

FLAME EYE® EX



■ Features

- Capable of detecting a 0.33m x 0.33m gasoline pan fire at up to 60m
- Infrared sensing technology using three wavebands for optimum false alarm immunity
- Omniview 360° four-color LED indicator for visible indication of sensor operation from any angle (Alarm, Trouble, Start-up, and Testing)
- Suitable for indoor and outdoor use
- Dust-proof and Water-proof equivalent to IP66/IP67
- Responds to flickering flames
- Stylish and functional design
- Current consumption approx. 6mA (standby), 50mA (alarm)
- Adjustable angle bracket with fine scale
- Ex-proof class : Ex db II CT6Gb

■ Description

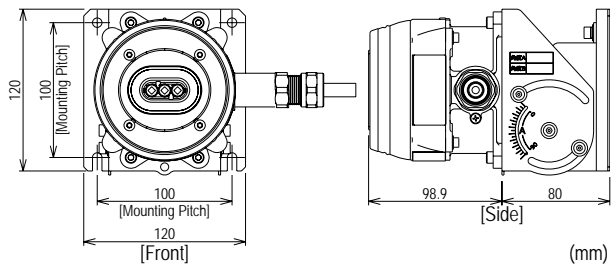
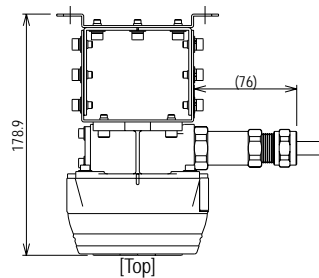
The CR1D-EW is a triple waveband infrared flame detector ideal for indoor/outdoor hazardous environments. Its three built-in infrared sensors can detect fuel fires at long distances with a high immunity to false alarms.

The CR1D-EW is equipped with a manual and automatic Self-Test function to assure continued reliable operation. Its Omniview™ indicator provides 360° visibility for easy status recognition by four types of color illumination.

The CR1D-EW has the same interface to a previous model of 1RB1-EW, which provides compatibility for wiring.

Optional weather-proof hood offers an enhancement of tolerance to the rise of temperature due to the direct sunlight.

■ Dimensions



CRD-EW-14A

Sunshade for CR1D-EW

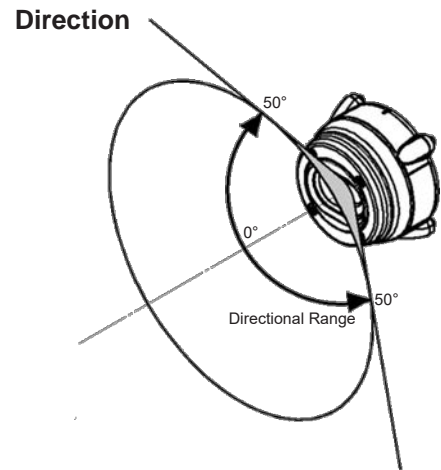
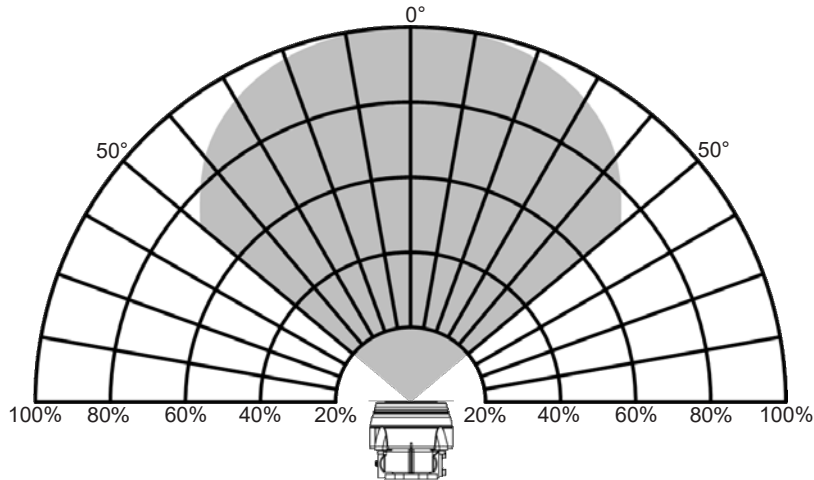


CRD-EW-14B

View angle restriction hood for CR1D-EW

■ Directional Sensitivity and Range

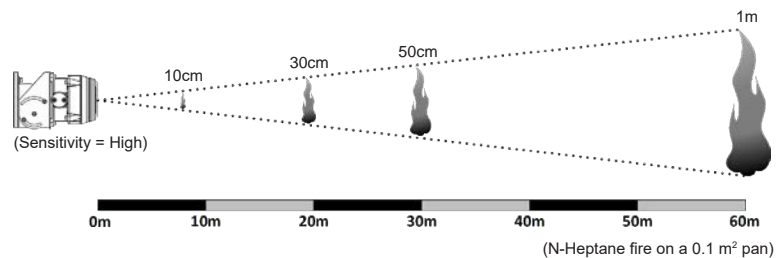
Directional Sensitivity and Range



Selectable Detector Sensitivity

| Detector Sensitivity | Detection Range |
|----------------------|-----------------|
| High (default) | 60 m |
| Middle | 30 m |
| Low | 15 m |

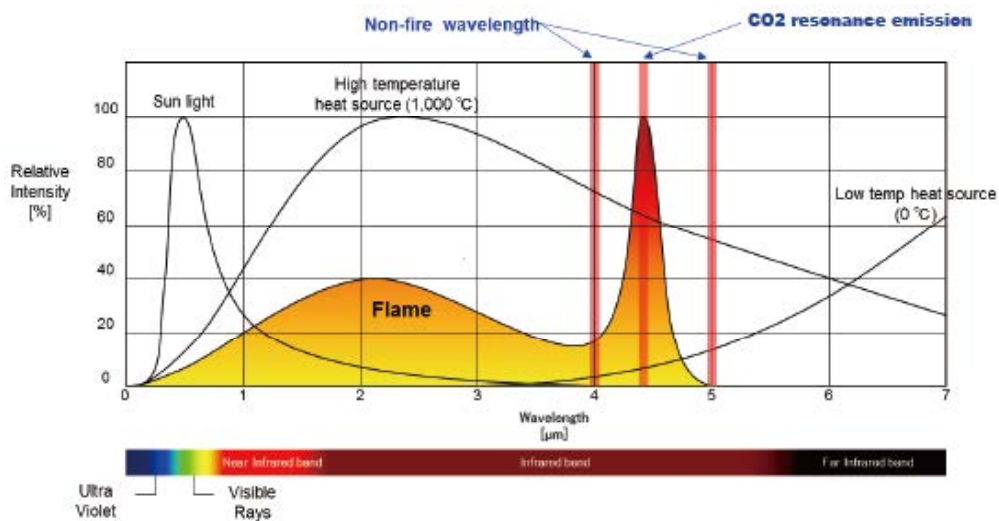
Detectable Flame Size



Detector sensitivity is selectable from 3 values by a dedicated setting tool. Detection range is a detectable distance for a 0.1 m² n-Heptane pan fire. The CR1D-EW has a detection range of 60 m away and a wide angle of 100 degrees toward horizontal and vertical directions.

■ Triple Wavelength IR Detecting

Wavelength range for identifying a true fire



Fire (flame) has a characteristic peak at 4.4 µm in a spectral distribution, which is called as CO₂ emission. The CR1D-EW has 3 sensors that monitor the band of CO₂ emission and two wavebands on either side respectively. The detector avoids false alarms by the feature of frequency-fluctuation detection.

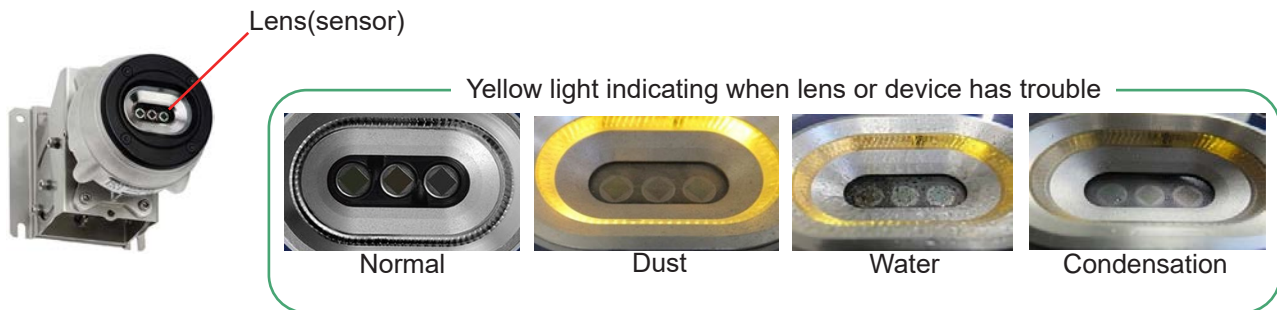
■ OMNIVIEW™ 360° LED

The CR1D-EW has a large ring OMNIVIEW™ 360° LED indicator to see detector status easily.



■ Self-Test Function

The CR1D-EW has self-test function that checking lens condition or device status either automatically or manually to detect trouble condition. That is effective in preventing false alarms. The automatic self-test cycle is adjustable to either every 1 hr, 12 hrs or 1 week to meet with peripheral environment.



LED indication for each status

| Test Function | Detector Status | Output Signal | LED Indicator |
|--|-----------------|---------------|--|
| Manual Test (By remote test switch) | Normal | Fire | Red (steady) |
| | Lens Stains | Trouble | Yellow (Flashes every 4 seconds) |
| | Circuit Trouble | Trouble | Yellow (Flashes 2 times every 4 seconds) |
| Automatic Test | Normal | - | Off |
| | Lens Stains | Trouble | Yellow (Flashes every 4 seconds) |
| | Circuit Trouble | Trouble | Yellow (Flashes 2 times every 4 seconds) |

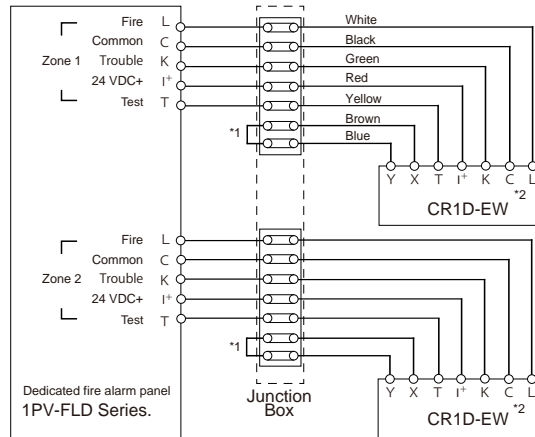
Selectable Self-Test Cycle

| Self-Test Cycle |
|-----------------|
| Every 1 hr |
| Every 12 hrs |
| Every 1 week |
| Off |

*Selectable by a dedicated setting tool.
Default setting is 12 hrs.

■ Typical Wiring

Dedicated Control Panel

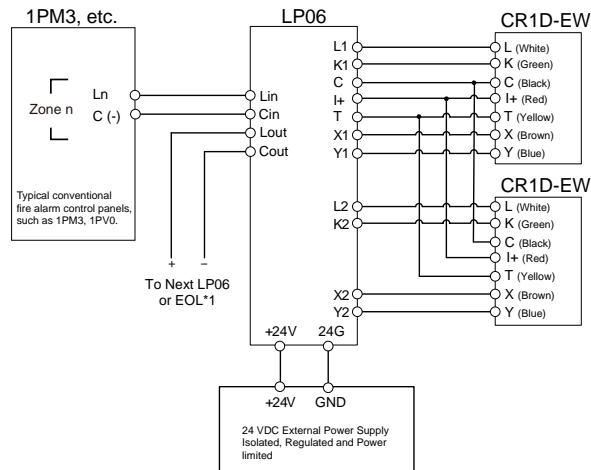


*1 Install a wire jumper between the terminals connected to Brown and Blue wires.

*2 The CR1D-EW has a built-in End-of-Line device (CRE) in its enclosure.

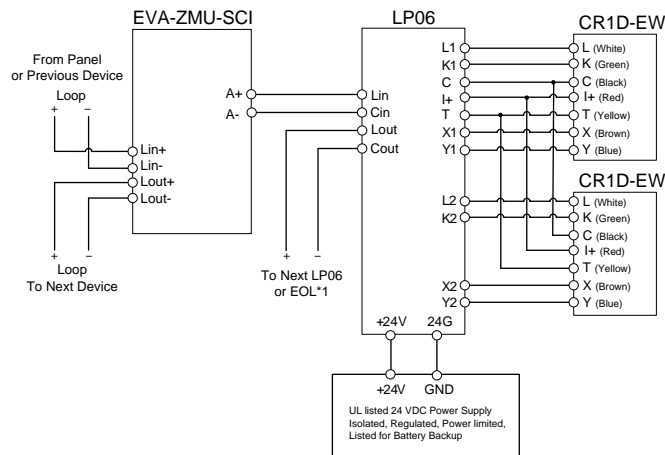
Thus, the number of connectable detector is one per each zone.

Typical Conventional Control Panel



*1 A CRE End-of-Line Device must be installed at the last LP06 in the Ln and C circuit.

NFU-7000 Addressable Control Panel



*1 A 10 kΩ End-of-Line Resistor must be installed at the last LP06 in the A+ and A- circuit.

■ Example of Applications

| Applications | Solutions |
|--------------------------|---|
| Ironworks plant | Fire monitoring for the place where may become hot by motors |
| Printing factory | Fire monitoring for the large printing machine which uses organic solvent |
| Waste incineration plant | Monitoring for waste which may fire spontaneously in waste storage (Correspond to high-ceiling place) |
| Chemical factory | Monitoring for waste storage which may fire spontaneously |

■ Specifications

| Specifications | CR1D-EW-A03 | CR1D-EW-A04 | CR1D-EW-A05 |
|--|--|-------------|--------------|
| Detection Response Time | Normal | Fast | Fast |
| EOL | Equipped | Equipped | Not equipped |
| Explosion-proof class | Ex db II CT6 Gb | | |
| Rated Voltage | 24 VDC | | |
| Operating Voltage | 19.2 VDC to 33.6 VDC | | |
| Rated Current | L - C : 50 mA (Max.) K - C : 50 mA (Max.) | | |
| Operating Current | I+ - C : 6 mA (standby), 40 mA (alarm) L - C : 10 μA and less K - C : 10 μA and less | | |
| Sensitivity / Detection Range (for 0.1 m ² n-Heptane pan fire) | High : 60 m (default) Middle : 30 m Low : 15 m | | |
| Field of View | 100° (±50°) | | |
| LED Indicator | Alarm : Red (steady) Trouble : Yellow (steady or flashing) Remote Test : Blue (flashing) Startup : Green (flashing) Normal : Off Power supply voltage drops : Red (flashing) | | |
| Accessory Cables | 0.5mm ² Flexible copper 8 core cable L(white), C(Black), K(Green), I+(Red), T(Yellow), X(Brown), Y(Blue) 0.75mm ² Flexible copper 1 core cable G(Yellow / Green) Length : 5m Sheath Outer Diameter(mm) : 6.6mm | | |
| Conditions for detecting lens dirt | Infrared transmittance lever: less than 50% | | |
| Operating Temperature | -20°C to +60°C | | |
| Enclosure Rating | IP66 (Dust-proof, Water-proof / IP67 (Dust-proof, Submersion-proof) | | |
| Material | Body : Stainless steel Window : Sapphire Bracket : Stainless steel | | |
| Dimensions / Weight | 120m(H) x 100m(W) x 179mm(D) / 2.7kg (with Mounting Bracket) | | |
| Connectable Fire Alarm Panel | With LP-06 : 1PF, 1PK, 1PM, 1PN, 1PQ, 1PS, 1PV, etc. With ZMU and LP-06 : NFU-7000, NFU-7000-L | | |
| Optional Accessory | MTE3-RD : Flame Detector Testing Device CRD-EW-14A : Sunshade for CR1D-EW CRD-EW-14B : View angle restriction hood for CR1D-EW | | |

All specifications are subject to change without any notice.
For more information, contact with NITTAN.

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