



ESP Safety's Model **IPES-UV** Flame Detector provides superior sensitivity for fires from oil and petrochemical products. It is also indicated for a wide range of other fire types including metal fires.

IPES-UV's advanced detection technology includes optical filters configured for maximum sensitivity to radiation produced by flame or fire and ensures rapid flame recognition and alarm signaling. Upon fire recognition within its 90-degree field of view, the **IPES-UV** signals a change in state from normal operation to fire in any OEM or proprietary alarm and response system.

IPES-UV Only Flame Detector provides superior sensitivity for hydrogen and metal fires. Upon fire recognition within its 90-degree field of view, the **IPES-UV** Only signals a change in state from normal operation to fire for any alarm and response system. For ultraviolet (**UV**) radiation, the device is configured for sensitivity in the range of 180 to 250 nanometers, making the sensor "blind" to sunlight and radiation from heated objects but still able to "see" the UV radiation emitted by a flame. The built-in continuous self-check function will notify you if anything is obstructing the detector's field of view or if there are circuit integrity problems. The unit comes standard with multiple outputs and you can choose to connect the detector via 4-20mA, RS485 or relays to your system for reliable communication.

For those applications where condensation may occur, an internal heater will activate to prevent any damage. And with power consumption less than 3W, ESP's flame detector **IPES-UV** Only Flame Detector assures low power costs. While operating, the **IPES-UV** generates detector-status information via:

- Source analog 4-20mA output
- A standard RS-485 communication channel under protocol Modbus RTU
- HART Communication

The **IPES-UV** Flame Detector is constructed with an explosion-proof housing for use in hazardous (classified) locations.

Features and Benefits

- Power consumption of <3W means low power costs, protection against surges
- Digital, analog and relay outputs provide reliable status information across a range of communication formats
- Automatic and manual self-tests ensure system integrity and correct operation
- Continuous monitoring of the optical path to obstruction or reduced transmission affords maximum reliability
- Industry standard for remote alarm and fault indication
- Combines both IR sensor configuration and UV sensor configuration
- Color status LED
- Explosion-proof package allows for hazardous environment operation
- Expected life > 10 years
- 5-year warranty — long, reliable product life; low cost to operate over time.
- Heated optics, secondary heater function helps to prevent condensation problems

Applications

- Drilling and production platforms
- Shipping tankers, freighters, and other vessels
- Fuel loading facilities
- Refineries, bulk terminals, and tank farms
- LNG/LPG processing and storage facilities
- Compressor stations and pipeline facilities
- Petrochemical, paint, and fertilizer plants
- Power plants and gas turbine facilities
- Transportation facilities (airports and subways)
- Oil and gas fired boilers / furnaces
- Aircraft hangars



ELECTRICAL SPECIFICATION

Supply Voltage	+24VDC Nominal (+18 to 32 VDC)	
Power Consumption	Standby	<2 W
	Alarm	<3 W
	with heater on maximum	<7.5 W
Analog Outputs	Analogue Signal 4-20mA sourcing NAMUR NE43 (sinking configuration available on request)	
	Circuit Opening	0 mA $\pm$ 0.1 mA
	Dust/blockage/Fault signal	2 mA $\pm$ 0.1 mA
	Normal / Standby Mode signal	4 mA $\pm$ 0.1 mA
	Fire signal	18 mA $\pm$ 0.1 mA
	Self-Test-Every 25 to 45 minutes	4.1 mA $\pm$ 0.1 mA
HART	Compatible with HART Protocol7	
Digital Outputs	RS 485, Modbus RTU	
Relay Contact	Fire Alarm: One normally open / normally closed (NO/NC) user selectable, latching or non-latching. Fault: One normally open / normally closed (NO/NC) user selectable Normally Energized	
Wiring	14 AWG (2.5 sq.mm) or 16 AWG (1.5 sq.mm) Shielded cable is recommended	
Terminals	14 AWG - 2.5 sq.mm	

FUNCTIONAL SPECIFICATION

Wavelengths	180 to 250 μ m (UV)
Detector Range-Distance	Maximum 100 feet (30meters), depending on detected fuel
Cone of Vision	90 degrees (Horizontal / Vertical) *120 degrees field of view version available by request.
Response Time	3 sec. typically
Optical Integrity	Automatic and Manual built in test
Local Indication	Alarm status indication - LED indicator

MECHANICAL SPECIFICATION

Material	316SSL Electropolished Marine Grade 6061 aluminum alloy RAL3000
Conduit Connection	Two (2) M20 X 1.5, (3/4" NPT with adapter)
Dimensions	3.94"x 9.08"x 14.2" (with Mounting Bracket) 100 x 231 x 361 mm (with Mounting Bracket)
Weight	316 SSL: 11 lbs (5 kg) Aluminum: 5.5 lbs (2.5 kg)
Ingress Protection	IP66
Warranty	5 years

ENVIRONMENTAL SPECIFICATION

Operating Temperature	-40°F to +185°F (-40°C to +85°C)
Extended Operating Temperature (By Request)	-76°F to +257°F (-60°C to +125°C)
Storage Temperature	-76°F to +185°F (-60°C to +85°C)
Humidity	0 to 95% relative humidity (can withstand 100% condensing humidity for short periods of time) - tropicalized/conformal coated electronics G3

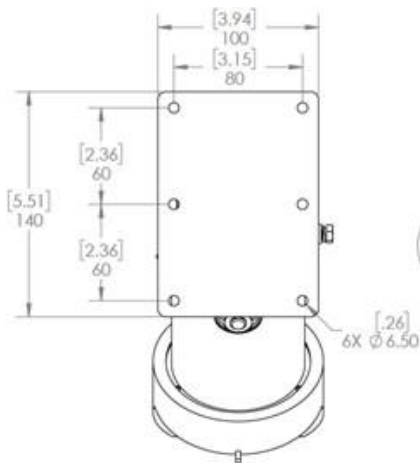
PERFORMANCE

EMC/RFI	Complies with IEC 61000-6-2 and 4
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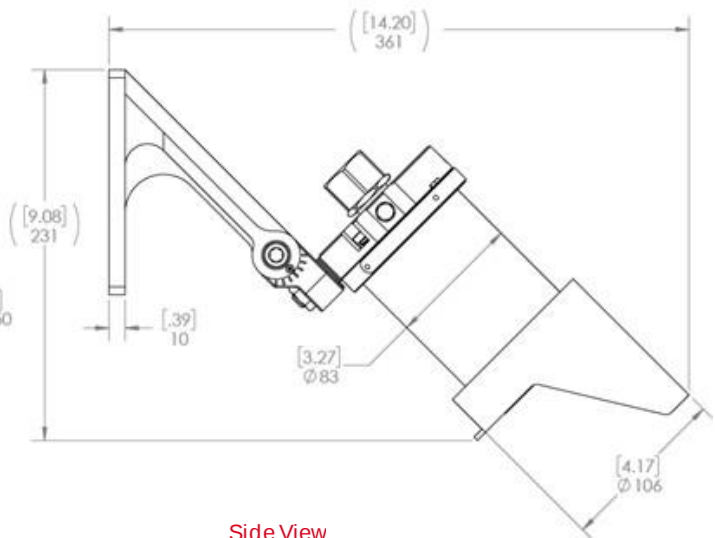
APPROVALS

North America	FM: Class I, Division 1 Groups B, C & DT4 Ta = -40°F to +167°F (-40°C to +75°C), IP66
	ABS: Class I, Division 1 Groups B, C & D T4 Ta = -40°F to +167°F (-40°C to +75°C), IP66
European	ATEX: Ex d IIC T4 -40°F to +185°F (-40°C to +85°C) CE Mark for EMC (TUV), CE Mark for IECEx, IP66
International	IEC, IECEx: Ex d IIC T4 -40°F to +185°F (-40°C to +85°C) IP66
EN Standard	EN 54-10:2002 + A1 :2005
SIL Rating	IEC61508 SIL Assessment SIL 3
UAE	ECAS-Ex (Pending)

GENERAL ARRANGEMENT
DRAWING

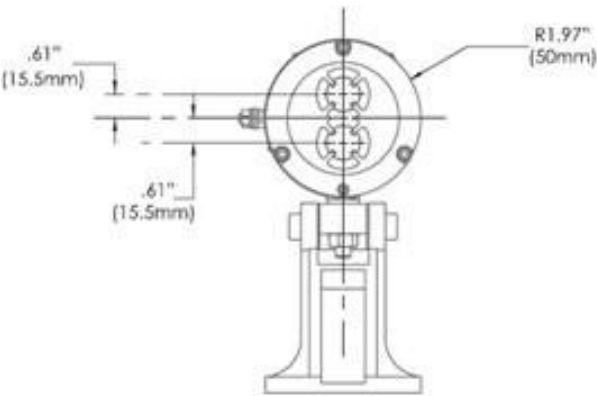


Back View

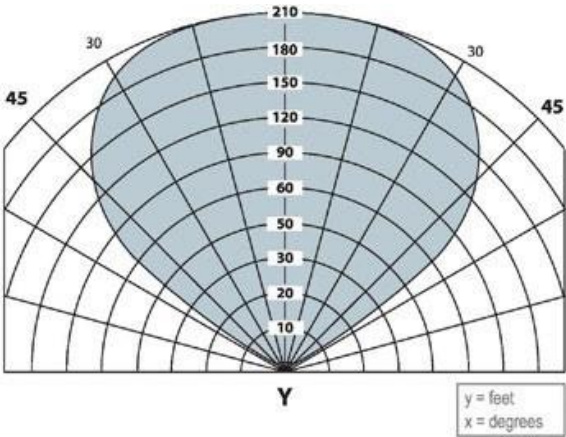


Side View

Front View



DETECTION CONE OF VISION





SKU parts included in each configuration:

- P/N 125-0005 Visor
- P/N 125-0019 Mounting Bolts (qty 4)
- P/N 125-0003 $\pm 45^\circ$ adjustable Mounting Bracket

Accessories:

- P/N 125-0041-CS Universal 2" Pole mounting plate
Includes Steel Galvanized Mounting and U-bolts for 2" Pole mount (Qty. 2)
- P/N 125-0041-SS Universal 2" Pole mounting plate
Includes SS316L Mounting Plate and U-bolts for 2" Pole mount (Qty. 2)
- P/N 120-0092-AL Awning Shield GRP
- P/N 120-0092-SS Awning Shield Stainless Steel
- P/N 120-0084-AL Vortex Air Shield Aluminum
- P/N 120-0085 Vortex Air Shield Stainless Steel
- P/N 120- 0027 Plug M20**
- P/N 120- 0026 M20 male to 3/4 NPT female reducer**

(**) adapters and plugs are available in nickel plated brass and stainless steel

Spare Part:

- P/N 125-0005 Protective Visor for Flame Detector
- P/N 125-0019 Mounting Bolts (Qty 4)
- P/N 125-0003 IPES Mounting Bracket, Stainless Steel
- P/N 333-0037 Terminal Block IPES Connector

Tools:

- P/N 120-0006 Magnetic Collar
- P/N 120-0077 4 mm Hex Wrench
- P/N 120-0093 Field of View Alignment Tool
- P/N 120-0007 ITES Dual emission source test flashlight for flame detector
- P/N 260-0009 Cable Assembly, HART Communicator



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