

RegulusBOX 12 RTC 3/1 Indoor Unit for RTC Heat Pumps



Main Features

Application	RegulusBOX is wall-hung indoor unit designed for easy connecting single-phase RTC heat pumps to a house heating system. A stainless-steel hot water storage tank NBC 170HP can be easily installed below RegulusBOX. With RTC single-phase inverter heat pumps, RegulusBOX can be connected directly to a heating system.
Description	<p>Basic Elements of RegulusBOX Unit</p> <ul style="list-style-type: none"> ■ IR RegulusBOX Controller with remote access from a computer or mobile app ■ control unit with display (equipped with temperature and humidity sensors) that can be removed and used as a room unit with two-wire connection; in that case, a display blind plug (code 18248) shall be bought as well ■ electric boiler with an output of 12 kW switched in steps of 2 kW (maximum output can be limited) ■ Wilo Para 25/8 iPWM1 circulation pump ■ three-way motorized valve for switching the outputs of the heating system and DHW heating ■ pressure sensor for heating system pressure monitoring ■ automatic air vent valve ■ terminal block for connecting the heat pump and other accessories ■ circuit breaker for heat pump ■ circuit breaker for the controller <p>Enclosed Accessories</p> <ul style="list-style-type: none"> ■ mounting kit for easy installation on the wall rail ■ 1" Fu/F inlet ball valve with safety group to connect an expansion vessel with safety and drain valves ■ 1" Fu/F ball valve for output to the heating system ■ 1" Fu/M ball valve for outlet to the HW storage tank ■ control lever for ball valves ■ ball valve with filter and magnet for installation in the heat pump return pipe ■ outdoor temperature sensor ■ temperature sensor for hot water storage tank ■ mounting template ■ heat pump communication cable, 15m ■ wall rail
Interface	integrated web server for remote management, accessible via LAN or over the Internet via Regulusroute service; website is optimized for mobile phones; integrated control unit with OLED display and 6 capacitive buttons, with temperature and humidity sensor; the unit can be moved indoors and used as a room control unit
Working fluid	water, antifreeze heat-transfer fluid for heating systems
Installation	RegulusBOX is designed for installation with RTC 1f series heat pumps. Install indoors only.
Connection Dimensions *	to heat pump – G 1" F to heating system – G 1" F to heat exchanger in HW tank – G 1" M to expansion vessel – G 3/4" M
Codes	18574 - Czech menu / 18930 - English menu

* with ball valves from accessory installed

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Technical Data

Fluid working temperature	5-90 °C
Max. working pressure	3 bar
Min. working pressure	0.5 bar
Ambient temperature	5-40 °C
Max. relative humidity	80 %, non condensing
Safety valve set pressure	3 bar
Safety valve seat cross section	132 mm ²
Safety valve discharge coefficient	0.3
3-way valve actuator run time	15 s
Fluid volume	10 l
Total weight without heating water	34 kg
Total weight with heating water	44 kg
Overall dimensions (W x H x D)	560 x 905 x 235 mm

Electric Data

Power supply	3/N/PE ~ 400 / 230V 50 Hz
Max. cross section of power cable	4 mm ²
Nominal power input	12.2 kW (without heat pump connected)
Heating elements	2 x 6 kW (3x2kW each - 230V)
IP rating	IP20
Limitation of max. current to the connected heat pump	20 A (limited by controller)
Circuit breaker for heat pump	B20A 1f
Circuit breaker for controller, zone valve actuator, pump	B6A 1f

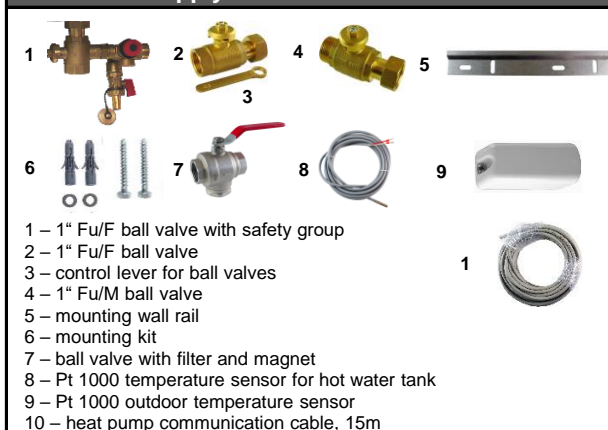
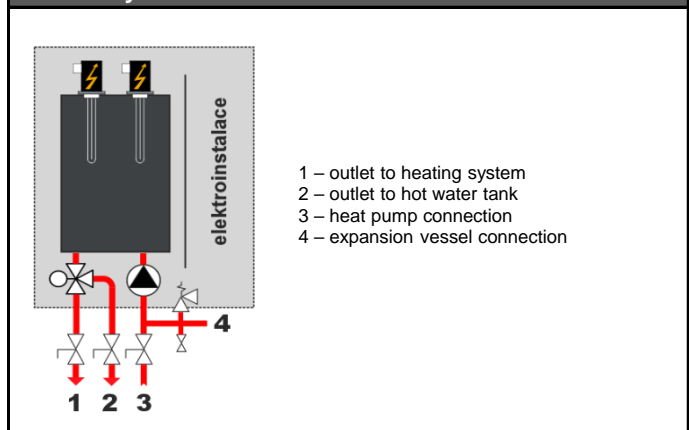
Connectivity, Memory Card

Ethernet 100 Mbit/s	2
USB for connecting an optional WiFi USB adapter	1
RS485 for connecting a heat pump	1
CIB	1
TCL2	1
Micro SD memory card	1

Inputs and Outputs for optional Accessories

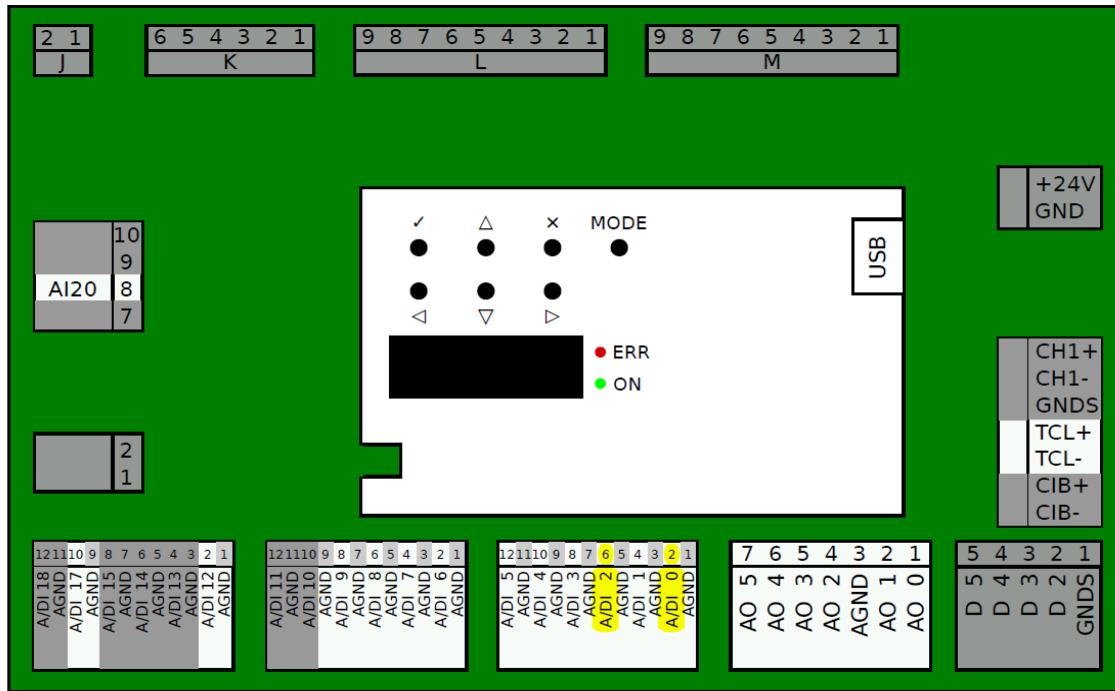
1 relay output	230V/5A (K5)
3 PWM outputs	24V DC (AO0, AO1, PWM3)
4 analog outputs	0-10V (AO2-AO5)
1 input for Ripple control	230-400V AC (HDO)
1 input for iPWM return signal from circulation pumps	A/DI16
15 inputs for Pt1000 temperature sensors *	measurement range -90 to 400 °C (A/DI0-A/DI13, A/DI20)

* inputs can also be used as binary potential-free inputs to connect e.g. an instantaneous circulation switch or a boost switch of the HRV unit, etc.

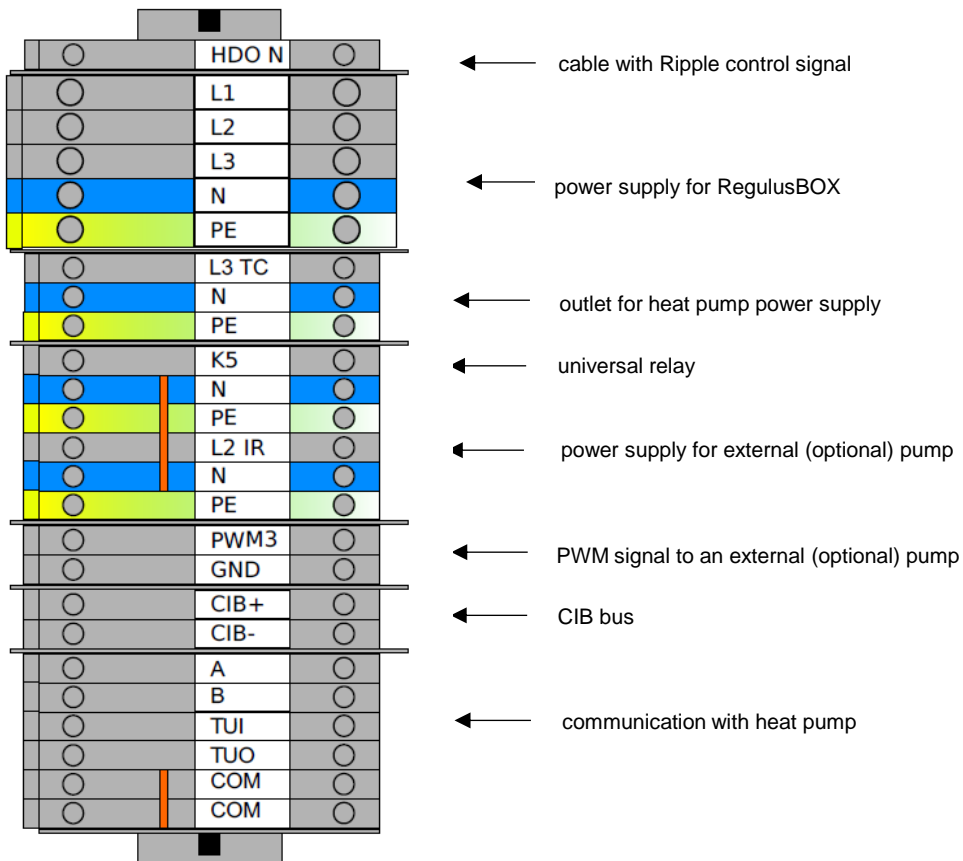
Included in Supply

Internal Hydraulic Connection


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Marking of Controller Inputs and Outputs

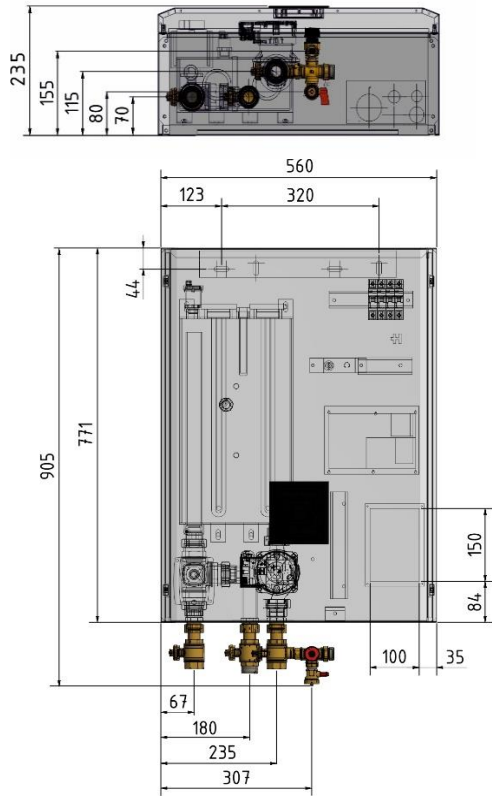


A/DI 0 – connection for outdoor temperature sensor
 A/DI 2 – connection for hot water temperature sensor
 terminals coloured in dark grey are occupied - used for internal wiring of BOX, AGND marked in light grey

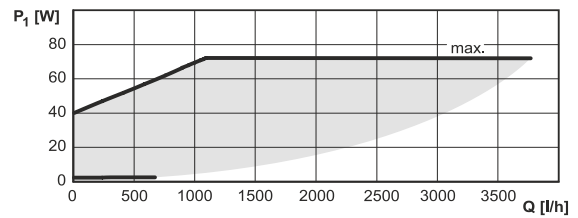
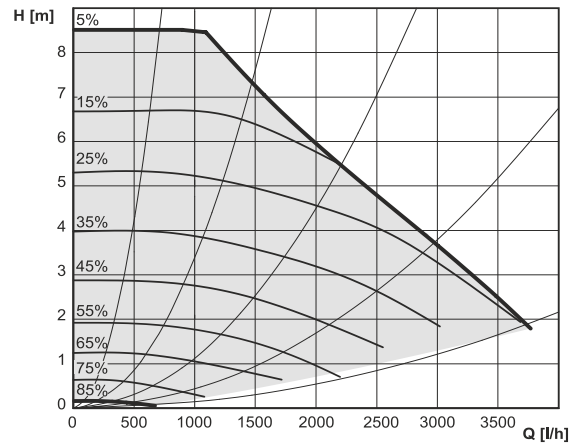


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Dimensions

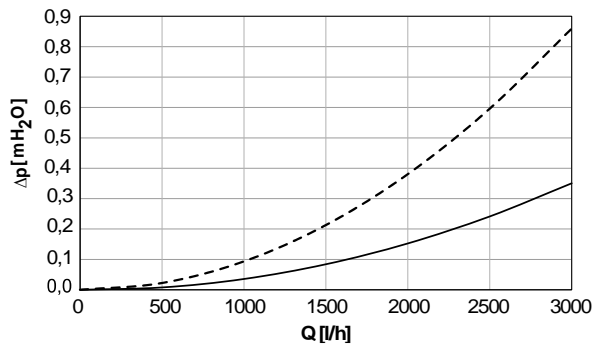


Performance Curves for Wilo Para 25/8 iPWM1 Pump



% – PWM signa

Pressure Drop Graph



— 3-way valve in the Heating position
- - - 3-way valve in the Hot water position

Connection Example

