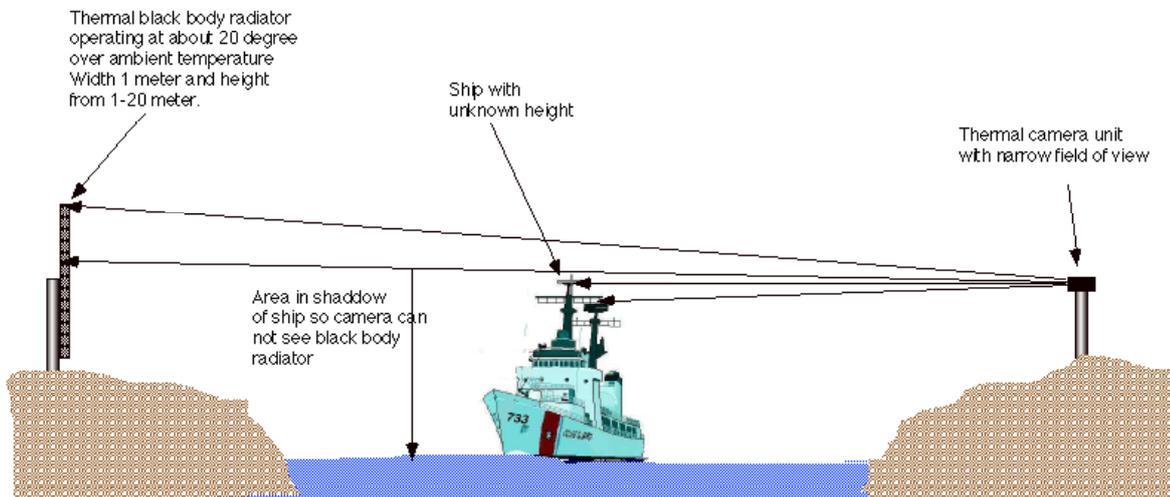


Quotation of long range Laser photocell system with ranging operation

Long range thermal photocell



Black body radiator is operating by electricity and a thermal control system. The only critical parameter is that it must be about 10-20 degree hotter than the object it shall detect. The thermal contrast makes the black body surface white while the object is cooler and appears black on a white surface.

The thermal camera is a modified camera with narrow field optics. The camera image is analyzed by a image processing software to see the white area of the black body source and how much is covered by a possible object. Wavelength is 8-12 micron or 3-5 micron depending on installation site demands.

Transmitter side of system

Here we have a black body thermal source working at about 10-20 degree over ambient temperature. The heated area is 20x1meter where all the surface is slightly heated. This is connected to the main voltage .Power is about 1000W.The radiation is very intense at 8-11 and 3-5 micron radiation . The surface is always a bit hotter than the object we must detect.

Practically this looks like a flat sheet of metal about 50 mm in thickness. None will burn fingers on the surface.

Other side of area receiver side

Thermal camera system is looking at the black body radiator. This area appears white as it is hotter than environment.

The camera have long range optics and look at an area a little larger than the black body source. The cameras will see a white hot square when there is no obstacles. When there is an object in front of the black body source this will block the radiation so parts orb all of the black body unit get invisible.

As the area is so long we can see the shadow of the object and the height of it.

The image of the camera is handled by an image processor which gives alarms when needed. This will also have a fail safe operation if there is a failure.



Thermal camera long range photoicell

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Advantages

This wave length area of spectra is transparent far better than near IR areas.
Penetration of fog and rain is substantially better.

We can measure the real height of the object as the max height of the shadow. This gives a value and not only on and off.

Characteristics like a thermal camera but far more robust as we generate own photons.

Output is a signal over W-lan giving the height of the object which passed the area.
3-5 micron areas are an option often better in hot and humid nights.

Best regards /Med vänlig hälsning Allan Jansson Laseroptronix AB