



บริษัท เอดีดี เฟอร์เนส จำกัด

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CP-UM-5296JE

AUD10C1000 Tube Unit for the AUD300/500 User's Manual



Thank you for purchasing the AUD10C1000. This manual contains information for ensuring correct use of the AUD10C1000. This manual should be read by any personnel who are responsible for the maintenance of devices that are installed with the tube unit. Keep this manual in an easily accessible place with the following related manuals:

- AUD300C1000 Advanced Ultraviolet Flame Detector CP-SP-1141E
- AUR300C Advanced Ultraviolet Burner Controller CP-SP-1142E
- AUR350C Advanced Ultraviolet Burner Controller CP-SP-1175E
- AUR450C Dynamic Self-Checking Burner Controller CP-SP-1264E

Please read the "Terms and Conditions" from the following URL before ordering or use:

<http://www.azbil.com/products/bi/order.html>

NOTICE

Be sure that the user receives this manual before the product is used.

Copying or duplicating this user's manual in part or in whole is forbidden. The information and specifications in this manual are subject to change without notice.

Considerable effort has been made to ensure that this manual is free from inaccuracies and omissions. If you should find an error or omission, please contact the azbil Group.

In no event is Azbil Corporation liable to anyone for any indirect, special or consequential damages as a result of using this product.

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SAFETY PRECAUTIONS

Safety precautions are for ensuring safe and correct use of this product, and for preventing injury to the operator and other people or damage to property. You must observe these safety precautions. Also, be sure to read and understand the contents of this user's manual.

WARNING

Warnings are indicated when mishandling this product might result in death or serious injury to the user.

CAUTION

Cautions are indicated when mishandling this product might result in minor injury to the user, or only physical damage to this product.

WARNING

- Do not touch this unit or the F-terminal or G-terminal of the AUR immediately after the power to the AUR has been turned OFF. The F-terminal or G-terminal are still electrically alive within 1 min after the power has been turned OFF, causing an electric shock hazard.

CAUTION

- When transporting combustion equipment, uninstall the AUD300C Advanced Ultraviolet Flame Detector and the tube unit, and ship them in the same packaging that they were in when they were received. Failure to do so could result in faulty operation incurred from shock or vibration during shipping.
- The service life of the AUD10C1000 tube unit is a maximum of 3 years. To ensure operational safety, replace the tube unit with a new one within this service life.

1. Overview

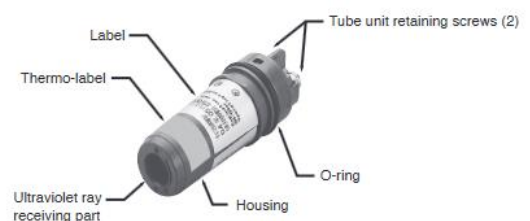
The AUD10C1000 is a photoelectric tube that detects the ultraviolet radiation emitted by a flame. It is used in combination with the AUD300C Advanced Ultraviolet Flame Detector.

2. Names of parts

AUD300C construction



AUD10C1000 tube unit

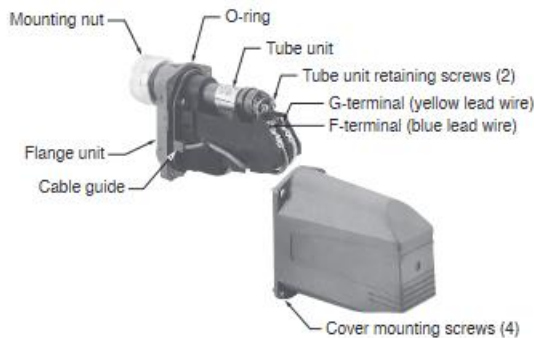




3. Replacement of tube unit

! Handling Precautions

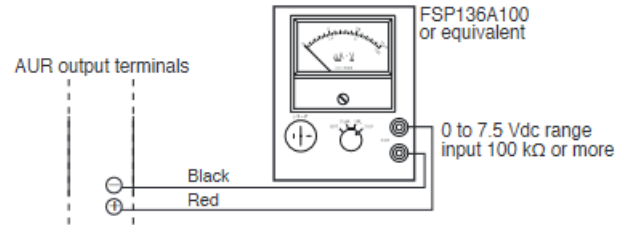
- When replacing, handle the shutter unit gently, taking care not to jar it.
 - When transporting or storing the AUD10C1000, be sure to package it in the same packaging that it was in when it was received.
 - The upper limit of the operating temperature range of this unit is 120 °C. If the 120 °C-part of the thermo label of the AUD10C1000 tube unit becomes black, check the ambient temperature and cool the unit using air purging or the like.
 - After the replacement work, be sure to carefully mount the O-ring on the flange unit before reattaching the cover. Otherwise the Ultraviolet flame detector will not be properly sealed.
 - Tighten the terminal screws and mounting screws with a tightening torque of 0.7N•m
- (1) Turn OFF the power to the AUR Burner Controller.
 - (2) Loosen the mounting nut after at least one minute has passed, then remove the AUD300C Ultraviolet flame detector from the monitoring pipe.
 - (3) Remove the cover by unscrewing the four (4) mounting screws that secure it to the AUD300C.
 - (4) Remove 2 tube unit retaining screws on the rear of the tube unit.
 - (5) Hold the rear of the tube unit and gently raise it upward to remove it.
 - (6) Insert the top part of the new tube unit into the round hole in the upper portion of the shutter unit and push the bottom part of the tube unit down into place.



- (7) Tighten 2 tube unit retaining screws.
- (8) Make sure that the O-ring is not disengaged from the flange unit.
- (9) Secure the cover with 4 cover mounting screw

4. Operation check

When verifying the function of the tube unit, use the flame-voltage output terminals of the AUR.



- (1) Connect a analog flame meter (FSP136A100) to the flame voltage output terminals of the AUR.
- (2) Light a lighter in front of the ultraviolet ray receiving part of this unit to check that the voltage is output correctly

! Handling Precautions

When using an open flame, check that there is no flammable gas around this unit

- (3) Mount the AUD300C onto the monitoring pipe.
- (4) Start the combustion of the burner.
- (5) Measure the flame voltage between terminals 9 and 10 of the AUR with a tester.

Recommended flame voltage	Inspection item
Stable 2.0 Vdc or more(The flame voltage may fluctuate in a range of 0.1 to 0.3V synchronized with the shutter operation of this unit.)	Check that the flame is monitored correctly. Check that the light receiving lens of this unit is not contaminated. Check that foreign matter, such as soot is not caught in the monitoring pipe

5. Inspection and adjustment

After replacing the tube unit, perform a pilot turndown test, an ignition spark response test and a safety shutoff test to verify proper functioning of the tube unit.

- ➡The AUR300C Advanced Ultraviolet Burner Controller with Communications User's Manual (CP-SP-1142E), the AUR350C Advanced Ultraviolet Burner Controller User's Manual (CP-SP-1175E), the AUR450C Dynamic Self-Checking Burner Controller User's Manual (CP-SP-1264E) (for details on each test)