FLAMEVISION FV400 SERIES

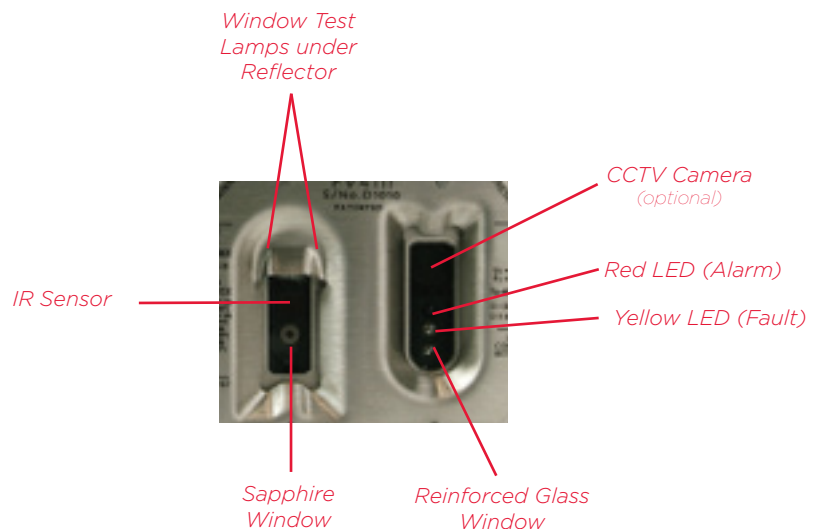*FLAME DETECTION INSTRUMENTS*

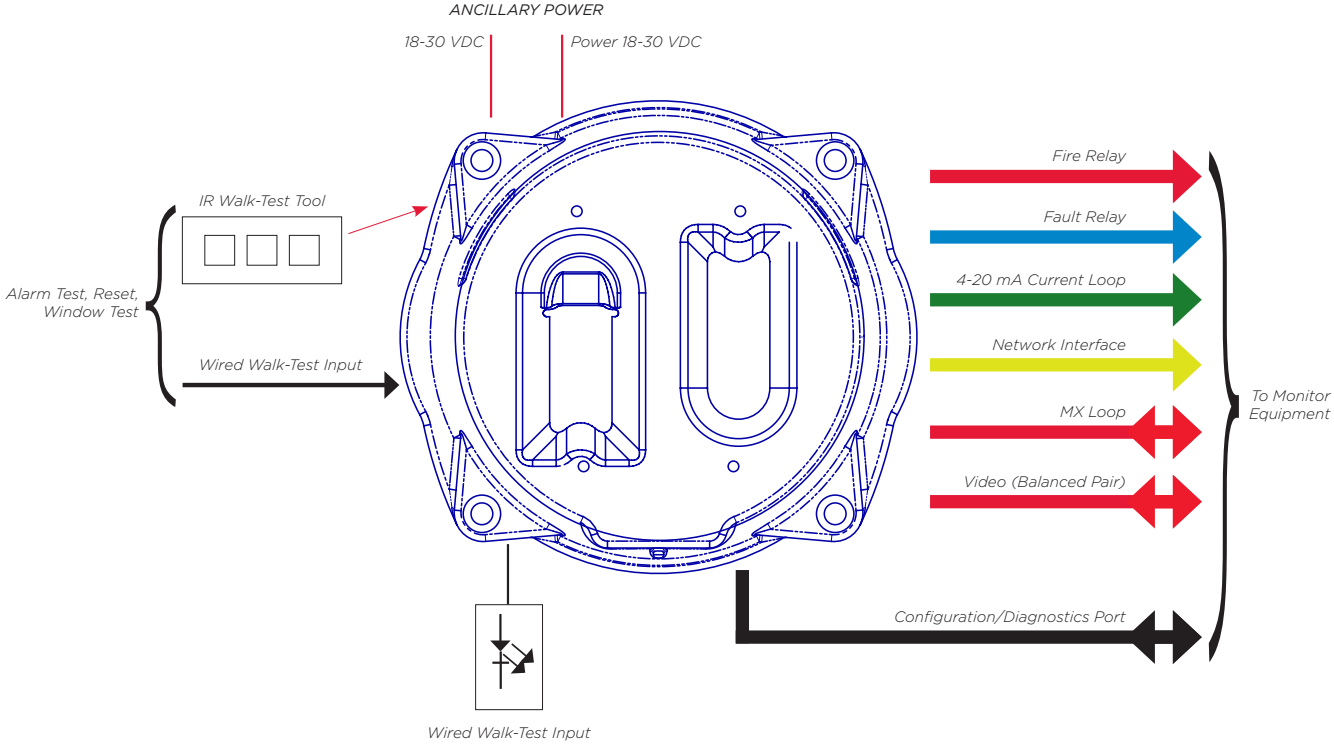*TECHNICAL DATA PACKAGE*

FV400 SERIES OVERVIEW

FLAMEVision FV400 uses Triple IR solar blind technology for flame detection. This provides a reliable and cost effective solution in standard flame detection application especially where there is a single hazard in the field of view. The FV400 FLAMEVision detectors use Triple IR solar blind sensing technology and flame detection algorithms to provide high performance sensing capabilities for hydrocarbon fires. This includes the ability to reliably sense flames through high densities of solvent vapors and black smoke, increasing the probability of early detection with consistent detection of many different types of hydrocarbon fuels from alcohol to aviation fuel. Multiple interfaces are provided with the option of an integral CCTV camera to provide a visual means of operator verification.

FEATURES

- Fast and reliable, high sensitivity flame detection with high false alarm immunity using solar blind IR technology
- Operational range 65m^2 (0.1m^2 n-heptane pan fire) on axis with wide field of view (90° horizontal and 85° vertical)
- Consistent detection of different sizes of flames from a wide range of hydrocarbon fuels
- Video output provides immediate visual identification of the alarm location
- Multiple field interface options to leverage it's flexibility

Window Test Lamps under Reflector

CCTV Camera (optional)

Red LED (Alarm)

IR Sensor

Yellow LED (Fault)

Sapphire Window

Reinforced Glass Window

FV400 SERIES INTERFACES

ANCILLARY POWER

18-30 VDC   Power 18-30 VDC

IR Walk-Test Tool

Alarm Test, Reset,
Window Test

Wired Walk-Test Input

Fire Relay

Fault Relay

4-20 mA Current Loop

Network Interface

MX Loop

Video (Balanced Pair)

To Monitor
Equipment

Configuration/Diagnostics Port

Wired Walk-Test Input

The interfaces are selected by configuration. Table below shows the combinations of interfaces that can be used together:

Interface Mode	4-20mA Current Loop	Relay	MODBUS	MX Loop	Conventional
4-20mA Current Loop and Relay (Default)	●	●	●		
Conventional					●
MODBUS	●		●		
MX Loop				●	

FV400 SERIES BID SPEC

Product Description

The FLAMEVision FV400 flame detector uses a triple IR solar blind technology. It is available with several output options including 4-20mA, MX loop, MODBUS®, fire & fault relays and conventional interface. A video camera option is available to provide immediate visual identification of the alarm location. It is configurable with either DIP switch settings or using the configuration software.

Certifications

Global Approvals	ATEX Ex II 2 G D, IECEx, EN54 *FM and SIL2 approval pending*
Area Classification	Class 1 on the extended and normal range settings Class 3 on the half range setting

Environmental

|	
Operating Temperature	FV411f: -40°C to +80°C FV412f/FV413f detector: -40°C to +80°C camera: -10°C to +50°C
Storage Temperature	FV411f: -40°C to +80°C FV412f/FV413f detector: -40°C to +80°C camera: -20°C to +70°C
Relative Humidity	Up to 99% (non-condensing)

Detector Specification

Operating Voltage	18 to 30 Vdc (24 Vdc nominal)
Power Consumption	FV411f: 7W (max) FV412f/FV413f: 10W (max)
Enclosure Material	316L stainless steel
Enclosure Protection	IP66 rating
Conduit Connections	2.5mm^2 (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) Tyco MZX Digital Conventional Interface Composite Video option (balanced pair) *HART® in development*
Maximum 4-20 loop load Ohms (@24 VDC)	150 Ohms (Source/Sink)
Alarms	1 alarm, 1 fault
Display	Red = Alarm LED Yellow = Fault LED
Documentation Languages	English

User Configuration Control	DIP switches, MX loop programming, CTI400 offline configuration tool
Accessories	Weather protection hood, walk test controller, configuration tool kit
False Alarm Immunity	Proven to be immune to common radiation sources (continuous or modulated) such as halogen lamps, lightning, x-rays, sparks, welding, heaters, etc. Unaffected by sunlight, completely solar blind.
Weight	8.7lb (3.96kg) Detector in Stainless Steel 3.4lb (1.54kg) Mounting Bracket
Wiring	Accepts industry standard 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 (0.1m2 n-heptane)	65m Extended Range 25m Normal Range 12m Half Range <6m Close Range	
Field of View	90° horizontal, 85° vertical	
Detection Response time *(0.2m² methane/natural gas flame, ext range)*	Range	Response Time
	30m	3 sec
	40m	6 sec
	50m	15 sec

| Detector Type	Model Desciption
FV411f	Triple IR flame detector
FV412f	Triple IR flame detector with camera – PAL
FV413f	Triple IR flame detector with camera – NTSC

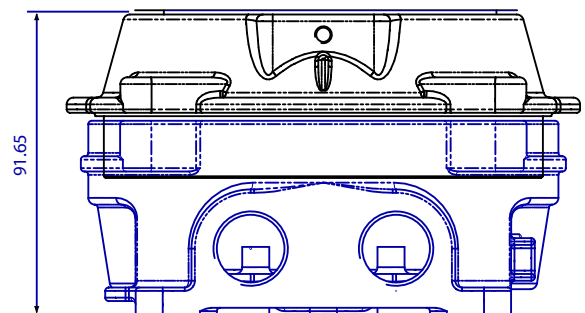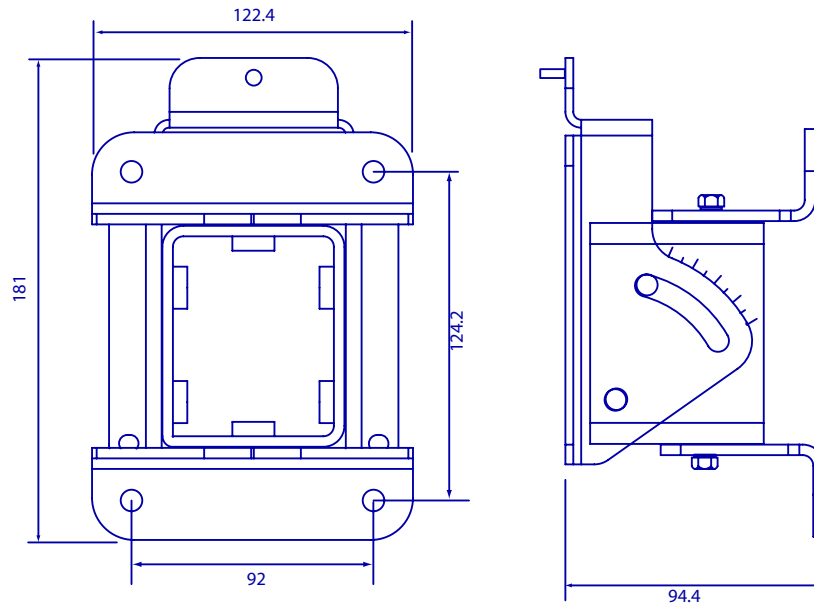| Accessories	
517.300.001	MB300 FV MOUNTING BRACKET
517.300.002	WH300 FV WEATHER HOOD
517.300.021	WT300 WALK TEST CONTROLLER
517.300.024	CTI400 FV400 OFFLINE CONFIGURATION TOOL

TECHNICAL DRAWINGS
WALL MOUNTING OPTION

141.2

152.8

FRONT VIEW

139

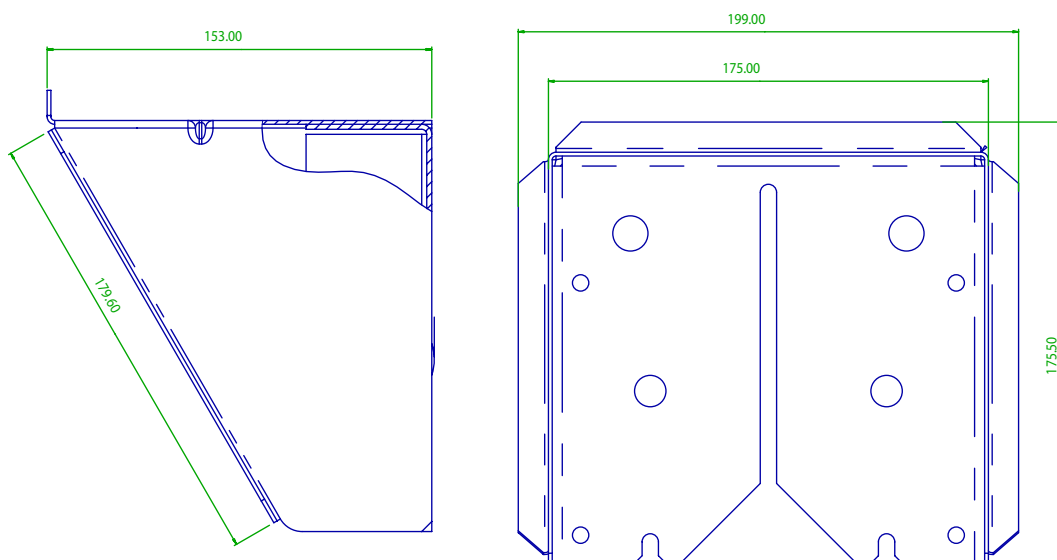157

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REAR VIEW

91.65
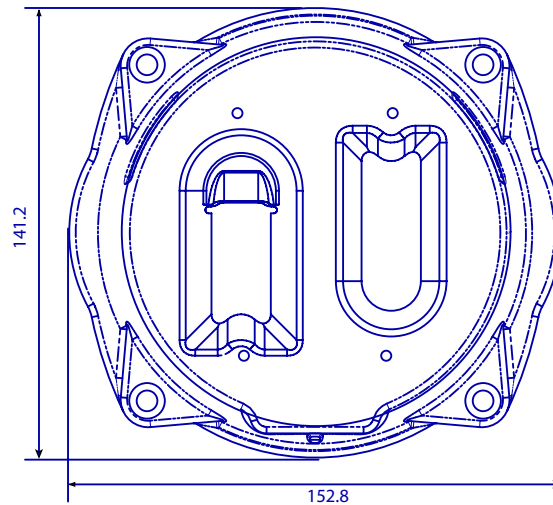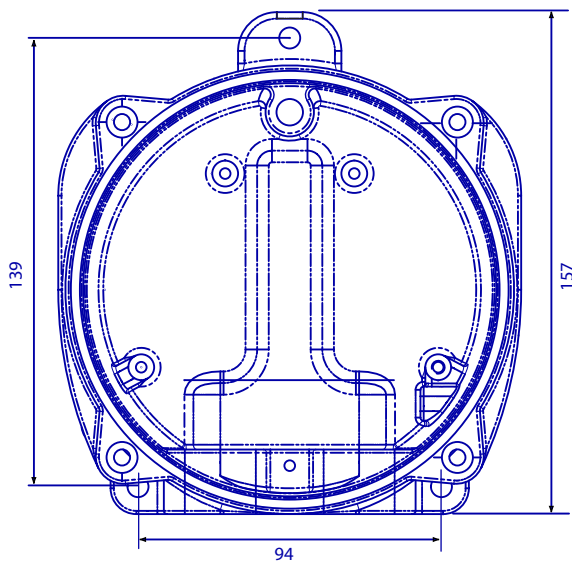
SIDE VIEW

TECHNICAL DRAWINGS
WALL MOUNTING OPTION

MB300 MOUNTING BRACKET

WH300 WEATHER HOOD