

# Advanced Ultraviolet Flame Detector AUD300C2000

The AUD300C is a flame detector designed to sense ultraviolet radiation from an oil or gas burner flame. When used in combination with the dedicated AUR300C/350C Advanced Ultraviolet Burner Controller or AUR450C Dynamic Self Check Burner Controller, any malfunction that has occurred in this flame detector or, advanced ultraviolet burner controller or dynamic self-check burner controller can be detected by the action of the built-in shutter, ensuring highly reliable combustion safety control.

## ■ Features

- Replacement parts such as the tube and shutter can be handled as a single unit, allowing easy replacement and maintenance work.
- The self-checking AUD300C flame detector is compact and lightweight, so there are few constraints on mounting position.



- The operating ambient temperature is 100°C and the protective structure is IP66, for excellent environment-proof performance.
- Vertical mounting is possible and the maximum wiring length is 200m, allowing flexibility in installation.

## ■ Specifications

Item	Description
Applicable flames	City gas, Natural gas, Propane gas, Kerosene, Heavy oil, Coke oven gas, Hydrogen, Chlorine, Ammonia, Naphtha, Ethylene, etc.
Shutter voltage	Approx. 24Vdc (supplied from AUR)
Self-checking cycle	Approx. 75 cycles/min
Insulation resistance	Between flange unit mounting conduit and F-terminal (or blue lead wire), G-terminal (or yellow lead wire), S1-terminal (or white lead wire), and S2-terminal (or white lead wire): 50MΩ min. by a 500Vdc megger at each of the above locations. (The AUD10 tube unit must be dismantled.)
Dielectric strength	Between flange unit mounting conduit and F-terminal (or blue lead wire), G-terminal (or yellow lead wire), S1-terminal (or white lead wire), and S2-terminal (or white lead wire): 1500Vac for 1 min or 1800Vac for 1 sec at each of the above locations. (The AUD10 tube unit must be dismantled.)
Ambient temperature	-20 to +100°C while sensing flames (while shutter is opening and closing)
Ambient storage temperature	-20 to +70°C
Ambient storage humidity	90% RH at 40°C max.
Vibration resistance	4.9m/s <sup>2</sup> max., 10 to 55Hz for 2 hours each in X, Y and Z directions
Impact resistance	300m/s <sup>2</sup> in vertical and horizontal directions
Pressure resistance for flange	350kPa
Protection	IP66 (except for electric wiring pipe mounting conduit)
Mounting direction	-45 to +90° (vertical mounting)
Mounting	G1 (at the mounting section for sighting pipe)
Lead wires	AWG18 heat resistant silicone cables, with 2.4m color lead wires
Electric wire pipe mounting conduit	1/2-14NPSM
Flame signal wire requirements and extension distance	Requirements: 600V vinyl insulation wires, IV wires with 2.0 mm <sup>2</sup> , max. 200m
Materials	Main body: Heat-resistant resin Mounting section: Aluminum
Main body color	Purple
Weight	Approx. 630g
UV tube effective service life	Replace after 25,000 hours of use or the specified lifespan (3 years) marked on UV tube
Approval bodies	CE, UL, CSA

## ■ Model No.

Model No.	Description
AUD300C2100	Advanced ultraviolet flame detector
AUD300C210D	Advanced ultraviolet flame detector with inspection certificate

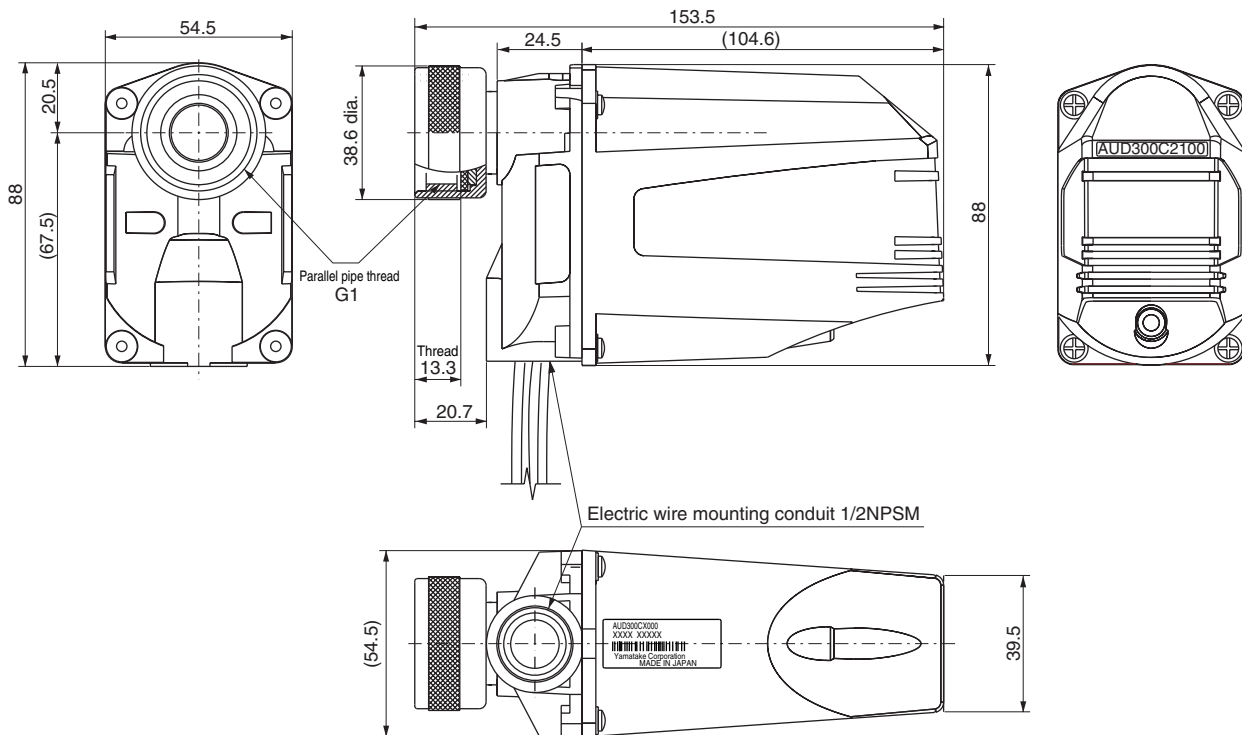
## ■ Replacement/optional parts

Model No.	Description
AUD60A2100	Maintenance kit (AUD10C/AUD50A set)
AUD10C2100	Tube unit
AUD50A2100	Shutter unit
81446925-002	Cover
81409780-001	Bushing 1 x 3/4

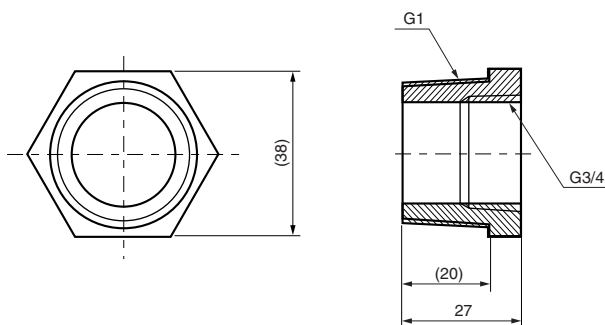
## ■ Dimensions

### ● Body

(Unit: mm)

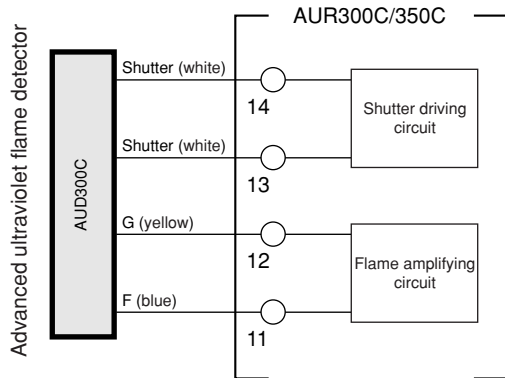


### ● Bushing

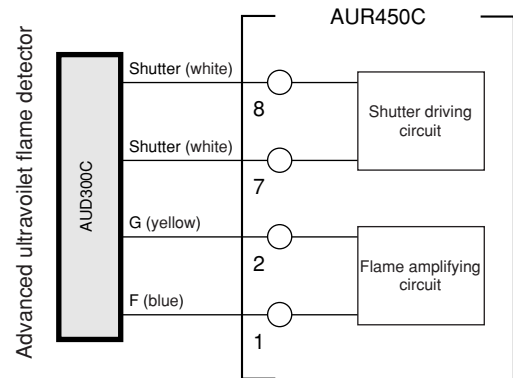


## ■ Wiring

### 1. Combination with AUR300C/350C



### 2. Combination with AUR450C



## ! Handling Precautions

- The flame detector has polarity. Correctly connect the wiring to the terminals indicated on the device (F-terminal and G-terminal). The attached blue cable is for the F-terminal, and the yellow cable is for the G-terminal.

## Cautions

- (1) The flame detector has an important role in maintaining safety by monitoring the burner flame. Please adhere to the procedures for safe usage stated in the user's manual.
- (2) Do not mount the flame detector in the following locations:
  - Near chemicals or fumes: ammonia, sulfur, chlorine, ethylene compounds, acid, or any other corrosive gases.
  - Locations subject to continuous vibration
- (3) When used where there is a UV radiation source other than the flame, take precautions so that no UV radiation other than that of the burner is detected.
- (4) Before wiring, be sure to turn the power off. Touching terminals by mistake while the power is on might result in electric shock or malfunction.
- (5) The flame detector has polarity. Correctly connect the wiring to the terminals indicated on the device (F-terminal and G-terminal). The attached blue cable is for the F-terminal, and the yellow cable is for the G-terminal.
- (6) Use the original box when transporting or storing this detector.
- (7) Do not bundle the power leads together with the flame detector signal lead wires, or place them in the same conduit. Route them separately.
- (8) Make sure that the ignition transformer high-voltage cables are properly connected in order to prevent faulty contacts. If there is poor contact, radio frequency waves may be generated and this could cause errors from radio interference. Install the ignition transformer directly onto a metal surface electrically connected to the burner.
- (9) The flame detector contains a glass tube. Do not subject it to vibration or shock. In particular, when transporting combustion equipment, be sure to pack it in the original box.

### RESTRICTIONS ON USE

This product has been designed, developed and manufactured for general-purpose application in machinery and equipment. Accordingly, when used in the applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- **Safety devices for plant worker protection**
- **Start/stop control devices for transportation and material handling machines**
- **Aeronautical/aerospace machines**
- **Control devices for nuclear reactors**

Never use this product in applications where human safety may be put at risk.

*Specifications are subject to change without notice.*

**azbil**

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