

# **Room Application Controller**

MODEL	DESCRIPTION
RAC18-IP	Room Application Controller with a built-in nano EDGE ENGINE



#### **APPLICATION AND USE**

The RAC18-IP is a multifunctional device providing comfort in a single room or a zone in the building. 18 onboard I/O's with Ethernet and serial port make the controller a versatile system for comfort management, light and blind control, and integration and monitoring. The RAC18-IP controller has a built-in nano EDGE ENGINE – the cutting-edge software that allows for constructing multiple applications and provides a set of libraries and components tailored to create cycle-driven user applications. The device has an automatic BACnet IP and Modbus TCP/IP exposure and allows for real-time programming.

Maintenance and programming of the device are possible from anywhere in real time with a dedicated, free-of-charge tool. The RAC18-IP ensures an easy replacement process with a system and applications on a removable SD card.

#### **FEATURES**

- · Room and zone IP management
- Openness and reliability
- Seamless programming and maintenance
- Built-in nano EDGE ENGINE
- Cycle-driven multithreaded application
- Favorable licensing system
- Reference linking method
- Clear and logical structure

- 150 Data Points
- · System and applications on SD card
- 2 fail-safe Ethernet ports with a built-in switch
- Native BACnet IP and Modbus TCP/IP
- Modbus RTU
- Built-in real-time clock (RTC)
- Support for over 20 types of temperature sensors
- · Digital inputs with fast pulse counter
- Triac outputs for thermal actuators

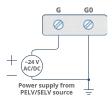
## **TECHNICAL CHARACTERISTICS**

DESCRIPTION		RAC18-IP
Power supply	Voltage	24 V AC/DC ± 20%
Universal inputs	Number of inputs	4
	Voltage input	Voltage measurement: 0-10 V DC Input impedance: 100 kΩ Measurement accuracy: ±0.1% Measurement resolution: 3 mV at 12-bit and 1 mV at 16-bit
	Current input	Current measurement: 0-20 mA Required external resistor: 200 Ω Measurement accuracy: ±1.1% Measurement resolution: 15 μA at 12-bit and 5 μA at 16-bit
	Digital input	Output current ~1 mA

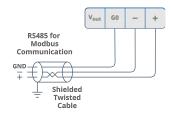
The performances stated in this sheet can be modified without any prior notice.

Resistance input	DESCRIPTION		RAC18-IP
Temperature input	Universal inputs	Resistance input	Measurement resolution for 20 k $\Omega$ load: 20 $\Omega$ at 12-bit and 1 $\Omega$ at 16-bit Measurement resolution for PT1000 and NI1000: 0.1 $\Omega$ at 16-bit
Processing time		Temperature input	Accuracy: ±0.1°C
Processing time		Measurement resolution	12-bit (default), 16-bit
Type		Processing time	
Maximum input frequency   100 Hz saved in EEPROM memory		Number of inputs	4
Number of outputs	Digital inputs	Туре	Dry contact or fast pulse counter
Voltage range		Maximum input frequency	100 Hz saved in EEPROM memory
Maximum load current   20 mA   Resolution   12-bit   Accuracy   ±0.5%		Number of outputs	3
Resolution		Voltage range	0-10 V DC
Number of outputs   5	Analog outputs	Maximum load current	20 mA
Number of outputs   S   Resistive load (AC1)   3 A at 230 V AC or 3 A at 30 V DC		Resolution	12-bit
Digital outputs		Accuracy	±0.5%
Inductive load (AC3)		Number of outputs	5
Inductive load (AC3)	Digital outputs	Resistive load (AC1)	3 A at 230 V AC or 3 A at 30 V DC
Number of outputs	- 18.10	· · ·	75 VA at 230 V AC or 30 W at 30 V DC
Load   0.5 A at 20 V AC up to max. 230 V AC			2
Triac outputs         Peak load per channel         1.5 A at 20 V AC up to max. 250 V AC (30 s)           Gate control         Zero crossing turn ON           Frequency range         47 to 63 Hz           Snubber         Snubberless triac           Up to 128 devices           Half-duplex           COM1         RS485 Interface           Ports         RJ45 + screwless connector           Baud rate         4800-115200           Power supply for external device         30 V DC           ETH1         Ethernet Interface         2 ports, fail-safe protected           Baud rate         10/100 Mb/s           USB1         USB 2.0         USB type C           Ingress protection         IP rating         IP 40 for indoor installation           Temperature         Storage         -40°C to +85°C (-40°F to +185°F)           Operating         0°C to +50°C (32°F to 122°F)           Humidity         Relative         5 to 95% RH (without condensation)           Type         Removable screw terminals           Screw connectors         Maximum cable size         2.5 mm2 (1812 AWG)           Maximum cable size         1.5 mm2 (2416 AWG)           Maximum cable size         1.5 mm2 (2416 AWG)           Maximum cable size			0.5 A at 20 V AC up to max. 230 V AC
Gate control   Zero crossing turn ON			·
Frequency range	Triac outputs	'	
Snubber Snubberless triac  RS485 Interface Up to 128 devices Half- duplex  Communication protocol Modbus RTU  Ports RJ45 + screwless connector  Baud rate 4800-115200  Power supply for external device 2 ports, fail-safe protected  ETH1 Baud rate 10/100 Mb/s  USB1 USB 2.0 USB type C  Ingress protection IP rating IP 40 for indoor installation  Temperature Storage -40°C to +85°C (-40°F to +185°F)  Humidity Relative 5 to 95% RH (without condensation)  Type Removable screw terminals  Screw connectors  Screwless connector  Maximum cable size 1.5 mm2 (1812 AWG)  Material Self-extinguishing plastic (PC/ABS)  Housing Mounting 2 screw holders  Width 123.3 mm/4.85 in  Dimensions Length 136.6 mm/5.38 in			-
RS485 Interface			
COM1  RS485 Interface  Communication protocol  Ports  RJ45 + screwless connector  Baud rate  Power supply for external device  ETH1  Baud rate  Baud rate  Power supply for external device  Ethernet Interface  Ethernet Interface  Baud rate  Baud rate  10/100 Mb/s  USB 1  USB 2.0  USB type C  Ingress protection  IP rating  IP 40 for indoor installation  Storage  -40°C to +85°C (-40°F to +185°F)  Operating  O°C to +50°C (32°F to 122°F)  Humidity  Relative  Storew connectors  Maximum cable size  Type  Removable screw terminals  Maximum cable size  1.5 mm2 (2416 AWG)  Material  Material  Self-extinguishing plastic (PC/ABS)  Housing  Midth  Dimensions  Length  Haff- duplex  Modbus RTU  Modbus RTU  Rel40  10 Modbus RTU  Modbus RTU  Rel40  10 Modbus RTU  Rel400-115200  30 V DC  2 ports, fail-safe protected  2			
COM1 Ports RJ45 + screwless connector Baud rate 4800-115200 Power supply for external device 30 V DC  Ethernet Interface 2 ports, fail-safe protected Baud rate 10/100 Mb/s  USB1 USB 2.0 USB type C Ingress protection IP rating IP 40 for indoor installation  Temperature Operating 0°C to +50°C (32°F to 122°F)  Humidity Relative 5 to 95% RH (without condensation)  Screw connectors Maximum cable size 2.5 mm2 (1812 AWG)  Maximum cable size 1.5 mm2 (2416 AWG)  Mounting DIN (DIN EN 50022 norm) 2 screw holders  Width 123.3 mm/4.85 in  Dimensions Length 136.6 mm/5.38 in			'
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Width         123.3 mm/4.85 in           Dimensions         Length         136.6 mm/5.38 in		Mounting	
Dimensions Length 136.6 mm/5.38 in	Dimensions	Width	
- C			
1 1.0.0.0.0 1 .7.17.11.11.17.2.1.7.11.1		Height	54.5 mm/2.15 in

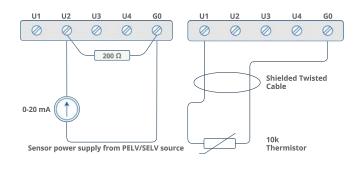
## **Power Supply**

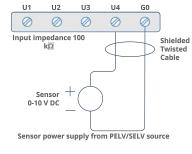


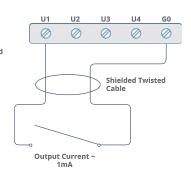
## **Communication**



## **Universal Inputs**

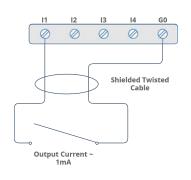


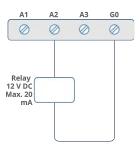


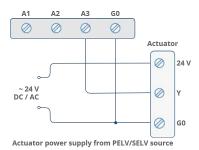


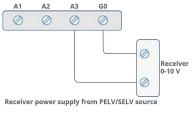
## **Digital Inputs**

## **Analog Outputs**

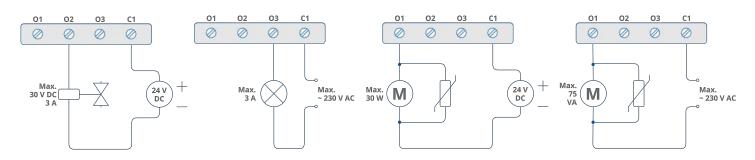




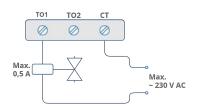




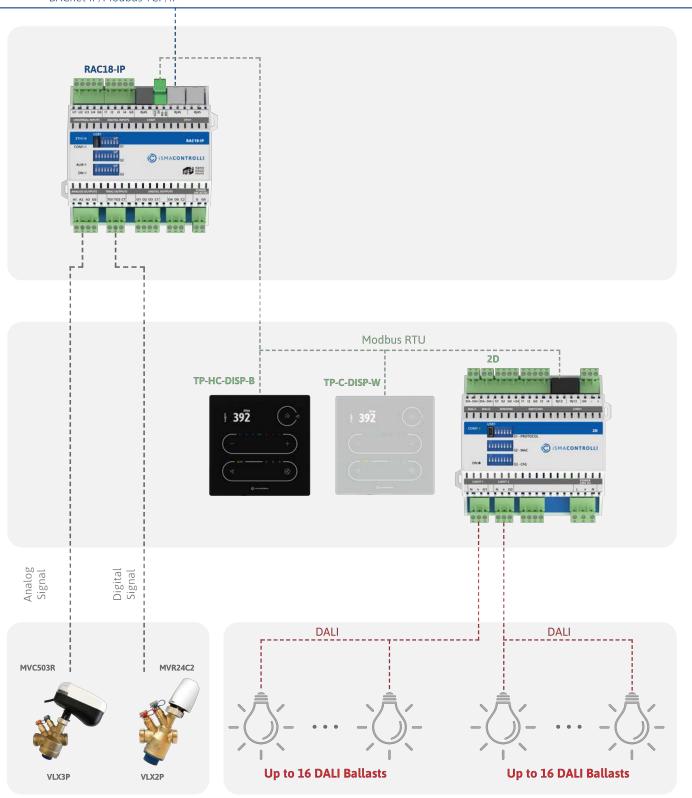
## **Digital Outputs**



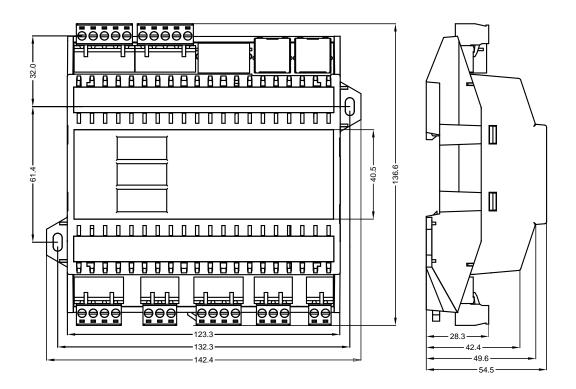
# **Triac Outputs**



## BACnet IP/Modbus TCP/IP



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