 4*:
Active illumination switches off?

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