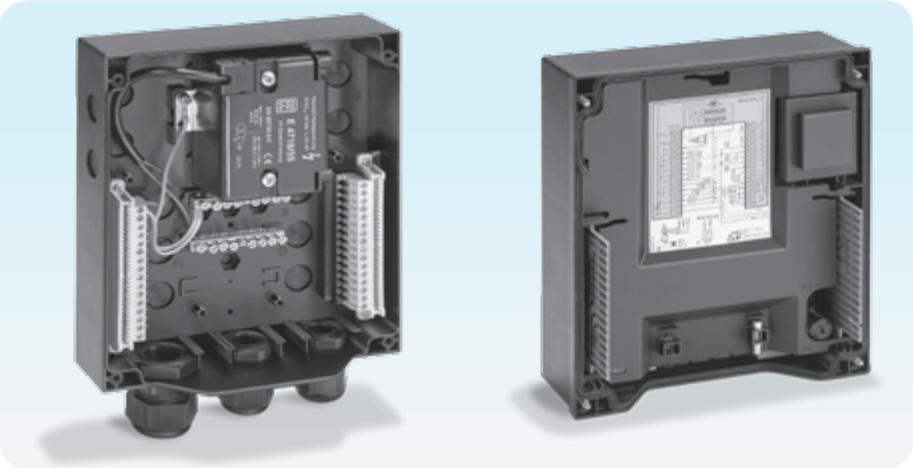
elster
Kromschröder

Burner control unit BCU 370

Product brochure · GB
6 Edition 11.08

- For modulating, forced draught burners for gas of unlimited capacity in intermittent or continuous operation
- Control of fan and butterfly valve
- Simple system set-up thanks to optional tightness control and integrated ignition unit
- Easy start-up and maintenance thanks to Manual operating mode
- Enhanced flexibility and simplified logistics thanks to programmable functions
- Easy servicing thanks to informative operating, warning and fault messages
- Optionally available with integral field bus interface for simple wiring
- EC type-tested and certified, CSA and FM approved



Burner control unit BCU 370.

Application

The BCU 370 burner control unit controls, ignites and monitors industrial forced draught burners of unlimited capacity in intermittent or continuous operation.

It can be used for directly ignited forced draught burners or forced draught burners ignited with pilot burner. The BCU 370 activates the blower and sets the connected butterfly valve to pre-purging and ignition position. After pre-purge and burner start, the Enable signal is issued to an external controller which positions the butterfly valve in accordance with the output demand. Post-purge occurs after the end of burner operation. The burner control unit BCU 370 monitors the gas and air pressure. An optionally integrated tightness control function checks the valves with an external gas pressure switch.

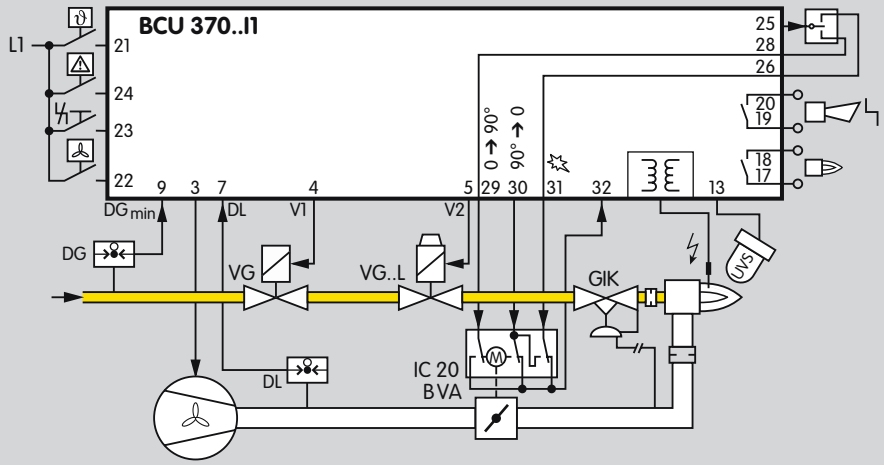
Programmability by means of the optical interface and BCSoft PC software guarantees optimum adaptation to the relevant application. Adjustable start-up attempts and automatic restart which can be activated ensure the high availability of the burner equipment.

The quick-start option allows standard-compliant start-up of the forced draught burner without pre-purge after normal shutdown. This avoids unnecessary admission of air into the combustion chamber. The heat output is available as quickly as possible after a temperature demand.

The program status, the unit parameters and the level of the flame signal can be read directly from the unit. An integrated Manual mode allows manual start of the burner and setting of the butterfly valve position independently of the central control system. The BCSoft operator-control and setting software provides a powerful tool for start-up and servicing.

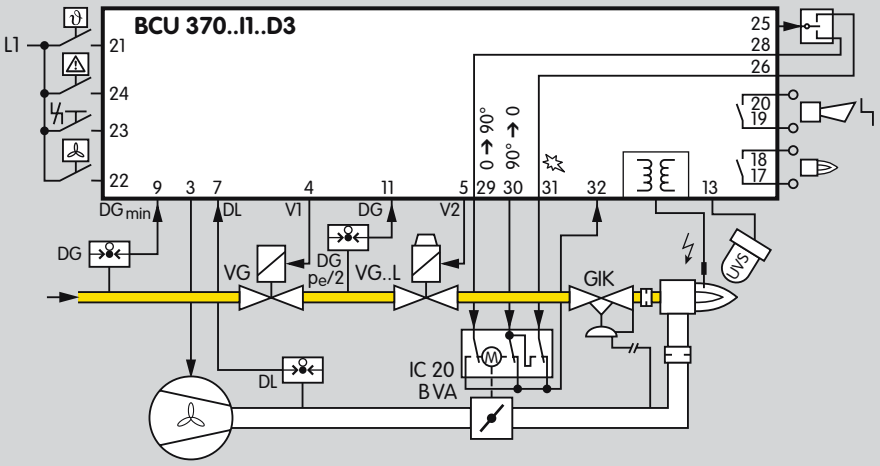
To reduce the installation and wiring costs Kromschröder offers an optional Profibus-DP interface to transfer the activation signals and feedbacks.

Example applications



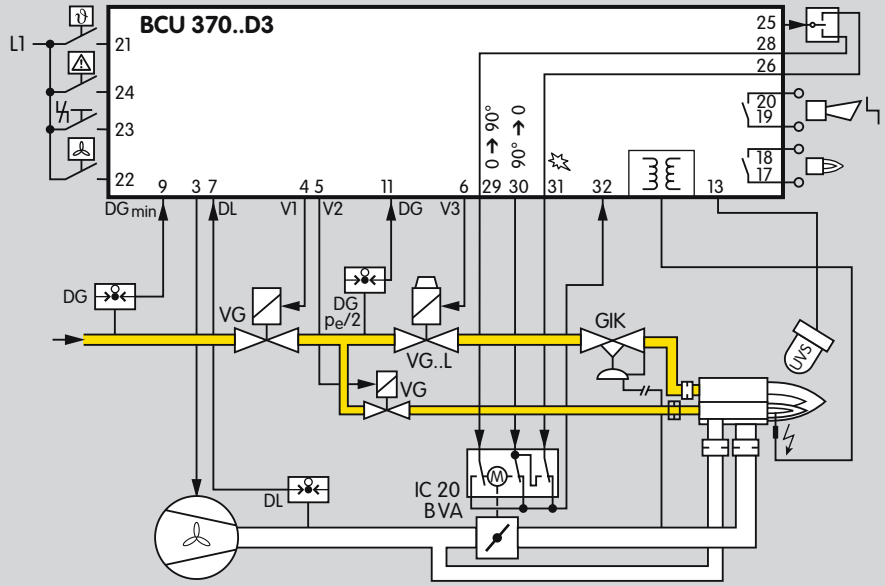
Modulating-controlled forced draught burner

The BCU 370 controls the blower and moves the butterfly valve to pre-purging and ignition position. It issues the Enable signal to the control system after start-up of the burner.



Modulating-controlled forced draught burner with tightness control

In addition to controlling the forced draught burner, the burner control unit also monitors the fail-safe function of the two solenoid valves for gas via the DG. gas pressure switch.



Modulating-controlled forced draught burner with pilot burner and tightness control

A pilot burner ignites the main burner and is switched off during the main burner's safety time.

Technical data

Mains voltage:
BCU..W: 230 V AC, -15/+10%, 50/60 Hz, or
BCU..Q: 120 V AC, -15/+10%, 50/60 Hz,
for grounded or ungrounded mains.

Flame control with UV sensor or ionisation sensor.

Flame signal for:
Ionisation control: 1–28 µA,
UV control: 1–35 µA.

For intermittent or continuous operation.

Air pressure check during pre-purge and operation by external air pressure switch DL.

Maximum length of ignition cable with integrated electronic ignition: 1 m.

Maximum length of ionisation/UV cable: 50 m (164 ft).

Max. number of operating cycles: 250,000.

Ambient temperature:
BCU 370: -20–+60 °C (-4–+140 °F),
BCU 370..I: -10–+60 °C (14–+140 °F),
no condensation permitted.

Enclosure: IP 54 pursuant to IEC 529.

Housing made of impact-resistant and heat-resistant plastic. Plug-in upper section with operating and display elements.

Lower section with connection terminals, earthing strip and pre-wired neutral bus with spacious wiring chamber.

1x M25 multiple screw connector,
4x 7 mm cable grommets,
2x M20 multiple screw connectors,
2x 7 mm cable grommets, and loosely enclosed

1x or 2x M16 plastic screw connector(s) for the ignition cable(s).

Voltage to inputs, valves, fan, controller enable, actuator and ignition unit = mains voltage.

Power consumption: Approx. 9 VA plus approx. 50 VA for integrated ignition.

Input voltage signal inputs:

Rated value	120 V AC	230 V AC
Signal "1"	80–126.5 V	160–253 V
Signal "0"	0–20 V	0–40 V

Input current signal "1": Typ. 2 mA

Output to ignition transformer:
No-switch contacts via semi-conductor.

Contact rating:
Valves: Max. 1 A, cos φ = 1,
Butterfly valves: Max. 1 A, cos φ = 1,
Ignition: Max. 1 A, cos φ = 0.3,
Controller enable signal:
Max. 1 A, cos φ = 1,
the contacts may be loaded with a max. total of 2.5 A,
Fan: Max. 3 A, start-up current:
Max. 6.5 A < 1 s.

The outputs may be loaded with a max. total of 4 A.

Operation and fault signalling contacts:
Dry Contact, max. 1 A, 253 V, not fused internally.

Reset/Information button: Max. number of operating cycles: 1000.

Fuse in BCU, replaceable, F1: T 5A H, pursuant to IEC 60127-2/5.

Permissible UV sensors:
Kromschröder models UVS 1, 5, 6, 8 and UVD 1.

Weight: Approx. 1.8 kg.

PROFIBUS-DP

Manufacturer ID: 0x08EC.

ASIC type: SPC3.

SYNC- and FREEZE-capable.

Baud rate detection: Automatic.

Min. cycle time: 0.1 ms.

Diagnostic bytes: 6 (DP Standard).

Parameter bytes: 7 (DP Standard).

Type code

Code	Description
BCU	Burner control unit
	Mains voltage
W	230 V AC, 50/60 Hz
Q	120 V AC, 50/60 Hz
	Ignition
I1	Electronic ignition, single-pole
I2*	Electronic ignition, double-pole
I3*	Electronic ignition, double-pole with neutral conductor
no specification	Without ignition
F	Fan control
E	Valve control
	Flame control
U0	Ionisation control (continuous or intermittent op.) or UV control (intermittent op. with UVS)
U1	UV (continuous operation with UVD 1)
D1	$DG_{max.}$ monitoring
D3	Integrated tightness control
B1	For PROFIBUS-DP
3	Three-point step control via PROFIBUS-DP

** I2 only for 230 V, I3 only for 120 V*

Please quote the required settings of all parameters when ordering, see "Parameters".

Detailed information on this product

http://docuthek.kromschroeder.com/doclib/main.php?language=1&folderid=311043&by_class=6

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