



- // Automatic burner control unit with integrated ignition transformer packaged in a single compact metal housing (IP54/NEMA 3 rating)
- // For use with direct spark ignited burners
- // For continuous operation
- // For use with modulating or frequency fired control systems
- // Includes air valve control
- // Optional proof of closure switch (OCS) control input
- // Optional digital input for 1,400 °F auto ignition lockout
- // Displays program status, unit parameters, fault code or flame signals
- // Optional optical interface for diagnostic information and parameter settings
- // Manual mode for burner adjustments and troubleshooting
- // Select restart or immediate fault lockout in the event of a flame failure
- // Removable bottom mounting plate with five (5) 1/2" conduit openings make installation of electrical connections simple
- // Removable terminal blocks to facilitate electrical field wiring
- // Meets NFPA 86 standard
- // CE certified models available

Application

The BCU 465 combines the functionally related components of the automatic burner control unit, ignition transformer, manual/automatic mode and a digital display for operating parameter and fault status indication in a single metal housing. The BCU® controls the ignition process and continuously monitors the burner operation. The BCU® is designed to mount close to the burner to reduce installation costs and simplify commissioning and troubleshooting efforts.

BCU 465

Specifications

Operating Temperature:	-4°F to 140 °F (-20 °C to 60 °C)
Operating Voltage:	115 Vac +10%, -15%, 50/60 Hz
Power Consumption:	9 VA, plus power consumption depending on incorporated ignition transformer from 80 to 235 VA
Output Current:	2 Amps per output at 115 Vac Maximum current for valves and ignition transformer is 2.5 Amps
Flame Sense Current:	> 1 μ A
Max. Number of Operations:	1,000,000 Cycles
Housing Material:	Die-cast aluminum

Features

The BCU 465 burner control unit offers extensive diagnostic features to simplify start-up and troubleshooting efforts. The operation sequence, fault status, device parameters and flame signals can be monitored on a two-digit, 7-segment display.

Manual mode allows the burner to be started in a step-by-step operation, which allows time to adjust the air/fuel ratio at each burner.

In addition, the optical interface adapter communication between the BCU® and a PC provides viewing of the flame signal and fault information. This provides valuable historical diagnostic and operational information. It also makes the modification of specific parameters possible.



Additional features include

- // Ignition and flame monitoring possible with one electrode (single electrode operation)
- // Ionization or UV control
- // Two gas valve outputs
- // Air valve control
- // Proof of closure switch (OCS) control input (optional)
- // Digital input for 1,400 °F auto ignition lockout
Input provided by customer must meet NFPA standard
- // Flame signal sensitivity adjustment
- // Adjustable minimum off time
- // Operation and fault-signaling contacts
- // Main power switch
- // Reset/information button
- // For grounded and ungrounded power systems
- // Optional flame-simulation test during stand-by or start-up
- // Labeling window for individual unit identification

The BCU 465 is used for direct ignited burners of unlimited capacity in a wide range of industrial and commercial applications. The BCU® can be used in modulating or frequency fired control systems.

Application examples

Typical modulating control system

(Fig. 1)

The burner is ignited when the air butterfly valve is in the ignition position (low-fire). Once the burner is ignited, the air butterfly valve can be modulated throughout its control range. The gas can be controlled with an air/fuel ratio regulator cross-connected to the burner air supply piping.

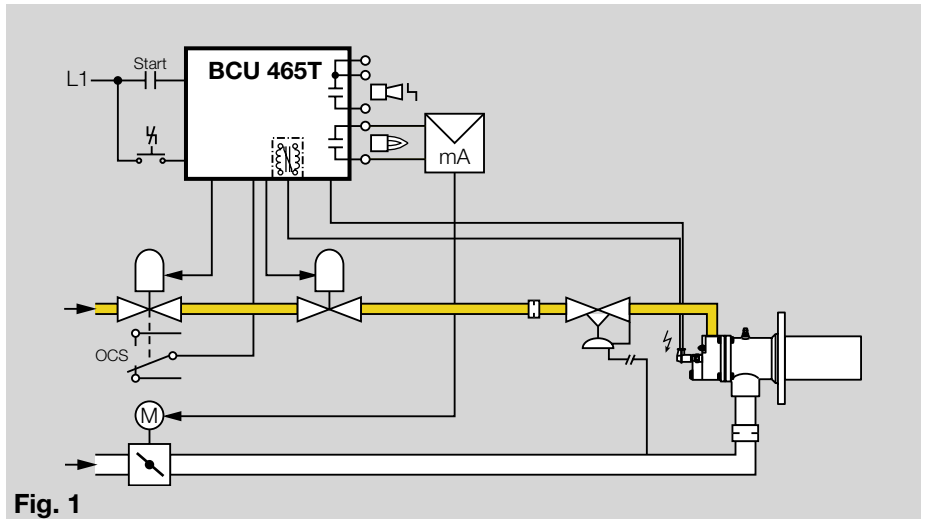


Fig. 1

Frequency fired control system

(Fig. 2)

The burner is ignited at low-fire. Once the burner is ignited, the air valve is opened by the BCU®. The burner is shut down from high fire to off (low-high-off control). The on and off time is determined by the frequency control algorithm. However, a minimum off time is adjustable.

In both examples, the OCS (proof of closure switch) contact of the upstream solenoid valve is controlled by the BCU® in closed position before start-up and in open position during operation.

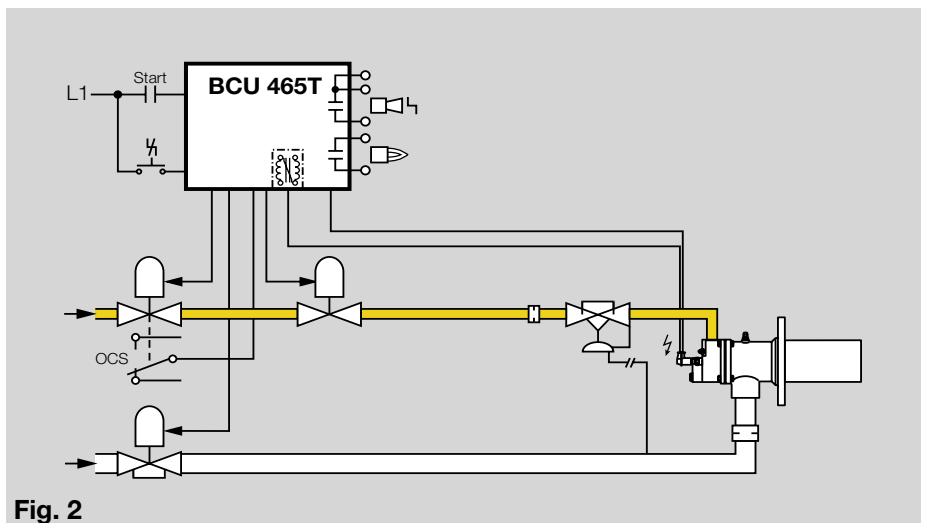
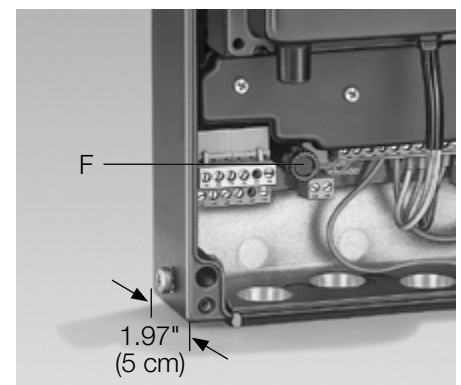
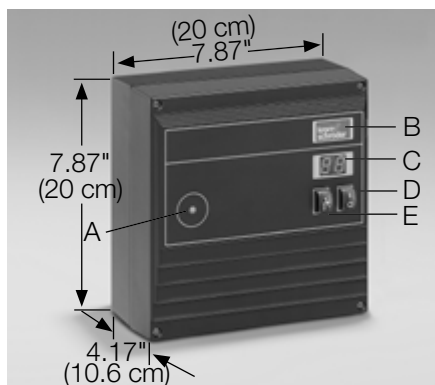


Fig. 2

Display and Operation

- A: Optical interface
- B: Labeling panel
- C: Two-digit, 7-segment display
- D: Power on/off switch
- E: Reset/Information button for resetting after a fault or for calling parameters onto the display.
- F: Fuse F1



During operation, the 7-segment display shows the program status. Should a fault occur, the BCU® stops the program sequence and the display flashes indicating the cause of the fault.

The flame signal and all the following parameters of the BCU® can be viewed on the display by repeatedly pressing the Reset/Information button.

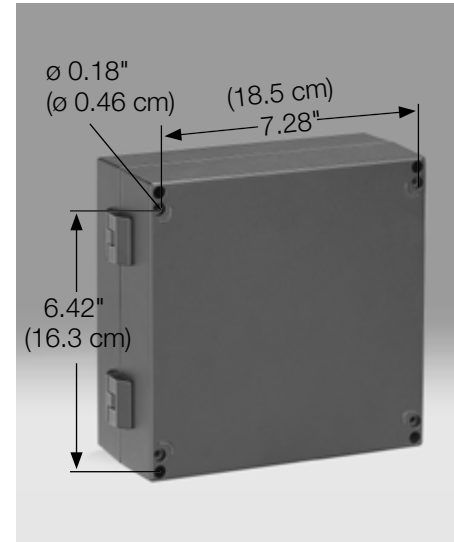
BCU 465

Dimensions

Overall Dimensions L x W x H:
7.87" x 7.87" x 4.17" (200 mm x 200 mm x 106 mm)

Mounting Dimensions L x H:
7.28" x 6.42" (185 mm x 163 mm)

Weight:
11 lbs (5 kg)



Order Information

Description	Model Designation	Part No.
Models for 115 Vac, 50/60 Hz		
Safety period on start-up 5 s	BCU 465T-5/2LR3	84631459
With 1400 °F auto ignition digital input	BCU 465T-5/2LR3D3	84631460
With 1400 °F auto ignition lockout digital input, control input for proof of closure switch and additional terminals	BCU 465T-5/2LR3D3OC	84631461
With control input for proof of closure switch and additional terminals	BCU 465T-5/2LR3OC	84631462

Incorporated ignition transformer TZI 7,5-12/100R.

The BCU is available for purchase ready for use with an external ignition transformer (no internal ignition transformer).

Accessories

Optical adapter including CD-ROM "BC-Soft" – Part No. 74919456
(can be used to change parameters and view historical information and flame signals)

UVS 6T Ultraviolet flame detector – Part No. 84315100

UVS 8T Ultraviolet flame detector – Part No. 84333120

Angular plug \varnothing 4 mm, interference-suppressed – Part No. 04115308

Straight plug \varnothing 4 mm, interference-suppressed – Part No. 04115307

Warning:

Situations dangerous to personnel and property can result from the misapplication and incorrect operation of combustion equipment. Kromschroder advises compliance with the National Fire Protection Association standards that apply for related equipment and Insurance Underwriters recommendation, and care of operation.

We reserve the right to make technical changes designed to improve our products without prior notice.
For current product information, visit our website at www.kromschroder.com.