BCR3150
Blowdown Controller

Description

The BCR3150 blowdown controller in conjuction with conductivity probes CP10, CP30/CP40 and CP32/CP42 is used as blowdown controller and limit switch, for instance in steam boilers, (pressurised) hotwater installations as well as condensate and feedwater tanks.

A Pt100 temperature sensor may be connected to the controller to provide temperature compensation.
This is recommended if the boiler is working at varying pressures, or for other applications such as condensate monitoring or coil boilers, where the temperature may vary.

The blowdown controller indicates when the preset MAX TDS/Conductivity is reached and opens or closes a blowdown valve. The controller can provide a MAX alarm.

The blowdown controller BCR3150 features the following properties:

- TDS/Conductivity control and limit switch using conductivity probes CP10 or CP30/CP40, with or without a separate temperature sensor Pt 100 (TP20) to provide temperature compensation (0 - 250 °C)
- TDS/Conductivity control and limit switch using conductivity probe CP32/CP42, with an integrated temperature sensor (temperature compensation)
- Manual electronic probe cleaning, to remove scale from probe tip
- ON/OFF control of blowdown valve, optional with purge time for probe in pipeline installations
- An optional filter to increase damping effects, to avoid overfrequent valve operation
- Conductivity to TDS conversion (unit in µS/cm or ppm)
- Standby/burner input (24 Vdc), to reduce boiler water loss, if the boiler is on standby or low demand
- Actual value output 4-20 mA
- Password protection

Directives and standards

VdTÜV Bulletin "Wasserüberwachung 100" (Water Monitoring 100)

Blowdown controller BCR3150 and conductivity probes CP10, CP30/CP40 and CP32/CP42 are type approved according to VdTÜV Bulletin "Wasserüberwachung (Water Monitoring) 100".

The VdTÜV Bulletin "Water Monitoring 100" states the requirements made on water monitoring equipment.
Type approval no. TÜV · WÜL · XX-XXX (see name plate).

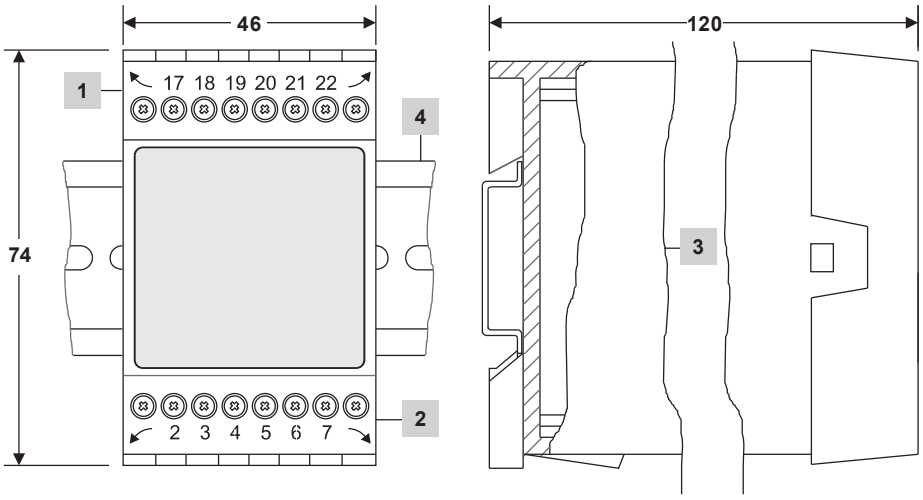
LV (Low Voltage Directive) and EMC (Electromagnetic Compatibility)

The equipment conforms to the requirements of the Low Voltage Directive 2014/35/EU and the EMC Directive 2014/30/EU.

Typical applications

- Steam Boilers
- Hot-Water Installtions
- Condensate and feedwater tanks

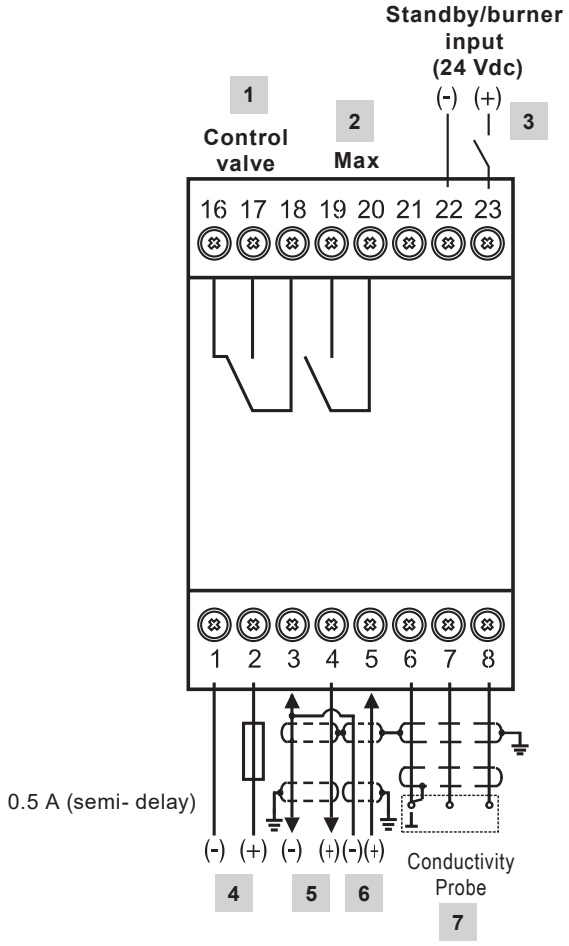
Dimensions (approximate) in mm



Item	
1	Upper terminal strip
2	Lower terminal strip
3	Housing
4	Support rail TH 35, EN 60715

Installation in control cabinet
The BCR3150 blowdown controller is clipped onto a type TH 35, EN 60715 support rail in a control cabinet, see item 4.

Wiring diagram



Item	
1	Output contacts for activating the control valve
2	MAX alarm output contact
3	Standby/burner input (24 Vdc), ON = standby/burner on, OFF = normal running/burner off
4	Connection of supply voltage 24 Vdc with fuse 0.5 A (semi-delay) provided on site
5	Actual value output 4-20 mA
6	2 wire Pt 100 temperature sensor input
7	Conductivity probe input

Technical data

Supply voltage	24 Vdc +/– 20%
Fuse	External 0.5 A (semi-delay)
Power consumption	4 W
Inputs	1 five-wire connection to CP32/CP42 or three-wire connection to CP30/CP40 and two-wire connection to the CP10 (Drive+Sense bridged at controller) 1 two-wire Pt100 temperature sensor (range 0 - 250°C) 1 two-wire standby or burner connection (24Vdc +/– 20%, 10mA)
Outputs:	1 volt-free change-over contacts, 8 A 250 Vac/30 Vdc cos ϕ = 1 (valve control) 1 floating open/close contact, 8 A 250 Vac/30 Vdc cos ϕ = 1 (MAX alarm) Provide inductive loads with RC combinations according to manufacturer's specification to ensure interference suppression 1 analogue output 4-20 mA, max. load 500 ohms, e.g. for an actual value display
Displays and controls	3 push-buttons for MAX alarm test and parameter setting 1 green 4 digit 7-segment LED display 1 red LED for MAX alarm 1 amber LED for control valve open, 1 amber LED for standby/burner input indication 1 4-pole code switch for configuration
Housing	Housing material, base: black polycarbonate; front: grey polycarbonate Maximum Conductor size*: 1 x 4.0 mm^2 solid, per wire, or 1 x 2.5 mm^2 per stranded wire with sleeve to DIN 46228, or 2 x 1.5 mm^2 per stranded wire with sleeve to DIN 46228 (min. Ø 0.1 mm) *Please see IMI for recommended cable specifications Terminal strips can be detached separately Housing attachment: Mounting clip on support rail TH 35, EN 60715
Electrical safety	Pollution degree 2 for installation in control cabinet with degree of protection IP 54, fully insulated
Protection	Housing: IP 40 to EN 60529 Terminal strip: IP 20 to EN 60529
Weight	approx. 0.2 kg
Ambient temperature	when system is switched on: 0° ... 55 °C during operation: –10 ... 55°C
Transport temperature	–20 ... +80 °C (<100 hours), defrosting time of the de-energised equipment before it can be put into operation: 24 hours
Storage temperature	–20 ... +70 °C, defrosting time of the de-energised equipment before it can be put into operation: 24 hours
Relative humidity	max. 95%, no moisture condensation

How to specify
Blowdown Controller, 2 volt-free contacts for MAX alarm & blowdown valve, supply voltage 24V DC 4W.

How to order
Example: 1 off Spirax Sarco BCR3150 Blowdown controller.