

# EMB-7700-FLP

## Ember (Radiant Energy) Detector



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

PESO Approved Enclosure

Optional with air purging unit



MAKE IN INDIA



### Features

- High speed Ember detection using IR technology.
- Specially designed for hazardous environment .
- Optical cleaning system to prevent dust & dirt accumulation on the window.
- Ember verification for accurate & precise detection.
- Low power consumption
- Insensitive to sunlight
- Sensitivity Selection - To ensure no zone cross over detection
- High sensitivity combined with fast response time to ensure rapid & accurate Ember detection
- Multiple output options for maximum flexibility and compatibility.
  - (3) Relays for EMBER DETECTION, AUXILIARY and FAULT
  - 0 - 20mA (Stepped) or 0 - 10V (Stepped)
  - Optional HART protocol for configuration setting
  - RS-485, MODBUS compatible (optional)
- 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)

### 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

- Conveyors, Silos
- Waste Recycling Conveyors
- Coal dust conveyance
- Escalators
- Drying Lines
- Extractors
- Production & Automation industry
- Waste recycling industry
- Wood industry: sawdust shavings
- Textile industry
- Food industry
- Pharmaceutical & chemical industry

**MUST FOR HUMAN & INDUSTRIAL SAFETY**

# TECHNICAL SPECIFICATIONS

## GENERAL

|                   |   |
|-------------------|---|
| Parameter Setting | : Field configuration settings done by Bluetooth or MODBUS RTU Protocol |
| Spectral Response | : 3.0 µm to 15µm  |
| Detection Range   | : UPTO 1.5 m max.   |

## PERFORMANCE

|                        |  |
|------------------------|--|
| Response Time          | : Typically Less than 1sec. (approx 500ms) user configurable |
| Ember Velocity         | : 1-10m/s  |
| Field of View          | : 90° Horizontal, 90° Vertical                               |
| Adjustable Sensitivity | : Low, Medium and High                                       |
| BIT                    | : Automatic built in self check 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), EMBER DETECT LED (RED) & COMMUNICATION LED (Blue)           |
| Relay                     | : Three SPDT relays 2A@ 30VDC & 250 VAC for Ember detection, Auxiliary & Fail safe output |
| Event Logging (optional)  | : Date-Time stamped Event Logging   |
| Communication (optional): | 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 (Complementary)

- Air Shield
- Mounting Stand

## ACCESSORIES (OPTIONAL)

- RS-485 to USB OR RS-232 converter
- Hooter cum Flasher
- Protection Cover
- Heat Detector

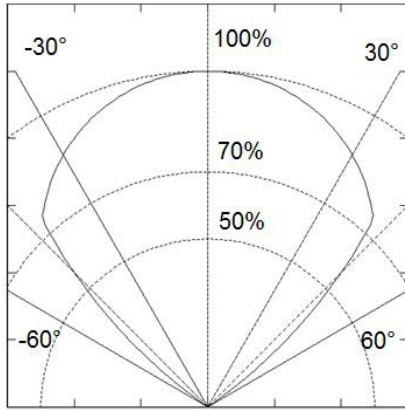
## FLAMEPROOF HOUSING

|                             |   |
|-----------------------------|---|
| 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 (IIC Enclosure)   | : 155mm (H) x 263mm (W) with Hooter cum Flasher & cable gland x 135 mm (D)<br>155mm (H) x 223 mm (W) with stopper plug & cable gland x 135 mm (D)   |
| Dimension (JB-90 Enclosure) | : 128mm (H) x 200mm (W) with one cable gland & Stopping Plug x 110 mm (D)<br>128 mm (H) x 240mm (W) with Hooter Cum Flasher & one cable glands x 110 mm (D)<br>128 mm (H) x 240mm (W) with Ho   |
| 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> |

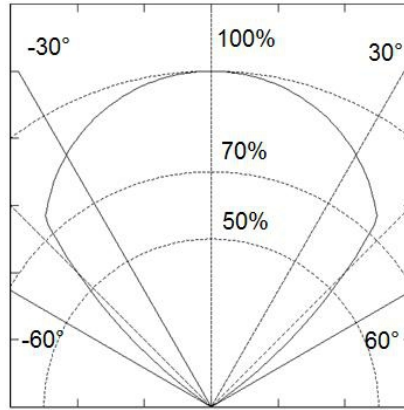
## CIMFR & PESO APPROVALS & STANDARDS

|                               |   |
|-------------------------------|---|
| 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>   |

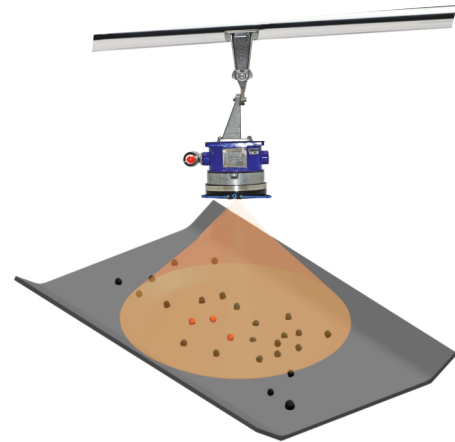
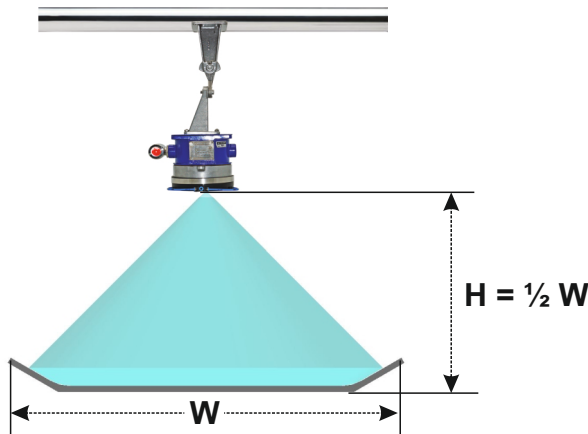
90° HORIZONTAL



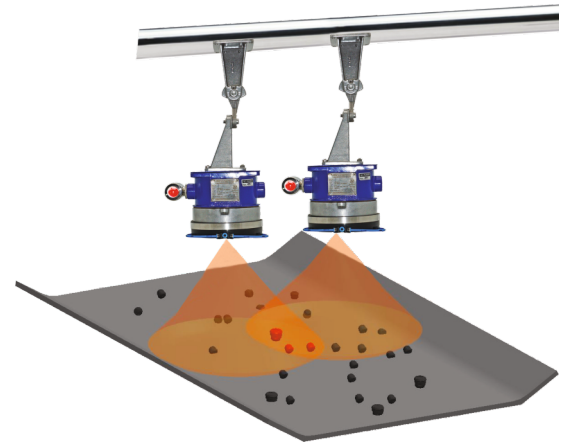
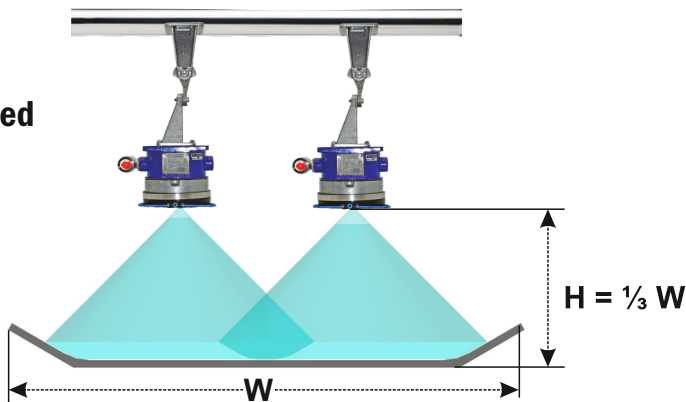
90° VERTICAL



Minimum  
1 Detector



Recommended  
2 Detectors



ORDERING INFORMATION

EMB-7700-FLP

|  |  |   |   |   |
|--|--|---|---|---|
| <b>A</b>   | <b>B</b>   | <b>C</b>  | <b>D</b>  | <b>E</b>                                      |
| <b>A) Enclosure (FLP)</b><br>1) JB-FLP-IIC<br>2) JB - 90 | <b>B) Housing Material</b><br>1) LM-6<br>2) SS-316 | <b>C) Transmission Output</b><br>1) 4-20mA<br>2) 4-20mA with HART | <b>D) Hooter cum Flasher</b><br>1) No<br>2) Yes | <b>E) Protection Cover</b><br>1) No<br>2) Yes |

\* Before placing order please Refer the above ordering information or Contact below address for assistance.

Manufactured by :



**AMBETRONICS ENGINEERS PVT. LTD.**

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