

Dynamic Self-Checking Burner Controller | AUR450C



The AUR450C Dynamic Self-Checking Burner Controller is designed for continuous operation and batch operation. It is used in combination with the AUD300C Advanced Ultraviolet Flame Detector or the AUD500C Explosion-Proof Advanced Ultraviolet Flame Detector. It is a combustion safety controller that automatically ignites a gas burner or an oil burner in the correct sequence and in a safe manner, and also monitors the burner.

The AUR450C, by driving the shutter of the AUD300C/500C, monitors combustion conditions while continuously checking the tube unit and the flame detection circuit. A 7-segment display on the front panel and a communication function are provided for convenient maintenance and troubleshooting. The 7-segment display shows the flame voltage, sequence code, and alarm code.



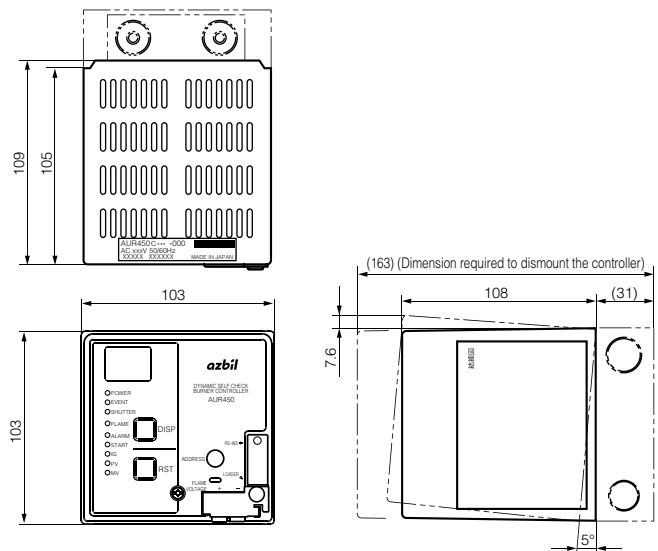
Specifications

Compatible flame detectors	AUD300, AUD500				
Sequence timing (at standard temperature and humidity and rated voltage)	Sequence during flame failure	Ignition trial time	Pilot only time	Main trial time	Flame response time
	Non-recycle	4 ± 1s, 8 ± 2 s (selected by model No.)	7.5 ± 2.5 s	7 ± 3 s	Nominal 1.5 s (max. 2 s) Nominal 3 s (max. 4 s) (selected by model No.)
Flame voltage output	0 to 5 V (in normal condition)				
Flame voltage range (at standard temp. and humidity and rated voltage)	With flame: 1.5 to 4.0 Vdc				
	Without flame: 0.0 to 0.6 Vdc				
Recommended flame voltage	Stable 2.0 Vdc or more				
Rated power supply voltage	100 Vac, 120 Vac, 200 Vac, 230 Vac 50/60 Hz (selected by model No.)				
Allowable voltage range	85 to 110% of rated supply power voltage				
Power consumption	15 W max (including AUD300C/500C)				
Dielectric strength	1,500 Vac 50/60 Hz for 1 min or 1,800 Vac 50/60 Hz for 1 s Voltage-applied location: between ground and primary terminals (No. 11 to 24 terminals) * excluding No. 1 to 10 terminals				
Insulation resistance	At least 50 MΩ with a 500 Vdc megger Measurement location: between ground and primary terminal (No. 11 to 24 terminals) * excluding No. 1 to 10 terminals				
Induction lightning surge	10 kV, 1.2/50 μs (JEC-187 surge impedance 75 Ω or more) Connect the following surge absorber between one side of supply power (No. 1 terminal) and ground. Recommended surge absorber: part No. 83968019-001				
Operating life	7 years or 100,000 starts				
Communication	Signal level	RS-485 compliant			
	Transmission line	Multi-point (max. 15 units per host)			
	Communication protocol	Half-duplex			
	Synchronization method	Start/stop synchronization			
	Transmission control	Polling/selecting method			
	Maximum cable length	Max. 500 m			
	Number of communication lines	3			
	Communication speed error	0.16%			
	Terminal resistor	Built-in (other usage prohibited)			
	Transmission speed	19,200 bps			
	Data length	8 bits			
	Stop bit length	1 bit			
	Parity bit	Even parity			
	Allowable ambient temperature	Single mounting: -20 to +55 °C, close-contact mounting: -20 to +45 °C			
Storage temperature	-20 to +70 °C				
Allowable humidity	90%RH at 40 °C (without condensation)				
Vibration resistance	Operation: amplitude width 0.5 mmp-p, frequency 10 to 55 Hz				
	Transport and storage: amplitude width 0.75 mmp-p, frequency 10 to 55 Hz				
Permissible contamination	Pollution Degree 2				
Protection	IP20				
Standard compliance*	CE Standard	EN 298 (CE-0063BS1427)			
	UL Standard	UL372 (File No.MH27717)			
	CSA Standard	C22.2 No. 199			
Mounting	Plug-in to a dedicated sub base, model No.: Q241A104 (sold separately)				
Mounting posture	Mount on a vertical surface so that the flame voltage terminal is located on the lower side.				
Color	Black				
Weight	Approx. 830 g (including sub base)				

*. The combination of AUR450C, AUD300C and Q241A104 is certificated by standards.

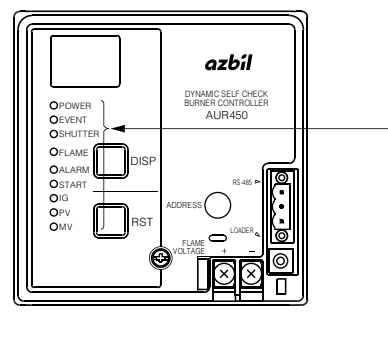
External dimensions

(Unit: mm)



Note: To dismount the controller, tilt it as shown in the above figure and then pull it.

LED indication



LED name	Color	Description
POWER	Green	Lights when supply power is turned ON.
EVENT	Orange	Lights when event occurs.
SHUTTER	Green	Lights when shutter is closed.
FLAME	Green*	Lights when flame is detected.
ALARM	Red	Lights when alarm is detected.
START	Green	Lights when startup contact input is short-circuited and goes out when alarm is detected.
IG	Green	Lights when ignition transformer is output.
PV	Green	Lights when interrupted pilot valve open is output.
MV	Green	Lights when main valve open is output.

*. The color can be green, orange, or red depending on the setting. The factory default settings are green for flame voltage 2.5 V or higher, orange for 1.6 V to 2.4 V, and red for 1.5 V or lower. However, it goes out when flame is not detected (K6 is off).

1

DIGITAL CONTROLLERS

2

RECORDERS, INDICATORS

3

CONVERTERS

4

FLAME SAFEGUARD SYSTEM

5

ACTUATORS

6

SENSORS

7

GAS FLOW MEASUREMENT AND CONTROL PRODUCTS

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Model No. configuration

Ex.: AUR450C4221000

Basic model No.	Ignition timing	Standard certification	Flame response time	Rated power supply voltage	Addition 1	Addition 2	Description	
AUR450C	4 8						Dynamic self-checking burner controller	
							4 ± 1 s	
								8 ± 2 s
		2						With standard certification
				2				Nominal 1.5 s (max. 2 s)
				3				Nominal 3 s (max. 4 s)
					1			100 Vac, CE, UL and CSA standards compliant
					2			200 Vac, CE and CSA standards compliant
					3			120 Vac, CE, UL and CSA standards compliant
					5			230 Vac, CE and CSA standards compliant
					0		—	
						00	Standard	
						D0	Inspection results included	
						T0	Tropical treatment	
						DT	Inspection results included + tropical treatment	

Optional parts (sold separately)

Name	Model No.
Dedicated sub base*	Q241A104
Surge absorber against lightning	83968019-001
Communication connector	81446848-001
Smart Loader Package (with cable)	SLP-A00J50
Smart Loader Package (without cable)	SLP-A00J51
Analog flame meter	FSP136A100

*. Required.

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