CLAIMS

1. A gas detector for detecting refrigerant leakage in a space such as a trailer, truck or cargo container, the gas detector comprising:

a gas detector element for detecting the refrigerant leakage;

electronics to interface with the gas detector element;

an enclosure configured to expose the gas detector element to an exterior and the refrigerant leakage and to form an electronics housing area in which the electronics are disposed whereby the electronics are isolated from the exterior and the refrigerant leakage; and

a printed circuit board (PCB) comprising a first side on which the gas detector element is disposed and a second side facing in an opposite direction from the first side and on which the electronics are disposed,

wherein:

the enclosure comprises a body and a cover, the PCB is affixed to the body and the cover is affixed to the body over the PCB,

the cover comprises a cover portion and a spacer portion interposed between the PCB and the cover portion, and

the cover defines an aperture through which the gas detector element is exposed to the exterior and the body cooperates with the PCB to form the electronics housing area in which the electronics are disposed.

2. The gas detector according to claim 1, wherein the PCB comprises a solid, unitary body configured to impede fluid flow from the exterior to the electronics housing area.

3. The gas detector according to claim 1, wherein the spacer portion is thicker than the gas detector element.

4. The gas detector according to claim 1, wherein the spacer portion defines an opening to accommodate the gas detector element and comprises a seal at the opening.

5. The gas detector according to claim 1, wherein:

the PCB defines a PCB aperture through which the gas detector element is exposable to the exterior, and

the PCB comprises a solid, unitary body surrounding the PCB aperture and configured to impede fluid flow from the exterior to the electronics housing area.

6. A refrigeration system configured to condition an interior volume of a conditioned space comprising the gas detector according to claim 1, which is deployed within the interior volume.