

HONEYWELL FS20X PLUS

Multipurpose Flame Detection

The FS20X Plus UV/3IR Flame Detector delivers a wide range of use and flexibility in challenging environments.

The Honeywell FS20X Plus flame detector responds to Hydrocarbon, non-Hydrocarbon, and Hydrogen fires with an increased range of detection while simplifying flame detection in a single device. Enhance your overall fire and gas safety by deploying reliable flame detection that can see better through rain, fog and smoke. The FS20X Plus can be used for a variety of demanding industrial applications, and can help businesses protect people, plants, and processes as part of an overall safety system.



FEATURES AND BENEFITS



DIVERSITY OF DETECTION

Able to see a variety of Hydrocarbon, non-Hydrocarbon, and Hydrogen fires in a single device. No need to specify or stock a specialty flame detector.



ALL-IN-ONE DEVICE

Communication options such as Modbus, HART™ 7, Relays, and mA (source, sink, or isolated) are included as standard. Multiple, global certifications are listed on each device. No need for complex ordering codes or spare parts strategy.



AT-A-GLANCE INSTRUMENT STATUS

FSX20 Plus has a high visibility LED Halo ring that can be seen from a distance to show instrument status.



SIMPLIFIED INSTALLATION WITH ACCESSORIES INCLUDED

FS20X Plus includes the SM4 mount and enhanced SH-002 sunshade as standard, which enables easier mechanical installation and ordering. A marine version mount (SM4-M) is also available.



SIMPLIFIED MAINTENANCE

FS20X Plus is supported by a PC App (FlameManager) and HART for set-up. FlameManager includes post event analysis with powerful Honeywell FirePic tool. The internal opto-electronics module can be quickly swapped in the field if needed.

TABLE 1. FLAME RESPONSE – OUTDOORS, VERY HIGH SENSITIVITY, TYPICAL RESPONSE TIME: 5 SECONDS

Fuel	Fire Size	Fire Distance
n-Heptane	12 in x 12 in (0.3 m x 0.3 m)	275 ft (84 m)
IPA	12 in x 12 in (0.3 m x 0.3 m)	200 ft (61 m)
Methane	3/8 in (9.5 mm) Dia. orifice, 32 in (0.81 m) plume	100 ft (30 m)
Butane	3/8 in (9.5 mm) Dia. orifice, 32 in (0.81 m) plume	195 ft (59 m)
Propane	3/8 in (9.5 mm) Dia. orifice, 32 in (0.81 m) plume	200 ft (61 m)
Ethanol	12 in x 12 in (0.3 m x 0.3 m)	160 ft (49 m)
Methanol	12 in x 12 in (0.3 m x 0.3 m)	105 ft (32 m)
Hydrogen	3/8 in (9.5 mm) Dia. orifice, 32 in (0.81 m) plume	90 ft (27 m)
Diesel	12 in x 12 in (0.3 m x 0.3 m)	200 ft (61 m)
Kerosene	12 in x 12 in (0.3 m x 0.3 m)	160 ft (49 m)
JP-4	12 in x 12 in (0.3 m x 0.3 m)	250 ft (76 m)
JP-A	12 in x 12 in (0.3 m x 0.3 m)	200 ft (61 m)
JP-5	12 in x 12 in (0.3 m x 0.3 m)	200 ft (61 m)
JP-8	12 in x 12 in (0.3 m x 0.3 m)	200 ft (61 m)
Class A (Paper)	12 in x 12 in (0.3 m x 0.3 m)	150 ft (46 m)
Syngas (53% H ₂ , 24% CH ₄ , 11% N ₂ , 8% CO, 4% CO ₂)	3/8 in (9.5 mm) Dia. orifice, 28 in (0.71 m) plume	90 ft (27 m)
Acetylene	3/8 in (9.5 mm) Dia. orifice, 12 in (0.3 m) plume	110 ft (34 m)
Silane	9/64 in (3.5 mm) Dia. orifice, 12 in (0.3 m) plume	70 ft (21 m)

**The relative ratio among Very High, High, Medium, and Low sensitivities is approximately 100%, 75%, 50%, and 25%.

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FS20X Plus Technical Specifications *See product manual for full specifications.

TABLE 2. TECHNICAL SPECIFICATIONS	
Specification	Description
Field of view	Oval cone of view (100° horizontal and 90° vertical). 50% of on-axis distance horizontally FoV can extend to 120° (+/-60°)
Sensitivity	Low 65 ft (20 m), Medium 130 ft (40 m), High 195 ft (59 m), Very High 275 ft (84 m) to 1 ft² (0.1 m²) n-Heptane fire - Configurable via flame manager
Response time	Typically, 5 Seconds and a maximum of 10 seconds Under specific conditions, ~3 to 5 seconds is possible. Contact factory for details
Operating voltage	24 Vdc nominal (18 Vdc to 32 Vdc) – Regulated
Power consumption	1.8 Watts (nominal) 2.4 Watts (alarm) 12 Watts (max) = with heater ON 100 % duty cycle
Output relays	Alarm, fault, and auxiliary: SPDT¹ (NO²/NC³) – de-energized/energized, latching/non-latching rating: 2 A at 32 Vdc
Analog output	4-20 mA – Source, sink or isolated (Refer technical manual for wiring configuration)
Digital communications	Modbus: RS-485 FP2: RS-485 or USB (Honeywell Proprietary Protocol) HART® 7 over 4-20 mA
Operating temperature	-55°C to +75°C (-67°F to +167°F), North America -50°C to +75°C (-58°F to 167°F)
Storage temperature	-55° C to +85° C (-67°F to +185° F), North America -50° C to +85° C (-58°F to +185° F)
Humidity range	0 % to 99% relative humidity
Cable/conduit entries	2 × M25 or 2 × ¾ in NPT
Enclosure materials	Low copper aluminum with Marine grade paint or electropolished CF8M stainless steel
Enclosure type	IP 66 / 67 (Type 4X)
Hazardous location certifications	ATEX: II 2 G Ex db IIC T5 Gb; II 2 D Ex tb IIIC T135° C Db IP66/67; IECEX: Ex db IIC T5 Gb; Ex tb IIIC T135° C Db IP66/67; cFMus: Class I, Div 1 Grps A,B,C,D; Class II/III, Div 1, Grps E,F,G NEMA 4X INMETRO CUTR* CCC*
Performance certifications	FM 3260 EN 54-10: Class 1 (Medium, High, Very High Sensitivities), Class 2 (Low Sensitivity)
Safety certification	IEC 61508 SIL 2 certified by TUV Sud
Marine certifications*	Maritime Type approved to ABS, Lloyds, BV, DNV, MED, USCG
Weight (excluding accessories)	Aluminum: 1.7 kg (3.7 lb), stainless steel: 3.4 kg (7.4 lb)

1. Single Pole Double Throw 2. Normally Open 3. Normally Close
*Pending

TABLE 3. SYSTEM PART NUMBERS					
Part Number	Material	Entries	Approvals	Reserved	Included Accessories
FS20XP-	S = Stainless steel A = Aluminum	M = M25 N = ¾ in NPT	G = Global	X = Standard	X = Standard mount + sunshade or M = Marine mount + sunshade

Example: FS20XP-SMGXX - FS20X Plus - UV/3IR - SS - M25 kit includes mount and sunshade

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell’s standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. The foregoing is buyer’s sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While Honeywell may provide information or engineering support for its products through Honeywell personnel, literature and website, it is the buyer’s sole responsibility to determine the suitability of the Honeywell product(s) for the buyer’s requirements. Specifications may change without notice. The information we supply is believed to be accurate as of this writing. However, Honeywell assumes no responsibility for its use.

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