UVS Flame Detector

Ultraviolet Optical Sensor

The Single UVS (Ultraviolet) flame detector delivers high performance detection designed to meet strict industry performance requirements.

A precisely tuned spectrum of radiation must be recognized and confirmed by our advanced UV sensor to initiate a fire condition, yet it is immune to incandescent or fluorescent lighting, heaters or sunlight — so false alarms are considerably reduced.

The Single UVS is designed for simple installation and lower maintenance costs while delivering superior safety performance.

- Extremely low power consumption increases uptime and lowers overall costs
- Wide voltage range allows for greater stability and system compatibility
- Manual and automatic testing of optical surfaces — constantly monitors internal electronics
- Designed for extreme conditions, operational from -50 °C—+75 °C
- Compact and lightweight for ease of installation — fully adjustable swivel mount is included
- Three year warranty electronics/two years on sensors
- 120° field of view!
- Field-selectable sensitivity and delay settings allows operators to fine tune at installation site
- Global certifications and approvals

Enclosed in a rugged, explosion-proof housing, the Single UVS uses the latest in modular microprocessor and UV sensor technology — delivering accurate and reliable monitoring for hydrocarbon and metal-based fires.

It is capable of stand-alone operation or can be connected to a variety of control devices to create a dependable fire monitoring system. You can define sensitivity and time delay settings and the built-in testing routines ensure continous operation.

The Single UVS has a field of view of up to 120° and is available with analog, relay, and HART® protocol output configurations, including a wide operating voltage range of 10–32 Vdc with low power consumption.

The UVS flame detector is simple to operate and maintain while delivering all the security and performance required for high-risk, industrial installations!

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Specifications

Table 1 - UVS Flame Detector

	Analog	Relay	HART®
Operating Voltage Range	10 to 32 Vdc		
Power Consumption at 24 Vdc	Nom 45 mA/1.1 W Max 115 mA/2.76 W	Nom 45 mA/1.1 W Max 95 mA/2.28 W	Nom 71 mA/1.7 W Max 173 mA/3.36 W
Power Consumption at 32 Vdc *with Heater	Nom 35 mA/1.12 W Max 105 mA/3.36 W	Nom 35 mA/1.12 W Max 80 mA/2.56 W	Nom 57 mA/1.72W Max 158 mA/5.06 W
Temperature Range	Certified -40 °C to +75 °C (-40 °F to +167 °F)/Operational -50 °C to +75 °C (-58 °F to +167 °F)		
Field of View	120° horizontal/95° vertical		
Spectral Range	UV Radiation 185 to 260 nm (1850 to 2600 angstroms)		
Time Delay	DIP switch selectable to 0, 3, 5, 7 seconds		
Sensitivity Settings	DIP switch selectable to 8, 16, 24 or 32 counts per second		
Response Time	< 6 seconds [depending on fuel source, fire size and distance]		
Enclosure Material	Red powder coated with clear anodizing, copper-free aluminum (optional stainless steel), factory sealed housing		
Humidity Range	0 to 95 % RH, non-condensing		
Weight (with Swivel)	2.1 kg/4.5 lb (Stainless Steel option 3.4 kg/7.5 lb) - does not include junction boxes		
Outputs	0 to 20 mA - Into a maximum loop impedance of 800 ohms at 32 Vdc or 150 ohms at 11.0 Vdc Non-isolated loop supply	Form C contacts rated 1 A at 30 Vdc, 0.5 A at 125 Vac. Selectable energized/de-energized, latching/non-latching Fire relay Fault relay factory set as energized/nonlatching, cannot be modified	HART®
Certifications/Approvals	CSA - Class I, Division 1, Groups B, C and D - Temperature code T5 - CANADA: Class I, Zone 1, Ex d IIB + H2 T5 ANSI/UL - Class I, Division 1, Groups B, C and D - Temperature code T5 - UNITED STATES: Class I, Zone 1, AEx d IIB + H2 T5 ATEX/IECEx - Ⓔx II 2 G Ex d II B+H2 T5 Gb GOST-R - 1Ex d II BT5/H2 INMETRO - Ex d II B+H2 T5 Gb FM approved per approval standard 3260 ABS Marine NEMA Type 4X • IP66 - Enclosure ratings Audit finding: 10-December 2014		
Warranty	Three years electronics/Two years sensors		

ORDERING INFORMATION

UVS	4–20 mA analog output (JB-MPS-A/S included)
UVS-AR	4–20 mA analog output with a fire and fault alarm relay (JB-MPR-A/S included)
UVS-AH	4–20 mA analog output and HART® Protocol (JB-MPHF-A/S included)
UVS-AHR	4–20 mA analog output and fire and fault alarm relays and HART® (JB-MPHFR-A/S included)

ADDITIONAL APPROVALS: –X (ATEX/IECEx)
ENCLOSURE MATERIAL: Stainless Steel (–SS) [Aluminum is Standard]

Ordering Matrix Example:
UVS-AHR-X-SS
(Detector - Output - Additional Approval - Enclosure Material)
NOTE: Specify flammable source when ordering

Termination Boxes & Accessories

Table 2 - Summary of Distances

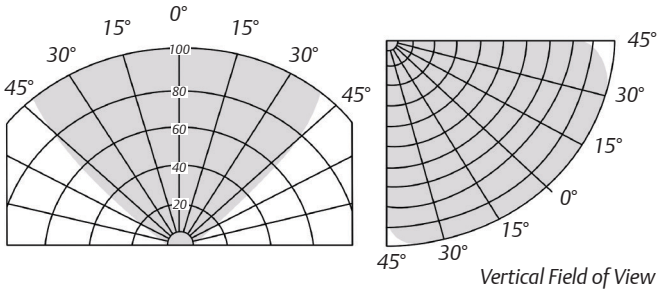
Fuel	Fire Size	Typical Response
n-heptane	1" x 1"	< 8.5 s @ 150 ft
Gasoline	1" x 1"	< 3 s @ 120 ft
Methane	30" plume	< 3 s @ 120 ft

Table 3 - Immunity False Alarm Stimuli

Stimuli	Immunity Range
Direct/indirect sunlight	Total
1500 W heater	10 ft
Halogen, incandescent light	3 ft
Florescent light	10 ft

Figure 1 - Example Field of View - Methane

32" plume - indicated in feet - consult factory for other gases



Vertical Field of View with Detector at 45° from Horizontal

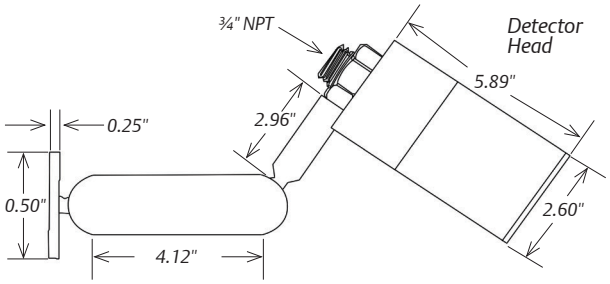


Table 4 - Termination Boxes

Class I, Division 1, Groups BCD - Class I, Zone 1 – Enclosure rated NEMA 4X, IP67 (See man-0081 for full specifications)

JB-MPS-A/S	Termination box - analog output - switch (for remote MVI testing) and test jacks - aluminum or stainless steel

Table 5 - Accessories

LAT-120	Laser alignment tool assembly - used to define area of coverage for all flame detectors
AIR-SHIELD	Air shield assembly (aluminum). supplied clean instrument air keeps lens clear in areas with heavy airbourne particulate
HPT-001	HART® communicator port - intrinsically safe connection mounts to connected JB-MPHF and JB-MPHFR
FH-SHROUD	Field of view restrictor anodized (red) for "S" series fire detectors (aluminum)
UN-MK-41	One inch pipe mounting kit - stainless steel
UN-MK-42	Two inch pipe mounting kit - stainless steel
UN-MK-43	Three inch pipe mounting kit - stainless steel
SSK-4	Sunshade kit/rain guard for "S" series flame, stainless steel - mounts directly to flame detector
SSK-1	Sunshade kit for "S" series flame, stainless steel - mounts directly to flame detector
TL-MP-KIT	Universal test lamp kit - certified rechargeable hand-held unit - produces accurate fire simulation (UV and IR sources)
TL-MP-KIT-X	Universal test lamp kit [ATEX] - certified rechargeable hand-held unit - produces accurate fire simulation (UV and IR sources)

HEADQUARTERS
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