

RCRS

Control unit for regulating dampers
Monitoring units MRB3



FIRE SAFETY



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Quick facts

- Clear indication
- Integrated damper function test
- Simple and reliable monitoring of regulating safety dampers
- Factory-fitted on BRSS
- Optional forced control

Use

RCRS is an encapsulated microprocessor-based, intelligent, self-monitoring control unit for automatic function testing of the regulating combustion gas damper BRSS. Can be connected to 1 damper and max. 2 detectors. RCRS acts as an independent control unit and performs automatic function tests every 48 hours after power up/resetting. Function tests can also be initiated by an external switch. The detector input features an electronic short-circuit fuse. The damper enters alarm mode in the event of a short circuit or a break in the detector loop. Includes an input for controlling the damper with a 0-10 V signal from an external sensor. RCRS can be used to limit the min. and max. damper positions during normal operation. It also includes an input for forced control of the damper to the open or closed position. Forced control always has higher priority than min./max. limits and incoming control signals. Forced opening has higher priority than forced closing if both signals are present. Output signal 0-10 V for damper position indication. Normally supplied fitted on combustion gas damper RABCR/RABRR; see separate product sheet.

Alarm functions

Operating parameters are easy to change as they are programmed in a so-called EEPROM. Control unit RCRS has an output relay main alarm (A alarm). The main alarm is triggered in case of:

- Fault in detector loop
- Triggered detector
- Damper fault
- External forced control, open/close
- Power failure
- System fault

The alarm relay has an alternating potential-free contact, 24 V AC, 3 A. A dirty detector is indicated by a yellow LED on RCRS and on the detector.

Operating indicators

8 LEDs are used to present the control unit's operating status as follows:

OPERATION is indicated by a lit green LED.

- Off in case of power failure

FUNC. TEST - yellow LED lit during internal function test.

- Lit 2 s/off 0.5 s during external function test

EXT. CONTR. - red LED lit in case of forced opening.

- Lit 2 s/off 0.5 s in case of forced closing

DAMPER POSITION - indicated by green LED as follows:

- Lit in open position
- Lit 2 s/off 0.5 s in closed position
- Lit 0.1 s/off 0.1 s in middle position



DAMPER FAULT - indicated by red LED.

Function when LED for DAMPER POSITION is lit as above:

- Lit when damper will not open
- Lit 2 s/off 0.5 s when damper will not close
- Lit 0.1 s/off 0.1 s when damper will neither open nor close

Function when LED for DAMPER POSITION is off:

- Lit 0.1 s/off 0.1 s in case of output overload.
- Lit 2 s/off 0.5 s in case of motor failure.

DETECTORS ALARM - red LED lit in case of break in detector loop.

- Lit 0.1 s/off 0.1 s in case of short circuit in detector loop

DETECTORS ALARM - red LED lit in case of alarm.

DETECTORS SERVICE - yellow LED lit in case of dirty detector.

Resetting

The RESET button resets all alarms. After activation the microprocessor performs a self-test, a memory test and an EEPROM test, all LEDs are lit for a visual test, the output relay is activated and then the connected damper is function tested. After the test RCRS enters normal operation. External forced control can also be reset remotely by activating the “External Function Test” input. Other alarms cannot be reset remotely.

Specifications

Control unit RCRS

ACCESSORIES: **RCKD/-RD** - Smoke detectors

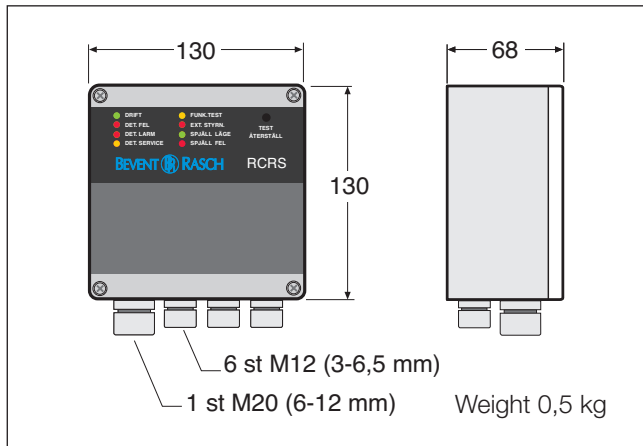
Technical data

Supply voltage:	24 V AC ±10%
Power rating:	2 VA + actuator rating
Protection class:	IP 54
Ambient temp.:	0 to +50°C
Output relay:	Potential-free, 24 V AC, 3 A, resistive load
Max. detectors:	2
EMC:	EN 50081-1 (1992) EN 50082-2 (1995)

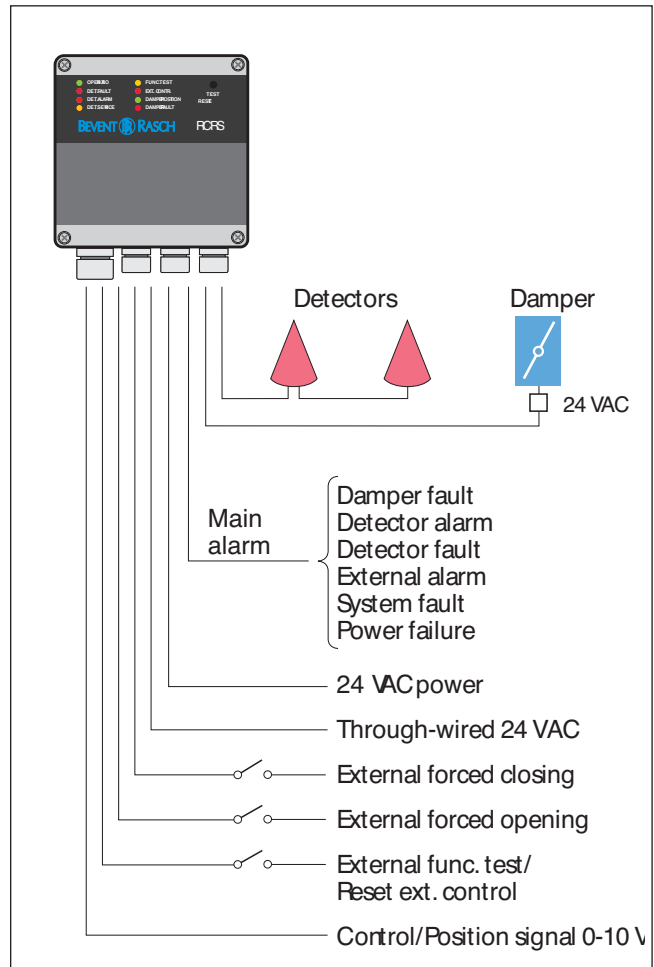


Monitoring units MRB3 – Control unit RCRS for regulating dampers

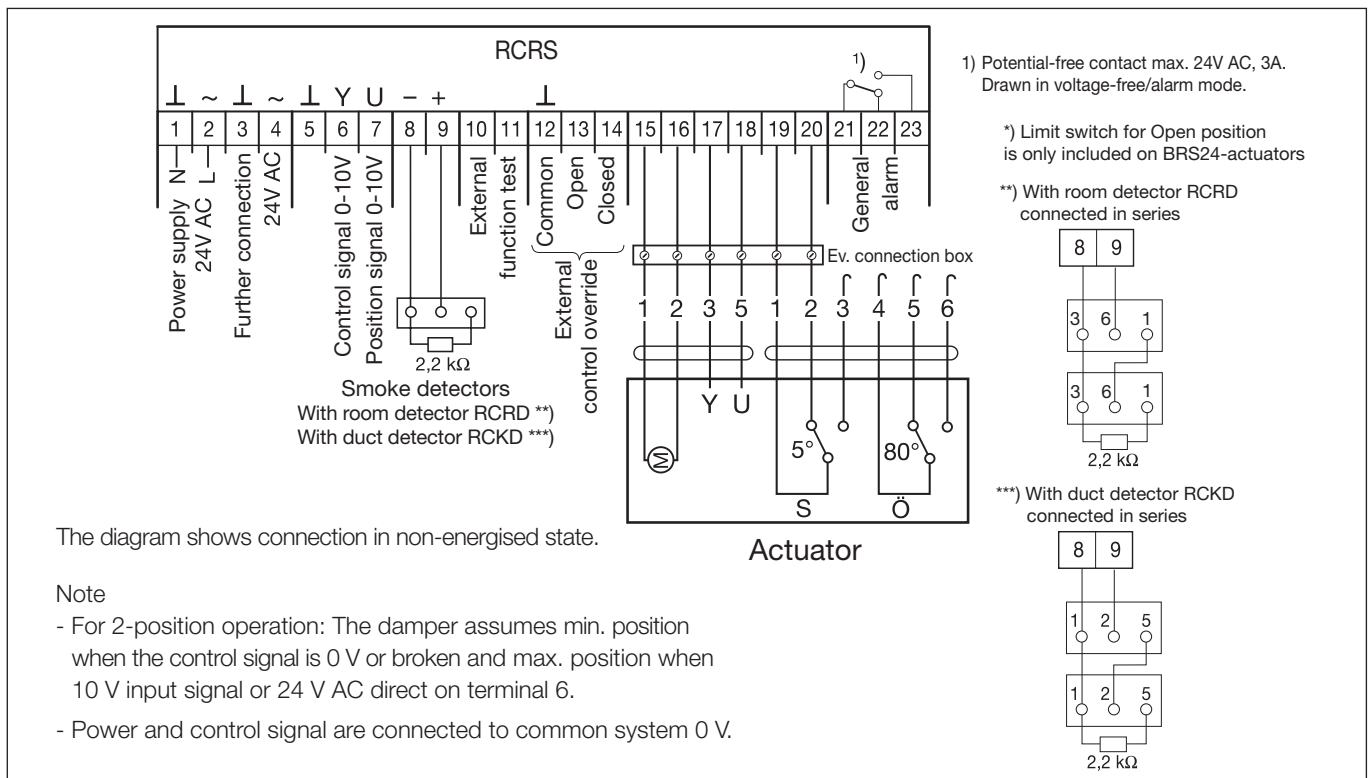
Dimensions and weight



Block diagram RCRS



Wiring diagram



Note

- For 2-position operation: The damper assumes min. position when the control signal is 0 V or broken and max. position when 10 V input signal or 24 V AC direct on terminal 6.
- Power and control signal are connected to common system 0 V.