

# U2-101xS SERIES VIEWING HEADS

ALL-IN-ONE SCANNER AND PROCESSOR  
INDUSTRIAL FLAME MONITORING SYSTEM



WORLD LEADER IN FLAME MONITORING

**Honeywell**

# U2-101xS features:

## Available models:

- U2-1010S models: Triple sensor: IR, UV tube and UV photo diode
- U2-1012S models: Single sensor: IR
- U2-1016S models: Single sensor: UV tube sensor only.
- U2-1018S models: Dual sensor: UV tube and IR sensor

## Three sensor configuration:

- Infrared Photodiode: peak 1400nm with flicker detector filter. Not applicable for U2-1016S models.
- UV Photodiode: peak 310nm with flicker detector filter. Used in U2-1010S models only.
- UV tube: peak 210nm UV detector. Not applicable for U2-1012S models.

## Inputs:

- 24 Volt DC supply 0.15 amp maximum current:

## Outputs:

- Two normally-open contacts for self-check and flame relays with shared common. Contacts rated at 1A, 30VDC, resistive
  - Flame relay.
  - Self-check relay.
- Analogue output
  - 4 to 20 or 0 to 20 milliamp flame strength.
- Serial communications
  - RS485 Modbus compatible interface with 300 registers

## Connections:

- 3 to 10 conductor fly lead cable.
- 3/4" NPT male conduit connection for wiring
  - High pressure 1" NPT flame sight mount. Requires: coupler R-518-CL12-PG and adapter R-518-PT12

## Configuration files:

- Pre-defined settings files selectable by a single wire.
- Up to 8 selectable files

## User interface

- Display
  - Full character 4 digit scrolling LEDs visible in the dark or sunlight.
  - 3 Discrete single colour LEDs flashing with the sensor signal
- Red IR, Blue UV Solid state , Green UV tube
  - Green status LED (heartbeat flashes with self-checking operation).
  - Separate Red LED for relay status (hardware connected to flame relay).
- Touch Screen
  - Full control through the tempered glass touch sensor
  - Two button interface with circular scroll finger interface "Touch Wheel"
- Remote display or PC
  - Configurable via special S7999 colour touch display or PC via Modbus interface (FLAMETOOLS).

## Optical:

- Fused Silica Lens (UV grade)
- Viewing angle 5° for both UV sensors and 1° for the IR sensor

## Environmental:

- Aluminium housing with tempered glass sight window.
- Waterproof (to NEMA 4X) IP66
  - Fully sealed
- Ambient temperature -40° C to +70°C

## Safety:

- Electrical interruption of IR and solid state UV sensor signals for self-checking

## Approvals:

- SIL-3, FM, IEC, CE, ATEX, MCC/Inmetro








## Technology:

- Industrial ARM cortex processor
  - Flash memory upgradeable.
- Digital to analog gain control (scaled 0 to 99)
- High speed analog to digital sampling and flicker filter calculations. (8 to 300 Hz)

## Security:

- User selectable passcode can be required for access.
- All interfaces are lockable.

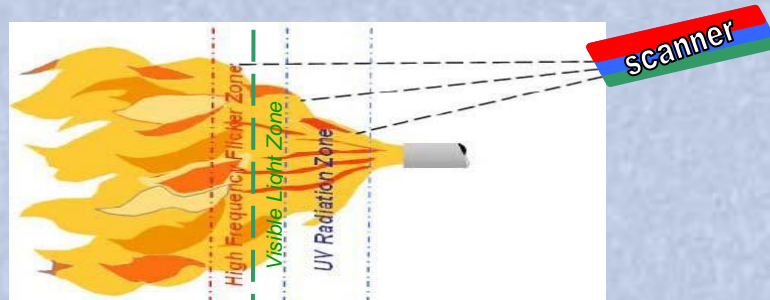
# U2-101xS approvals

Market	Pipe fit series (-PF)	Connector series
FM-U.S. 	CLASS I, II, III DIV 1 GROUPS A, B, C, D, E, F, & G, T6 *Not for use in acidic or aliphatic hydrocarbon atmospheres. **Must be sealed at the enclosure. XP / I / 1 / ABCD / T6 Ta = -40 to +70 °C; DIP / II, III / 1 / EFG / T6 Ta = -40 to +70 °C; I / 1 / AEx d IIC / T6 Ta = -40 to +70 °C; 21 / AEx tb IIIC / T85°C Ta = -40 to +70 °C;	CLASS I, II, III DIV 2 GROUPS A, B, C, D, E, F, & G, T5 DIP / II, III / 2 / EFG / T5 Ta = -40 to +70 °C; NI / I, / 2 / ABCD / T5 Ta = -40 to +70 °C; I / 2 / AEx nA nC IIC / T5 Ta = -40 to 70 °C; IP66 21 / AEx tb IIIC / T85°C Ta = -40 to +70 °C;
FM-Canada 	XP / I / 1 / ABCD / T6 Ta = -40 to +70 °C; DIP / II, III / 1 / EFG / T6 Ta = -40 to +70 °C; I / 1 / Ex d IIC / T6 Ta = -40 to +70 °C;	DIP / II, III / 2 / EFG / T5 TA = -40 to +70 °C; NE / I, / 2 / ABCD / T5 TA = -40 to +70 °C; I / 2 / EX NA NC IIC / T5 TA = -40 to 70 °C; IP66
IEC 	IECEx FMG 13.0023X Ex d IIC T6 Gb IP66 Ex tb IIIC T85C Temperature range: -40 to +185 °F (-40 to +70 °C)	IECEx FMG 13.0023X Ex nA nC IIC T5 Gc IP66 Ex tb IIIC T85C Temperature range: -40 to +185 °F (-40 to +70 °C)
CE 	EN298:2012	EN298:2012
ATEX 	FM11ATEX0063X II 2 G Ex d IIC T6 Gb II 2 D Ex tb IIIC T85°C Db Temperature range: -40 to +185 °F (-40 to +70 °C)	FM12ATEX0026X  II 3 G Ex nA nC IIC T5 Temperature range: -40 to +185 °F (-40 to +70 °C)
Segurança 	IECEx FMG 13.0023X Ex d IIC T6 Gb IP66 Ex tb IIIC T85C Temperature range: -40 to +185 °F (-40 to +70 °C) Certificate number NCC 14.03257X	IECEx FMG 13.0023X Ex nA nC IIC T5 Gc IP66 Ex tb IIIC T85C Temperature range: -40 to +185 °F (-40 to +70 °C) Certificate number NCC 14.03257X

# Integrated IR / UV Viewing Head & Signal Processor

## U2-101xS

- Multi-burner/fuel, Low NOx, Difficult flame detection, limited space



Optimal flame discrimination

## The U2-101xS has a unique touchscreen interface

- Circular scroll finger “touch wheel” menu structure



## Configuration via PC or S7999 colour touch display

- Available as FLAMETOOLS-PC or FLAMETOOLS-HMI



FLAMETOOLS-PC



FLAMETOOLS-HMI

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