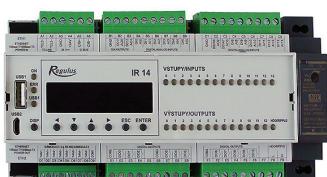


## IR 14 CTC Smart Controller

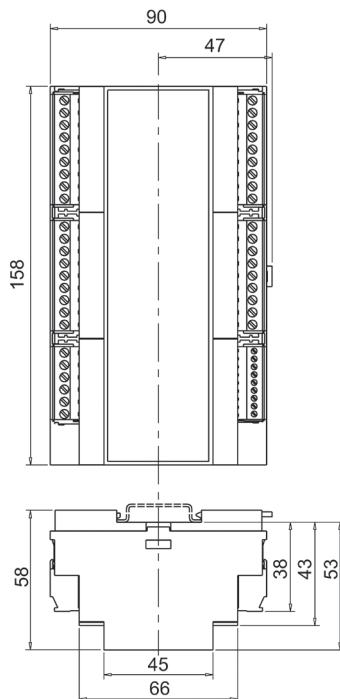
### Main Features

Description	Smart controller for control of CTC heat pumps, DHW heating and recirculation, a hot-water boiler or fireplace, a solar thermal system, two auxiliary heat sources, a HRV unit and up to two heating circuits. It contains 1 outdoor temperature sensor and 2 temperature sensors for a sheath (4 m). An integrated web server for remote access from a PC or a smartphone. The supply also includes a 32 GB microSD card (to save operating data) and a 15 W power supply, 24 VDC.
Installation	on DIN rail (9 modules)
Code	18431 – Menu in Czech / 18514 – Menu in English

### IR 14 Controller



### Installation dimensions



### Electric Data

Voltage	24 V DC ± 5%
Power input	max. 10 W
Internal fuse	resettable fuse
IP rating	IP 20
Protection class	II

### Energy Efficiency Data (as per EC Regulation No. 812/2013)

Controller class	VIII
Contribution to seasonal space heating energy efficiency	5.00%

### Digital and Analog Inputs and Outputs

11x Digital and Analog Inputs and Outputs
1x input for 4–20 mA pressure switch
3x binary input (2x iPWM feedback signal from circulation pump, 1x Ripple contr. input)
13x configurable output (11x mechanical relay, 2x PWM/0–10 V output)

### Communication Interface

2x 10/100 Mb Ethernet interface
1x RS 485 communication interface for control of CTC 400, 500 and 600 series heat pumps
2x USB interface (USB1 – USB host – type A connector, USB2 – USB device – type micro B connector)
1x CIB (max. 100 mA)
1x TCL

### Ambient Conditions

Ambient temperature – operation	-20 to 55 °C
Ambient temperature – storing	-25 to 70 °C
Relative air humidity for storing	0 to 80 %, non condensing
Relative air humidity during operation	10 to 95 %, non condensing

### Other Data

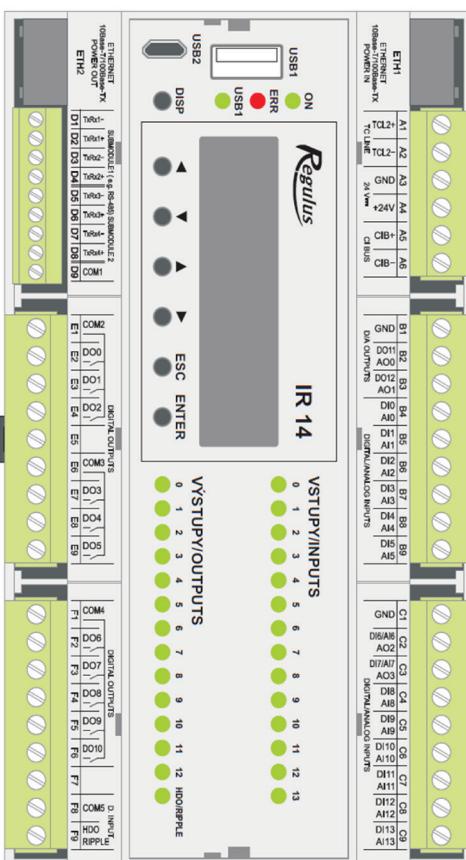
Installation	into el. enclosure (on DIN rail)
Wiring	screw-in connectors
Max. conductor cross-section	2.5 mm <sup>2</sup> (1.5 mm <sup>2</sup> for D connector)
Overall dimensions	158 x 90 x 58 mm
Display	OLED 4 x 20 characters
Control	by 6 keys
LED	3x LED (operation, fault, USB)
Clock backup time	cca 500 hours

## IR 14 CTC Smart Controller

### Terminal Block Connection Diagram

HP comm. 2	D1		A1	TCL2 +
HP comm. 1	D2		A2	TCL2 -
			A3	power -24 V
			A4	power +24 V
HP comm. 3	D9		A5	CIB + modules
power L (230 V)	E1		A6	CIB - modules
zone 1 valve opening	E2		B1	terminal block B common earth
zone 1 valve closing	E3		B2	PWM output B2 (PWM for circulation pump of heat pump)
zone 1 pump	E4		B3	PWM output B3 (PWM for solar pump)
power L (230 V)	E6		B4	pressure sensor
ON/OFF heat source	E7		B5	outdoor
aux. source for DHW (TV-E)	E8		B6	heating water – zone
HP valve to DHW (TV-TČ)	E9		B7	room temperature – zone
power L (230 V)	F1		B8	iPWM input B8 (circulation pump of heat pump)
output F2 (ON/OFF source 2)	F2		B9	iPWM input B9 (solar pump)
output F3 (uni function 1)	F3		C1	terminal block C common earth
output F4 (DHW recirculation)	F4		C2	C2 input (ThSt-u)
output F5 (solid-fuel boiler pump)	F5		C3	C3 input (ThSt-low.)
output F6 (zone 2 pump)	F6		C4	C4 input (DHW-u)
Ripple c. N	F8		C5	input C5 (solar)
Ripple c. L	F9		C6	input C6 (SFB)
			C7	input C7 (heating water – zone 2)
			C8	input C8 (room temperature – zone 2)
			C9	input C9 (DHW-low.)

Note: inputs can be also configured via the web interface of the controller.



### Max. load of inputs, outputs

Mechanical relays DO0-DO5, DO07-DO10	max. 3 A (5 A in short term), min. 5 V DC, max. 250 V AC (both resistive and inductive)
Mechanical relay DO6	max. 10 A (16 A in short term), min. 5 V DC, max. 250 V AC (both resistive and inductive)
Common terminals COM2-COM4	max. 10 A (permanent)
Analogue outputs AO0-AO1	optional 0–10 V (12 bit) / transistor 24 V DC (e.g. PWM outputs)
Analogue input AI0	pressure sensor (current input 4–20 mA)
Analogue inputs AI1-AI3, AI6-AI13	PT1000 temperature sensors (measurement range –90 to 400 °C)
Binary inputs DI4, DI5	iPWM feedback signal from circulation pumps
Binary input for Ripple contr.	Ripple control, max. voltage 250 V AC

### Power supply (included in supply)

Input voltage	100–240 V AC, 50–60 Hz
Output voltage	24 V DC ± 1 %
Rated output	15.2 W
Installation	on DIN rail
Connection	screw-in connectors
Max. cable cross section	2.5 mm <sup>2</sup>
Overall dimensions	17.5 x 90 x 54.5 mm
IP rating	IP 20

### Temperature resistance table for Pt1000 sensors

°C	0	10	20	30	40	50	60	70	80	90	100
Ω	1000	1039	1077	1116	1155	1194	1232	1270	1308	1347	1385