azbil Specification

AUD100/110

Advanced Ultraviolet Flame Detector Socket for the AUD15 Tube Unit

Overview

The AUD100/110 is a dedicated socket for the AUD15 tube unit, and is designed for monitoring batch operation oil or gas burner combustion.

Two models, the AUD100 lead-wire model and the AUD110 terminal block model, are available to meet wiring or installation requirements.

Features

- Excellent environmental specifications.
  - Ambient temperature 120 °C
  - IP65 Protection
- Wiring distance 200 m max.

AUD100

AUD110

Specifications

Item	Description	
Applicable type of fuel *1	City gas, natural gas, propane gas, kerosene, heavy oil, coke oven gas, hydrogen, chlorine, ammonia. naphtha, ethylene, etc.	
Mass	AUD100C	AUD110C
	Approx. 120 g (with the AUD15: approx. 140 g)	Approx. 120 g (with the AUD15: approx. 140 g)
Materials	Aluminum	Socket: Aluminum Terminal block: Heat-resistant resin (PBT + GF30)(black)
Insulation resistance	50 MΩ min by 500 Vdc megger (between each lead wire and the metal part of socket when the AUD15 is removed)	50 MΩ min by 500 Vdc megger (between each of terminals F and G and the metal part of socket when the AUD15 is removed)
Dielectric strength	1500 Vac for 1 min or 1800 Vac for 1 s (between each lead wire and the metal part of socket when the AUD15 is removed)	1500 Vac for 1 min or 1800 Vac for 1 s (between each of terminals F and G and the metal part of socket when the AUD15 is removed)
Ambient temperature	–20 to +120 °C	
Ambient storage temperature	–20 to +70 °C	
Ambient humidity	90 % RH at 40 °C (without condensation)	
Allowable pressure	35 kPa	
Vibration resistance	5 m/s^2 max. (10 to 60 Hz for 2 hours each in X, Y and Z directions)	
Protection	IP65 (JIS C 0920/IEC 60529) with pipes and wires connected	
Mounting nut	G1 (R1 and 1-11BSP are connectable)	
Lead wires	AWG #18 (approx. 1.2 mm^2) flame retardant cross-linked polyethylene insulated cable. approx. 1800 mm long (blue and white) (only AUD100)	
Conduit	G1/2 (1/2-14BSPP is connectable)	
Flame signal wire	Standard: 2.0 mm^2, 600 Vac cable with PVC insulation (“IV cable”). Max. length: approx. 200 m	
Certification		

Certificates	Directive	File No. et.al	Remarks
UL	—	MH27717	
CE*2	GAD (2009/142/EC)	0063CN6671	with RX-R4_C_ _ _ _ _ _
	RoHS (2011/65/EU)	—	

*1. For applications using coke oven gas, hydrogen, chlorine, ammonia. naphtha, ethylene, etc., in which the burner structure may impose restrictions on the mounting of the flame detector, it is necessary to check that flame monitoring is reliable.

*2. CE marking appears to comply with RoHS.

Model No.

Model No.	Description
AUD100C100_	Advanced Ultraviolet Flame Detector Lead-wire model without the AUD15
AUD100C1000-A15	Advanced Ultraviolet Flame Detector Lead-wire model with the AUD15
AUD110C100_	Advanced Ultraviolet Flame Detector Terminal block model without the AUD15
AUD110C1000-A15	Advanced Ultraviolet Flame Detector Terminal block model with the AUD15

Replace the blank (_) in the mobel number with one of the for choices below.

0: Standard

D: Inspection certificate

T: Tropicalization treatment (only AUD110 Series)

B: Inspection certificate + Tropicalization treatment (only AUD110 Series)

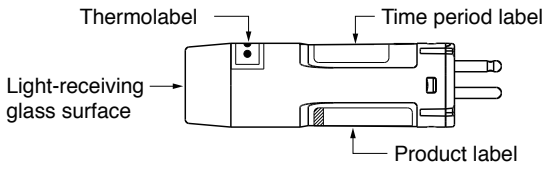
Combined burner controller

Model No.	Description
RX-R20C, RX-R22C	Burner Control module
FRS100C	Multiburner Controller
R4750C	Burner Controller (FSG50 Protectorelay)
R4780C, R4781C	Burner Controller (FSG80 Protectorelay)
RA890G	Burner Controller (Protectorelay)

Maintenance/optional parts

Model No.	Description
AUD15C1000	Tube Unit (Ultravioret photoelectric tube) *1
81403159	Seal adapter *2
FSP100R15000	G1/2 Adapter
FSP300C100	Flame simulator
FSP100L70000	Lens unit (the focal distance 70 mm)
FSP100L7000D	Lens unit (the focal distance 70 mm) + Inspection certificate
FSP100L30000	Lens unit (the focal distance 30 mm)
FSP100L3000D	Lens unit (the focal distance 30 mm) + Inspection certificate

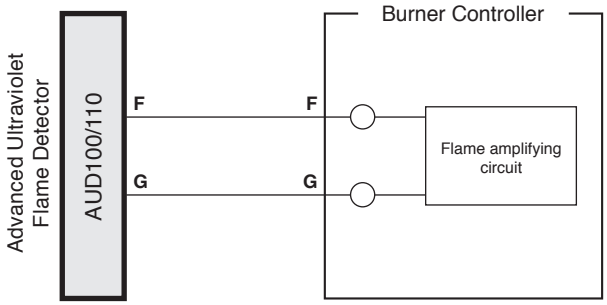
*1. AUD15C1000



*2. Seal adapter (model No. 81403159)

Refer to the next page

Wiring



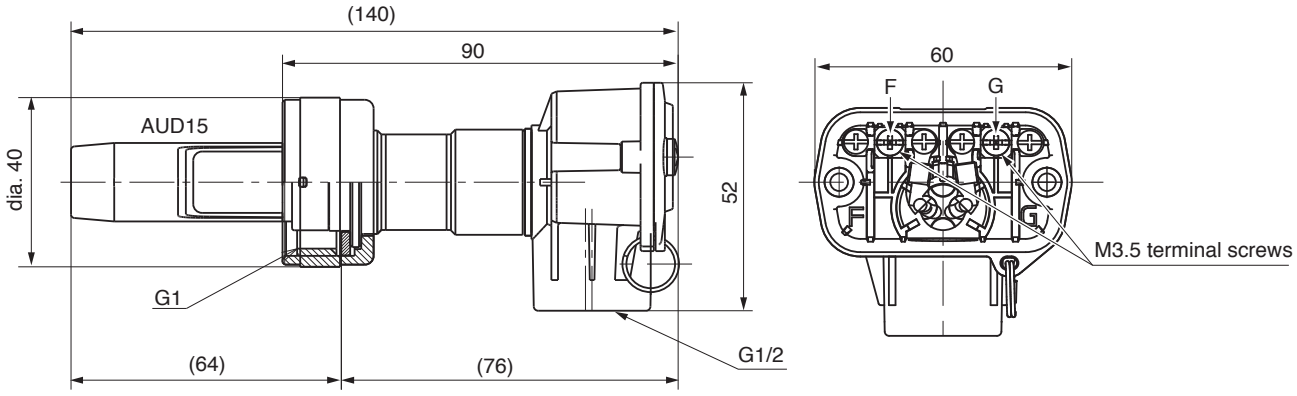
! Handling Precautions

- The flame detector has polarity. Correctly connect the wiring to the terminals indicated on the device (F and G). For the AUD100C, the attached blue cable is for terminal F, and the white cable is for terminal G.

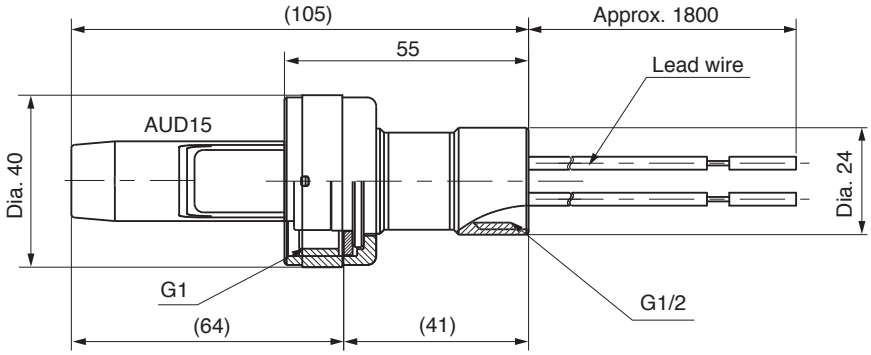
Dimensions

Unit: mm

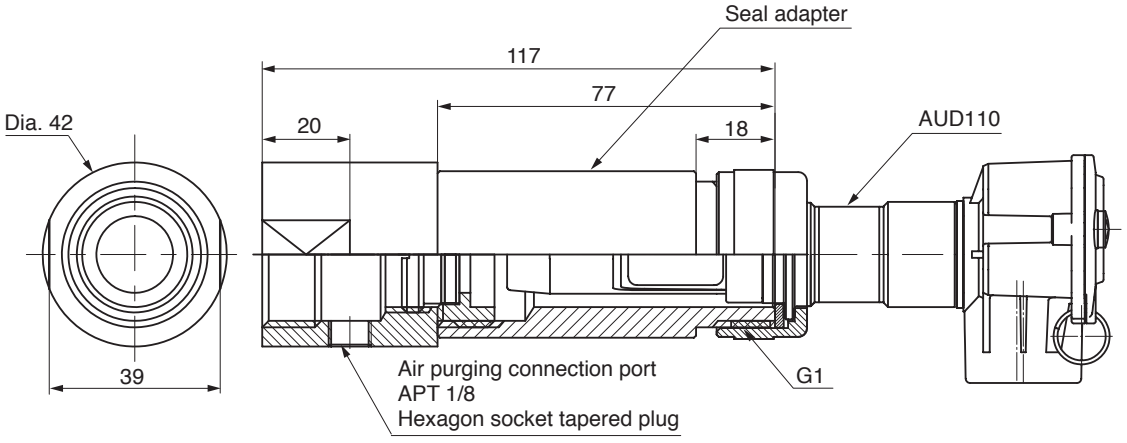
• AUD110C100_ with the AUD15



• AUD100C100_ with the AUD15



• Seal adapter (model No.: 81403159)



Cautions

(1) The AUD100 Series Advanced Ultraviolet Flame Detector has an important role for safety in monitoring the burner flame. Please observe the procedures for safe usage stated in the user's manual.

(2) Do not mount the flame detector in the following locations:
- Locations near certain chemicals or their fumes, such as ammonia, sulfur, chlorine, ethylene compounds, acid, or any other corrosive gases.
- Locations subject to continuous vibration.

(3) When used in atmospheres where a UV ray source exists other than the flame, take countermeasures so that no UV ray 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 sensor has polarity. Correctly connect the wiring to the terminals indicated on the device (F and G). The attached blue cable is for terminal F, and white cable is for terminal G.

(6) Use a dedicated packing case when transporting or storing this detector.

(7) Do not put the flame sensor signal wires in the same cable with other signal wires or power wires.

(8) Make sure that the ignition transformer high-voltage cables are properly connected in order to prevent faulty contact. If there is poor contact, radio frequency waves may be generated and this could cause radio interference. Install the ignition transformer directly onto a metal portion electrically connected to the burner.

(9) The AUD15C tube unit of the AUD100 Series is made of a glass. Do not subject it to vibration or shock. In particular, when transporting combustion equipment, be sure to pack the flame detector in a dedicated packing case.

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