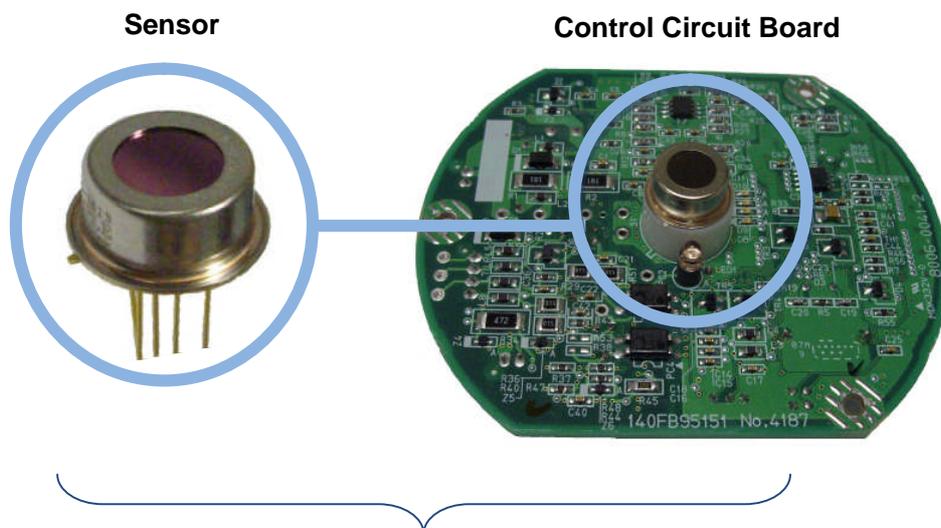


SIFD-100 Sensor Module detects flame, even in outside open space, even under sun light, reflection and ultraviolet ray, even with no smoke/no heat.

No. 1 choice, in highway tunnels and paint booths in Japan.

Five tremendous advantages of SIFD-100

- ✓ Compact size of 98mm(W) X 80mm(D) X 35mm(H)
- ✓ Low power consumption of DC24V, 30mA
- ✓ Long distance of 60m detection
- ✓ Quick response of 2 seconds
- ✓ Reasonable price on a volume discount basis



Sensor module is composed of sensor and control circuit board. As an option, a reference design of the control circuit board can be also provided. In this case you develop and manufacture the control board and just buy the sensor from KGK.

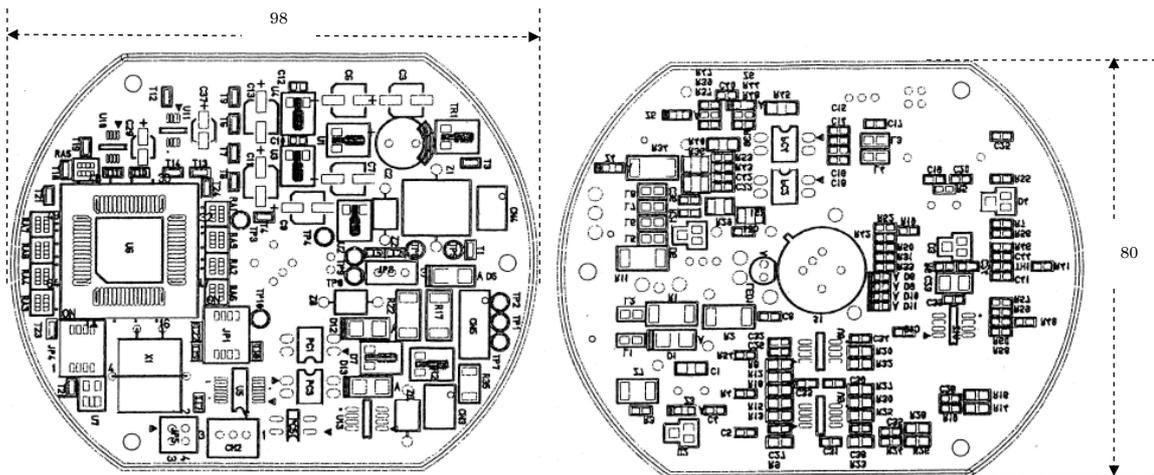
How SIFD-100 works

All substances are emitting infrared ray. When carbon hydrate is burning, there would be a very wide range of emission of wavelength. In that case, besides infrared ray, there would be secondary emission which is generally called 'resonance radiation'. This is caused by carbon hydrate in combustion gas and causes a specific spectral pattern in infrared region, which drastically change its strength of radiation near $4.4\mu\text{m}$ in wavelength. On the other hand, so-called gray-collared emission has its peak at $2\mu\text{m}$ reaching its maximum moderately. Wavelength distribution graph is a mountain with gentle slope. This gray collared radiation is light emission from object. Other than fires, high temperature object and sun light also do contain this wavelength of $2\mu\text{m}$ significantly. As for dispersion of these high-temperature objects, each temperature has each peak. For instance, it is $1.4\mu\text{m}$ at 1800 degrees centigrade, $4.4\mu\text{m}$ at 400 degrees centigrade, and $7.8\mu\text{m}$ at 100 degrees centigrade. This flame detector adopted new fire-detect method utilizing each feature of infrared ray of flame and other objects. In case of flame wavelength, it is having its peak value at $4.4\mu\text{m}$ with extremely low value at its left and right area. This is completely different from the cases the object is without flame. Using this difference of the cases with fire and without fire, this detector does distinguish whether there is flame or not without fail.

Main Specification

- | | |
|-------------------------|--|
| - Configuration | Sensor + Control Circuit Board |
| - Detect distance | 60m (in case of n heptanes 33cm X 33cm fire bowl) |
| - Detect time | Approx. 2 seconds (5 minutes needed for warming up after power on) |
| - Output signal | Photo coupler insulating output, Option : Relay (No-voltage contact) |
| - Observation angle | 90 degree (Full corn shape) |
| - Power consumption | DC24V +/- 20% under 30mA |
| - Operating Temperature | -20 degrees centigrade through +60 degrees centigrade |

Control Board Drawings



Specification subject to change

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