

FLAMEVISION FV300 SERIES

FLAME DETECTION INSTRUMENTS

tyco
Gas & Flame
Detection



TECHNICAL DATA PACKAGE

Safer. Smarter. Tyco.™

FLAMEVISION FV300 SERIES OVERVIEW

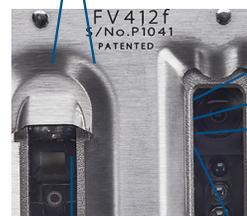


FLAMEVISION FV300 uses infrared array based sensing technology to provide the ultimate programmable flame detector. An array of 256 infrared sensors plus two optical channels view the protected area. Powerful algorithms running on a digital signal processor (DSP) are tuned to the characteristics of a fire and accurately the signals from these channels quickly and reliably identify fires. A key advantage of using an array is that the detector can accurately identify the location of the flame within the field of view. The location information is used to overlay a marker on the live video output to highlight the fire location. The user can quickly see the location of fires, and decide on the appropriate action. The location information is also available on the field network interface. User defined areas within the field of view can be masked and un-masked dynamically to improve reliability and maintain maximum coverage at all times. The detector can be supplied with an optional integrated color video camera to display a live image of the field of view. This is in addition to the alarm location and status information, which is available as standard on the video output.

FEATURES

- Advanced 256 IR array based detector
- Powerful DSP with algorithms to give reliable flame detection up to four events simultaneously
- Detection range: Over 50m for a 0.1m² n-Heptane pan fire
- Highest immunity to false alarms
- Masking of areas in the field of view
- Built-in video camera option to view protected area with alarm location and status overlay

*Window Test Lamps
under Reflector*



*Saphire
Window*

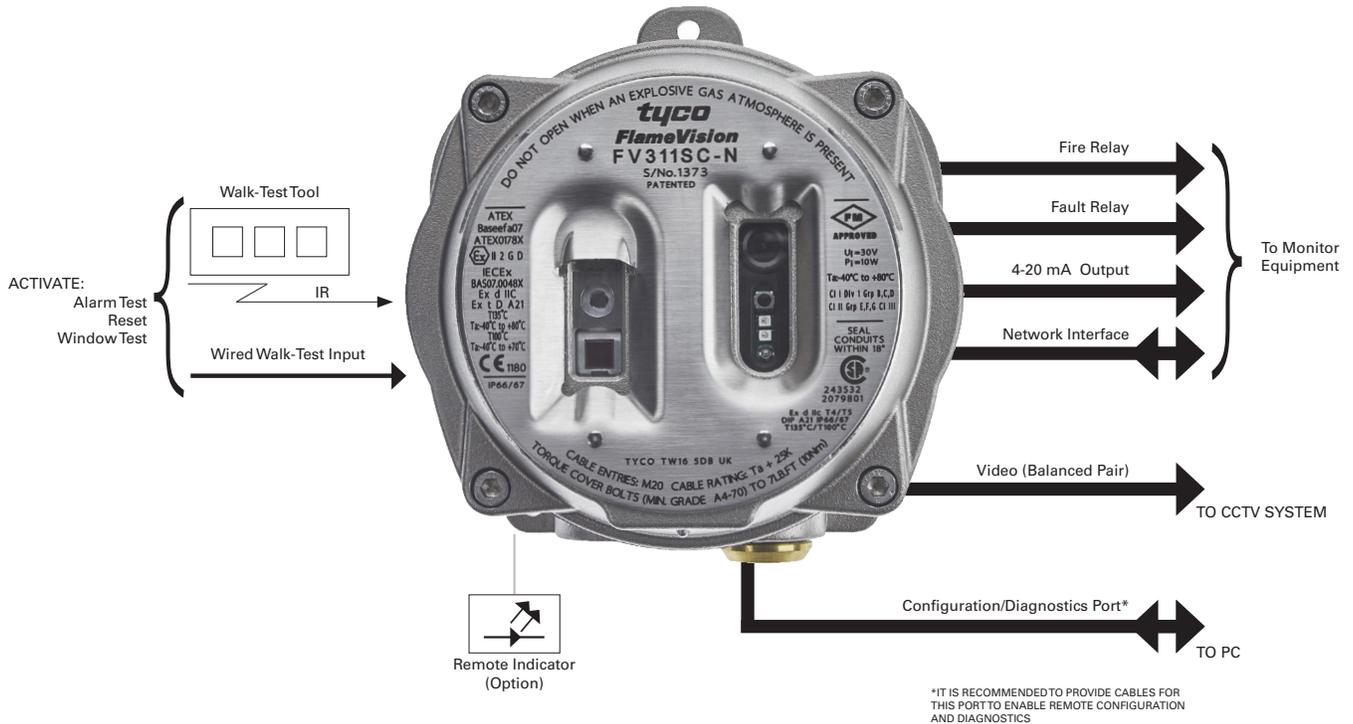
*Reinforced Glass
Window*

IR Receiver

Red LED (Alarm)

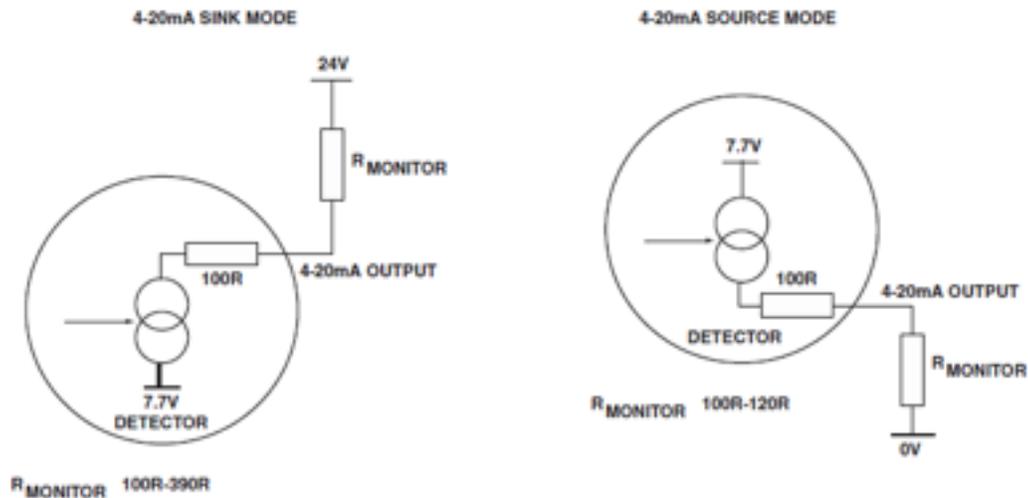
Yellow LED (Fault)

FLAMEVISION FV300 SERIES



4 to 20mA OUTPUT

Output mode: Selectable current sink or current source output



*The interface modes are as selected by DIP switches or the CTI300 Configuration Tool

FV300 SERIES

BID SPEC

Product Description

The FLAMEVision FV300 flame detector uses an infrared array based sensing technology to provide the ultimate programmable flame detector. An array of 256 IR sensors plus two optical channels view the protected area. An optional integral video camera to display a live image of the field of view, this is in addition to the alarm location and status information which is available as standard on the video output. It is configurable with either DIP switch settings or using the configuration software.

Certifications

Global Approvals ATEX, IECEX, FM, EN54, CSA

Area Classification Class I, Div 1, Group B,C,D
Class II, Group E,F,G and Class III

Environmental

Operating Temperature FV311S: -40°C to +80°C
FV311SC/FV311SC-N detector: -40°C to +80°C
camera: -10°C to +50°C

Storage Temperature FV311S: -40°C to +80°C
FV311SC/FV311SC-N detector: -40°C to +80°C
camera: -10°C to +50°C

Relative Humidity Up to 99% (non-condensing)

Detector Specification

Operating Voltage 20 to 30 Vdc (24 Vdc nominal)

Power Consumption Up to 10W (depending on model)

Enclosure Material 316L stainless steel

Enclosure Protection IP66 rating

Conduit Connections 2.5mm² (14AWG) Terminals

Detection Window Sapphire

Camera Window Toughened glass

Conduit Connections 2 Standard M20 gland tapped holes

Communication Protocols Fire & Fault relay contacts (NO or NC)
4-20mA Current Loop
MODBUS® network interface (RS485)
Composite Video option (balanced pair)

Maximum 4-20mA Loop Load (@24Vdc) 130 Ohms (Source)

Alarms 1 alarm, 1 fault

Display Red = Alarm LED
Yellow = Fault LED

Documentation Languages English

User Configuration Control DIP switches, CTI300 Offline Configuration Tool

Accessories Weather protection hood, walk test controller, configuration tool kit

FV300 SERIES

BID SPEC

False Alarm Immunity	Major improvement in both flame detection capability and immunity to false alarm sources over Triple IR detectors.
Weight	8.7lb (3.96kg) Detector in Stainless Steel 3.4lb (1.54kg) Mounting Bracket
Wiring	Accepts industry standard 2-wire, 3-wire or 4-wire inputs
Mounting Option	A mounting bracket is available to mount the detector and provides flexible adjustment to easily position the detector to cover the protected area.
Mounting Surface Area	200mm x 200mm
Mounting Bolt Holes	Four M8 bolts, studs or screws at the fixing centers

Detector Performance

Range (0.1m ² n-heptane)	50m Extended Range		
Field of View	90° horizontal, 85° vertical		
Detection Response time	Range (m/ft)	Response Time (s)	
0.1m ² n-Heptane	50/165	9	
0.1m ² n-Heptane	61/200	11	
0.2m ² n-Heptane	61/200	7	

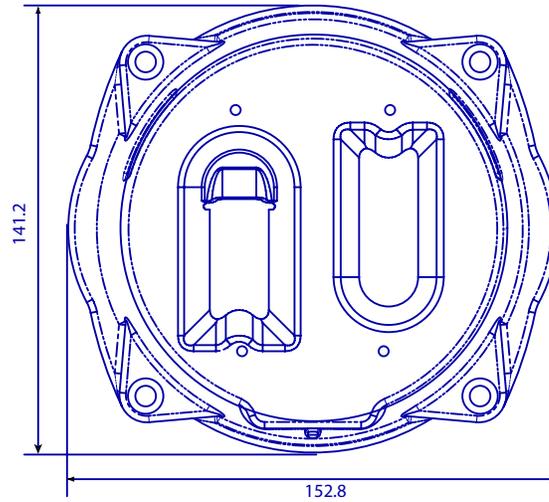
Detector Type

Model Description

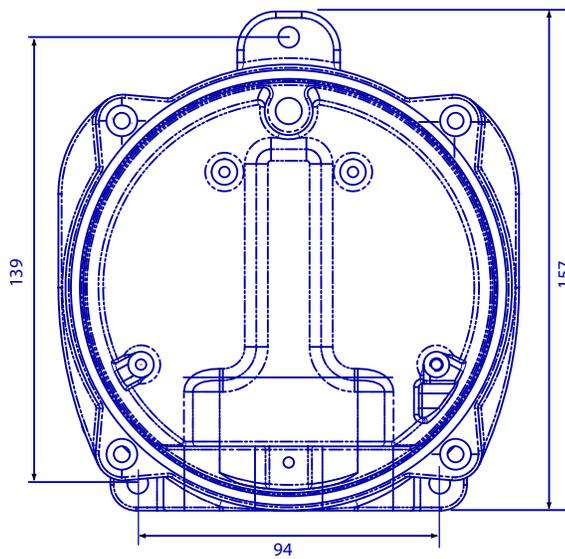
FV311S	IR array flame detector
FV311SC	IR array flame detector – PAL camera
FV311SC-N	IR array flame detector – NTSC camera

TECHNICAL DRAWINGS

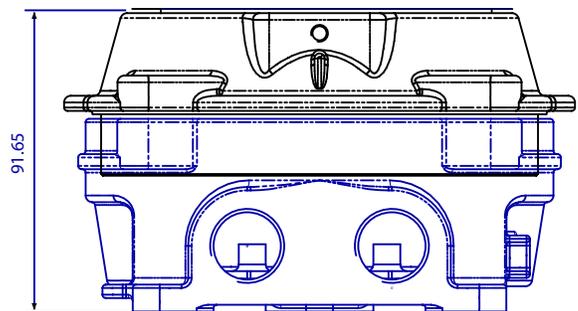
WALL MOUNTING OPTION



FRONT VIEW



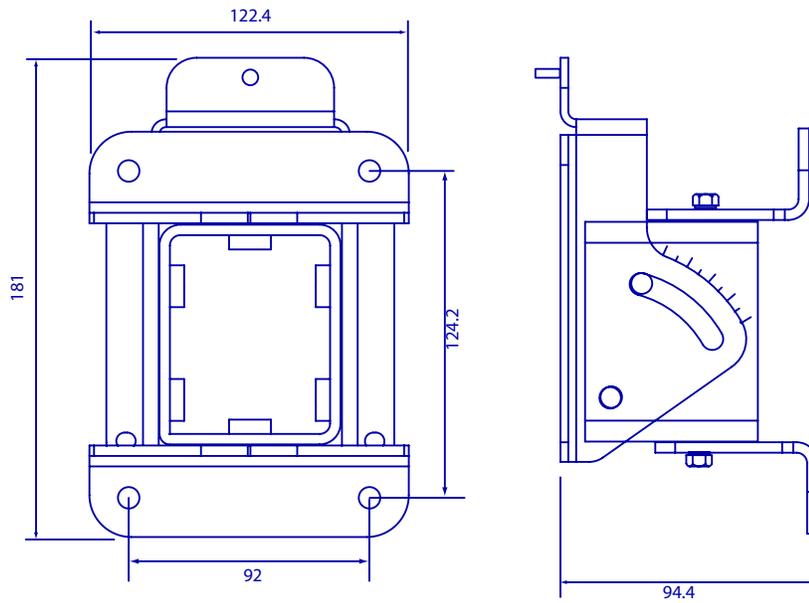
REAR VIEW



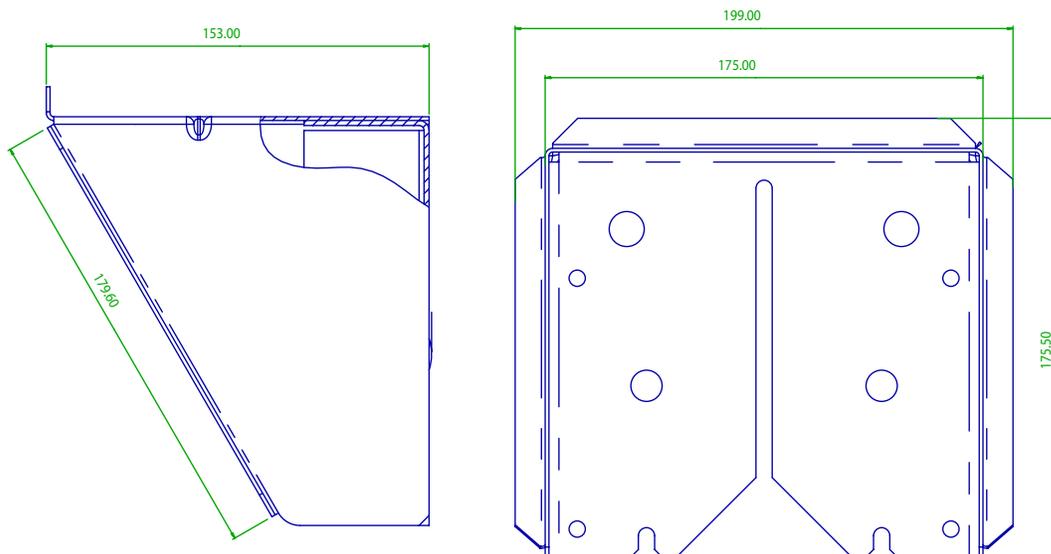
SIDE VIEW

TECHNICAL DRAWINGS

WALL MOUNTING OPTION



MB300 MOUNTING BRACKET



WH300 WEATHER HOOD

The Scott story. Since 1932, Scott Safety has been committed to providing outstanding, reliable safety equipment to those whose lives depend on it. Thousands of safety workers, firefighters, police, civil defense and military personnel have counted on Scott for innovative product design, best exemplified by our industry-leading Air-Pak SCBA. We've built a solid reputation on our attention to detail, rigorous quality assurance and exceptional service. The FV-40 series of flame detection continues this proud heritage.

PART NUMBER	DESCRIPTION
517.300.001	MB300 FV MOUNTING BRACKET
517.300.002	WH300 FV WEATHER HOOD
517.300.021	WT300 WALK TEST CONTROLLER
517.300.022	CTI300 OFFLINE CONFIGURATION TOOL