

# FLD-1111-FLP

## UV & IR Flame (Radiant Energy) Detector



**AMBETRONICS**  
AN ISO 9001:2015 CERTIFIED COMPANY

PESO Approved  
Enclosure

EN-50270  
EN 61000-6-4  
Compliance



MAKE IN INDIA



### Features

- Detector detects Multi-Spectral Sensitivity of fire by using UV & IR sensors
- Line of Sight visual range ( upto specific distance )
- IR Spectrum Design- For long distance detection & Higher false alarm immunity
- Sensitivity Selection – To ensure no zone cross over detection.
- High sensitivity combined with fast response time to ensure rapid & accurate flame detection.
- The high dynamic range allows detection of small & large flames, nearby or over large distance.
- Multiple output options for maximum flexibility and compatibility.
  - (3) Relays for FLAME DETECTION, AUXILIARY and FAULT
  - 0 - 20mA (Stepped) or 0 - 10V (Stepped)
  - Optional HART protocol for configuration setting
  - RS-485, MODBUS compatible
- User programmable via Bluetooth, HART or RS-485.
- Heat detector extension (optional)
- Date-time stamped event logging (optional)
- Built in self test (BIT)
- Mobile alert (LoRa/WiFi) (optional)
- Connectivity via IoT (optional)
- Test Lamp compatibility for safe Test

### Approvals & Compliance

Approval & Compliance for Flameproof :

| IIC Approval :  | CIMFR Test Report No.                 | PESO Certificate No.         |
|---|---------------------------------------|------------------------------|
| Certified to Ex d IIC T6 Gb, @ 60°C IP68<br>Standard Compliance : <ul style="list-style-type: none"><li>• IS/IEC 60079-0 : 2017</li><li>• IS/IEC 60079-1 : 2014</li><li>• IS/IEC 60529 : 2001</li></ul> | IN/CIMFR/TR20/3034<br>Dt.: 10/11/2020 | P538850/8<br>Dt.: 16/06/2022 |
|   | <b>BIS LICENSE NUMBER</b>             | 7800046916                   |

### Applications

- Refineries
- Power Plants
- Electric Power Transformers
- Laboratories
- Loading & Unloading Terminals: Truck, Rail & Marine
- Engine Test Rooms
- Onshore & Offshore Applications
- Waste Recycling
- Monitoring Of Machinery
- Petrochemical CNG / LNG / LPG Production
- Automation & Manufacturing Industries
- Chemical & Pharmaceutical Plants
- Hospitals & Clean Rooms

**MUST FOR HUMAN & INDUSTRIAL SAFETY**

# TECHNICAL SPECIFICATIONS

## GENERAL

|  |  |
|--|--|
| Parameter Setting                      | : Field configuration settings done by Bluetooth or MODBUS RTU Protocol. |
| Spectral Response                      | : UV Band - (185nm to 260 nm)<br>Single IR Band - (3000 nm to 5000 nm)   |
| Detection Range                        | : • n-Heptane : 88ft (27m)   |
| (At highest sensitivity                | • Kerosene : 82ft (25m)  |
| Setting for 1ft <sup>2</sup> pan fire) | • Diesel Fuel : 82ft (25m)   |
|  | • Methanol : 66ft (20m)  |
|  | • Gasoline : 82ft (25m)  |

## PERFORMANCE

|                        |  |
|------------------------|--|
| Response Time          | : Typically Less than 5 seconds<br>(Depending on Flame Size & Sensitivity) |
| Field of View          | : 90° Horizontal, 90° Vertical   |
| Adjustable Time Delay  | : Upto 30 seconds  |
| Adjustable Sensitivity | : Low, Medium and High   |
| BIT                    | : Automatic self check test  |
| Performance Test       | : Performance can be tested by using Test Lamp (FTU-3311)(Safe Test)       |

## ELECTRICAL

|                   |                                 |
|-------------------|---------------------------------|
| Supply Voltage    | : 18 to 36 VDC, typically 24VDC |
| Power Consumption | : Less than 3W                  |

## OUTPUT SIGNAL

|                          |   |
|--------------------------|---|
| 4-20mA Current Output    | : 250 to 600 ohms load driving capacity   |
| or 0- 10V                | : Fault : 1mA Normal : 4mA<br>Fire detect : 20mA  |
| L.E.D. Indication        | : Blinking POWER LED (Green), FIRE DETECT LED (RED) & COMMUNICATION LED (Blue)            |
| Relay                    | : Three SPDT relays 5A@ 30VDC & 250 VAC for Fail safe, Fire detection & Auxiliary output. |
| Event Logging (optional) | : Date-Time stamped Event Logging   |
| Communication            | : RS-485 communication port with MODBUS RTU protocol.                                     |
| HART Protocol            | : Use for configuration changes by using  |
| (Proprietary optional)   | AEPL Communicator   |
| Connectivity (optional)  | : Mobile connectivity and SMS alert via LoRa & IoT support                                |

## ENVIRONMENTAL

|                       |                                |
|-----------------------|--------------------------------|
| Operating Temperature | : -15°C to +50°C               |
| Storage Temperature   | : -20°C to +85°C               |
| Humidity              | : Less than 95% Non-Condensing |

## ACCESSORIES (OPTIONAL)

- RS-485 to USB OR RS-232 converter
- Hooter cum Flasher
- Protection Cover
- Heat Detector
- Air shield
- Magnetic Wand
- Test Lamp

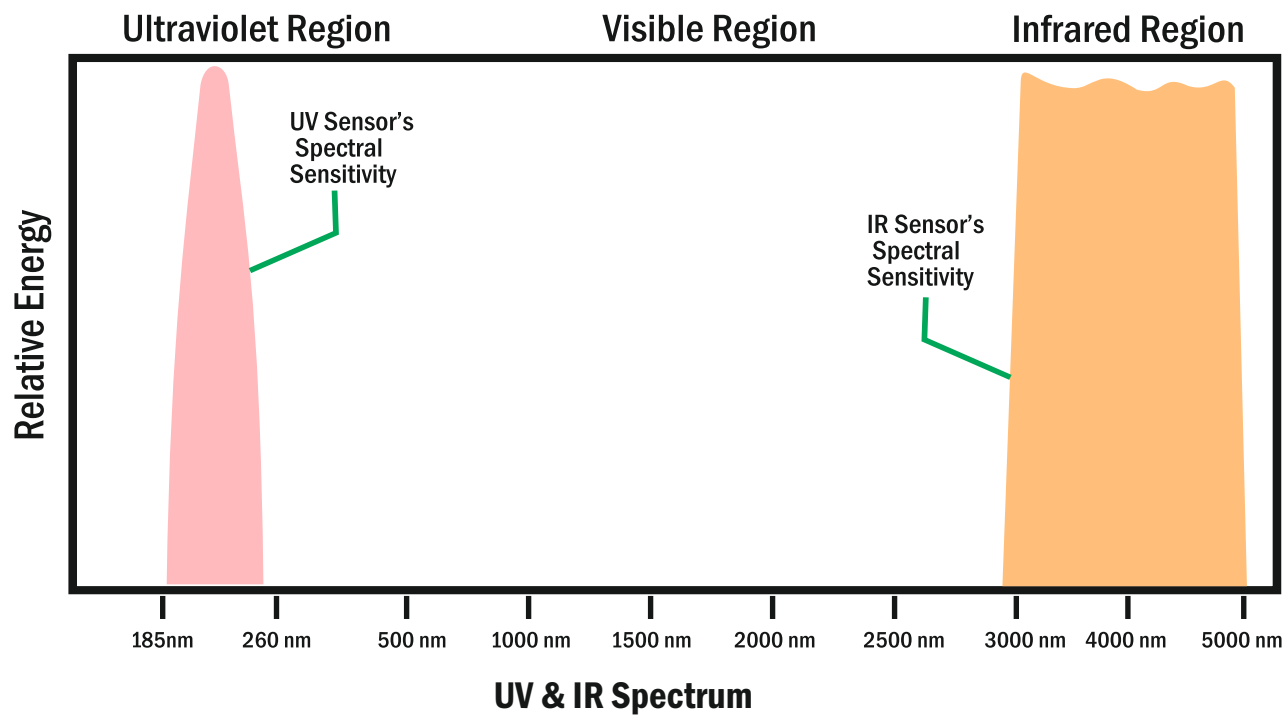
## FLAMEPROOF HOUSING

|                             |   |
|-----------------------------|---|
| Degree of Protection Class  | : IP66 & Ip68   |
| Housing Material            | : Cast Aluminium LM6 alloy or Stainless Steel   |
| Cable Entry                 | : Flameproof, IP66<br>Double Compression Cable Gland - M20 x 1.5 (P)  |
| Wiring                      | : 16-26AWG (1.5mm <sup>2</sup> - 0.14 mm <sup>2</sup> )   |
| Dimension (IIC Enclosure)   | : 155mm (H) x 263mm (W) with Hooter cum Flasher & cable gland x 125 mm (D)<br>155mm (H) x 223 mm (W) with stopper plug & cable gland x 125 mm (D)   |
| Dimension (JB-90 Enclosure) | : 128mm (H) x 200mm (W) with one cable gland & Stopping Plug x 97 mm (D)<br>128 mm (H) x 240mm (W) with Hooter Cum Flasher & one cable glands x 97mm (D)  |
| Mounting                    | : Wall or Pipe Mounting   |
| Weight                      | : <ul style="list-style-type: none"><li>• IIC Enclosure : Approx 2.53 Kg. (LM6), Approx 7 Kg. (SS316)</li><li>• JB-90 Enclosure : Approx 1.25 Kg. (LM6), Approx 4.5 Kg. (SS316)</li><li>• Mounting stand for IIC Enclosure : 1.6 kg. to 2 kg.</li></ul> |

## CIMFR & PESO APPROVALS & STANDARDS

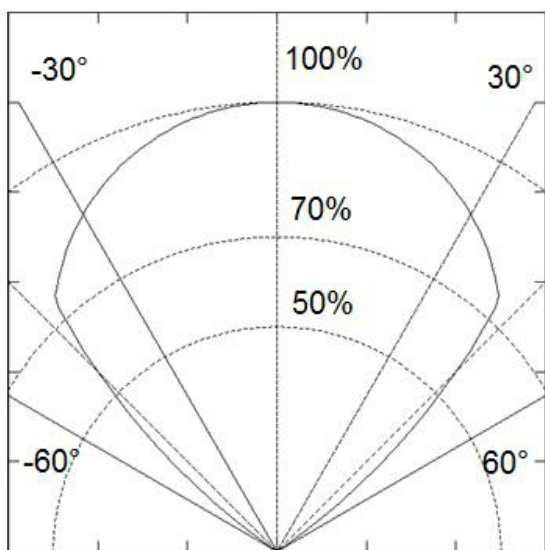
|                               |   |
|-------------------------------|---|
| Degree of Protection Class    | : IP66 & IP68   |
| <u>JB/FLP/IIC Enclosure</u>   | : <ul style="list-style-type: none"><li>• CIMFR CERTIFICATE NO. : IN/CIMFR/TR20/3034 Dt. : 10/11/2020</li><li>• PESO CERTIFICATE NO. : P492376/1 Dt. : 13/01/2021</li></ul>   |
| <u>JB/90FLP/IIC Enclosure</u> | : <ul style="list-style-type: none"><li>• CIMFR CERTIFICATE NO. : IN/CIMFR/TR20/3007 Dt. : 22/10/2020</li><li>• PESO CERTIFICATE NO. : P492376/2 Dt. : 13/01/2021</li></ul>   |
| <u>Hooter cum Flasher</u>     | : HCF/FLP/2C <ul style="list-style-type: none"><li>• CIMFR CERTIFICATE NO. : IN/CIMFR/TR19/4378 Dt. : 13/12/2019</li><li>• PESO CERTIFICATE NO. : P468728/3 Dt. : 21/02/2020</li></ul>  |
| <u>Cable Gland</u>            | : Double Compression Cable Gland - Model No.: CG/FLP/2C<br>M20 x 1.5 (P) ½" NPT & ¾" NPT <ul style="list-style-type: none"><li>• CIMFR CERTIFICATE NO. : CIMFR/TC/P/1313 Dt. : 19/09/2018</li><li>• PESO CERTIFICATE NO. : P431645/2 Dt. : 19/11/2019</li></ul> |
| <u>Stopping Plug</u>          | : SP/FLP/2C - (M20 x 1.5P) <ul style="list-style-type: none"><li>• CIMFR CERTIFICATE NO. : CIMFR/TC/P/1314 Dt. : 19/09/2018</li><li>• PESO CERTIFICATE NO. : P431645/3 Dt. : 19/11/2019</li></ul>   |

# UV & IR SPECTRUM

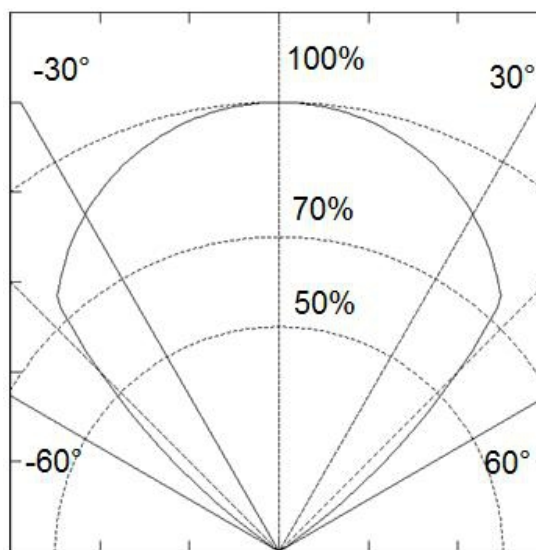


## FIELD OF VIEW

### 90° HORIZONTAL



### 90° VERTICAL



## ORDERING INFORMATION

FLD-1111-FLP-UV & IR

|   |  |  |  |                                     |                                  |  |
|---|--|--|--|-------------------------------------|----------------------------------|--|
| <b>A</b>  | <b>B</b>                                   | <b>C</b>   | <b>D</b>                                 | <b>E</b>                            | <b>F</b>                         | <b>G</b>                                 |
| A) Enclosure (FLP)<br>1) JB-FLP-IIC<br>2) JB - 90 | B) Housing Material<br>1) LM6<br>2) SS-316 | C) Transmission Output<br>1) 4-20mA / 0-10V<br>2) 4-20mA with HART | D) Hooter cum Flasher<br>1) No<br>2) Yes | E) Heat Detector<br>1) No<br>2) Yes | F) Air Shield<br>1) No<br>2) Yes | G) Test Lamp FTU-3311<br>1) No<br>2) Yes |

\*Before placing order please refer the above ordering information of contact below address for assistance.

Manufactured by :



**CIMFR**



**ISI**



**PESO**



**AMBETRONICS ENGINEERS PVT. LTD.**

17-B, 16, 14A, Tarun Industrial Estate, New Nagardas Road, Mogra Pada, Andheri (E.) Mumbai - 400 069, India.



+91-22-69623389

+91-22-61673021/22



+91-93207 37646

+91-91674 18106



sales8@ambetronics.com

sales11@ambetronics.com

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