Brief Instruction Mounting of WS1 Color

Item numbers 60135-60142, 60145-46 (WS1 Color)

The manual with additional information about commissioning, functions and use of the controls **WS1 Color** can be downloaded from www.elsner-elektronik.de in the menu area "Service/Downloads".

Warning, mains voltage! National legal regulations are to be observed. Installation, inspection, commissioning and troubleshooting of the device must only be carried out by a competent electrician.

Notes on wireless equipment

When planning facilities with devices that communicate via radio, adequate radio reception must be guaranteed. The range will be limited by legal regulation and structural circumstances. Avoid sources of interference and obstacles between receiver and transmitter, that could disturb the wireless communication. Those would be for example:

- Walls and ceilings (especially concrete and solar protection glazing).
- Metal surfaces next to the wireless participants (e. g. aluminium construction of a conservatory).
- Other wireless devices and powerful local transmitters (e.g. wireless headphones), which transmit on the same frequency. Please maintain a minimum distance of 30 cm between wireless transmitters for that reason.

Preparing the installation location

The device must only be installed and used in dry, interior spaces. Avoid condensation.

The device is to be installed flush to the wall surface. When selecting an installation location, please ensure that the measurement results of the integrated temperature/humidity sensor are affected as little as possible by external influences. Possible sources of interference include:
- Direct sunlight
- Drafts from windows and doors
- Draft from ducts which lead from other rooms to the concealed box
- Warming or cooling of the building structure on which the device is mounted, e.g. due to sunlight, heating or cold water pipes
- Connection lines which lead from warmer or colder areas to the device

*External dimensions of concealed box in mm:*

(depth approx. 62 mm)
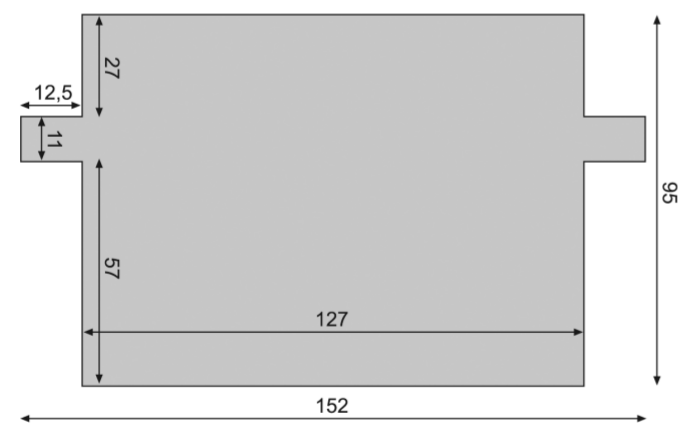
An external antenna can be connected in order to improve wireless communications. During installation, a **conduit 50 cm in length** should be placed beneath the recessed housing, in which the external antenna can be mounted (antenna dimensions approx. 565 x 8 x 5, L × W × H in mm):
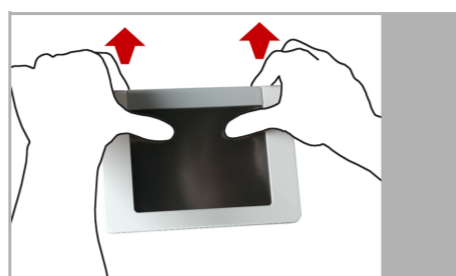
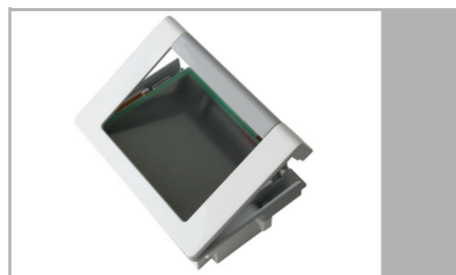*Conduit angled diagonally downwards (for cable access from above or below)*
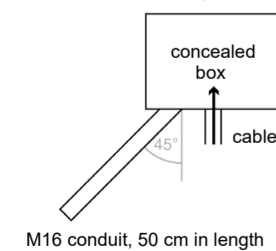
Conduit angled vertically downwards (only for cable access from above!)

M16 conduit, 50 cm in length
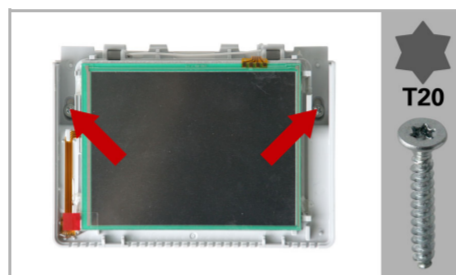
M16 conduit, 50 cm in length
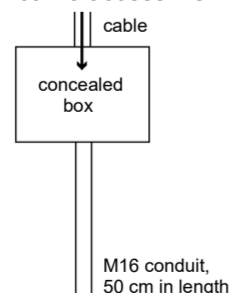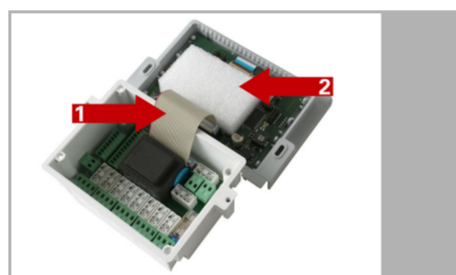
Preparing for installation

Loosen the frame on the upper corners by pulling it forward. You can press your thumbs on the screen while doing this.

Take the frame off at the top first, then at the bottom.

The lower portion of the housing is mounted on the flush mounting box with 2 screws: loosen the screws.

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Take off the housing component with the screen board. The screen is connected via a ribbon cable (1) with the board in the flush mounting box. Loosen the plug in order to be able to remove the upper part.

Remove the transport lock (2).

Wall-fitting
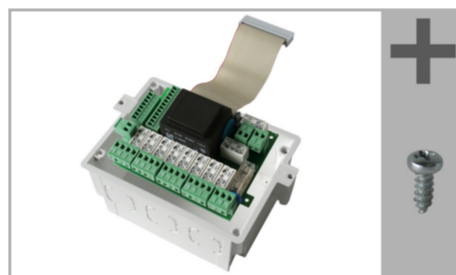
Remove the circuit board from the concealed box to be installed a keep it in a place where it is protected from dirt. **It may never be exposed to dust or moisture!**
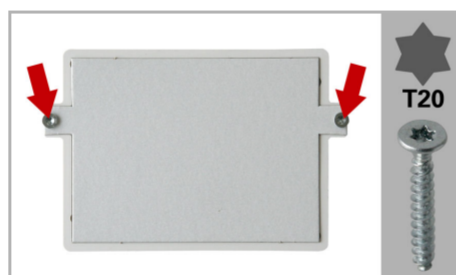
For fitting, screw the cover (board) on to the concealed box with the enclosed screws.

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Cavity wall fitting

Clamp the concealed box to the wall with the four enclosed screws.

or

Upon delivery, the pouch containing the assembly screws can be found in the control unit's flush-mounted casing.

Assembling the control unit with concealed box

During electrical installation, please introduce all connection cables into the concealed box through the lower or upper side wall. In the process, keep the individual connection wires short to prevent long reserve loops.
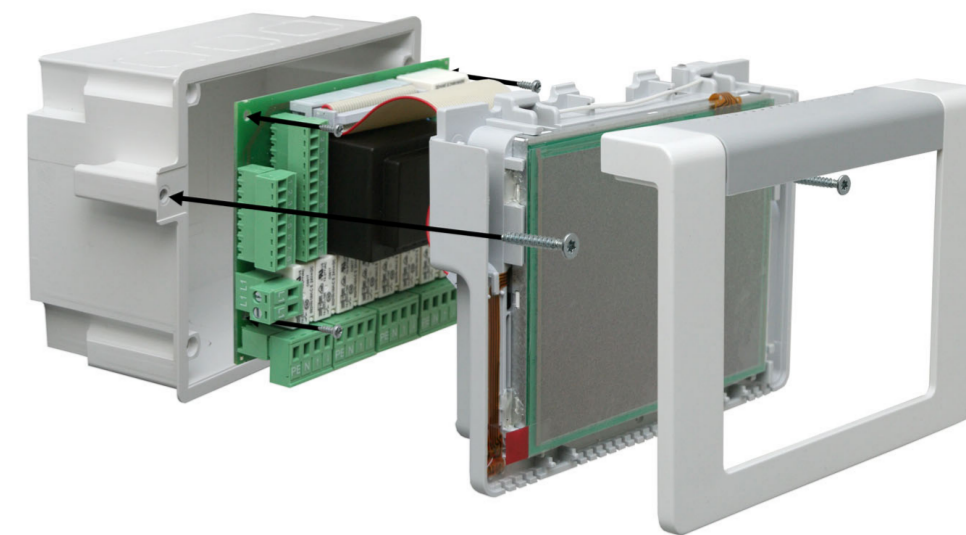
After wiring, connect the ribbon cable to the screen board. Make sure that the transport lock (foam) is removed and also remove the foil protecting the screen (red flap). Screw the lower part of the housing onto the flush mounting box. Set the frame on the lower part of the housing. To this end, the frame is first suspended below and then clapped shut above and snapped in place.

Structure of the connector board WS1 Color

1 Drive group 1
2 Drive group 2
3 Drive group 3
4 Drive group 4
5 Mains connection L/N/PE 230 V/50 Hz
6 Outer conductor L1
7 Multifunctional output 1 (potential-free)
8 MF output 2 (potential-free)
9 Wall button 1 (terminal 1: +12 V | 2: Up | 3: Down)
10 Wall button 2 (4: +12 V | 5: Up | 6: Down)
11 Wall button 3 (7: +12 V | 8: Up | 9: Down)
12 Wall button 4 (10:+12V|11:Up|12:Down)
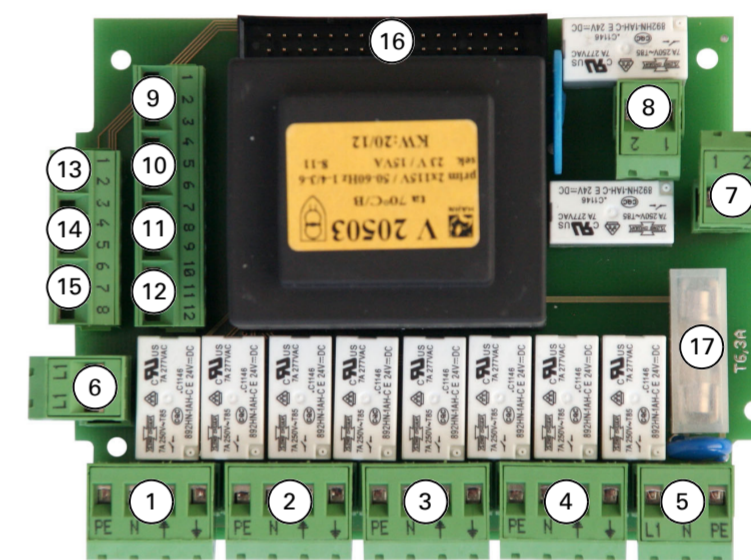
13 Weather station (terminals 1-2) Wire assignment: red = 1, black = 2, yellow and white = not connected
14 *Multifunctional input 1 (terminal 3: +12 V | 4: GND | 5: IN)
15 *MF input 2 (6: +12 V | 7: GND | 8: IN)
16 Connector for flat-ribbon cable to front board
17 Microfuse T6,3 A

* Supply voltage e. g. indoor sensor possible via MF inputs (No. 14, terminal 3(+), 4(-) and No. 15, terminal 6(+), 7(-)), max. 50 mA altogether.

Connection diagrams

Drive and MF outputs WS1 Color:

per drive output max. 400 W,
total max. 1.5 kW

There are no drive outputs available with the model WS1-O.

Multi-functional Output 2 — Potential-free max. 230 V, 2 A

Multi-functional Output 1 — Potential-free max. 230 V, 2 A

The potential-free multifunctional outputs do not deliver any voltage. Power supply for 230 V devices e.g. via outer conductor L1

Power line — Feeder 230 V AC L/N/PE — PE N L1

Drive Group 4 — N PE

Drive Group 3 — N PE

Drive Group 2 — N PE

Drive Group 1 — N PE

WS1-1 WS1-2 WS1-3 WS1-4

L1 / 230 V — L1 L1

L1 L1 Outer conductor

ATTENTION! If drives are used with terminal L1, a 5-wire connecting lead is required

Inputs WS1 Color:

4-wire telephone line J-Y (St) Y 2×2×0.6

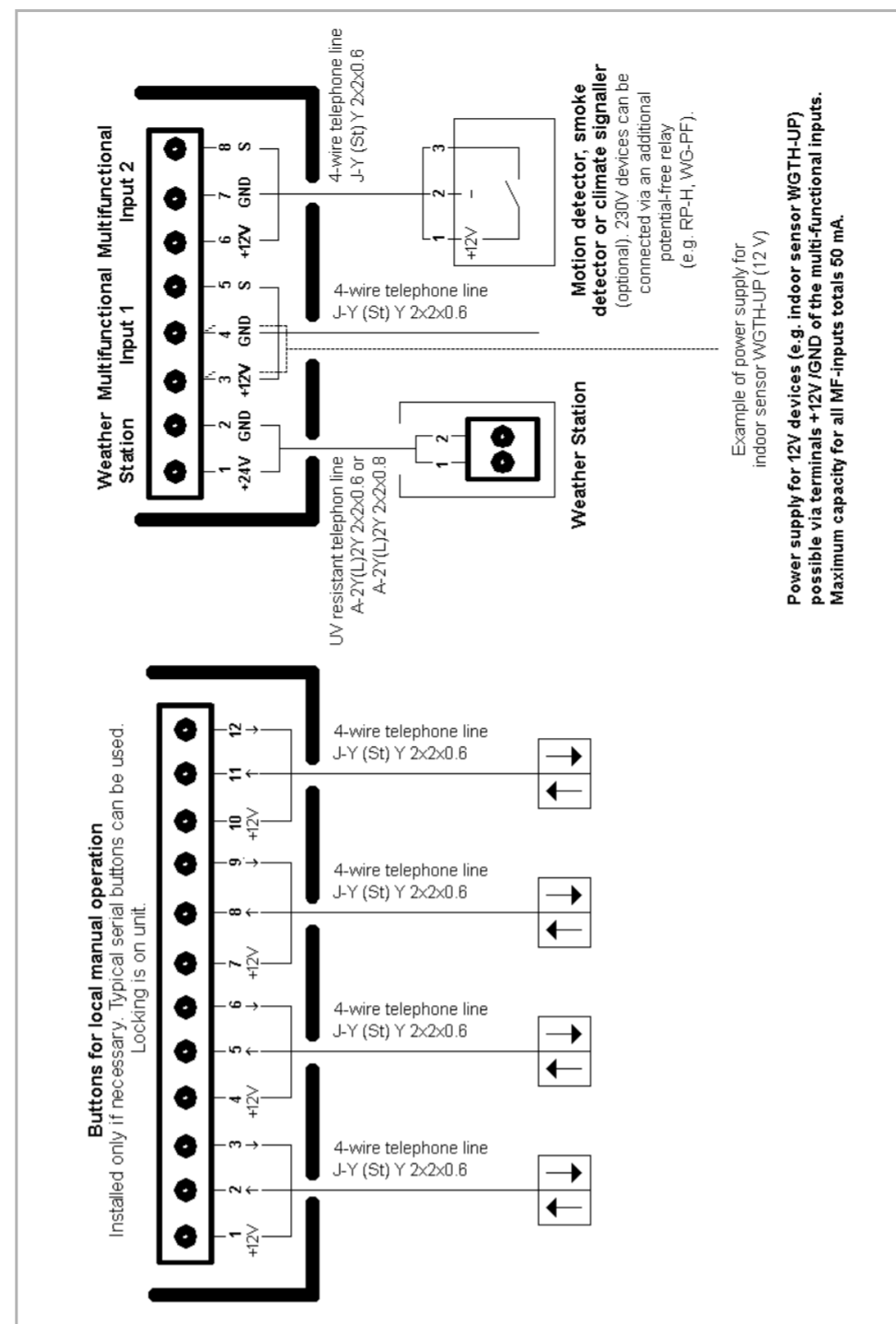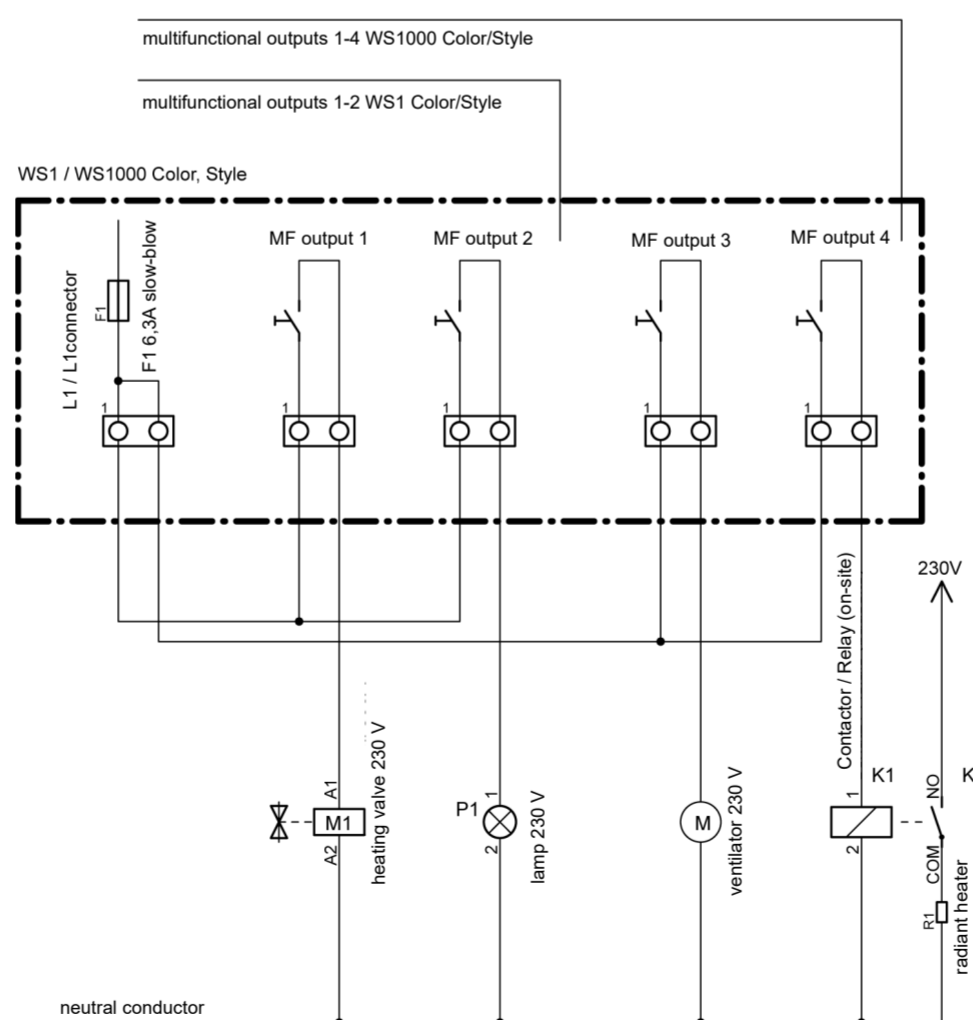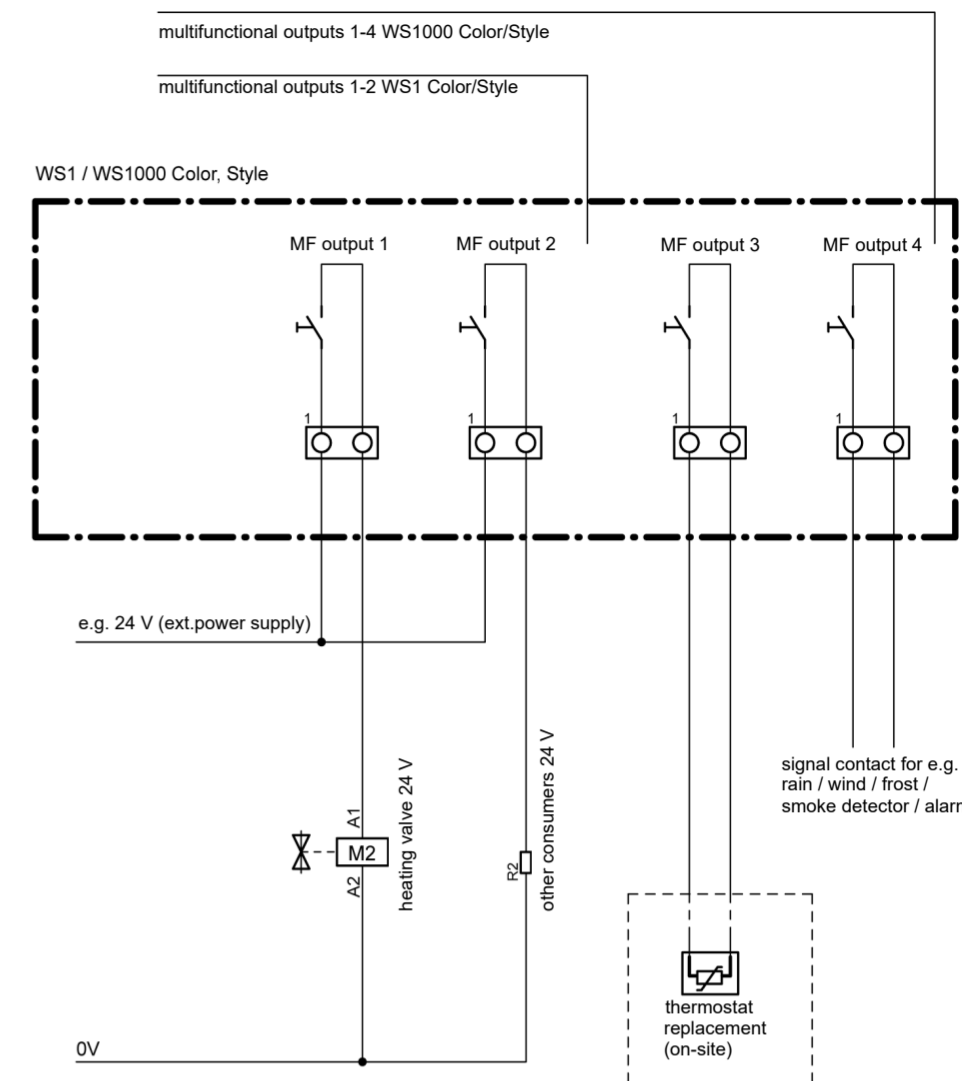Motion detector, smoke detector or climate signaller (optional): 230V devices can be connected via an additional potential-free relay (e.g. RF-H, WG-PF)

Multifunctional Input 2

Multifunctional Input 1

Weather Station — 8 S / 7 GND / 6 +12V / 5 S / 4 GND / 3 +12V / 2 GND / 1 +24V

4-wire telephone line J-Y (St) Y 2×2×0.6

Weather Station

UV resistant telephon line A-2Y(L)2Y 2×2×0.6 or A-2Y(L)2Y 2×2×0.8

Example of power supply for indoor sensor WGTH-UP (12 V)

Power supply for 12V devices (e.g. indoor sensor WGTH-UP) possible via terminals +12V /GND of the multi-functional inputs. Maximum capacity for all MF-inputs totals 50 mA.

Buttons for local manual operation
Installed only if necessary. Typical serial buttons can be used. Locking is on unit.

12 / 11 / +12V 10 / 9 / 8 / +12V 7 / 6 / 5 / +12V 4 / 3 / 2 / +12V 1

4-wire telephone line J-Y (St) Y 2×2×0.6

Connection examples for multifunctional outputs

Connecting 230 V consumers to MF outputs

multifunctional outputs 1-4 WS1000 Color/Style

multifunctional outputs 1-2 WS1 Color/Style

WS1 / WS1000 Color, Style

L1 / L1 connector — F1 — F1 6,3A slow-blow

MF output 1 / MF output 2 / MF output 3 / MF output 4

230V

M1 / A1 / A2 — heating valve 230 V

P1 — lamp 230 V

M — ventilator 230 V

Contactor / Relay (on-site) — K1 / NO / K1 / COM / R1 / radiant heater

neutral conductor

Connecting low-voltage consumers and potential-free contacts to MF outputs

multifunctional outputs 1-4 WS1000 Color/Style

multifunctional outputs 1-2 WS1 Color/Style

WS1 / WS1000 Color, Style

MF output 1 / MF output 2 / MF output 3 / MF output 4

e.g. 24 V (ext.power supply)

M2 / A1 / A2 — heating valve 24 V

R2 — other consumers 24 V

signal contact for e.g. rain / wind / frost / smoke detector / alarm

thermostat replacement (on-site)

0V

Technical specifications Control Unit WS1 Color

Housing	Plastic material (partially painted)
Colours	• White glossy (similar to RAL 9003 Signal White) / light grey (similar to RAL 7035 Light Grey) • Aluminium (similar to RAL 9006 White Aluminium) / graphite (similar to RAL 7024 Graphite grey)
Mounting	Flush/cavity wall
Dimensions	Central unit approx. 164 × 121 × 29 (W × H × D, mm), concealed box approx. 152 × 95 × 62 (W × H × D, mm)
Ambient temperature	Operation 0…+55°C, Storage -30…+70°C
Ambient humidity	5…95% RH, avoid bedewing
Operating voltage	230 V AC, 50 Hz
Power consumption	Stand-by max. 10 W
Load capacity drive outputs	per drive output max. 400 W, total max. 1.5 kW
Frequency wireless channels	868.2 MHz
Degree of protection	IP 20
Measurement range temperature	0…+55°C
Measurement range humidity	5…95% RH

The product conforms with the provisions of EU directives.