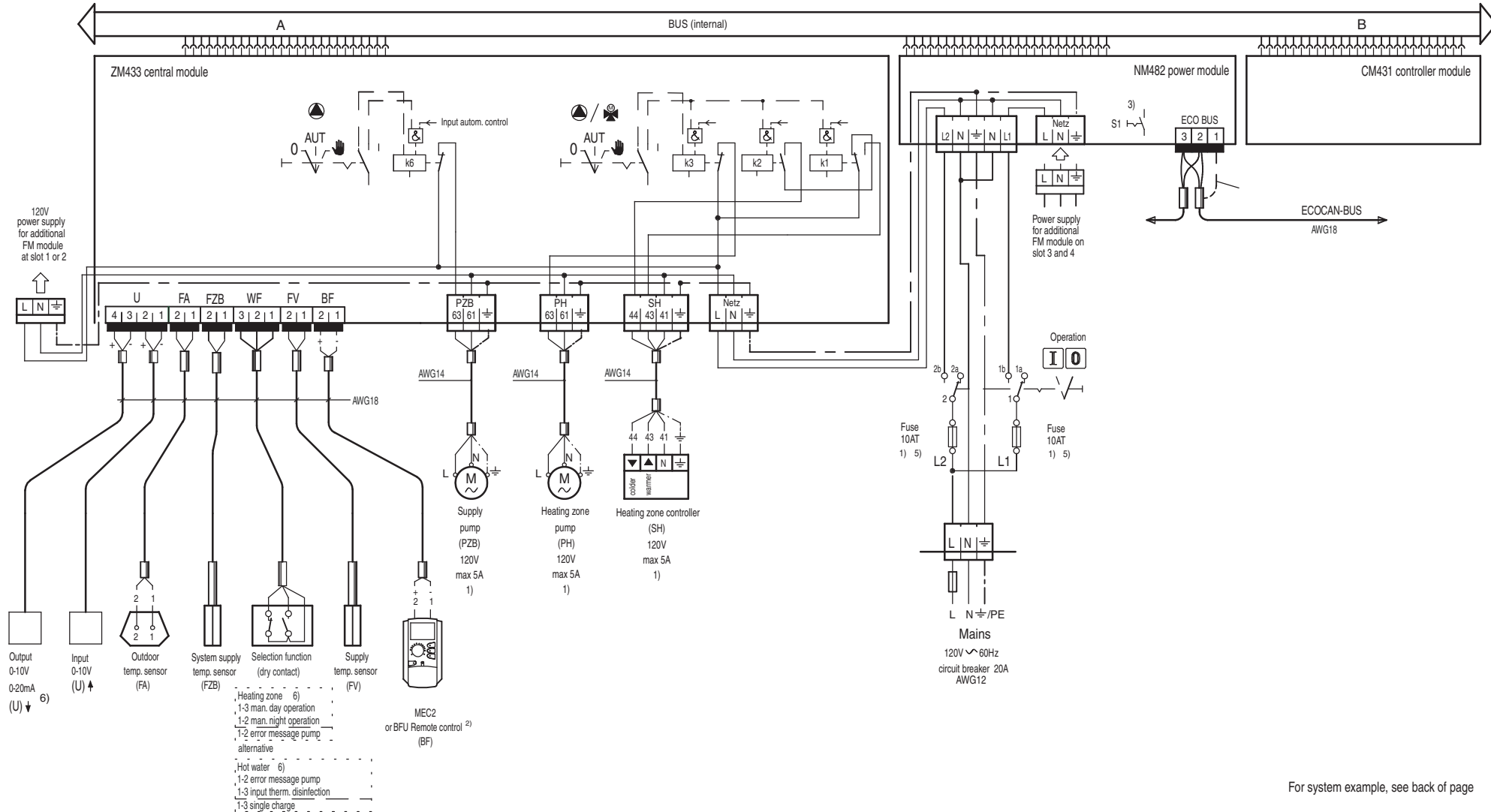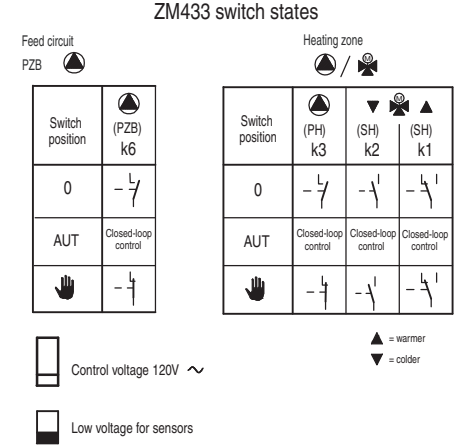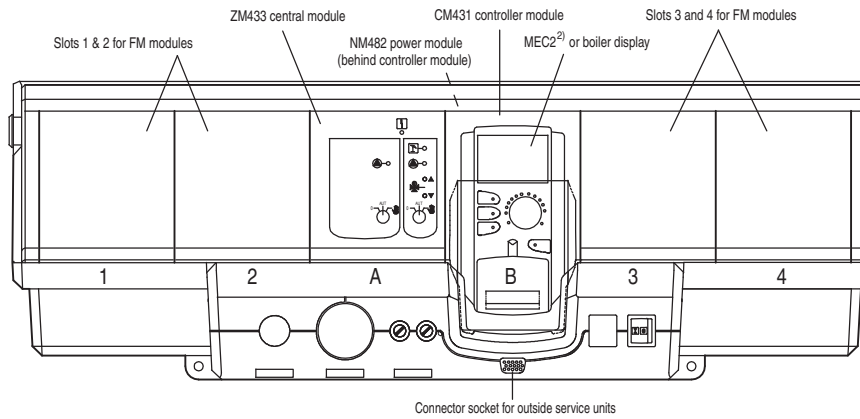## Note!

Installation of controls including but not limited to all safety related
equipment must be in accordance with all applicable local and national codes and regulations.
Caution! Yellow/green ground conductor must not be used as control lead.
Verify that power is connected to the appropriate terminals.
This control must be hard wired. Never use a power cord.

1) The total current per power circuit (L1, L2) must not exceed 10A.
   Verify maximum current draw after start-up in order to avoid
   damage to the device!
2) Caution! Only one MEC2 can be allocated to each control.
   The MEC2 can either be plugged into the control panel, or room wall mounted
   using the wall installation kit (optional) wired to
   the ZM or FM module.
3) When connecting multiple ECOCAN-BUS components, the S1 switches
   (termination on the NM482) of the two outermost ECOCAN-BUS
   devices must be closed.
4) Shielded wires are not required for standard applications.
   (Terminate shield only at one end)
5) L2: fuse protection of the modules in slots A, 1, and 2
   L1: fuse protection of the modules in slots 3 and 4
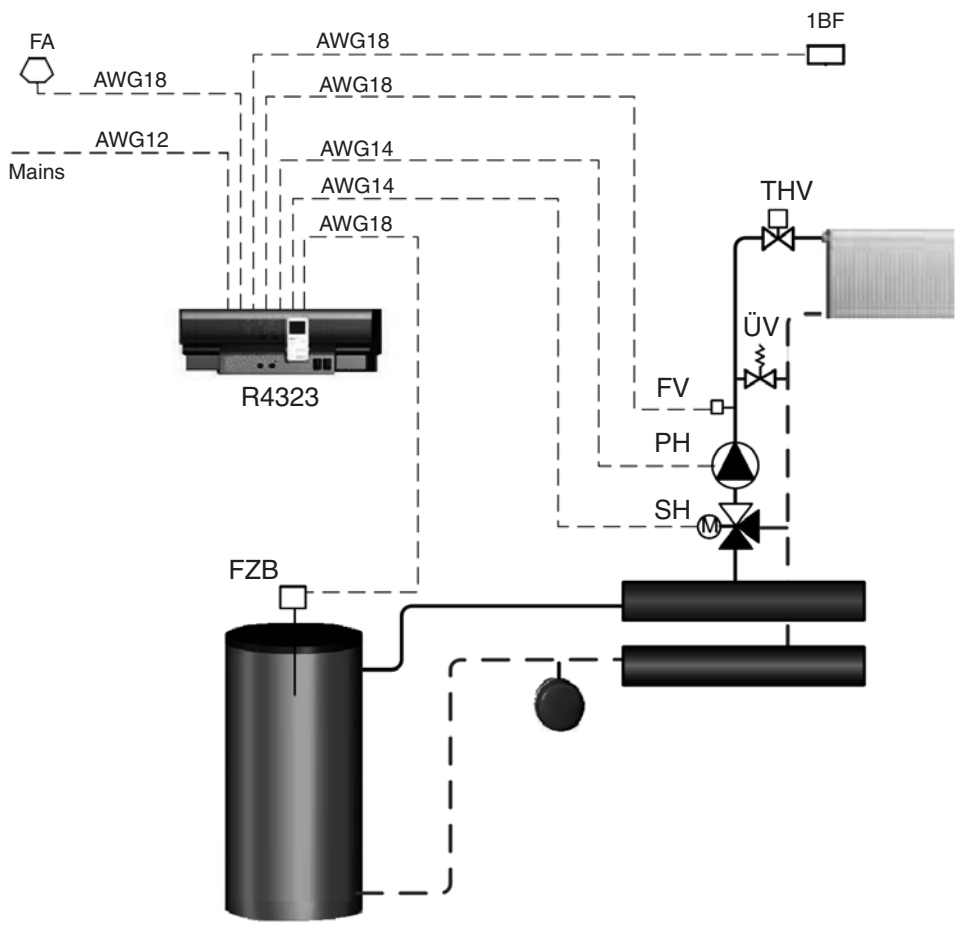6) See also Service Instructions

Slots 1 & 2 for FM modules
ZM433 central module
CM431 controller module
Slots 3 and 4 for FM modules
NM482 power module (behind controller module)
MEC2 2) or boiler display
Connector socket for outside service units

ZM433 switch states

Feed circuit — PZB

Switch position	(PZB) k6
0	
AUT	Closed-loop control
(hand)	

Heating zone

Switch position	(PH) k3	(SH) k2	(SH) k1
0			
AUT	Closed-loop control	Closed-loop control	Closed-loop control
(hand)			

▲ = warmer
▼ = colder

Control voltage 120V ~
Low voltage for sensors

BUS (internal)

ZM433 central module
NM482 power module
CM431 controller module

AUT — Input autom. control — k6
AUT — k3 — k2 — k1

120V power supply for additional FM module at slot 1 or 2

L N

U | FA | FZB | WF | FV | BF
4 3 2 1 | 2 1 | 2 1 | 3 2 1 | 2 1 | 2 1

PZB 63 61
PH 63 61
SH 44 43 41
Netz L N

Netz L N
S1
ECO BUS 3 2 1

Power supply for additional FM module on slot 3 and 4

ECOCAN-BUS AWG18

AWG14
AWG14
AWG14
AWG18

PZB — Supply pump (PZB) 120V max 5A 1)
PH — Heating zone pump (PH) 120V max 5A 1)
SH 44 43 41 — Heating zone controller (SH) 120V max 5A 1)
colder / warmer

Output 0-10V 0-20mA 6) (U) ↓
Input 0-10V (U) ↑
Outdoor temp. sensor (FA)
System supply temp. sensor (FZB)
Selection function (dry contact)
Supply temp. sensor (FV)
MEC2 or BFU Remote control 2) (BF)

Heating zone 6)
1-3 man. day operation
1-2 man. night operation
1-2 error message pump alternative

Hot water 6)
1-2 error message pump
1-3 input therm. disinfection
1-3 single charge

Fuse 10AT 1) 5)
L2
Fuse 10AT 1) 5)
L1
2b 2a | 1b 1a
2 | 1
Operation I O

L N /PE
Mains
120V ~ 60Hz
circuit breaker 20A
AWG12

Stand-alone heating circuit control and substation

For system example, see back of page

Buderus

US

R 4323

Circuit diagram:

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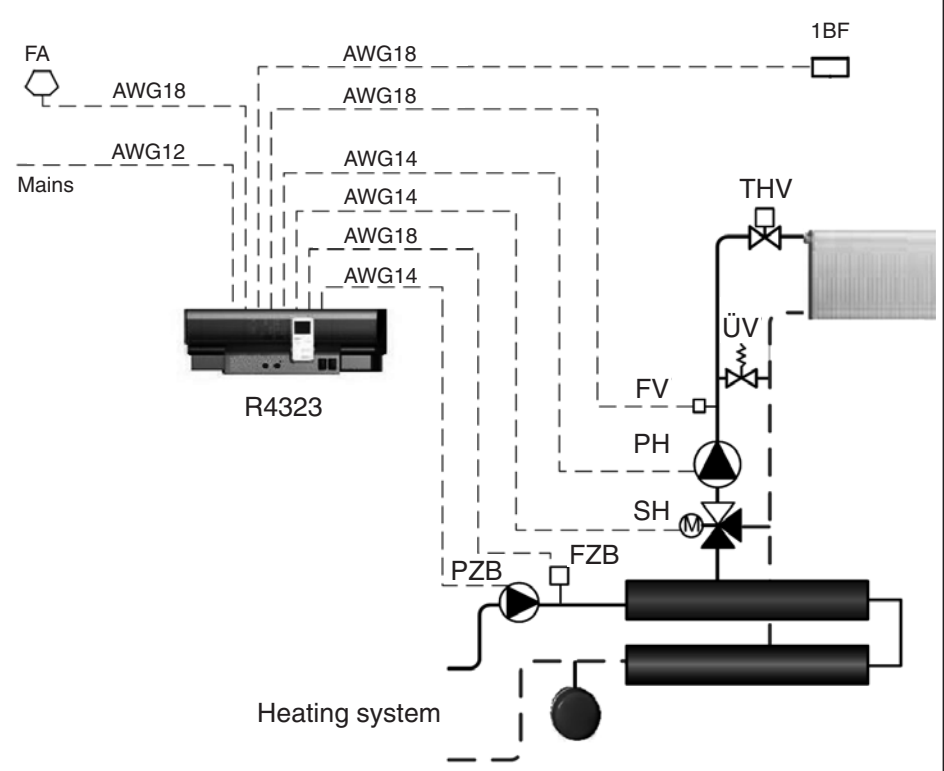
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Proj. no.: 7308

Mat. no.: 6720619483

Legend:

FZB system supply temperature sensor
PH circulation pump heating circuit
PZB supply pump
THV thermostatic radiator valve
SH actuator heating mixer
ÜV overflow valve

FV system temperature sensor
FA exterior sensor
1 BF remote control heating circuit 1

Stand-alone heating circuit control and substation

System example 1

1BF

FA
AWG18
AWG18

AWG18

AWG12
Mains

AWG14

AWG14

AWG18

THV

ÜV

FV

PH

SH

R4323

FZB

Stand-alone heating system

System example 2

1BF

FA
AWG18
AWG18

AWG18

AWG12
Mains

AWG14

AWG14

AWG18

AWG14

THV

ÜV

FV

PH

SH

R4323

PZB FZB

Heating system

Heating substation with supply pump and
low loss header