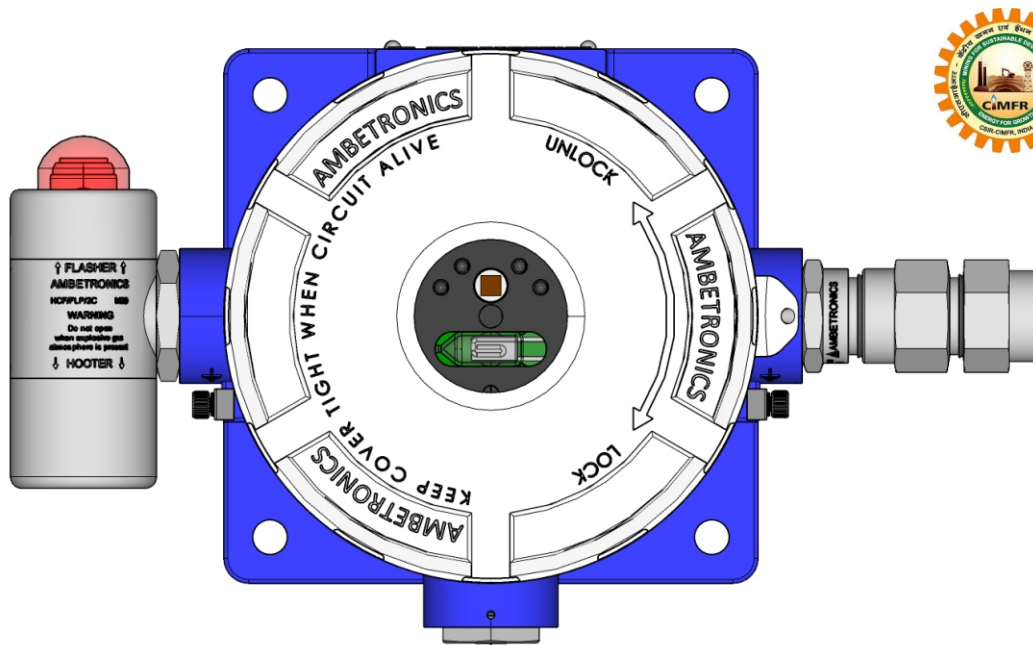


## UV & IR FLAME (RADIANT ENERGY) DETECTOR



### 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
- Built in self test (BIT)
- Mobile alert (LoRa/WiFi) (optional)
- Connectivity via IoT (optional)
- Test Lamp compatibility for safe Test

### Approval & Compliance

Approval & Compliance for Flameproof :

| IIC Approval :  | CIMFR Test Report No. :               | PESO Certificate No. :       |
|---|---------------------------------------|------------------------------|
| Certified to Ex d IIC T6 Gb, IP66 & 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 | P492376/1<br>Dt.: 13/01/2021 |
| <b>BIS LICENSE NUMBER : 7800046916</b>  |                                       |                              |

\* Applied for UL certification

### 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

# 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<br>(At highest sensitivity) | : • n-Heptane : 88ft (27m)<br>• Kerosene : 82ft (25m)                              |
| Setting for 1ft <sup>2</sup> pan fire       | : • Diesel Fuel : 82ft (25m)<br>• Methanol : 66ft (20m)<br>• Gasoline : 82ft (25m) |

## PERFORMANCE

|                        |  |
|------------------------|--|
| Response Time          | : Typically Less than 5 seconds<br>(Depending on Flame Size & Sensitivity) |
| Field of View          | : 100° Horizontal, 90° Vertical,<br>120° Diagonal cone vision              |
| Adjustable Time Delay  | : Upto 30 seconds  |
| Adjustable Sensitivity | : Low, Medium and High   |
| BIT                    | : Automatic and manual built in self check test                            |
| Performance Test       | : Performance can be tested by using Test Lamp (FTU-3311-FLP)(Safe Test)   |

## ELECTRICAL

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

## OUTPUT SIGNAL

|   |   |
|---|---|
| 4-20mA Current Output<br>or 0- 10V      | : 250 to 600 ohms load driving capacity<br>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 6A@ 30VDC & 250 VAC for Fail safe, Fire detection & Auxiliary output. |
| Event Logging                           | : Date-Time stamped Event Logging   |
| Communication                           | : RS-485 communication port with MODBUS RTU protocol.                                     |
| HART Protocol<br>(Proprietary optional) | : Use for configuration changes by using 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

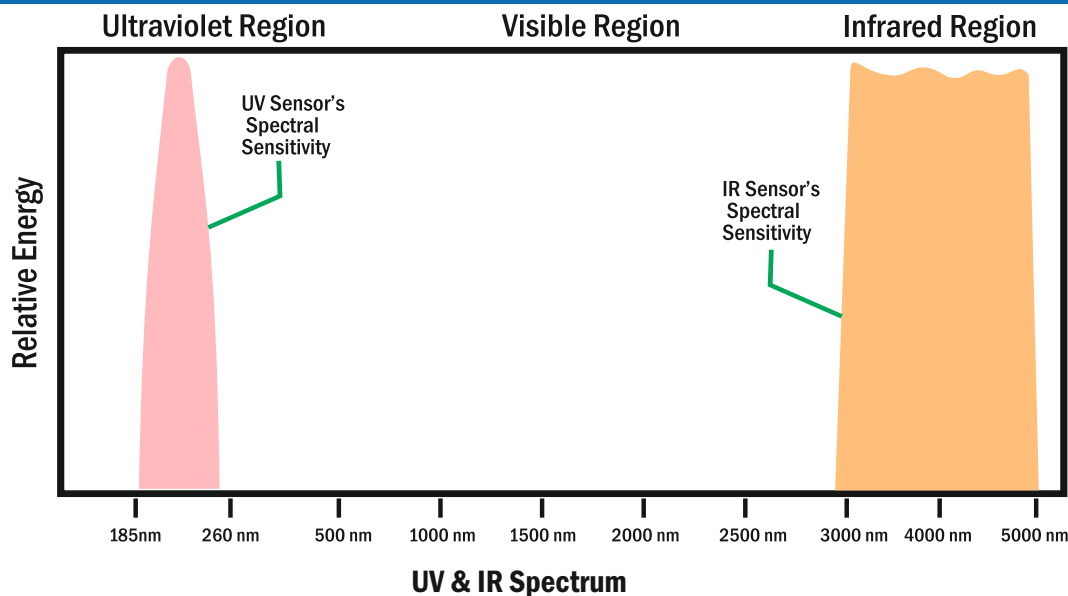
## FLAMEPROOF HOUSING

|                                |   |
|--------------------------------|---|
| Degree of Protection Class     | : IP-66 & IP-68   |
| 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<br>(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<br>(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

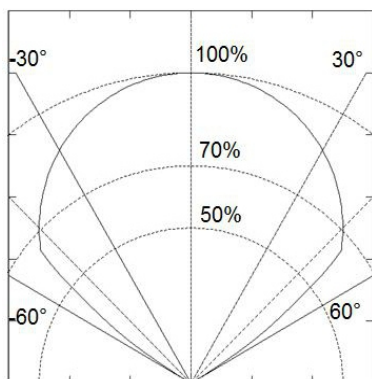
|                               |   |
|-------------------------------|---|
| Degree of Protection Class    | : IP-66 & IP-68   |
| <u>JB/FLP/IIC Enclosure</u>   | : <ul style="list-style-type: none"><li>• CIMFR CERTIFICATE NO. : IN/CIMFR/TR20/3034 Dt. : 10/11/2020</li><li>• PESO CERTIFICATE NO. : P492376/1 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

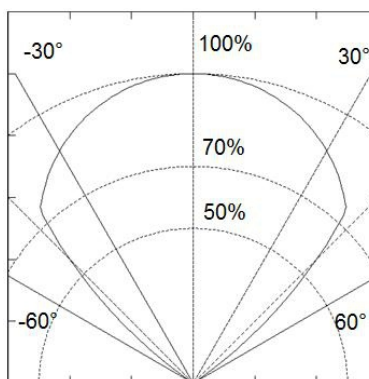


## FIELD OF VIEW

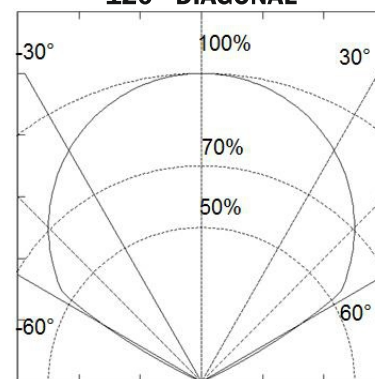
### 100° HORIZONTAL



### 90° VERTICAL



### 120° DIAGONAL



## ORDERING INFORMATION

**FLD-1111-FLP-UV & IR**

| A   | B   | C  | D  | E                                   | F   | G                                | H                         |
|---|---|--|--|-------------------------------------|---|----------------------------------|---------------------------|
| A) Enclosure (FLP)<br>1) JB-FLP-IIC<br>2) JB - 90 | B) Enclosure (FLP)<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) Mobile Connectivity<br>1) No<br>2) Yes | G) Air Shield<br>1) No<br>2) Yes | H) Test Lamp FTU-33-(FLP) |

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

Manufactured by :

**AMBETRONICS ENGINEERS PVT. LTD.**

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

Mob. : +91-9320619646 • +91-9167418106 • +91-7208962297 • Tel.: +91-22-61673000/26

E-mail : project@ambetronics.com • manan@ambetronics.com • sales14@ambetronics.com

Website : www.ambetronics.com



www.ambetronics.com

Version : FLD-1111-FLP-R5-23-02-2021