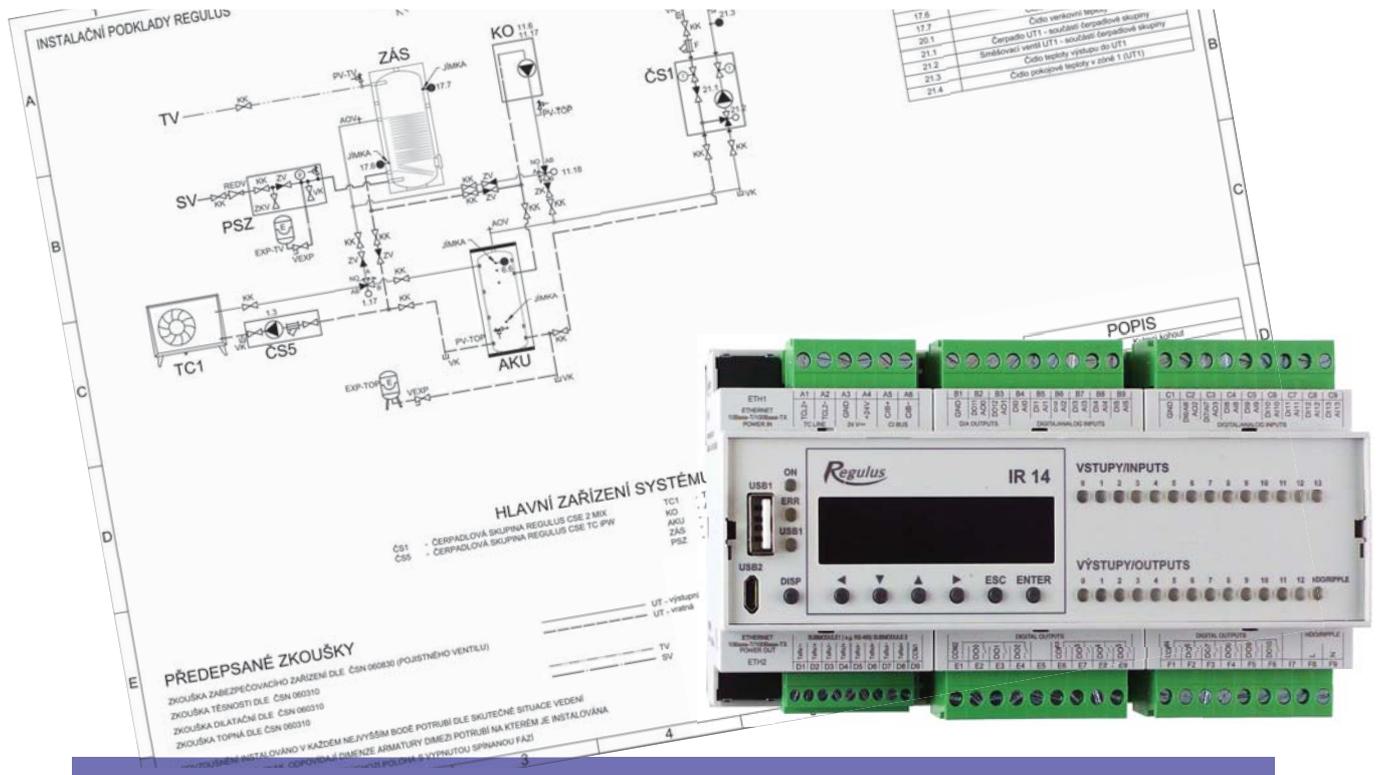




# IR SMART CONTROLLER



**Smart control is software that we develop ourselves in order to offer smart use of different types of energy with regard to user comfort and operating economy.**

## MAIN BENEFITS

- optimised operation and efficient energy use
- versatile system - control of a wide range of devices (heat pumps, heat recovery ventilation units, thermal solar and photovoltaic systems, boilers, fireplaces etc.)
- easy control of the controller online in a mobile application and via a web browser
- remote control, monitoring and service
- 15 years of experience, continuous development and integration of new functions

## 15 YEARS OF EXPERIENCE IN ONE CONTROLLER

The system is the result of more than 15 years of continuous development exclusively within Regulus. A team of heating, cooling and electrical engineering experts is involved in its development. Thanks to this unique combination of experience, we are able to develop and offer solutions that cannot be found with our competitors. New functions are constantly added based on feedback from de-

signers, installation companies and users of the operated systems. We are able to respond quickly to technological innovations, we offer high flexibility and the ability to adapt to the individual needs and requirements of our customers.

### WHAT CAN IT DO?

IR 14 is primarily software that we develop ourselves based on knowledge from the heating industry and

the wishes of our customers. Our goal is a smart and efficient use of various types of energy and their optimization with regard to user comfort and economy of operation of the heating, cooling and ventilation systems. Naturally there are time programs with different temperatures for heating of DHW, swimming pool, for floor heating, radiators or ceiling cooling. It is also able to control individual rooms.

## CONTROL VIA INTERNET

The controller can be easily connected to the Internet/Ethernet. Thanks to this, you can easily connect to the controller via a regular web browser. There is also a free IR Client mobile application for Android and iOS. Users can therefore easily monitor the operation and set the parameters of their heating, cooling and heat recovery ventilation.



Overview of the current heating status



Convenient control from anywhere



Remote servicing possible



24/7 online support



Automatic communication with Regulus service desk

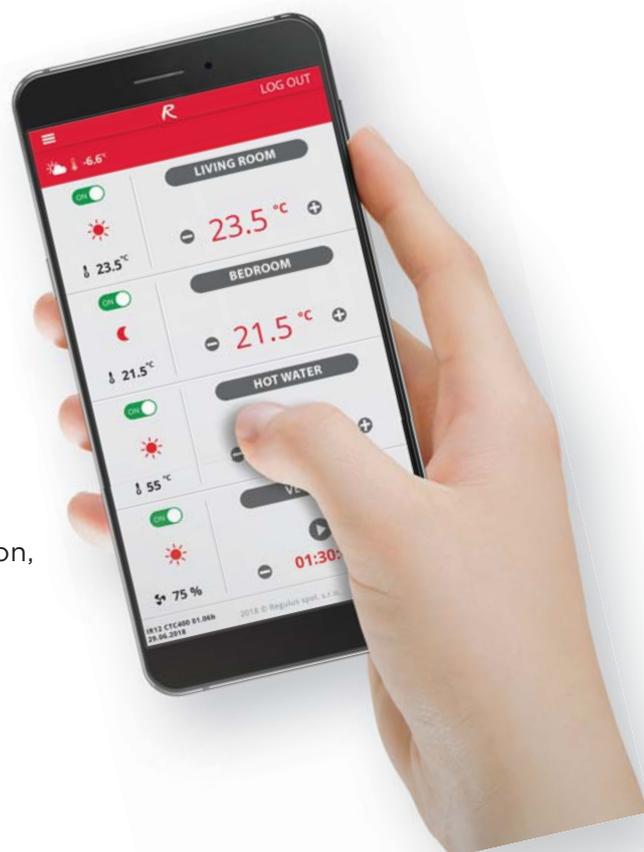
## REMOTE CONTROL

The IR 14 is not just a controller, but a truly smart system that ensures that energy-saving technologies work efficiently. It enables the service technicians to respond to potential problems in a timely manner and minimize outages. Thanks to Internet access, settings and configuration or possible repairs can be carried out remotely.

## CONTROLLER FUNCTIONS

In its **basic version**, the controller enables the control of:

- » CTC/RTC heat pumps (air-to-water and ground-to-water, including cascades),
- » DHW heating and economical time-controlled recirculation,
- » hot water boiler or fireplace,
- » cooperation with a photovoltaic system,
- » solar thermal system with up to three consumers,
- » several auxiliary heat sources,
- » pool heating,
- » up to two heating circuits (heating and cooling) and
- » zone control of individual rooms.



# CONTROLLER EXTENSION - REQUIRED MODULES

## Heating circuits

The first heating circuit is always included in the basic version, the second heating circuit can be configured for optional inputs and outputs. If these are not free, the additional UT module (code 17116) is used for the second circuit. The third and every other heating circuit each needs its own UT module (code 17116). A maximum of two these modules can be connected to the CIB bus, therefore when connecting 4 or more circuits it is necessary to add the External CIB bus module (code 18750).

## Photovoltaic (PV) systems

When controlling heat pumps, the controller must have information about the excess power from the PV system. How it obtains this information depends on the type of inverter used:

1/ SOLAX X3-Hybrid-G4 inverter

- a) by connecting the RS485 sub-module (code 17923),
- b) using an Ethernet connection within the local network (TCP/IP).

2/ Other inverters

- a) by connecting the Excess power measurement kit, which includes an electricity meter and transformers (code 19446).

If there is a requirement for continuous consumption of excess power by an electrical heating element, the SSR module (code 15353) and the SSR relay (code 16418) are also needed.

This control requires a high communication speed between the inverter and the controller, so a TCP/IP connection is not suitable for this function.

## OpenTherm boilers

The OT module (code 10442) is used to control boilers communicating via the OpenTherm protocol.

## Heat recovery ventilation units

Depending on the type of installed heat recovery ventilation (HRV) unit, a suitable module shall be selected:

- Sentinel Kinetic B
  - SKB module (code 17786)
- Sentinel Kinetic Advance
  - SKA module (code 17787)

A BOOST module (code 13050) needs to be added to the controller to connect the Boost mode buttons.

## Heat pump cascades

For CTC heat pumps, the control of up to 10 units is included in the basic version, for the control of circulation pumps for the third to tenth heat pump, the External CIB bus module (code 18750) and the PWM module (code 18116) are needed.

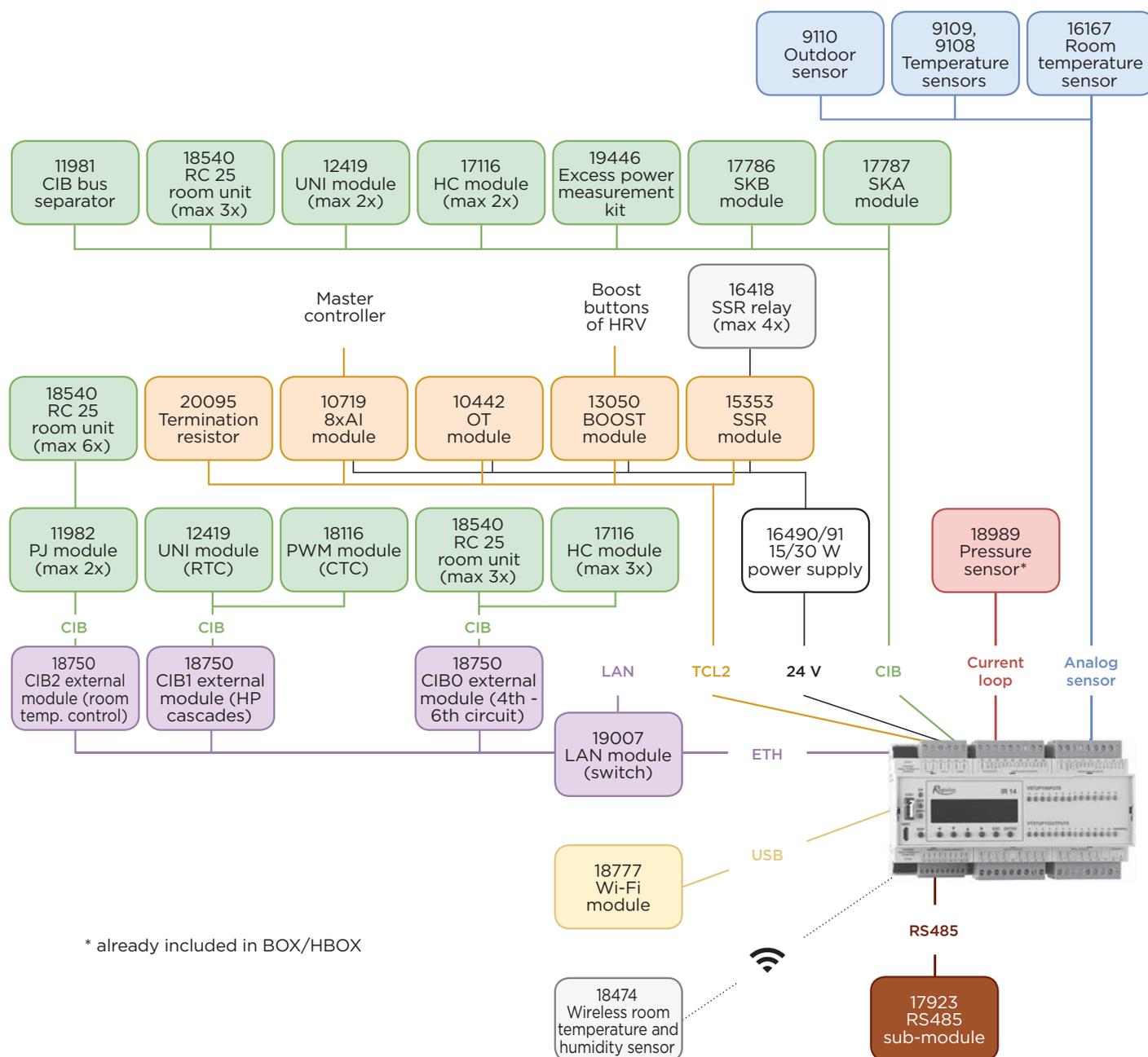
For RTC heat pumps, up to 8 units can be controlled by adding the External CIB bus module (code 18750) and the UNI module (code 12419) - for each RTC except the first one.

## Control of rooms

With the RC 25 room units, up to 12 separate rooms can be controlled, which can be assigned to individual heating circuits (zones) and where heating or cooling can be switched on and off separately.

Up to 6 RC 25 room units (code 18540) can be connected to the PJ module (code 11982). For more rooms, you need to use two modules. This module/s connect/s to the External CIB bus module (code 18750).

## WIRING DIAGRAM OF MODULES AND SENSORS TO THE IR 14 CONTROLLER



## VARIANTS OF IR 14 CONTROLLER

The variants for CTC and RTC heat pumps differ in the number of optional inputs and outputs:

- separate controller on DIN rail
  - IR 14 CTC (code 18514), IR 14 RTC (code 18239)
- controller on DIN rail in set with pump station
  - CSE IR 14 CTC (code 18923), CSE IR 14 RTC (code 18242)
- in the RegulusBOX indoor unit
- in the RegulusHBOX indoor unit
- in the RegulusHBOX K indoor unit

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