



# 3M<sup>™</sup>Simtronics<sup>™</sup> DF-TV7-V

Multi-spectrum UV/2IR Flame Detector

#### **Presentation**

The MultiFlame DF-TV7–V is a combined ultraviolet / infrared flame detector offering excellent flame detection whilst maintaining outstanding false alarm immunity.

The device offers a wide range of output options, as standard and is suitable for use in SIL 2 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 handheld 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.

## **Characteristics**

- Continuous auto-check of optical lens
- Relays, 4-20mA, 0-22mA, Hart outputs
- Long range up to 80m, 260 ft deep
- Wide field of view









## 3M<sup>™</sup>Simtronics<sup>™</sup> DF-TV7-V

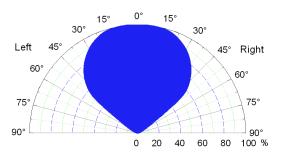
## Multi-spectrum UV/2IR Flame Detector

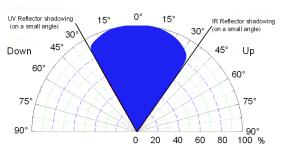
## **Technical data**

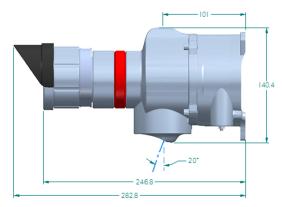
Technology         Multi-spectrum ultra violet dual infra red           Fire types         Hydrocarbon fires           Range, n-heptane         45M (147ft) 0.3X0.3M (1 sq ft)           Range, gasoline         35M (114 0ft) 0.3X0.3M (1 sq ft)           Field of view         Horizontal angle @ 50% 97° Vertical angle @ 50% 55°           Response time         Adjustable from 2 to 20 seconds (typical 3.5S.)           Warranty         2 Years, back to factory           Output signal         4-20Ma or 0-22ma (configurable by the user)           Max. Load impedance 700 ω (std.) Hart protocol 7th edition (option) Lonworks for syntel (option)           Alarms         2 X configurable relays max 1a / 30vcc           Visual         Normal operating, alarm, fault           Electrical         Power supply           Power supply         24 Vdc, range (18 - 28 vdc)           Power consumption         2W normal, 4w during test           Connection         0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommended           Environmental         Storage:           Storage:         De -40°c à +70°c           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	Conord	
Fire typesHydrocarbon firesRange, n-heptane Range, gasoline45M (147ft) 0.3X0.3M (1 sq ft) 35M (114 0ft) 0.3X0.3M (1 sq ft)Field of viewHorizontal angle @ 50% 97° Vertical angle @ 50% 55°Response timeAdjustable from 2 to 20 seconds (typical 3.5S.)Warranty2 Years, back to factoryOutput signal4-20Ma or 0-22ma (configurable by the user) Max. Load impedance 700 ω (std.) Hart protocol 7th edition (option) Lonworks for syntel (option)Alarms2 X configurable relays max 1a / 30vccVisualNormal operating, alarm, faultElectricalPower supply24 Vdc, range (18 - 28 vdc)Power consumption2W normal, 4w during testConnection0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommendedEnvironmentalStorage:De -40°c à +70°cOperation-40°C to +65°c (-40°f to 149°f)OptionSunshade, max. Temp. 85°C (185°f)Humidity99% Rh (non-condensing)IngressIP66RFI /EMIComplies with en50130-4Explosion proof housingTLU600316 L stainless steelWeight5KG (10 LBS)Dimensions246.8 X 140.4 X 115 mm (I, h, w)	General	Market and the state of the sta
Range, n-heptane Range, gasoline45M (147ft) 0.3X0.3M (1 sq ft) 35M (114 0ft) 0.3X0.3M (1 sq ft)Field of viewHorizontal angle @ 50% 97° Vertical angle @ 50% 55°Response timeAdjustable from 2 to 20 seconds (typical 3.5S.)Warranty2 Years, back to factoryOutput signal4-20Ma or 0-22ma (configurable by the user) Max. Load impedance 700 ω (std.) Hart protocol 7th edition (option) Lonworks for syntel (option)Alarms2 X configurable relays max 1a / 30vccVisualNormal operating, alarm, faultElectricalPower supply24 Vdc, range (18 - 28 vdc)Power consumption2W normal, 4w during testConnection0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommendedEnvironmentalStorage:De -40°c à +70°cOperation-40°C to +65°c (-40°f to 149°f)OptionSunshade, max. Temp. 85°C (185°f)Humidity99% Rh (non-condensing)IngressIP66RFI /EMIComplies with en50130-4Explosion proof housingTLU600316 L stainless steelWeight5KG (10 LBS)Dimensions246.8 X 140.4 X 115 mm (I, h, w)		· · · · · · · · · · · · · · · · · · ·
Range, gasoline 35M (114 Oft) 0.3X0.3M (1 sq ft)  Field of view Horizontal angle @ 50% 97° Vertical angle @ 50% 55°  Response time Adjustable from 2 to 20 seconds (typical 3.5S.)  Warranty 2 Years, back to factory  Output signal 4-20Ma or 0-22ma (configurable by the user) Max. Load impedance 700 w (std.) Hart protocol 7th edition (option) 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 5hielded cable recommended  Environmental  Storage: De -40°c à +70°c 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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions	Fire types	Hydrocarbon fires
Response time Adjustable from 2 to 20 seconds (typical 3.5S.)  Warranty 2 Years, back to factory  Output signal  4-20Ma or 0-22ma (configurable by the user) Max. Load impedance 700 w (std.) Hart protocol 7th edition (option) 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 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommended  Environmental  Storage: De -40°c à +70°c  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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions		, , , , , , , , , , , , , , , , , , , ,
Warranty       2 Years, back to factory         Output signal       4-20Ma or 0-22ma (configurable by the user)         Max. Load impedance 700 ω (std.)       Hart protocol 7th edition (option)         Hart protocol 7th edition (option)       Lonworks for syntel (option)         Alarms       2 X configurable relays max 1a / 30vcc         Visual       Normal operating, alarm, fault         Electrical       Power supply         Power consumption       2W normal, 4w during test         Connection       0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg)         Shielded cable recommended         Environmental         Storage:       De -40°c à +70°c         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         TLU600       316 L stainless steel         Weight       5KG (10 LBS)         Dimensions       246.8 X 140.4 X 115 mm (I, h, w)	Field of view	
Output signal  4-20Ma or 0-22ma (configurable by the user)  Max. Load impedance 700 ω (std. )  Hart protocol 7th edition (option)  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 Mm2 (22 awg) - 1.5 Mm2 (16 awg)  Shielded cable recommended  Environmental  Storage:  De -40°c à +70°c  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  TLU600  316 L stainless steel  Weight  5KG (10 LBS)  Dimensions  246.8 X 140.4 X 115 mm (I, h, w)	Response time	Adjustable from 2 to 20 seconds (typical 3.5S. )
Standard  4-20Ma or 0-22ma (configurable by the user)  Max. Load impedance 700 ω (std.)  Hart protocol 7th edition (option)  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 Mm2 (22 awg) - 1.5 Mm2 (16 awg)  Shielded cable recommended  Environmental  Storage:  De -40°c à +70°c  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  TLU600  316 L stainless steel  Weight  5KG (10 LBS)  Dimensions  246.8 X 140.4 X 115 mm (I, h, w)	Warranty	2 Years, back to factory
StandardMax. Load impedance 700 ω (std. ) Hart protocol 7th edition (option) Lonworks for syntel (option)Alarms2 X configurable relays max 1a / 30vccVisualNormal operating, alarm, faultElectricalPower supply24 Vdc, range (18 - 28 vdc)Power consumption2W normal, 4w during testConnection0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommendedEnvironmentalStorage:De -40°c à +70°cOperation-40°C to +65°c (-40°f to 149°f)OptionSunshade, max. Temp. 85°C (185°f)Humidity99% Rh (non-condensing)IngressIP66RFI /EMIComplies with en50130-4Explosion proof housingTLU600316 L stainless steelWeight5KG (10 LBS)Dimensions246.8 X 140.4 X 115 mm (I, h, w)	Output signal	
Visual Normal operating, alarm, fault  Electrical  Power supply 24 Vdc, range (18 - 28 vdc)  Power consumption 2W normal, 4w during test  Connection 0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg)     Shielded cable recommended  Environmental  Storage: De -40°c à +70°c  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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Standard	Max. Load impedance 700 $\omega$ (std. ) Hart protocol 7th edition (option)
Electrical  Power supply 24 Vdc, range (18 - 28 vdc)  Power consumption 2W normal, 4w during test  Connection 0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommended  Environmental  Storage: De -40°c à +70°c  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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Alarms	2 X configurable relays max 1a / 30vcc
Power supply         24 Vdc, range (18 - 28 vdc)           Power consumption         2W normal, 4w during test           Connection         0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommended           Environmental         Storage:           De -40°c à +70°c           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           TLU600         316 L stainless steel           Weight         5KG (10 LBS)           Dimensions         246.8 X 140.4 X 115 mm (I, h, w)	Visual	Normal operating, alarm, fault
Power consumption 2W normal, 4w during test  Connection 0.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommended  Environmental  Storage: De -40°c à +70°c  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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Electrical	
Connection  O.3 Mm2 (22 awg) - 1.5 Mm2 (16 awg) Shielded cable recommended  Environmental  Storage:  De -40°C à +70°C  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  TLU600  316 L stainless steel  Weight  5KG (10 LBS)  Dimensions  246.8 X 140.4 X 115 mm (I, h, w)	Power supply	24 Vdc, range (18 - 28 vdc)
Shielded cable recommended  Environmental  Storage: De -40°c à +70°c  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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Power consumption	2W normal, 4w during test
Storage: De -40°c à +70°c  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  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Connection	The state of the s
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 TLU600 316 L stainless steel Weight 5KG (10 LBS) Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Environmental	
Option Sunshade, max. Temp. 85°C (185°f)  Humidity 99% Rh (non-condensing)  Ingress IP66  RFI /EMI Complies with en50130-4  Explosion proof housing  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Storage:	De -40°c à +70°c
Humidity 99% Rh (non-condensing) Ingress IP66 RFI /EMI Complies with en50130-4 Explosion proof housing TLU600 316 L stainless steel Weight 5KG (10 LBS) Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Operation	-40°C to +65°c (-40°f to 149°f)
Ingress IP66 RFI /EMI Complies with en50130-4 Explosion proof housing TLU600 316 L stainless steel Weight 5KG (10 LBS) Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Ontion	
RFI /EMI Complies with en50130-4  Explosion proof housing  TLU600 316 L stainless steel  Weight 5KG (10 LBS)  Dimensions 246.8 X 140.4 X 115 mm (I, h, w)	Option	Sunshade, max. Temp. 85°C (185°f)
Explosion proof housing   TLU600   316 L stainless steel   Weight   5KG (10 LBS)   246.8 X 140.4 X 115 mm (I, h, w)		
TLU600         316 L stainless steel           Weight         5KG (10 LBS)           Dimensions         246.8 X 140.4 X 115 mm (I, h, w)	Humidity	99% Rh (non-condensing)
Weight         5KG (10 LBS)           Dimensions         246.8 X 140.4 X 115 mm (I, h, w)	Humidity Ingress	99% Rh (non-condensing) IP66
246.8 X 140.4 X 115 mm (I, h, w)	Humidity Ingress RFI /EMI	99% Rh (non-condensing) IP66 Complies with en50130-4
Limensions	Humidity Ingress RFI /EMI Explosion proof housi	99% Rh (non-condensing) IP66 Complies with en50130-4
9.8 X 5.5 X 4.5 Inches	Humidity Ingress RFI /EMI Explosion proof housi TLU600	99% Rh (non-condensing)  IP66  Complies with en50130-4  ng  316 L stainless steel

## **Approvals**

SIL	SIL2 approval without redundancy IEC 61 508-1 to 7
ATEX	II 2 G Ex d IIC T6 Gb (-40°C to +65°C)
IECEx	IEC 60079-0 / IEC 60079-1
CE DPC	EN 54-10:2002 + A1:2005







## **Accessories**

TLU600	Infrared remote control unit, ATEX certified : II 1 G Ex ia IIC T4
LT15	Test lamp, ATEX certified : II 2 G Ex d IIC T6-T5
AS048-X	SS316 swivel bracket (with 2" or 2.5" pipe mounting)
AS056-450	Sun shade
AS040	Long type visor (vertical upper angle reduction)
AS041	Long type visor (horizontal and vertical angle reduction)
AS045	Air shield
AS215	Tag plate

Simtronics is a world-class provider of sophisticated gas and flame detection systems. The company has more than 25 years' experience in supplying gas detection for use in applications ranging from plant boiler rooms to offshore petrochemical facilities. Simtronics' products are used worldwide to help protect life and assets.

AMERICAS - Texas (USA)

4055 Technology Forest Blvd. The Woodlands, TX 77381 Tel.: +1-800-247-7257 Fax: +1-281-292-2860

ZI Est, Rue Orfila, CS 20417 62027 ARRAS CEDEX, France Tel.: +33-3-21-60-80-80 Fax: +33-3-21-60-80-00

ASIA PACIFIC

290 Guiqiao Road Pudong, Shanghai 201206 People's Republic of China Tel.: +86-21-3127-6373 Fax: +86-21-3127-6365

