3 YEAR WARRANTY

The SharpEye CCTV Flame Detector (20/20CTIN and 20/20CTIP) is a self-contained, triple-spectrum, optical flame detector that incorporates a video color camera. The detector's IR sensors and spectral band pass filters have been selected to ensure the greatest degree of spectral matching to the radiant energy emissions of fire and the lowest degree of matching to non-fire stimuli.

The color video camera enables the user to investigate the monitored area, to identify the fire's source and location, and help select the best response to the situation (activation of fire suppression means). Configuration can be made to issue a live color video picture signal at all times, on request or only when a fire is detected. Therefore, the detector is also useful for standard CCTV purposes.

The patented triple IR circuit is designed to respond only to flickering radiation signal (1 to 10 Hz) in the spectral bands ranging from 4.0 to 5.0 microns. The

SharpEye CCTV Flame Detector is extremely sensitive. It can detect a 1ft.^{2} (0.1m^2) gasoline pan fire at 100 ft. (30m) in less than 10 seconds. The sensitivity is user-programmable, offering 4 ranges of detection.

The video signal output of the CCTV Flame Detector can be either NTSC or PAL.

Main Features

- Live Color Video Image
- Triple Spectrum Design
- Sensitivity Selection
- User Programmable Configuration
- Highly Immune to False Alarms
- Automatic and Manual Built-In Test (BIT)
- Standard 4-wire Connection
- 4-20mA sink or source (3-4 wires) configuration
- RS-485 Modbus Compatible
- MTBF Minimum 43,000 Hours
- 3-Year Warranty
- UL, ATEX/Cenelec & GOST R Approved

Applications

- **Aircraft Hangars** - landing gear pits, under-wing and over-wing protection
- **Automotive** - manufacturing, paint spray booths
- **Chemical Industry** - production, storage, transportation
- **Explosives & Munitions** - handling and storage
- **Oil & Gas** - exploration, production, storage and offloading
- **Offshore Platforms** - fixed rigs and floating vessels FPSO
- **Onshore** - refineries, loading terminals, pipelines
- **Paint** - manufacturing facilities
- **Petrochemicals** - production, storage, shipping facilities

- **Pharmaceutical Industry**
- **Power Generation Facilities** - pump areas, generator rooms, unmanned stations, gas-fired and coal-fired reactors
- **Printing Industry** - solvent handling, presses, drying processes
- **Tank Farms** - floating-roof and fixed-roof tank areas
- **Warehouses** - storage facilities for flammable materials
- **Waste Disposal Facilities** - incineration, processing and storage of flammable waste materials (solids, liquids, gases)

GENERAL SPECIFICATIONS

Spectral Response	Three IR Bands
CCTV Picture	Enables the user to identify a 1 ft² (0.1m²) gasoline flame from 100 ft. (30m) offering a "live video" image of the monitored area.
Detection Range (Highest Sensitivity Setting for 1 sq.ft. pan fire)	Gasoline fire at 200 ft (60m) JP4 fire at 150 ft (45m) N-Heptane fire at 200 ft (60m) Kerosene fire at 150 ft (45m) Alcohol 95% fire at 150 ft (45m) Methane* fire at 60 ft (18m) Diesel Fuel fire at 140 ft (42m) Propane* fire at 60 ft (18m) *0.5m plume fire*
Response Time	Typical 5 sec.
Adjustable Time Delay	Up to 30 seconds
Sensitive Range	4 Sensitive Ranges for 1 ft² (0.1m²) gasoline pan fire from 50 ft (15m) to 200 ft (60m)
Field of View	IR3: 90° horizontal, 90° vertical CCTV: 90° horizontal, 65° vertical
Built-in-Test	Manual and Automatic BIT
Temperature Range	Operating: -15°F (-10°C) to 131°F (55°C) Operating without Video: -40°F (-40°C) to 160°F (70°C) Storage: -22°F (-30°C) to 140°F (60°C)
Humidity	Up to 95%

ELECTRICAL SPECIFICATIONS

Power Supply	Operating Voltage: 18-32 VDC
Power Consumption	Max. 150mA in stand-by; Max. 200mA in alarm
Electrical Connection	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Electrical Input Protection	According to MIL-STD-1275A
Electromagnetic Compatibility	EMI/RFI protected (comply to CE requirements)

OUTPUTS

Relays	Alarm - 2A at 30 VDC, 0.5A at 250 VAC Fault - 5A at 30 VDC and 250 VAC Fault relay normally closed, others normally open
4-20mA	Sink (source option) configuration Fault: 0 +0.5mA BIT Fault: 2mA ±10% Normal: 5mA ±10% Warning: 10mA ±5% Alarm: 15mA ±5% Resistance Loop: 100-600 Ω
RS-485	The RS-485 communication link can be used in installations with computerized controllers. The RS-485 is Modbus compatible
Color Video Image	Accessible via a standard NTSC or PAL video output connection that can be connected to standard video equipment for viewing, recording and scanning video images.

MECHANICAL SPECIFICATIONS

Dimensions	4.7" x 5.2" x 5.2" (120 x 132 x 132 mm)
Weight	Aluminum: 8.1Lb (3.7 Kg) St.St 316L: 14.3Lb (6.5 Kg)
Enclosure	Aluminum, heavy-duty copper free (less than 1%), white epoxy enamel finish. Optional - Stainless Steel 316L with electro polish finish.
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp
Water and Dust	IP66 and IP67 per En60529 NEMA 250 6P

HAZARDOUS AREA approvals

ATEX / Cenelec	EX II 2G, EExd IIB + H_2 T5 (55°C) EX II 2G, EExde IIB + H_2 T5 (55°C)
UL	Class I, Groups C & D
GOST R	1ExdIIBT5/H_2

ACCESSORIES

Fire Simulator	20/20-310
Swivel Mount	20/20-003 (St. St. 316L)