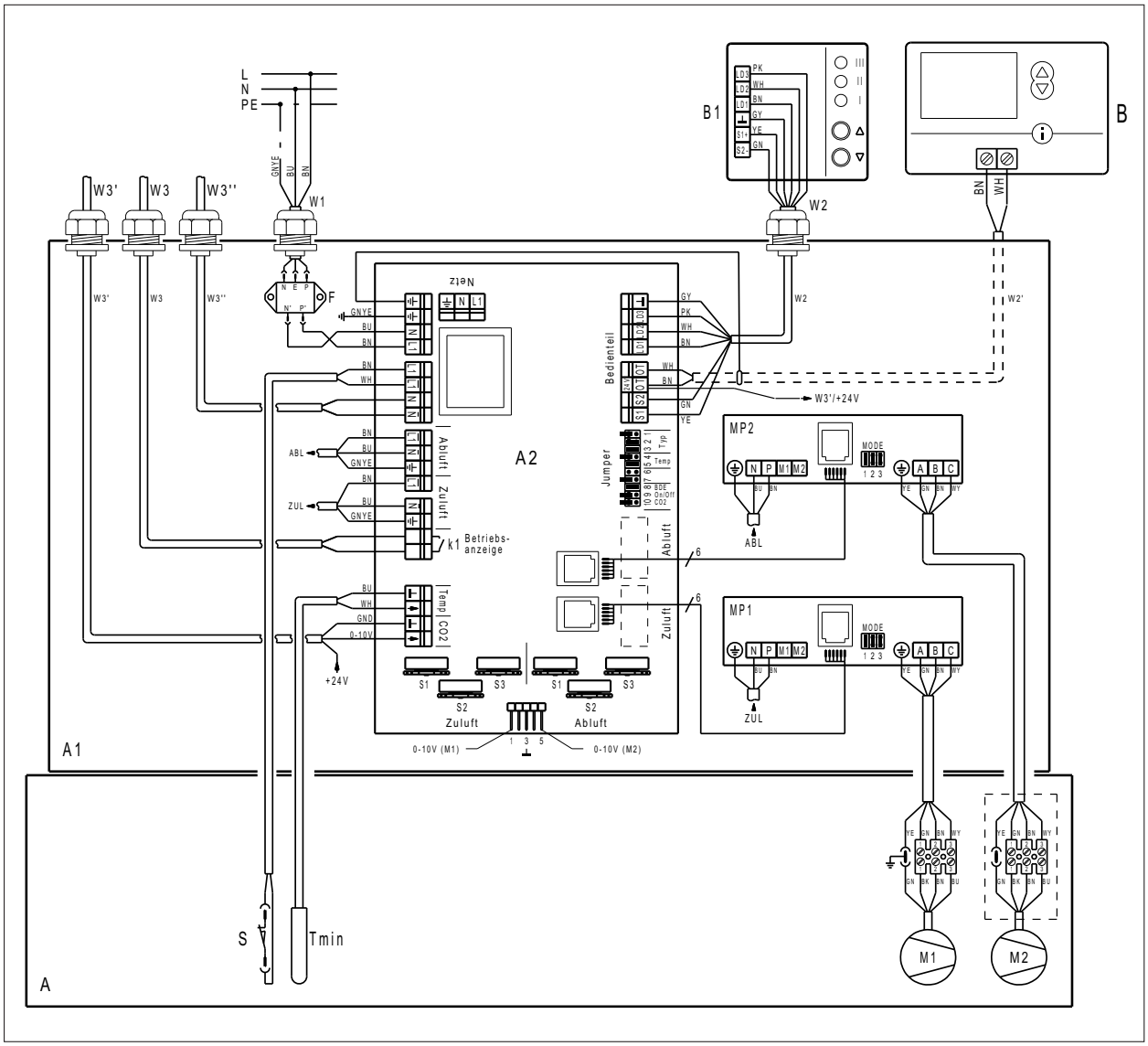
WIRING DIAGRAM

WR 600

Wiring diagram for WR 600 ventilation with RLS D1 WR room air control (plus function)



WR 600

A - WR 600 / RB 600 ventilation unit
A1 - WR 600 / RB 600 terminal box
A2 - Control circuit board
B1 - RLS 1 WR or RB-ZF4 room air control
W1 -230 VAC connecting cable
W2' - Shielded control cable (to be supplied by customer) for RLS D1 WR / RB-D1-ZF4 room air control. Room air control B (RLS D1 WR / RB-D1-ZF4) can also be connected instead of room air control B1 (RLS 1 WR / RB-ZF4). External diameter of the shielded cable 3.2...6.5 mm, e.g. LIYCY 2 x 0.75 mm².
W2 - Control cable (to be supplied by customer) for RLS 1 WR / RB-ZF4 room air control. External diameter of the control cable 3.2...6.5 mm, e.g. LIYY 6 x 0.34 mm²
F - Mains filter
MP1 - Motor board 1 for supply air fan
MP2 - Motor board 2 for exhaust air fan
M1 - Supply air fan
M2 - Exhaust air fan
S - Door contact switch/activated via front plate
T-min - Frost protection temperature sensor
S1 [blue] - setting potentiometer for supply air volumetric flow, ventilation level 1
S2 [blue] - setting potentiometer for supply air volumetric flow, ventilation level 2
S3 [blue] - setting potentiometer for supply air volumetric flow, ventilation level 3
S1 [red] - setting potentiometer for exhaust air volumetric flow, ventilation level 1
S2 [red] - setting potentiometer for exhaust air volumetric flow, ventilation level 2
S3 [red] - setting potentiometer for exhaust air volumetric flow, ventilation level 3

Jumper settings

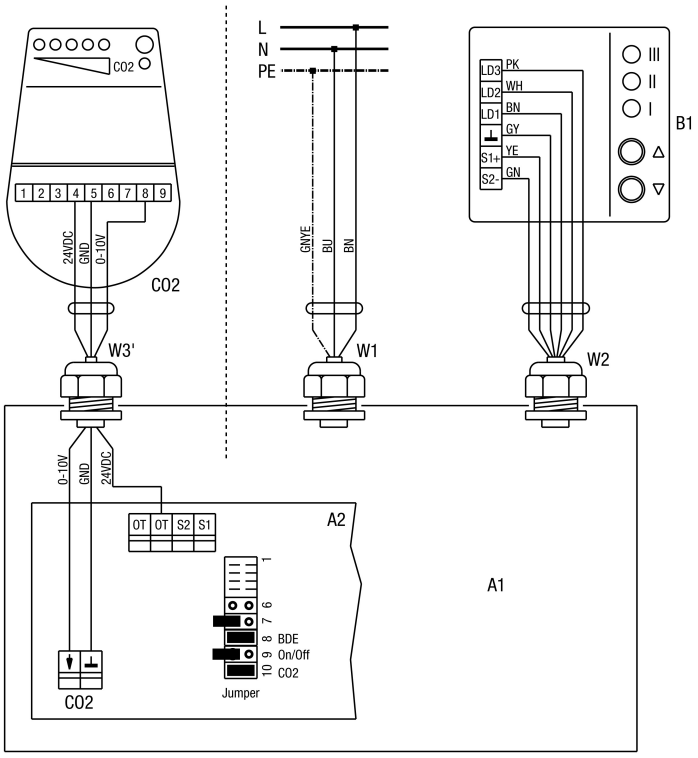
J 1-3 - Unit type, 011 = WR 600 / RB 600
J 4-5 - Frost protection temperature
J 6 - No function
J 7 - Time limitation (60 minutes) LS3 is activated
J 8 - RLS 1 WR/RB-ZF4 or RLS D1 WR/RB-D1-ZF4 room air control is selected
J 9 - Humidity protection is blocked at switch position OFF. Room air control: switch setting OFF (standby) is released
J 10 - 0 - 10 V input for CO2 sensor blocked

Further connection options

W3 - Connecting cable (provided by customer) for external operating display.
k1- Potential-free relay contact k1 (max. 3 A / 250 VAC, 2 A / 30 VDC). Contact k1 is closed when the ventilation unit is running.
W3' - Connecting cable (to be supplied by customer) for external CO2/VOC sensor or external hygrostat. Hygrostat with potential-free contact.
W3" -Connecting cable (provided by customer) for external differential pressure controller. Differential pressure controller with potential-free relay contact. Minimum switching capacity of relay contact: 230 VAC / 2A. Remove J1 bridge on A2 control circuit board.

WR 600

WR 600 ventilation unit with RLS 1 WR room air control and COsensor



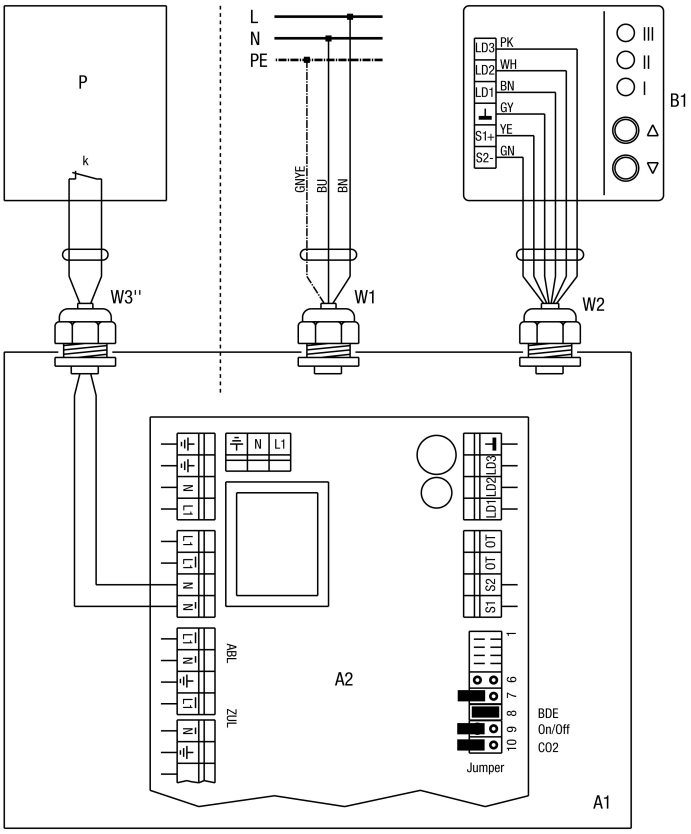
Connection of a CO2 sensor for the demand-driven supply of fresh air. The ventilation unit only reacts to the CO_2sensor if ventilation level 2 (nominal ventilation) is selected at the room air control.
A1 - electrical terminal box WR 600
A2 - control circuit board: Jumper 10 (CO2) set
B1 - room air control RLS 1 WR
CO2 - CO_2sensor SKD
W1 - 230 V AC connecting cable
W2 control cable for room air control
W3' - connecting cable for external CO_2sensor (to be supplied by the customer). Connection to control circuit board A2 at terminals “CO2” and “OT”. Set jumper 10 (CO2) to release the feature, see figure.

Switching points for CO_2 sensor

< 900 ppm, ventilation unit switches to ventilation level 1. Ventilation level 2 is shown at the room air control.
> 1,000 ppm, ventilation unit switches from ventilation level 1 to ventilation level 2.
> 1,100 ppm, ventilation unit switches to ventilation level 3. Ventilation level 2 is shown at the room air control.
< 1,000 ppm, ventilation unit switches from ventilation level 3 to ventilation level 2.

WR 600

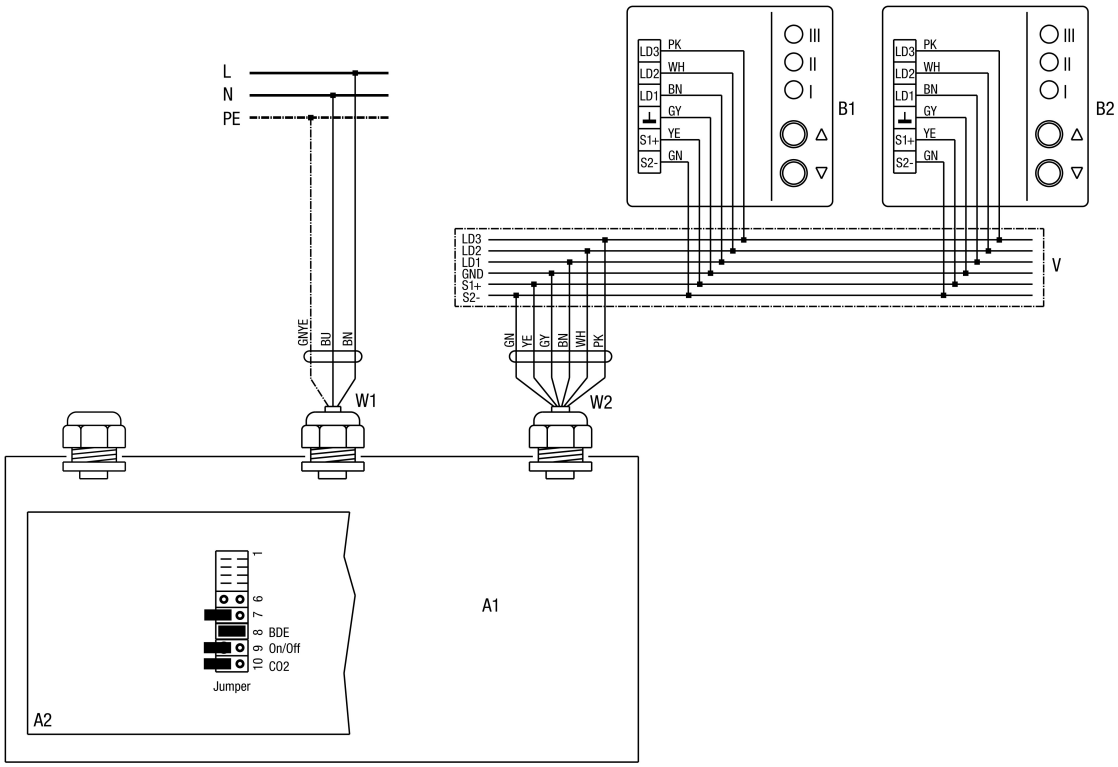
WR 600 ventilation unit with RLS 1 WR room air control and differential pressure controller



Parallel operation of fireplace and ventilation unit
The differential pressure controller P is a safety device, which allows a ventilation system to be operated at the same time as an air-ventilated fireplace.
The differential pressure controller, e.g. Wodtke DS 01, prevents a ventilation unit that is connected to this safety device being operated, if there is negative pressure in the living room.
The potential-free relay contact (n/c) in the differential pressure controller switches the fans in the ventilation unit off, if required. Relay contact k is connected in series to the fans' supply voltage for this purpose.
This blocks the room air control RLS 1 WR. The LED display goes out. The unit is only released again when the differential pressure controller switches the fans back on. The ventilation unit runs at the same ventilation level as before it was blocked.
When selecting the differential pressure controller, note the technical data of the switching output (potential-free relay contact k). Minimum switching capacity: 230 V AC, 2A
The connection between the differential pressure controller and ventilation unit is made with W3" connecting cable.
The potential-free relay contact k of the differential pressure controller P is connected to control circuit board A2 at terminals "N" and " ".
Before this, the jumpers on the terminals "N" and " " on the control circuit board A2 must be removed.
A1 - electrical terminal box WR 600
A2 - control circuit board
B1 - room air control RLS 1 WR
P - differential pressure controller with potential-free relay contact k (provided by customer)
k - switching output, potential-free relay contact
W3" - connecting cable for differential pressure controller (provided by customer)
ABL - exhaust air
ZUL - supply air

WR 600

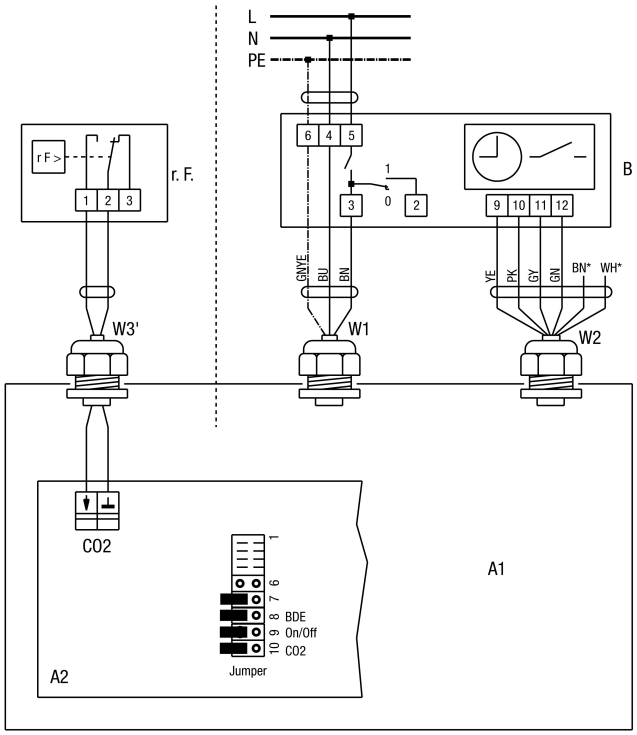
WR 600 ventilation unit with up to 5 RLS 1 WR room air controls



Up to 5 RLS 1 WR room air controls can be connected to the ventilation unit. No CO2 sensor should be connected if several room air controls are connected.
A1 - electrical terminal box WR 600
A2 - control circuit board: Jumper setting = Factory setting
B1 - 1 RLS 1 WR room air control
B2 - 2. RLS 1 WR room air control
W1 - 230 V AC connecting cable
W2 - control cable for room air control
V - distributor (supplied by the customer)
The ventilation unit is factory-set for the connection of the RLS 1 WR room air control. Jumper 8 is set on the control circuit board A2.

WR 600

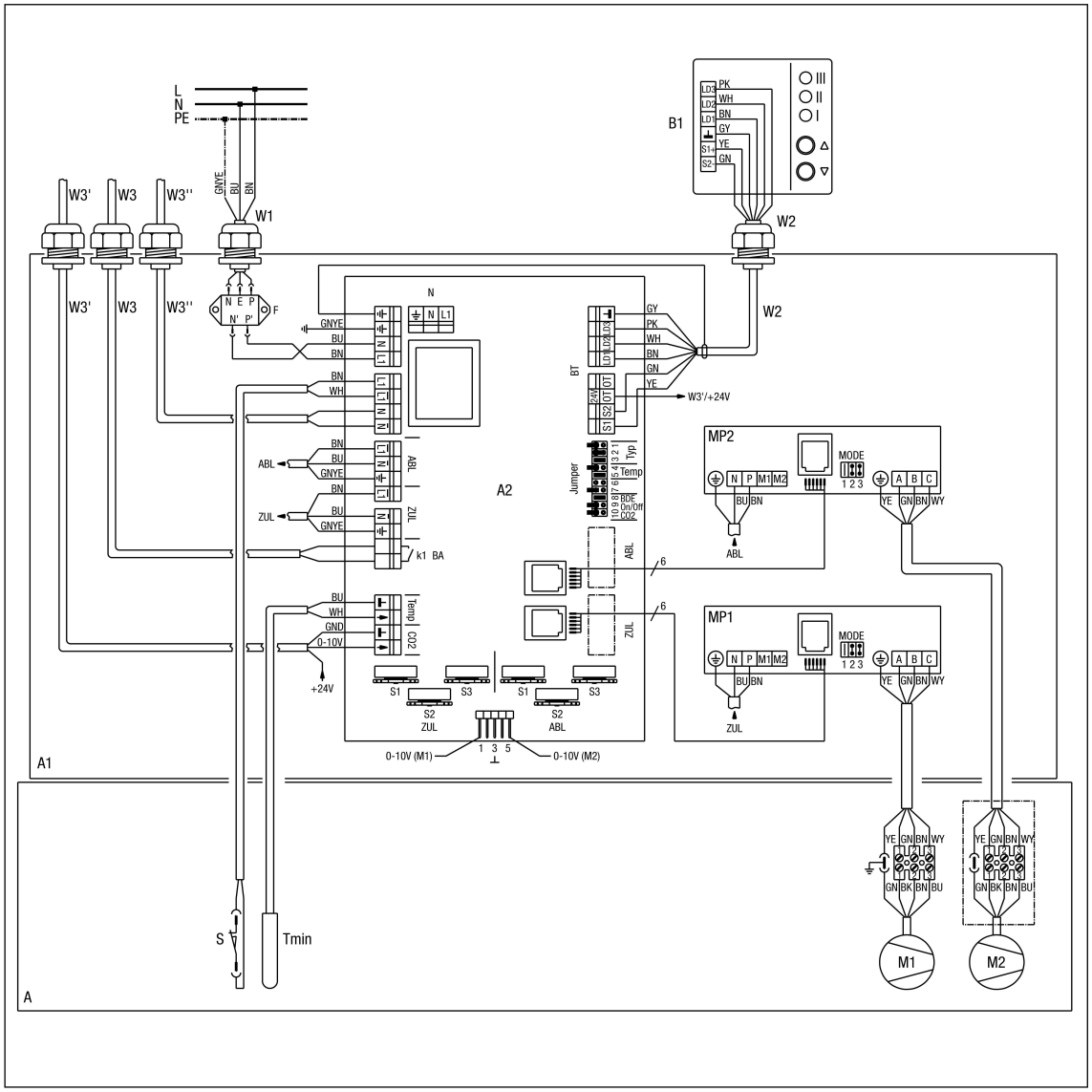
WR 600 ventilation unit with RSL 2 F room air control and HY 5 hygrostat



Connection of a hygrostat for demand-driven humidity extraction. This must have a potential-free switching output, e.g. Maico Hygrostat HY 5.
The hygrostat always switches the ventilation unit to ventilation level 3 if the defined humidity value is exceeded. If the humidity in the room drops, the ventilation unit switches back to the previously selected ventilation level.
If you switch manually or using the timer from ventilation level 3 to level 2 or 1, this deactivates the automatic function of the hygrostat temporarily. This is then switched back to active if the level drops below the hygrostat set point once.
A1 - electrical terminal box WR 600
A2 - control circuit board: Jumper 10 (CO2) not set / Jumper 8 not set
B1 - room air control RLS 2 F
r.F. (relative humidity) r.F. (relative humidity) - Hygrostat HY 5, see accessories
W1 - 230 V AC connecting cable
W2 - control cable for room air control
W3' - connecting cable for an external hygrostat (to be supplied by the customer). Connection to control circuit board A2 at “CO2” terminal, see figure.
Set the switching point at the hygrostat manually.
Never connect a hygrostat and a CO2 sensor at the same time.

WR 600

Wiring diagram for WR 600 ventilation with RLS 1 WR room air control



WR 600

A - WR 600 ventilation unit
A1 - electrical terminal box
A2 - control circuit board
B/B1 - room air control
W1 - 230 V AC connecting cable
W2 - control cable for room air control
F - mains filter
MP1 - motor board 1 for supply air fan
MP2 - motor board 2 for exhaust air fan
M1 - supply air fan
M2 - exhaust fan
S - door contact switch: activated by front plate
Tmin - Frost protection temperature sensor

Supply air

S1 (blue) - Potentiometer adjuster, ventilation level 1
S2 (blue) - Potentiometer adjuster, ventilation level 2
S3 (blue) - Potentiometer adjuster, ventilation level 3

Exhaust air

S1 (red) - Potentiometer adjuster, ventilation level 1
S2 (red) - Potentiometer adjuster, ventilation level 2
S3 (red) - Potentiometer adjuster, ventilation level 3

Jumper settings

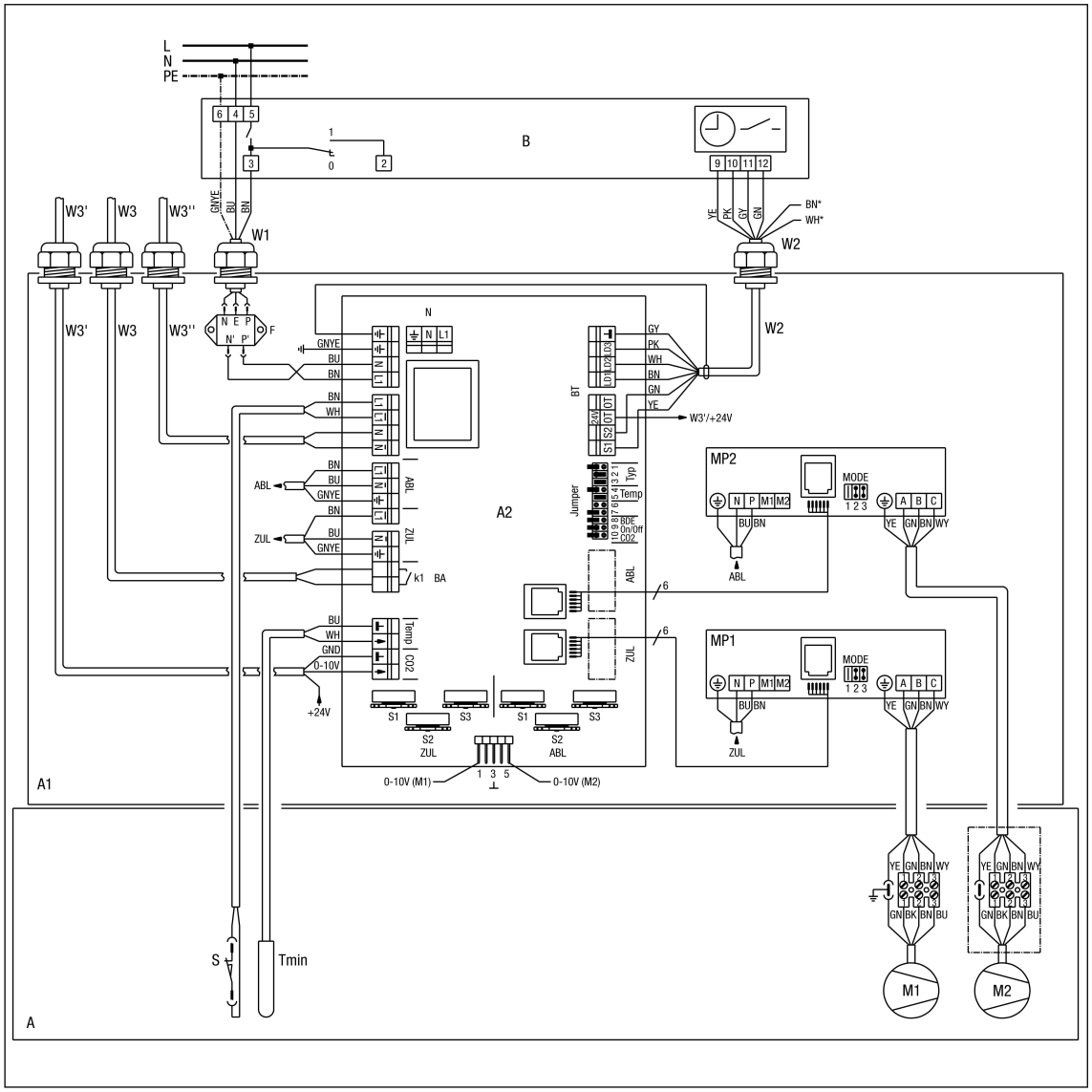
J 1-3 Potentiometer volumetric flow range
J 4-5 Frost protection temperature
J 6 No function
J 7 Ventilation level 3 is reset after an hour
J 8 Room air control (RLS 1 WR factory setting)
J 9 Switching off the ventilation unit possible (on/off active)
J 10 Hygrostat connection released

Further connection options

W3/W3' - Connection cable (supplied by customer) for hygrostat, CO2 sensor, external operating display, thermostat or differential pressure controller.
k1 - Potential-free relay contact (max. 3A / 250 VAC, 2A / 30 VDC). The contact is closed when the ventilation unit is running.
ABL - exhaust air
ZUL - supply air
N - mains
BA - operating display
BT - operator unit

WR 600

Wiring diagram for WR 600 ventilation with RLS 2 F room air control



WR 600

A - WR 600 ventilation unit
A1 - electrical terminal box
A2 - control circuit board
B/B1 - room air control
W1 - 230 V AC connecting cable
W2 - control cable for room air control
F - mains filter
MP1 - motor board 1 for supply air fan
MP2 - motor board 2 for exhaust air fan
M1 - supply air fan
M2 - exhaust fan
S - door contact switch: activated by front plate
Tmin - Frost protection temperature sensor

Supply air

S1 (blue) - Potentiometer adjuster, ventilation level 1
S2 (blue) - Potentiometer adjuster, ventilation level 2
S3 (blue) - Potentiometer adjuster, ventilation level 3

Exhaust air

S1 (red) - Potentiometer adjuster, ventilation level 1
S2 (red) - Potentiometer adjuster, ventilation level 2
S3 (red) - Potentiometer adjuster, ventilation level 3

Jumper settings

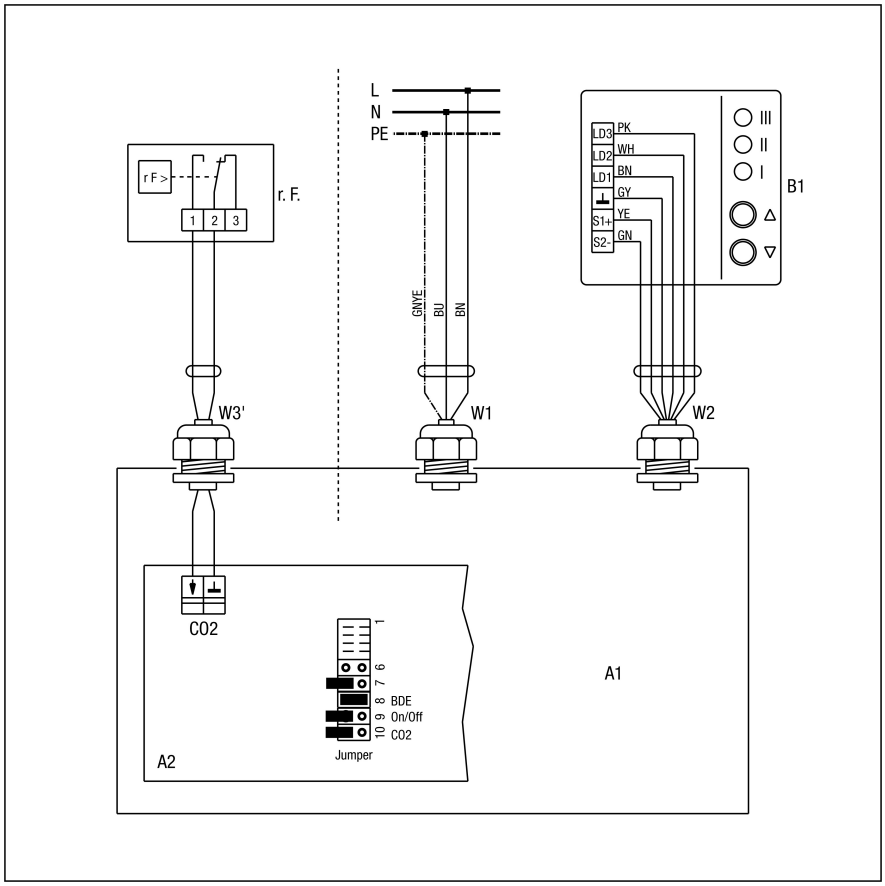
J 1-3 Potentiometer volumetric flow range
J 4-5 Frost protection temperature
J 6 No function
J 7 Ventilation level 3 is reset after an hour
J 8 Room air control (RLS 1 WR factory setting)
J 9 Switching off the ventilation unit possible (on/off active)
J 10 Hygrostat connection released

Further connection options

W3/W3' - Connection cable (supplied by customer) for hygrostat, CO2 sensor, external operating display, thermostat or differential pressure controller.
k1 - Potential-free relay contact (max. 3A / 250 VAC, 2A / 30 VDC). The contact is closed when the ventilation unit is running.
ABL - exhaust air
ZUL - supply air
N - mains
BA - operating display
BT - operator unit

WR 600

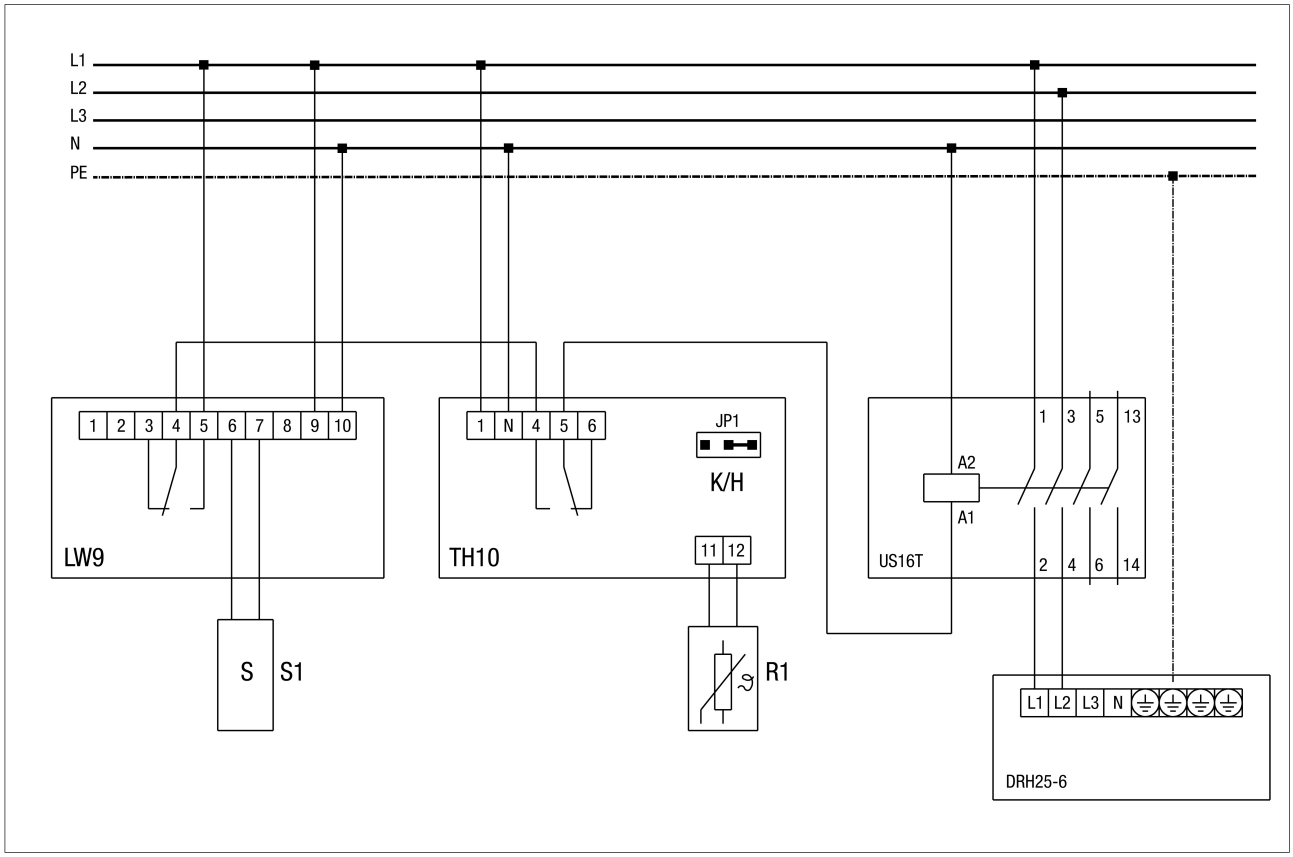
WR 600 ventilation unit with RSL 1 WR room air control and HY 5 hygrostat



Connection of a hygrostat for demand-driven humidity extraction. This must have a potential-free switching output, e.g. Maico Hygrostat HY 5.
The hygrostat always switches the ventilation unit to ventilation level 3 if the defined humidity value is exceeded. If the humidity in the room drops, the ventilation unit switches back to the previously selected ventilation level.
If you switch manually from ventilation level 3 to level 2 or 1, this deactivates the automatic function of the hygrostat temporarily. This is then switched back to active if the level drops below the hygrostat set point once.
A1 - electrical terminal box WR 600
A2 - control circuit board: Jumper 10 (CO2) open
B1 - room air control RLS 1 WR
r.F. (relative humidity) r.F. (relative humidity) - Hygrostat HY 5, see accessories
W1 - 230 V AC connecting cable
W2 - control cable for room air control
W3' - connecting cable for an external hygrostat (to be supplied by the customer). Connection to control circuit board A2 at “CO2” terminal, see figure.
Set the switching point at the hygrostat manually.
Never connect a hygrostat and a CO2 sensor at the same time.

WR 600

WR 600 ventilation unit with RSL 1 WR or RLS 2 F room air control and electric air heater



If the heat recovery unit is installed in a passive-energy house, a heat register in the outside air is necessary, in order to guarantee a permanent air exchange.
It preheats cold outside air and keeps the heat exchanger free of frost. The switch-on temperature of the TH 10 should be set to -3#.
If the outside air temperature gets too cold, the external frost protection heating of the DRH 25-6 switches on and guarantees an uninterrupted ventilation operation.
The switch-off difference should be set to 5 K. Optionally, the switch-on temperature can be adjusted manually using the setting wheel at the TH 10.
The air flow controller sensor "S1" must be installed in the direction of flow, at least 30 cm ahead of the electrical air heater. The TH 10 temperature sensor "R1" must be installed in the air flow direction, at least 50 cm after the electrical air heater.
LW 9 - air flow monitor
S1 - air flow monitor sensor before the DRH..
JP1 - plug jumper on operating mode “H”. Relay switches on as the temperature drops.
TH 10 - thermostat
R1 - temperature sensor after DRH..
US 16 T- universal contactor
DRH 25-6 - electrical air heaters
S - sensor
We recommend the filter box TFE 25-4 (with G4 filter) to protect the electrical heat register against dirt. If a filter box is used, the G4 filter in the outside air channel can be removed from the heat recovery unit.
A ground collector and brine-air heat exchanger can be used to keep the heat exchanger free of frost.
For external heat register, filter box, outside air and outgoing air channel: These must be diffusion-resistant insulated to protect against condensation.