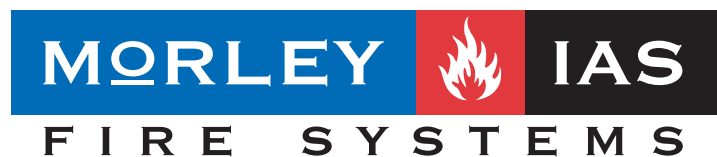# features

- Less than 5 msec response time
- Highly immune to false alarm
- Distinguishes fire & vapor explosion from other non threatening radiation sources
- 90° / 70° cone of vision
- Designed & built to MIL specification
- Explosion proof meets Cenelec/ATEX requirements
- M.T.B.F. minimum 100,000 hours
- 3 year warranty

Fire detector model 20-20 F with its ultra fast response is designed to meet the two important requirements: fast response time (less than 5 milliseconds) and high reliability (immune to false alarms).

The 20-20 F has a continuously self-adjusting, pre-set detection level. Its level of sensitivity is maintained over a wide temperature range, and is independent of background radiation.

The 20-20 F flame detector is an industrial version of the military detector that is housed in an Ex housing and it is produced and tested to the highest standards of performance. The detector is sensitive to radiation in two frequency ranges of the electromagnetic spectrum: the infra red (IR) and the ultra violet (UV). Only simultaneous sensing within these two ranges of radiation will result in a detector output pulse.

The 20-20 F high speed ultra violet optical flame detector is designed specifically for high speed applications involving explosives and propellant fires, invisible hydrogen flames and other hydroxy flames like silane, ammonia etc.

MORLEY 🔥 **IAS**

FIRE SYSTEMS

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SharpEye 20/20F UV/IR High Speed Flame Detector

Data Sheet

approvals

Designed to meet FM	For use in hazardous (classified) locations Class I Div. 1, Groups B,C & D Class II Div. 1, Groups E, F & G
Cenelec Approved	EExd IIB + H2 T5 (70°) Per En 50014 & 50018 **EExde IIB + H2 T5 (70°) Per En 50014, 50018 & 50019
**ATEX approved	ATEX 1161 & 1165 Per CE 0518 Ex II 2G

mechanical

Dimensions:	120 x 132 x 132mm
Weight:	Aluminium 3.7Kg Base 1.7Kg
Spectral response:	UV: 0.185-0.260 micron IR: 2.5-3 micron
Response time:	Max. 5 msec 5" (13cm) gasoline pan fire at a distance of 1 ft. (30cm). Typical 5 sec for 1 sq.ft. (30X30) gasoline pan fire at 20 ft. (6m).
Field of view:	90° horizontal, 70° vertical
Temperature range:	Operating: -40°F to 160°F Storage: -65°F to 185°F
Humidity:	Relative humidity of up to 95% for the operational temperature

electrical

Power supply:	Operating voltage: 18-32 Vdc
Power consumption:	Max. 70mA in stand-by Max. 1300mA in alarm
Electrical connection:	Standard two ¾ in. 14 NPT cable entries Optional two M25 x 1.5 cable entries

Electrical input protection:

Complete electrical interface protection against reversed polarity voltage, surges & spikes according to MIL-STD-1275

Electromagnetic compatibility:

The detector is designed & approved according to the following EMC requirements:

Electrostatic discharge	IEC801-2: 1984
Conducted emission	EN55022 Class A
Radiated emission	EN55022 Class A
Radiated immunity	IEC801-3 1984
EFT/B:	IEC801-4:1988

Outputs:

Dry contact relays	
Alarm:	5 Amps at 30 Vdc & 250 Vac
Fault:	5 Amps at 30 Vdc & 250 Vac

Analog output:	4.0 - 4.7 Vdc

** *Optional, carries additional charge.*

part numbers

20-20 F	High Speed UV/IR Flame Detector.
20-20-003	Swivel mounting base
20-20-930	Air shield
20-20-311	Fire simulator test unit
20-20-190	Beam collimator for extending test unit range

Your Local Distributor