

UV & IR Flame (Radiant Energy) Detector

FLD-3311-FLP

Phoenix Series



AMBETRONICS®

ISO 9001:2015
Quality



ISO 14001:2015
Environment



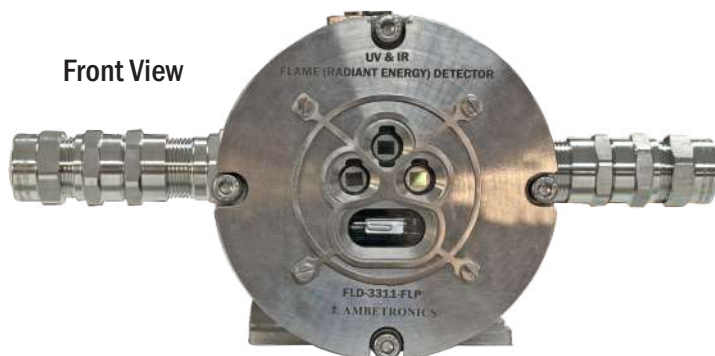
ISO 45001:2018
Health & Safety



Side View



Front View



Features

- Multi-Spectrum IR & UV Sensor
- Certified SIL2 compliant
- False alarm rejection
- Digital, Analog & Relay O/P, provide reliable status info
- RFI & EMC directive compliant
- Wide field of view
- Built in self-check
- Improved design
- Mounting stand allows easy sighting
- High speed capability
- Colour status LED
- Low power consumption
- 3 years warranty
- Clear Line of Sight visual range (upto specific distance)
- Sensitivity Selection – To ensure no zone cross over detection.
- High sensitivity combined with fast response time to ensure rapid & accurate flame detection.
- User programmable via optional RS-485 & optional HART.
- Test Lamp compatibility for safe Test

Applications

- Chemical and Petrochemical plants
- Refineries
- Onshore & Offshore Oil & Gas Installation & Pipelines
- Hazardous Storage tank farms
- Automotive industry (Paint Booth, Paint Kitchen, Production Line)
- Engine Test Cells/Room
- Fuel and gas processing and storage facilities
- Power generation
- Explosives and munitions
- Paint, Fertilizer plants
- Vehicle battery charging stations
- Aerospace industry (Aircraft Hangers)
- Waste management facilities
- Pharmaceutical industry
- Warehouses
- Manufacturers & Automation Industries
- Power Plants/ Nuclear Power Sites
- Military & Marine Applications, Nuclear Power Sites

Certifications

CIMFR & PESO Certification

- PESO: Certified to Ex db IIC T6 Gb ($T_{amb} - 40^{\circ}C \leq T_a \leq +85^{\circ}C$)
Ex tb IIIC T85° Db, IP66 & IP68
- CIMFR: IIA, IIB group, IIC • Enclosure Rating IP66 & IP68
- Standards: IS/IEC 60079-0, IS/IEC 60079-1, IS/IEC 60079-31

Functional Safety Certification

SIL compliance as per requirement of EN IEC 61508: 2010 Part1 to Part7 & meets requirements providing a level of integrity to SIL2 capable, Type B element, SIL2@ HFT=0, Route1H (Models SFF $\geq 90\%$)

EMC Directive 2014/30/EU Compliance

Compliance to meet the requirement to EMC Directive 2014/30/EU EMC/EMI compatibility as per standard BS EN 50130-4 Emission compatibility as per standard BS EN IEC 61000-6-4

Low Voltage Directive (LVD) 2014/35/EU Compliance

Compliance to meet the requirements to LVD 2014/35/EU Low Voltage Directive compatibility with standard EN 61010-1

RoHS Directive 2015/863/EU

Compliance to meet the requirements of EN IEC 63000

MUST FOR HUMAN & INDUSTRIAL SAFETY

Technical Specifications

General Specification :

Spectral Response	: UV Band - (185nm to 260 nm)
Wave Length	Three IR Bands - (3000 nm to 5000 nm)
Field of View	: $110^{\circ} \pm 10^{\circ}$ (Horizontal & Vertical)
Detection Range	: For UV & IR Flame Detector
(At highest sensitivity	• n-Heptane : 88ft (27m)
Setting for 1ft ² pan fire)	• Kerosene : 82ft (25m)
	• Diesel Fuel : 82ft (25m)
	• Methanol : 66ft (20m)
	• Gasoline : 82ft (25m)
Response Time	: Typically Less than 3 seconds (Depending on Flame Size & Sensitivity)
Adjustable Sensitivity	: High, Medium and Low
Adjustable Time Delay	: Upto 15 Seconds
False Alarm Immunity	: Available
Built in test	: Automatic Self Diagnosis Test

Electrical Specification :

Operating Voltage	: 18 to 32 VDC, Typically 24VDC
Power Consumption	: Total Power Consumption - Less than 6W at 24VDC
	Normal : 3.5W Approx
	Alarm : 3.2W Approx
	Heater On : 3.3W Approx
Safety Function	: Sink/Source 4-20mA Signal (0-20mA ($\pm 200 \mu A$))
4-20mA Current Output	Output Available with Fault Option)
Analog Signal	: Power Fault : 0mA IR Detection : 8mA
Multiple Level	Safety Fault : 2mA UV Detection : 12mA
	Non-Safety Fault : 3mA Warning : 16mA
	Normal Condition : 4mA Fire Alarm : 20mA
Relay Output	: Fire Alarm, Fault Alarm, Auxiliary Relays of Rating 5A, 220VDC/250VAC, 60W & De-Energised / Energised, Latching / Non-Latching
Communication	: RS-485 Communication Port with Modbus RTU Protocol
Hart Protocol	: Use for Configuration Changes by using Communicator
Connection	: 0.5mm ² (20AWG) - 1.5mm ² (16AWG)
Status Indicators	: • Normal : Green • Alarm : Red
	• Fault : Green & Red Blink
	• Communication : Yellow / Blue Blink

Accessories (Optional) :

- RS-485 to USB or RS-232 converter
- Protection Cover
- HART Communicator
- Test Lamp

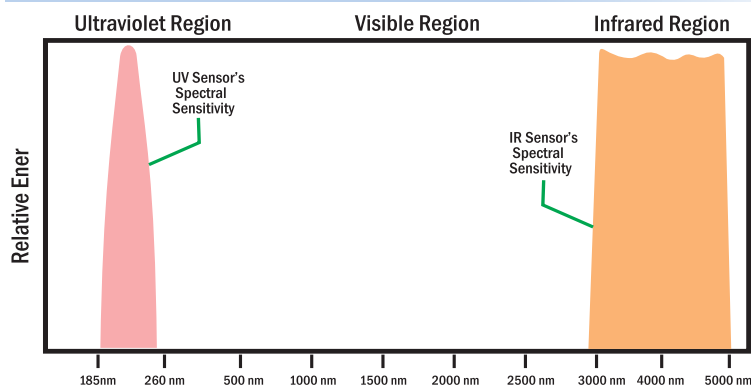
Environmental Specification :

Operating &	: -40°C to +80°C (- 40°F to + 176°F)
Certified Temperature	
Storage Temperature	: -40°C to +85°C (- 40°F to + 185°F)
Humidity	: 0 to 95%, Relative Humidity Can withstand (Non-Condensing). 100% Condensing humidity for short periods of time.
Electromagnetic	: Compliance to meet the requirement to EMC Directive
Compatibility	2014/30/EU
	EMC/EMI compatibility as per standard BS EN 50130-4
	Emission Compatibility as per standard BS EN IEC 61000-6-4
Atmospheric Pressure	: 1013HPa $\pm$ 10%
Ingress Protection	: IP66 per EN 60529

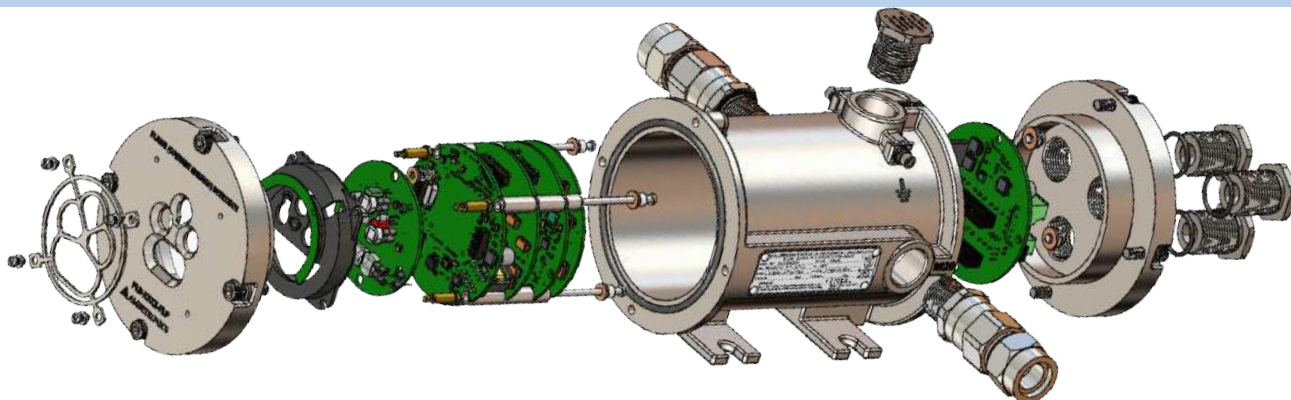
Mechanical Specification :

Housing Material	: Stainless Steel SS-316 (Non-Magnetic)
Cable Entry Size	: M20 x 1.5 (P) or ½" NPT
Stopping Plug	: EX-proof Certified
Dimension	: 109 (H) x 224 (W) with cable gland / 105 without cable gland x 163 (D) (in mm)
Weight	: Approx. 5.00 kg
Enclosure	: Individual Enclosure check & pressurize Test Done as per standards : IS/IEC 60079-0, IS/IEC 60079-1, IS/IEC 60079-31
Mounting	: Wall Mounting with stand accessories
Deliverable Accessories	: Ex-proof Certified Double Compression Cable Gland, Mounting Stand with wall mounting accessories.

UV & IR SPECTRUM

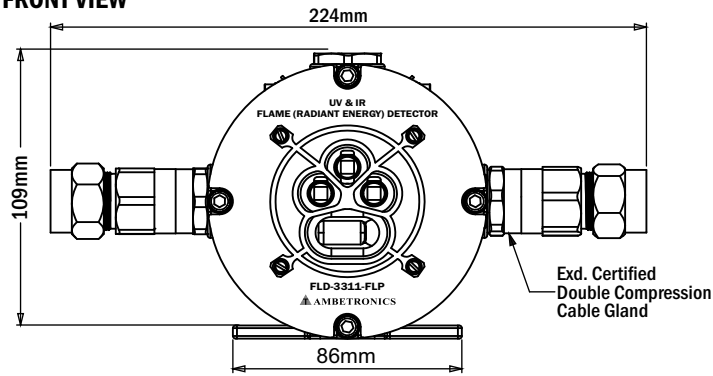


EXPLODED VIEW

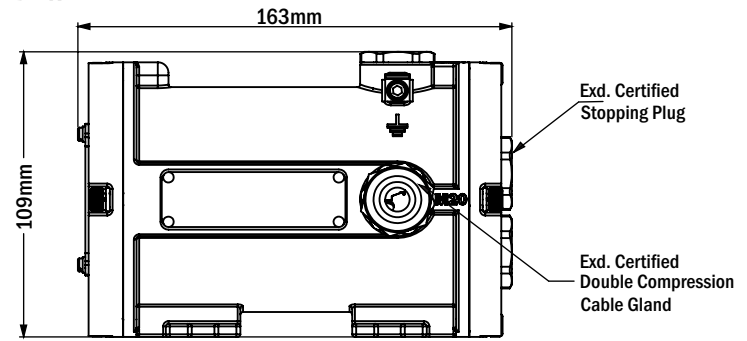


DIMENSION DETAILS

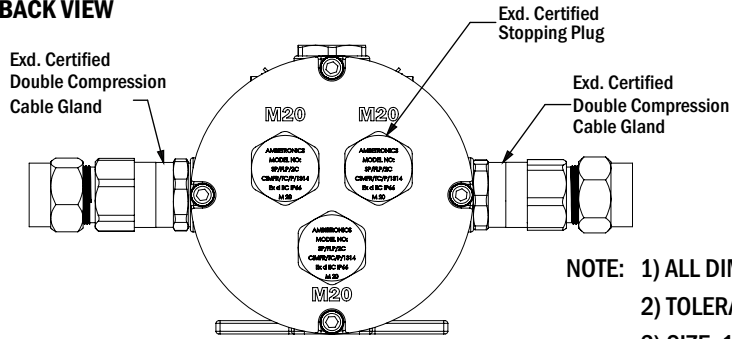
FRONT VIEW



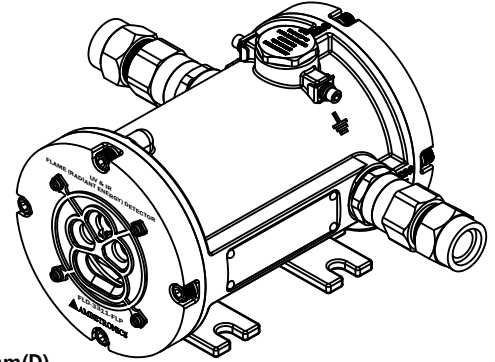
SIDE VIEW



BACK VIEW

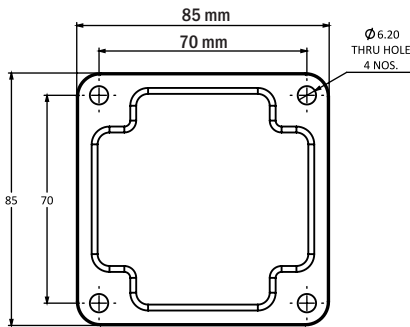


ISOMETRIC VIEW

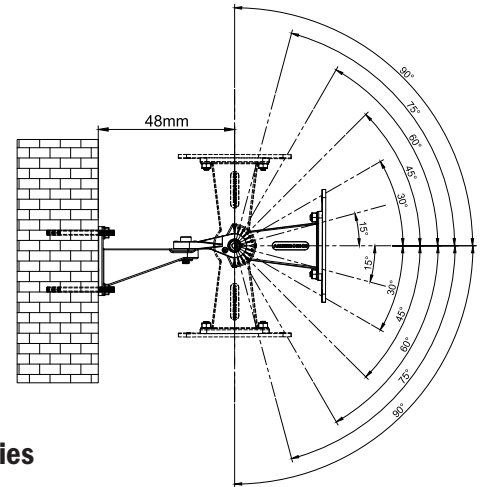
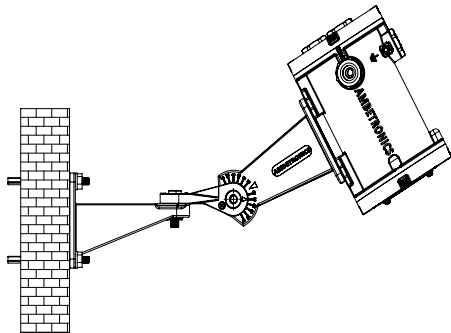


MOUNTING STAND DETAILS

MOUNTING STAND (WALL MOUNTING PLATE) (TO FIX ON PERMANENT STRUCTURE)

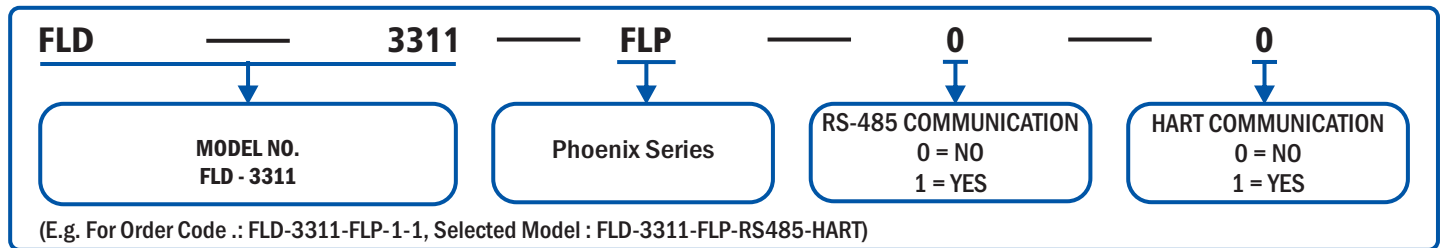


MOUNTING STAND SIDE VIEW



UV & IR Flame (Radiant Energy) Detector, Model No. : FLD-3311-FLP, Phoenix Series
Type (Order Code) : FLD - 3311 - FLP - * - *

ORDERING INFORMATION



Manufactured by :



AMBETRONICS ENGINEERS PVT. LTD.

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