

CLAIMS

1. A device comprising:
 - an optical sensing unit comprising:
 - a center region including:
 - a first light emitter configured to emit first light in a first wavelength range;
 - a second light emitters configured to emit second light in a second wavelengths range, different from the first wavelengths range; and
 - a lens comprising:
 - a first lens region positioned over the first light emitter and including first optical features; and
 - a second lens region surrounding the first lens region and positioned over the second light emitter, the second lens region including second features that are different from the first features; and
 - a peripheral region located around the center region, the peripheral region including a plurality of light detectors configured to detect the first light and the second light; and
 - wherein the plurality of light detectors is oriented in a concentric arrangement,
 - wherein each of the plurality of light detectors has a separation distance from the second light emitter,
 - wherein the separation distances of the plurality of light detectors are the same.
2. The device of claim 1, wherein:
 - the first light emitter is one of a plurality of first light emitters; and
 - each of the plurality of first light emitters has a center located at a radial angle relative to a center of the center region, and centers of two of the plurality of light detectors are located at the radial angle relative to the center of the center region.
3. The device of claim 1, wherein:
 - the first light emitter is one of a plurality of first light emitters; and

each of the first light emitters is located such that a separation distance between the respective first light emitter and one of the plurality of light detectors is less than separation distances between the respective first light emitter and others of the plurality of light detectors.

4. The device of claim 1, further comprising:

an optical isolation located between the first light emitters and the plurality of light detectors,

wherein walls of the optical isolation define one or more cavities, wherein the first light emitters and the second light emitters are located in a cavity separate from the plurality of light detectors.

5. The device of claim 1, further comprising:

a retroreflector located between the center region and the peripheral region, wherein the retroreflector is configured to reflect light in a direction away from at least one of the plurality of light detectors.

6. The device of claim 1, further comprising:

one or more windows located proximate to the center region and the peripheral region;
and

an opaque mask located between the center region and the peripheral region, wherein the opaque mask is configured to absorb light reflecting off an interface of the one or more windows.

7. The device of claim 1, further comprising:

a selective transparent layer located in the peripheral region, the selective transparent layer including a plurality of first sections and a plurality of second sections, wherein the plurality of first sections overlays one or more first portions of the peripheral region and the plurality of second sections overlays one or more second portions of the peripheral region, the one or more second portions overlay the plurality of light detectors.

8. The device of claim 7, wherein the plurality of first sections includes material that is partially transparent to the first light and transparent to the second light.

9. The device of claim 7, wherein the plurality of second sections excludes material.

10. The device of claim 1, wherein the first wavelengths range includes one or more visible wavelengths, and the second wavelengths range includes one or more infrared wavelengths.
11. The device of claim 1, wherein:
the first optical features are configured to collimate the first light; and
the second optical features are configured to change a direction of the second light.
12. The device of claim 1, wherein:
the first optical features define a Fresnel lens; and
the second optical features comprise a prism.