

# MultiFlame

## DF-TV7-T Multi-spectrum IR Flame Detector

Long range  
Wide field of view  
Continuous auto-check of optical lens

The Simtronics MultiFlame DF-TV7-T is a multi-spectrum infrared flame detector using three wavelengths. The MultiFlame DF-TV7-T responds to hydrocarbon fires and is the right choice for operation in dirty environments or for detection of smoky fires.



### Description

The MultiFlame DF-TV7-T is designed to respond to unwanted hydrocarbon fires, whilst maintaining a high degree of false alarm immunity.

The device offers a wide range of output options, as standard and is certified for use in SIL 3 applications. The unit may be interfaced directly with a wide range of fire panels, controllers and PLC's etc.

The unit is fully configurable using a wireless hand-held terminal (TLU600) or optionally via HART (TM) giving true flexibility to the installer. Time delays, sensitivity and output configuration are all set up via the TLU; a hazardous area approved hand-held unit.

Wireless testing of the optical and output circuits are also possible using the TLU.

### Applications

- Refineries
- Drilling and Production Platforms
- Fuel Loading Facilities
- Compressor Stations
- LNG/LPG Processing and Storage
- Gas Turbines
- Chemical Plants
- Aircraft Hangars

### Features

Certified SIL 3 by an external body

Multi-spectrum infrared flame using three wavelengths

Long range up to 80m, 260 ft deep  
Wide field of view 120°

Relays, 4-20mA, 0-22mA, Hart outputs

Continuous auto-check of optical lens

Selectable sensitivity and time delays

Wireless detector configuration and testing using TLU

### Benefits

The highest operational safety level available on the market

Very effective on carbonated fires (bad combustion)

Fewer detectors needed due to enhanced fire detection coverage

Standard industry interfaces

Ensures safe and proper device operation

For configuration to each application

Easy maintenance, no need of test lamp



TLU Wireless (IR) Hand-held Terminal

## Technical Data

### GENERAL

|                  |  |
|------------------|--|
| Technology       | Multi-spectrum Infrared, 3IR   |
| Fire Types       | Hydrocarbon fires  |
| Range, n-heptane | 80m (260ft) 0.3x0.3m (1sq ft)  |
| Range, gasoline  | 65m (210ft) 0.3x0.3m (1sq ft)  |
| Field of view    | Maximum horizontal angle 120°<br>Horizontal angle @ 50% 104°<br>Vertical angle @ 50% 82° |
| Response time    | adjustable from 3 to 20 seconds (typical 6s.)  |
| Warranty         | 3 years, back to factory   |

### OUTPUT SIGNAL

|          |  |
|----------|--|
| Standard | 4-20mA or 0-22mA (configurable by the user)<br>max. load impedance 700Ω (Std.)<br>HART Protocol 7th edition (option)<br>Lonworks for Syntel (option) |
| Alarms   | 2 x configurable Relays max 1A / 30Vcc   |
| Visual   | Normal Operating, alarm, fault   |

### ELECTRICAL

|                   |   |
|-------------------|---|
| Power supply      | 24 Vdc, range (18 - 28 Vdc)   |
| Power consumption | 2W normal; 4W during test   |
| Connection        | 0.3 mm <sup>2</sup> (22 AWG) - 1.5 mm <sup>2</sup> (16 AWG)<br>Shielded cable recommended |

### ENVIRONMENTAL

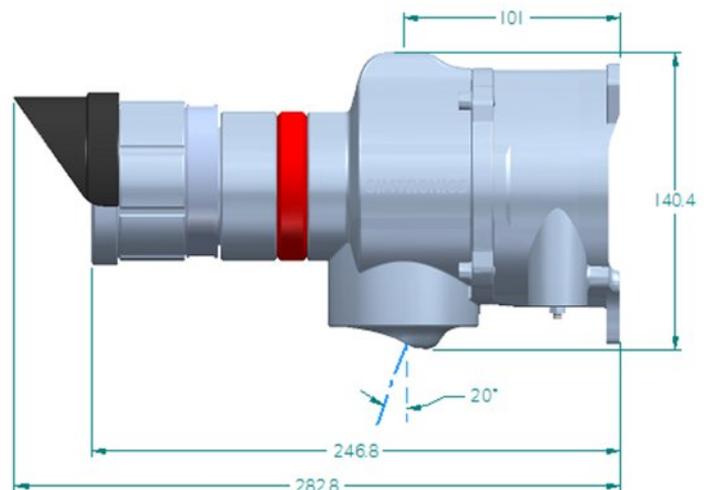
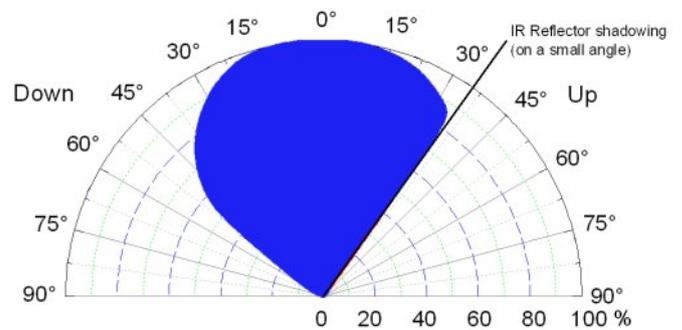
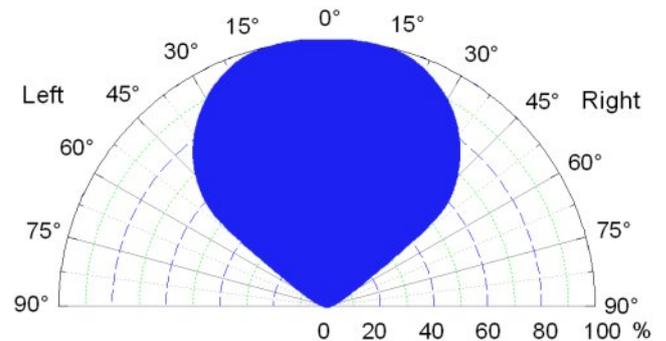
|           |                                   |
|-----------|-----------------------------------|
| Storage:  | -40°C to +70°C (-40°F to 158°F)   |
| Operation | -40°C to +65°C (-40°F to 149°F)   |
| Option    | Sunshade, max. temp. 85°C (185°F) |
| Humidity  | 99% RH (non-condensing)           |
| Ingress   | IP66                              |
| RFI/EMI   | Complies with EN50130-4           |

### EXPLOSION PROOF HOUSING

|            |  |
|------------|--|
| Material   | 316 L stainless steel                                      |
| Weight     | 5kg (10 lbs)   |
| Dimensions | 246.8 x 140.4 x 115 mm (L, H, W)<br>9.8 x 5.5 x 4.5 inches |

### ACCESSORIES

|           |  |
|-----------|--|
| TLU600    | Infrared remote control unit<br>⊕ II 1 G Ex ia II C T4       |
| LT15      | Ex Test lamp<br>⊕ II 2 G Ex d II C T6-T5                     |
| AS048-X   | SS316 swivel bracket<br>(with 2" or 2.5" pipe mounting)      |
| AS056-450 | Sunshade   |
| AS040     | Long type visor<br>(vertical upper angle reduction)          |
| AS041     | Long type visor<br>(horizontal and vertical angle reduction) |
| AS045     | Air shield   |
| AS215     | Tag plate  |



### APPROVALS

|        |  |
|--------|--|
| SIL    | SIL3 approval without redundancy IEC 61508-1 to 7<br>Certificate LCIE SF-* -T-20131103R0 |
| ATEX   | ⊕ II 2 G Ex d II C T6 Gb (-40°C to +65°C)<br>Certificate LCIE 13 ATEX 3025 X             |
| IECEX  | IEC 60079-0 / IEC 60079-1<br>Certificate LCIE 13.0022X                                   |
| CE DPC | EN 54-10:2002 + A1:2005<br>****-CPD-***** (pending)                                      |