

1. Introduction

The **Dahua DHI-HY-IFUV43DA-EX** is an **infrared and ultraviolet (IR/UV) flame detector** designed for fire detection in high-risk industrial environments. It utilizes **pyroelectric infrared sensors and a high-speed UV sensor**, enabling precise flame recognition while reducing false alarms caused by sunlight or thermal radiation.

Its advanced technology makes it ideal for **chemical, pharmaceutical, aerospace, printing, painting, rubber, metallurgy, and automotive manufacturing industries**, especially in environments with **hydrogen, magnesium, and aluminum combustion**.

2. Key Features

- **High sensitivity with minimal false alarms**, thanks to its intelligent multi-band detection algorithm.
 - **Wide detection range**: Up to **60 meters** for n-heptane fires.
 - **120° field of view**, both horizontally and vertically.
 - **Seamless integration** with **RS-485, fire bus, and 4-20 mA current loop output**.
 - **Aluminum alloy housing** with **IP66 certification**, resistant to dust and water.
 - **Explosion-proof design**, certified by **ATEX and IECEx**.
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3. Installation

3.1. Prerequisites

Before installation, ensure you have:

- A **stable mounting surface** for ceiling or wall installation.

- Connection to a **DC 24V** power supply.
- Integration with a fire alarm control panel.

3.2. Installation Procedure

1. **Mount the Detector:** Secure the detector on the ceiling or wall at the optimal angle.
 2. **Electrical Connection:** Connect **DC 24V** power and verify system communication.
 3. **Configuration and Testing:** Adjust detection sensitivity (levels 1-5) and perform system tests.
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4. Usage and Maintenance

- **Continuous Monitoring:** Check LED indicators for device status.
 - **Regular Cleaning:** Keep the lens free of dust and debris to ensure accurate detection.
 - **Connection Inspection:** Regularly verify power and wiring integrity.
 - **Functional Testing:** Simulate fire scenarios in a controlled area to confirm system response.
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5. Troubleshooting

Issue	Possible Cause	Solution
No flame detection	Dirty or obstructed sensors	Clean the lens and check positioning
Frequent false alarms	Exposure to intense sunlight	Relocate detector and adjust sensitivity

Fault LED on Power or wiring issue Check power supply and connections

6. Technical Specifications

- **Model:** DHI-HY-IFUV43DA-EX
 - **Sensors:**
 - **IR:** 3.8 μm , 4.4 μm
 - **UV:** 185 nm - 260 nm
 - **Detection Range:**
 - N-heptane: 60 m
 - Gasoline: 55 m
 - Alcohol: 50 m
 - **Response Time:** < 10 s
 - **Field of View:** 120° (horizontal and vertical)
 - **LED Indicators:**
 - **Alarm:** Solid red
 - **Fault:** Blinking red
 - **Normal Operation:** Blinking green
 - **Output Ports:**
 - 1 x RS-485
 - 1 x fire bus
 - 1 x 4-20 mA current loop
 - 3 x relay outputs (alarm, fault, auxiliary)
 - **Power Supply:** 24 VDC
 - **Power Consumption:** < 1W
 - **Operating Temperature:** -25°C to +75°C
 - **Protection Rating:** IP66
 - **Material:** Aluminum alloy
 - **Dimensions:** 146 mm × 123 mm × 133 mm
 - **Weight:** 1.55 kg
 - **Certifications:** CE, UKCA, ATEX, IECEx
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7. Warranty and Support

For technical assistance and updates, refer to Dahua's official documentation or contact authorized technical support.