RCMM

Minimaster
Monitoring units MRB

FIRE SAFETY

13/09/2017

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Quick facts

- RCMM is used as a simplified main central unit with control units RCBK, RCMU or RCDU2 as subcentres that can be connected in a network for shared functionality.

Function description

RCMM is an enclosed microprocessor based, intelligent, self-monitoring control panel. It is used as a simplified main central unit with control units RCBK or RCMU as sub-centres that can be connected in a network for shared functionality for alarm operation, external alarm, night operation, function test and resetting.

The communication between RCMM and the connected RCBK / RCMU takes place via a two wire potential free BUS cable with free structure (free topology) in a linear, ring-shaped or star-shaped network. When the RCBK/RCMU control units are connected, they switch from working as independent units to being controlled centrally from the network's minimaster RCMM.

RCMM performs automatic function checks every 48 hours after going live/resetting/activated input Function test.

For communication faults, the RCBK or RCMU sub-centres assume alarm operation. The operational status of RCBK or RCMU is indicated as per the previous description of each panel while an indication that a sub-centre has assumed alarm operation is made in minimaster RCMM. All acknowledge-ment/resetting of alarms is done on the RCMM after the fault has been remedied and not on the sub-centre that has given the alarm.

Alarm functions

Operation parameters are easy to change as they are programmed in an EEPROM and have a COM port RS 232C for connection to PC. The RCMM control unit has output relay for common alarm (A-alarm), detector alarm and service alarm (B-alarm). A common alarm is given when there is a:

- Fault in detector coil
- Tripped detector
- Damper fault
- External incoming alarm
- Power outage
- System fault

Service alarm given when detector fouled. Each alarm relay has a breaking potential free contact, 24V AC, 3 A.

Operational indicators

10 LEDs for presentation of the control unit's operational condition as below:

OPERATION - is indicated with a fixed light from the green LED during normal operation.
- off when there is a power outage.

See also under Start-up.

OPERATION-VENT. - fixed light with green LED following activated output relay for vent. unit.
See also under Start-up.

NIGHT OPERATION - fixed light with green LED following activated input.

FUNC. TEST - fixed light with yellow LED during internal func-tion test.
- on 2 sec off for 0.5 sec following activated input for function control.

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EXT.LARM - fixed light with red LED following activated alarm input.

DAMPER FAULT - indicated with red LED following malfunction.

DETECTOR FAULT - fixed light with red LED following break/short circuit in detector coil.

DETECTOR ALARM - fixed light with red LED following tripped detector.

DETECTOR SERVICE - lit yellow LED if there is a fouled detector.

BUS status - fixed light with green LED during normal operation.
– on 2 sec – off 0.5 sec during configuration of the system
– on 0.1 sec – off 0.1 sec when sub-centres connected/ removed without configuration
– off following short circuit

Resetting
Reset all alarms using the RESET button after the alarm has been corrected in the sub-centres. Following activation, the microprocessor performs a self test, memory test and EEPROM test, all LEDs light for visual inspection, the output relays are activated and then a function check of connected dampers is performed. After the check, the RCMM assumes normal operation. Remote reset of external incoming alarms is done when activating the “Reset” input. Other alarms cannot be reset remotely as they need to be corrected locally first.

External alarm
Following activated input, all connected sub-centres assume alarm operation.

Function test
Following activated input, all connected sub-centres perform a function test.

Deferral of function test
With micro switch 2, marked “Deferred func.test 12h” you can defer the function test. In ON position after going live/reset, a function test takes place; the next test is performed 12 hours later which then reverts to every 48 hours. This gives you the option of having the automated test performed during night time.

Night operation
Via external contact, all connected sub-centres assume NIGHT OPERATION-mode whereby the dampers close without the control unit giving an alarm.
The external contact must be controlled via a time channel from the control unit, time switch or suchlike, and not from the ventilation unit in order to avoid “self locking”. Used for example for intermittent operation.

Control of the ventilation unit
If you want to stop the ventilation unit in connection with a function inspection and for alarm operation there is a built-in closing relay contact, 24V AC, 3A.
With micro switch 1, marked “Delay”, you can select a 5 minute delay of the damper’s function test if you have an electrically heated battery heater.
The relay remains activated during night operation.
In the event of a damper fault the above functions are not affected.

Start-up
When configuring the in the network the RCMM connects to all commissioned and mains-connected sub-centres RCBK/RCMU and connects them for common function for function control, alarm operation, night time operation and reset. For configuration there is a push button on the front of the RCMM’s front inside the cover marked STATUS SEARCH/SAVE. When configuring you press the STATUS SEARCH/SAVE and keep it pressed in for around 2-3 sec. Then all the LEDs apart from OPERATION, OPERATION VENT and BUS STATUS will go off. OPERATION and OPERATION VENT will, flash quickly alternately as long as minimaster RCMM is searching for sub-centres RCBK/RCMU at the same time as the BUS STATUS flashes slowly.
When the search is complete, the LEDs OPERATION and OPERATION VENT will flash slowly together observing a special pattern where the number of flashes for OPERATION VENT indicates the number of found sub-centres, and BUS STATUS has a fixed light. You then press the STATUS SEARCH/SAVE to get the RCMM to switch to normal mode and save the settings. If you want to save this press RESET. The LED for BUS STATUS illuminates with a fixed light. Check that the connected sub-centres have switched to network operation.
You can also connect a PC with the terminal program such as Microsoft® Hyper Terminal, to the RS232C socket in RCMM and see a list of all connected sub-centres.
You then press STATUS SEARCH/SAVE for around 1 sec.

Specification

Minimaster RCMM

ACCESSORY

RCDU2 - Sub-centre
RCBK4 - Sub-centre
RCMU8 - Sub-centre

Description example as per VVS-AMA 98

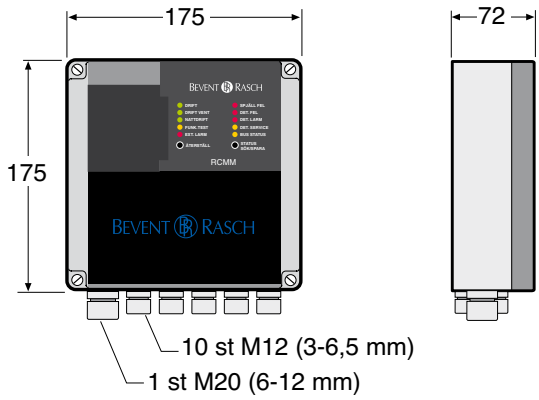
UCA

Control function unit with composite function, monitoring system MRB

Minimaster RCMM for centralised control and monitoring of fire/fire gas damper and detectors via sub-centres RCKB4 and RCMU8 with two-wire BUS-communication connected in a common section.

Minimaster RCMM	1 piece
Undercentral RCDU2	2 piece
Undercentral RCBK	2 piece
Undercentral RCMU	2 piece

Dimensions and weight



Weight 1,8 kg

Technical data

Connection voltage:	230V AC +10 -15%, 50 Hz
Power consumption:	55 VA
VA Insulation class:	IP 65
Ambient temp.:	0° till +50°C
Output relays:	Potential free, 24V AC, 3A resistive load
Max. sub-centres:	8 st
EMC:	EN 61000-6-3 (2007) EN 61000-6-2 (2005)

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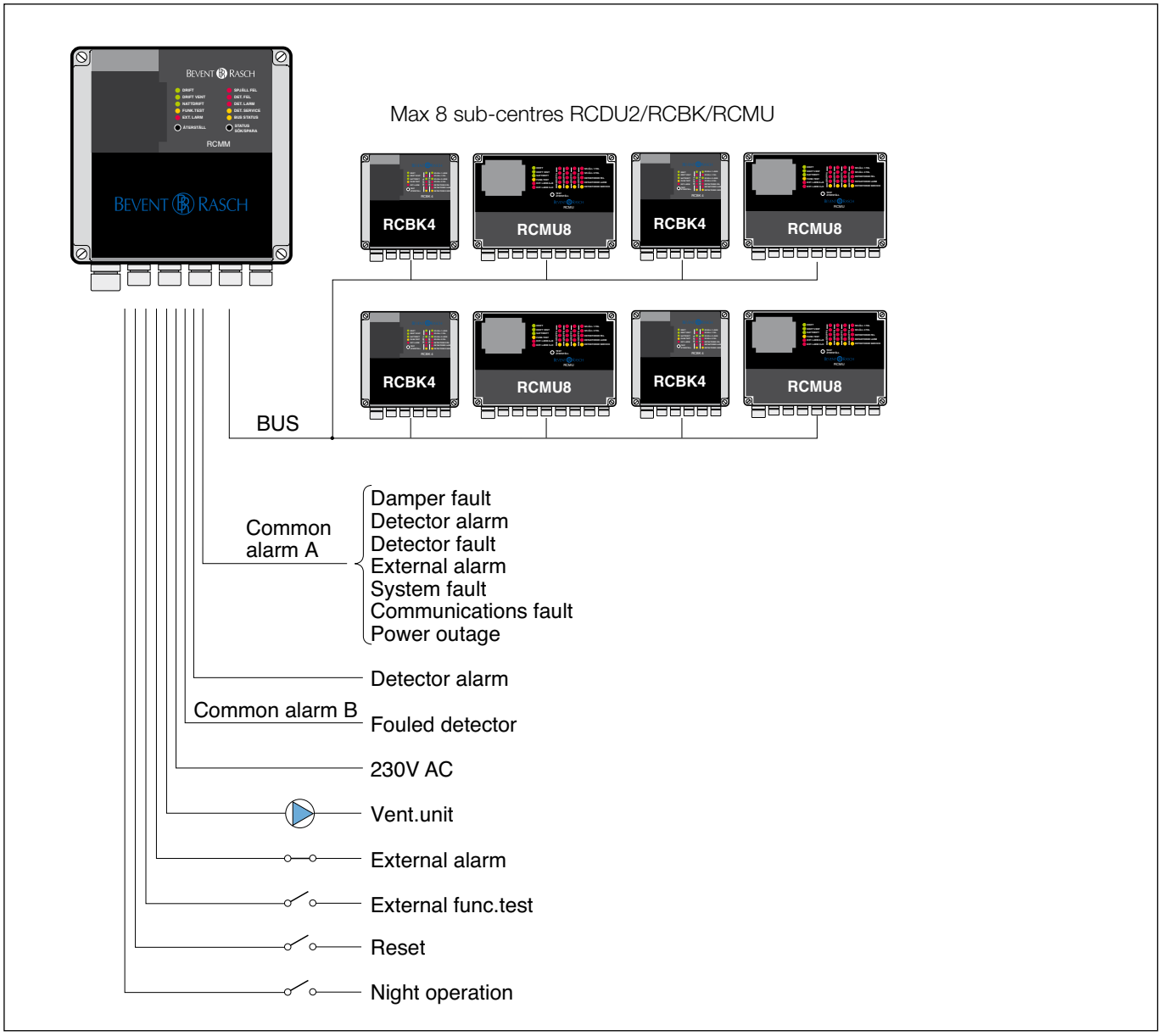
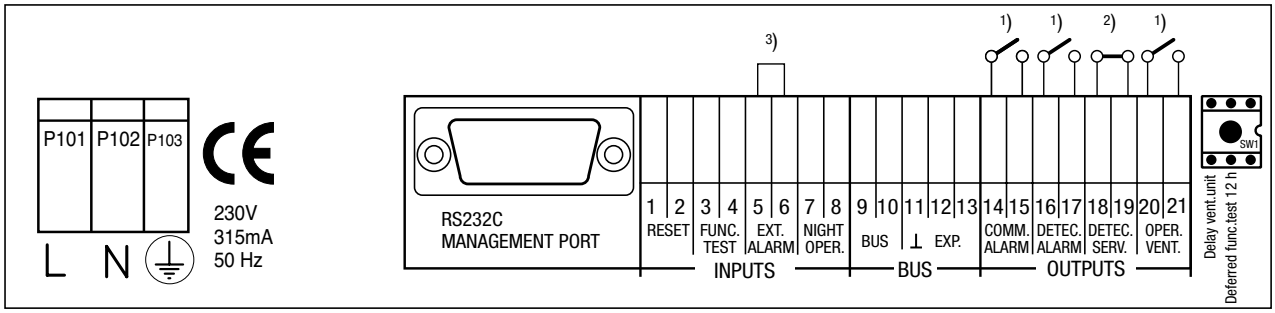
Circuit diagram RCMM with sub-centres RCBK4 and RCMU8



Wiring diagram



1) *Potential free contact max 24V AC, 3A. Drawn in dead state/alarm mode.*

2) *Potential free contact max 24V AC, 3A. Drawn in dead state/normal mode.*

3) *Breaks between the blocks produce alarms. Strapped on delivery*

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