iSMACONTROLLI

Comfort Management

Integrated comfort management to reduce energy cost while providing an optimal environment in commercial buildings

Comfort Management
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iSMACONTROLLI

Take control over your building's climate with the iSMA CONTROLLI Comfort Management Solution. A wide range of configurable and programmable controllers and modern-looking wall panels will fit into almost any new building design or a renovation project. Use ready-made control applications or create your own control algorithms to enhance the building occuants comfort, reduce energy consumption and greenhouse gas emissions.

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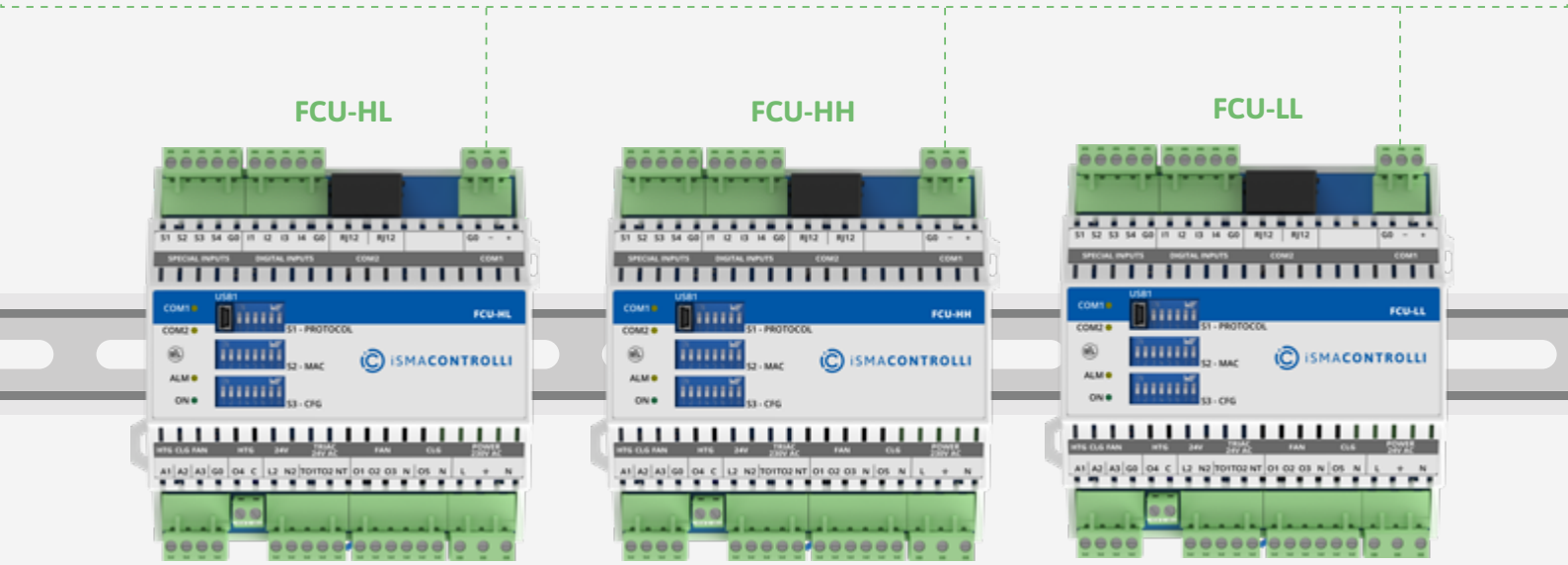
Zone Controllers
FCU Controllers



Unique 2-in-1 Device
Configurable and freely programmable controller for fan coil units. Provides a complete, proven, effective control of the climate in the room. It allows for out-of-the-box configuration or designing tailor-made applications to meet the specific requirements of the building.

Powerful Configurable Application
To minimize time and simplify the commissioning process the FCU controller is delivered with a built-in application, which supports the most popular types of fan coil units. Dedicated DIP switches allow for adjusting parameters of the application.

Open Communication
Powerful FCU controllers are equipped with two RS485 interfaces with open protocols, BACnet MS/TP and Modbus ASCII/RTU, enabling integration of up to 128 devices on one bus.

See application example on page 14

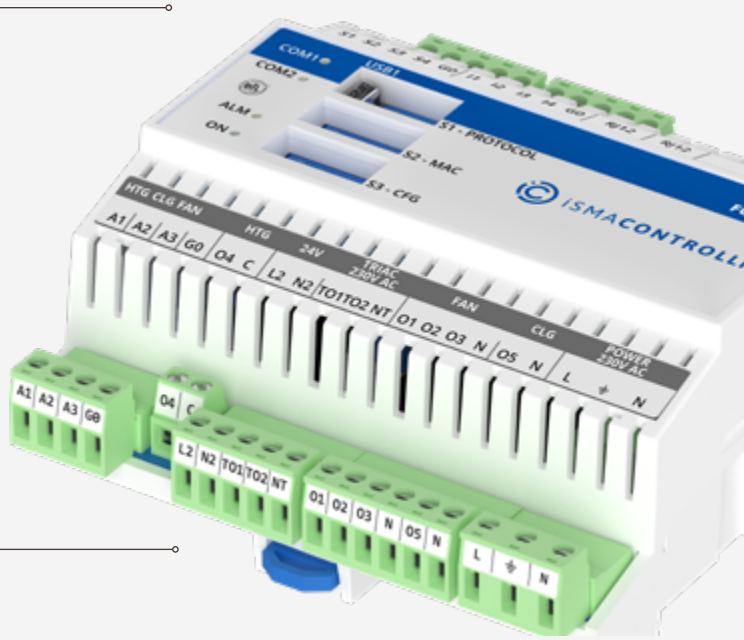
Key Functionalities and Features

BACnet MS/TP
FCU controllers are equipped with Building Automation and Control Networks (BACnet) protocol and are certified by the official BACnet Test Laboratories (BTL).

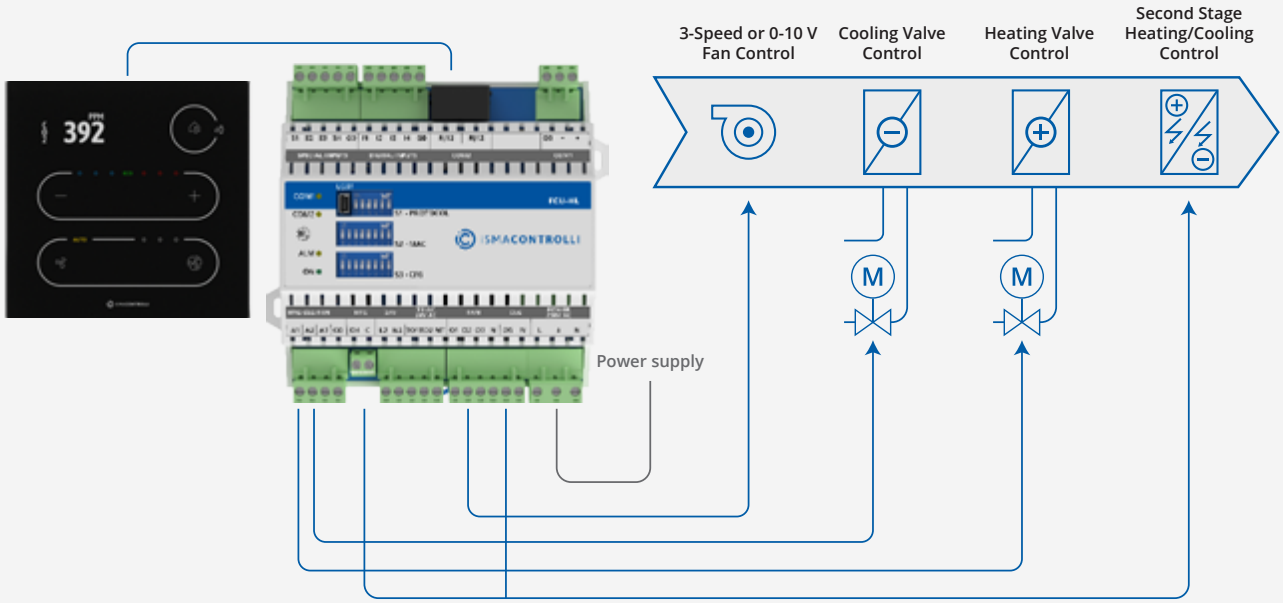
Modbus RTU/ASCII
Modbus is one of the most-used protocols in industrial electronic devices.

Pre-loaded Application
Ready to use application for 256 types of fan coil units.

Serial Bus Interface
With open protocols, BACnet MS/TP and Modbus RTU/ASCII. You can connect up to 128 devices on one bus.



Zone Controllers
FCU Controllers



Inputs and Outputs Suitable for a Wide Range of FCU Applications

Dedicated special and digital inputs are designed to work with the most commonly used sensors. Relay, triac, and analog outputs are suitable for controlling various types of fans, actuators, heaters, and coolers.

Experience the Freedom of Control...

iSMA-B-FCU works as a freely programmable controller with Modbus RTU/ASCII and BACnet MS/TP protocols onboard. The possibility of a tailor-made application creation with the power and flexibility offered by the Sedona Framework makes the controller useful not only for fan coil control.

...Offered by the Sedona Framework

Sedona is an open-source software environment designed to make it easy to build smart, networked, embedded devices, which are well-suited for implementing control applications.

Quality and Reliability Confirmed by Certificates

iSMA CONTROLLI is a long-standing member of the BACnet community. The experience in developing high-quality products and the BTL (BACnet Test Laboratory) certification confirm the excellent performance of communication using the BACnet protocol.

18 Inputs and Outputs

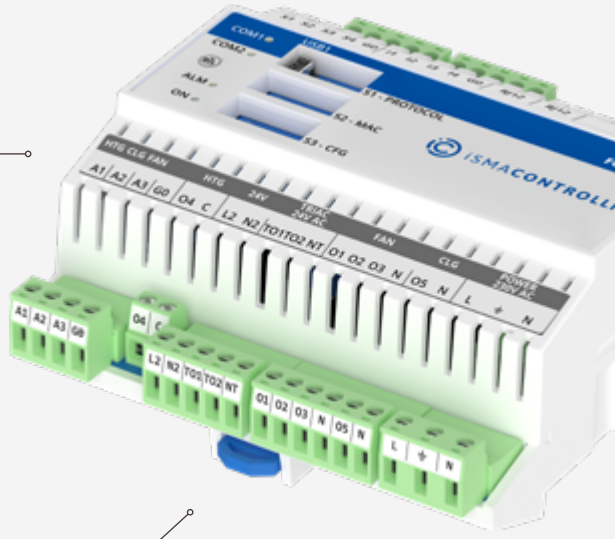
4 Special Inputs
Support for the most popular types of temperature sensors, ability to read voltage, resistance, current, and dry contact measurements with a fast pulse counter saving up to 100 pulses per second directly to the EEPROM memory.

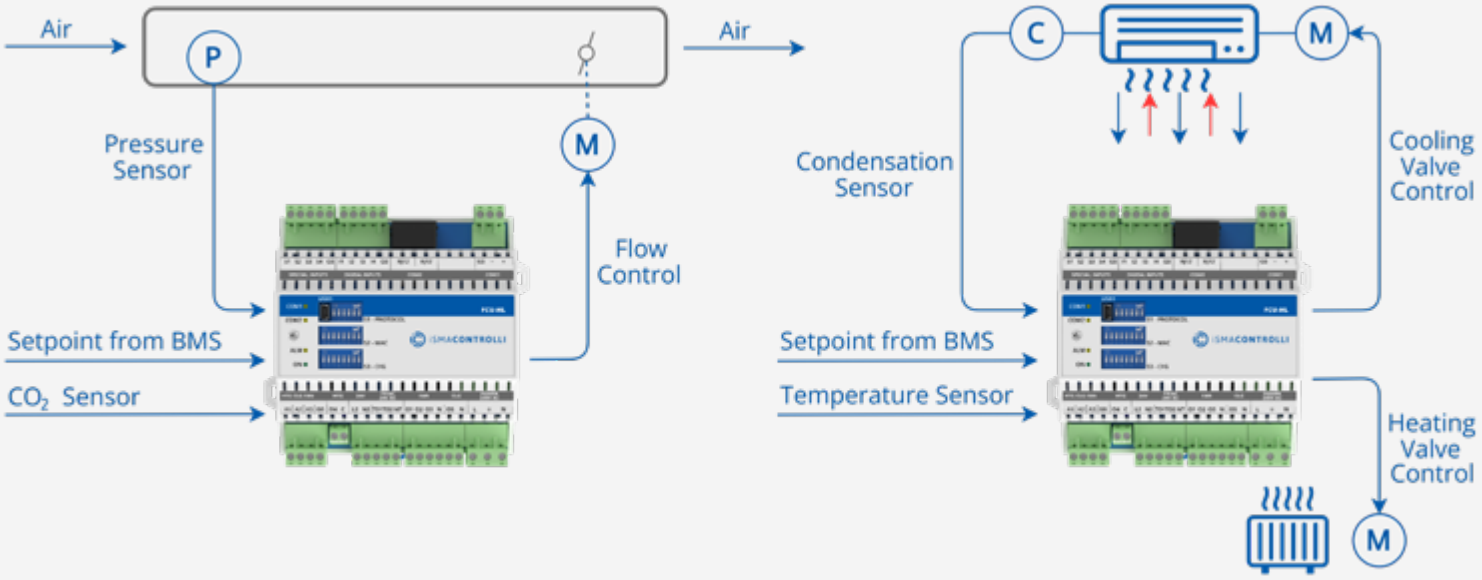
4 Digital Inputs
Dry contact inputs - made for monitoring. 100 Hz fast pulse counter with override function saves the real-time values to the EEPROM memory.

3 Analog Outputs
0-10 V DC analog outputs dedicated for a heating actuator, cooling actuator, and fan speed control.

5 Digital Outputs
Equipped with normally open: 3 digital outputs (6 A) for fan control, 1 digital output (10 A) for electric heater, and 1 digital output (6 A) for cooling valve actuator.

2 Triac Outputs
Triac outputs dedicated to heating and cooling thermal valve actuators.

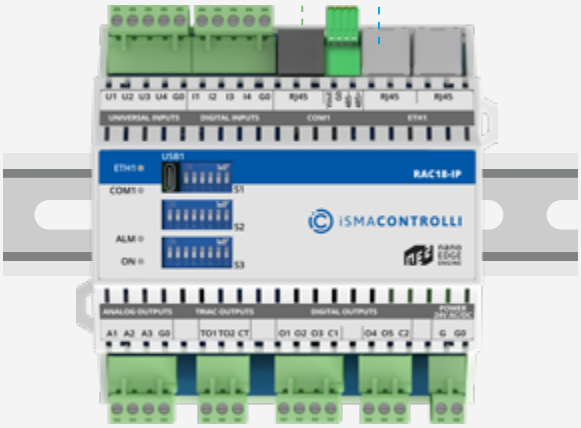




Room Application Controller

TP-C-DISP-B

RAC18-IP



Room and Zone IP Management

The RAC18-IP controller is a multifunctional device providing comfort in a single room or a zone in the building. Onboard 18 I/O's with Ethernet and serial ports, and additional extension cards make the controller a versatile system for comfort management, light and blind control, integration and monitoring.

High-end Technology at the Edge

Powerful, IoT-ready nano EDGE ENGINE allows unprecedented capabilities, for a microcontroller-based device. Take advantage of the time-saving automatic BACnet exposure, real-time programming, and cloud connectivity.

Openness and Reliability

Take advantage of the IP connectivity with open protocols like MQTT, BACnet, Modbus and ensure the highest energy efficiency for your building with any supervisory system. Daisy chained RAC18-IP controllers are protected by a unique fail-safe system on each Ethernet port to provide maximum reliability.

Seamless Programming and Maintenance

Maintain and program your device from anywhere in real time with a dedicated, free of charge tool. Easy replacement process with a system and user data based on removable SD card.

See application example on page 14

18 Inputs and Outputs

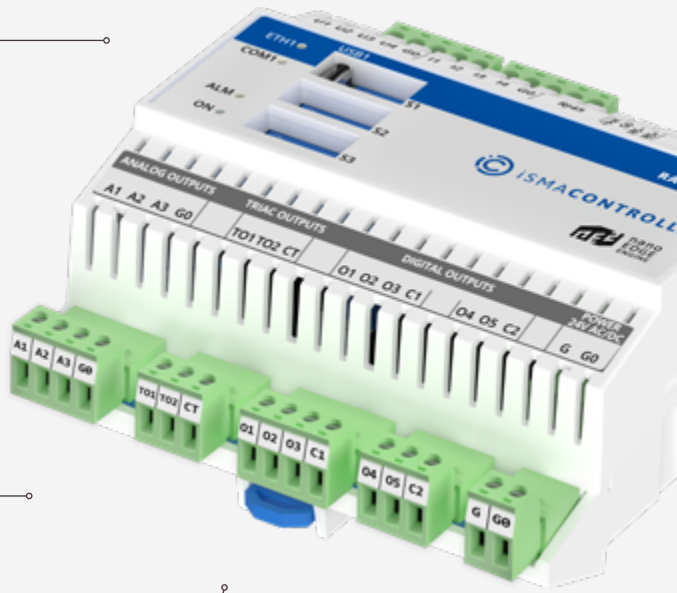
4 Universal Inputs
Support for over 20 types of temperature sensors and voltage, resistance, current, and dry contact measurements on each universal input.

4 Digital Inputs
Dry contact inputs - made for monitoring. 100 Hz fast pulse counter with an override function saves the real-time values to the EEPROM memory.

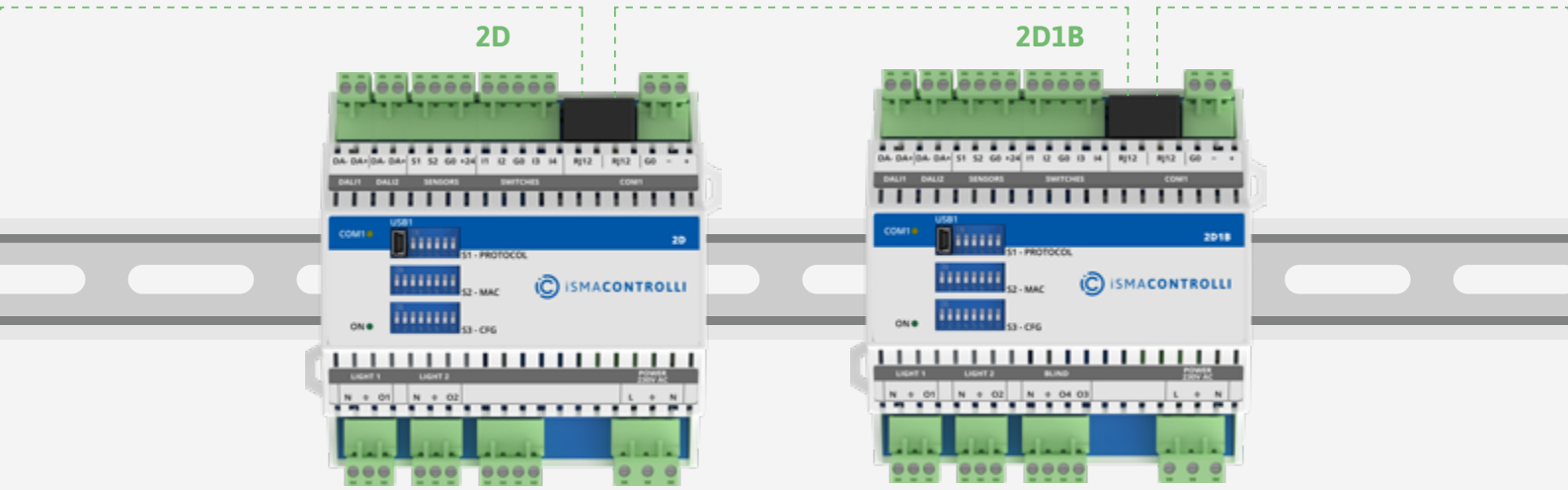
3 Analog Outputs
0-10 V DC control with 10 mA accuracy, PWM modes, and a maximum load of up to 20 mA to power external relays make the output suitable for a variety of scenarios.

5 Digital Outputs
Equipped with normally open 3 A relays allow for direct control without additional relays.

2 Triac Outputs
Triac outputs dedicated to heating and cooling thermal valve actuators.



Light & Blind Controllers
2D and 2D1B Controllers



Experience Our Light and Blind Controller

To minimize time and simplify the commissioning process the controllers are delivered with a built-in application, which supports the most popular light control applications in a single space in a building. The controller is dedicated to control two separate DALI light areas with up to 32 DALI ballasts. The 2D1B can additionally control blind/shutter motor.

Simplified Configuration and Commissioning Process

The 2D and 2D1B controllers are ready for operation out of the box, you just have to configure the controller using built-in DIP switches.

Open Communication

Light and Blind controller is equipped with RS485 interfaces with open protocol Modbus RTU/ASCII. You can connect up to 128 devices on one bus.

Two Hardware Versions

Light and Blind controllers can be equipped with Wieland connectors: 2D-WD and 2D1B-WD.

See application example on page 14

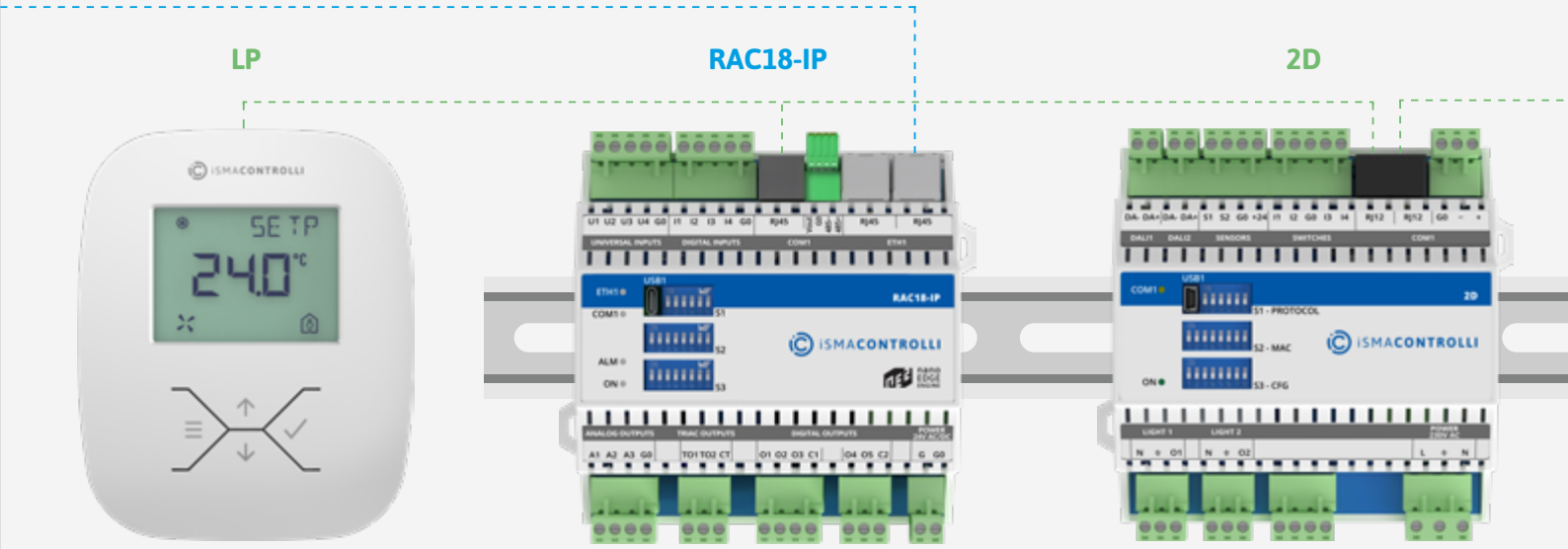
Inputs and Outputs

2 Special Inputs
Built-in two special inputs are designed to control the light via connected motion sensors or presence detectors.

4 Digital Inputs
Two input for control of the light by connected monostable or bistable switches, and, in 2D1B, two inputs for a blind/shutter up and down movement control.

2 Light Outputs
Fuse-protected light outputs 230 V AC, with a maximum 4 A load. The outputs can work in two modes: DALI or ON/OFF.

1 Blind Output
The 2D1B controller has one double-blind output dedicated for a blind/shutter control.



Wall Panels
Touch Point

TP-C-DISP-B

TP-HC-DISP-W

TP-H-B

Modern and Smart Design

High-end technology packed in just a 14 mm thick glass panel makes it one of the slimmest devices on the market. A user-friendly interface of the front glass panel with interactive icons makes the TP fit perfectly in commercial buildings, hotels, offices, meeting rooms, and other places that need a touch of class.

Intuitive Management

Touch Point (TP) panels interact with a user with LEDs that indicate a working status of the device. The display shows the real-time measurements from sensors.

Ease of Installation and Configuration

Install the TP your way. Suitable for surface and flush mounting, the Touch Point panel offers effortless configuration using network protocols or a built-in USB port, even without an external power supply.

Ultimate Flexibility

Select the color, sensor type, and display option. The Touch Point is available in a variety of configurations, to suit your building perfectly. Available with a set of temperature, CO_2 and humidity sensors.

Key Functionalities and Features

BACnet MS/TP & Modbus RTU/ASCII
All TP panels are equipped with the most popular protocols in building automation: BACnet and Modbus.

Cutting Edge Design
Glass front panel and two color versions (black and white) make TP panels fit to all modern interiors.

Seamless Installation
2 RJ45 for easy connection and daisy chaining of multiple panels. Additional screw terminal RS485 interface.

Configuration
Free software: iSMA Configurator.

Wall Panels
LP and SP

iSMA-B-LP

iSMA-B-LP-H

iSMA-B-LP-C

iSMA-B-LP-HC

Intuitive Management

The LP panels interact with a user with a 2.3” LCD that indicates a working status of the device and shows the real-time measurements from sensors. Four function buttons allow for setting the desired parameters.

Unlimited Configuration Possibilities

Panels are equipped with a special group of Modbus registers and BACnet objects that can be used by the user to freely display and control lights, blinds, alarms and set occupancy statuses.

Ease of Installation and Configuration

Suitable for surface and flush mounting, the LP panel offers effortless configuration using network protocols or a built-in USB port, even without an external power supply.

Ultimate Flexibility

LP panels are available with a set of temperature, CO2, and humidity sensors in different configurations depending on a selected model.

See application example on page 16

Key Functionalities and Features

BACnet MS/TP
LP panels are equipped with Building Automation and Control Networks (BACnet) protocol.

Modbus RTU/ASCII
Modbus is one of the most used protocols in industrial electronic devices.

Seamless installation
2x RJ12 for easy connection to iSMA-B-FCU and daisy chain connection of multiple panels.

Four configuration options
iSMA Configurator, locally on the panel or via Modbus or BACnet network.

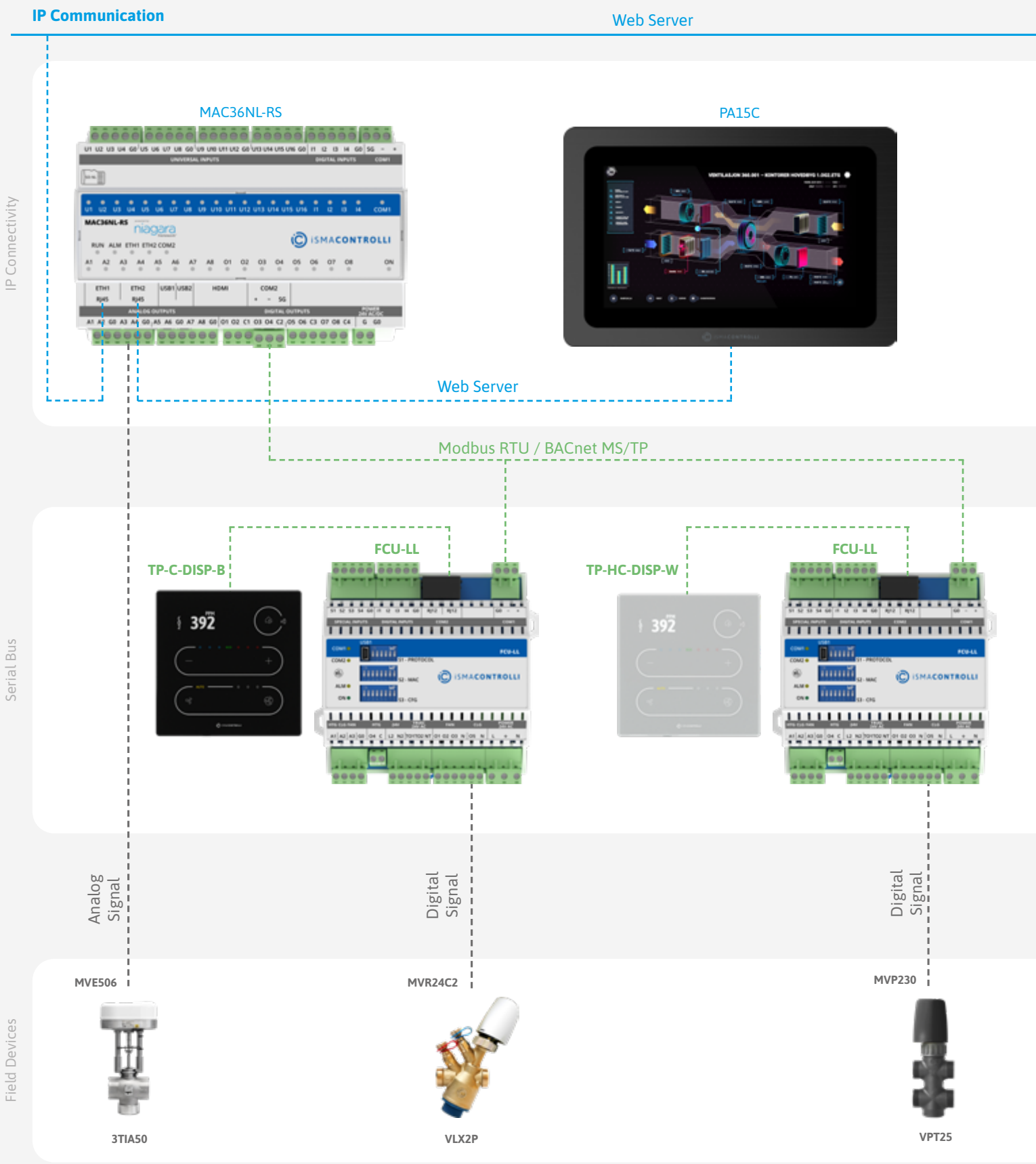
Simple Panel

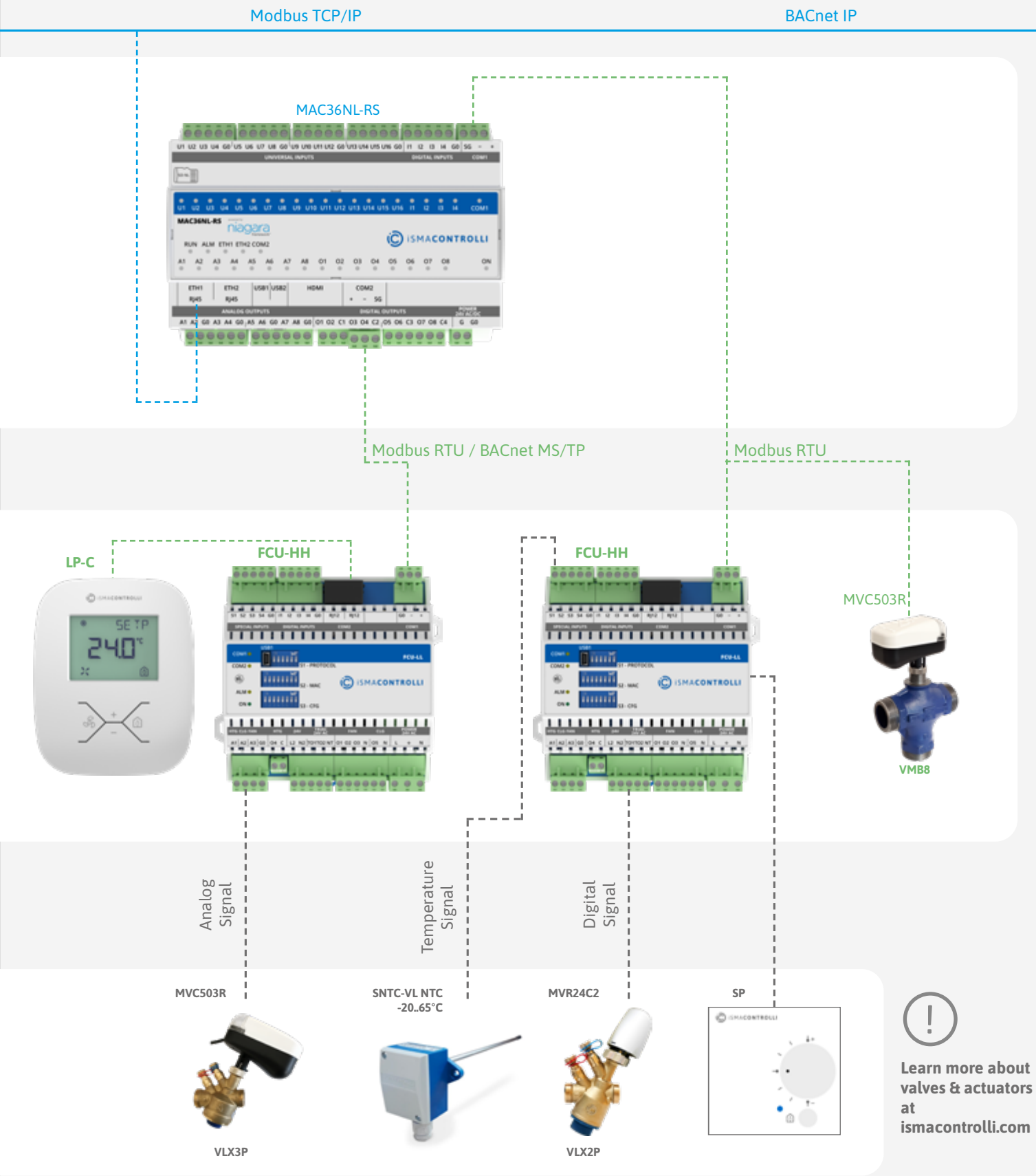
Key Functionalities and Features

Cost-effective Wall Panel
Wall panel with a potentiometer, status LED, function button and built-in temperature sensor.
The device is designed for those who are looking for a cost-effective solution. Compact size and clear style make the device friendly to architects and building owners.

Seamless Configuration with FCU controller
SP panel is ready to use with FCU controllers without a need for any configuration.
Wall panel connected with FCU controller creates a cost-effective solution for comfort management and energy saving.

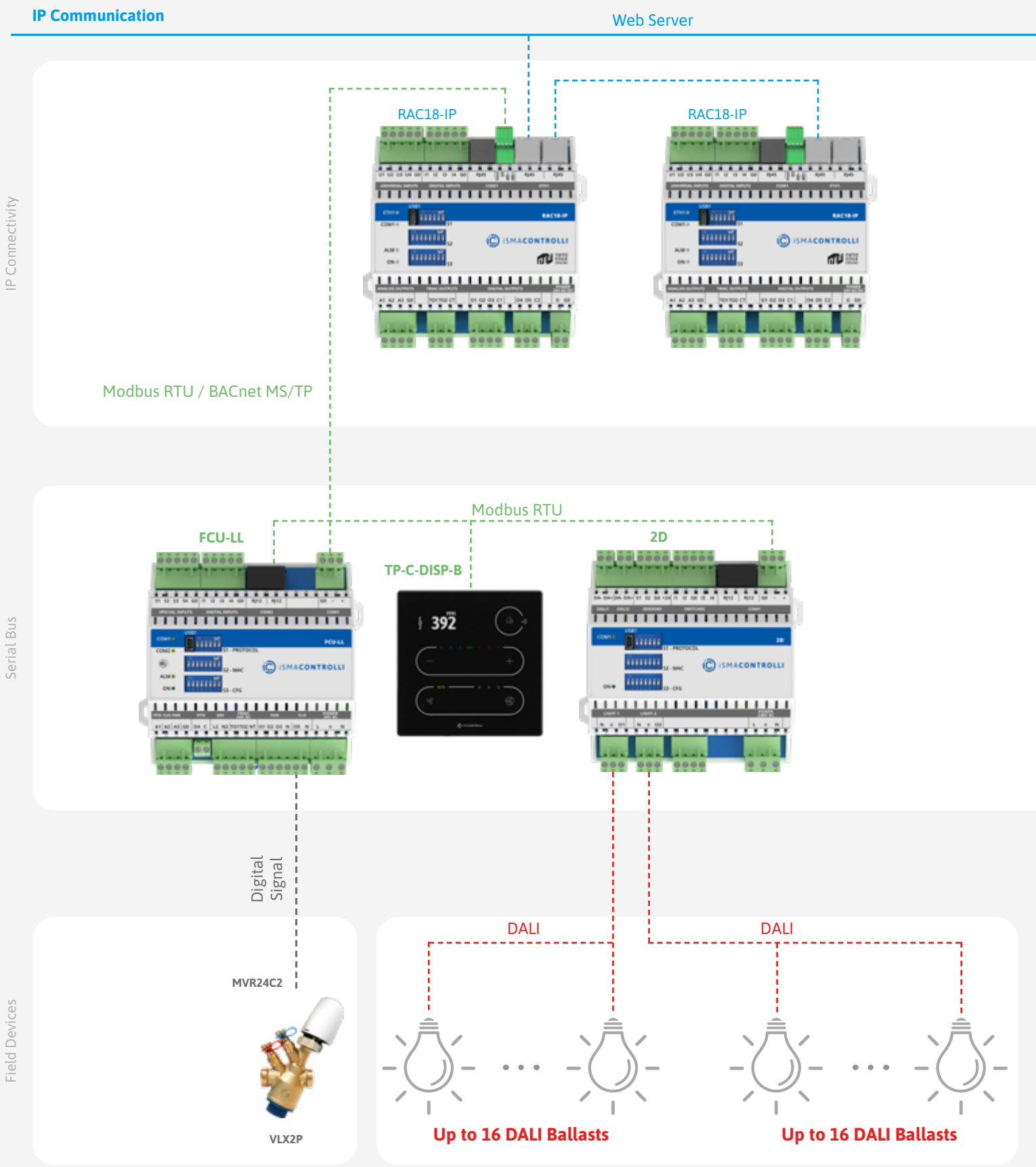
Comfort Management
Application Example

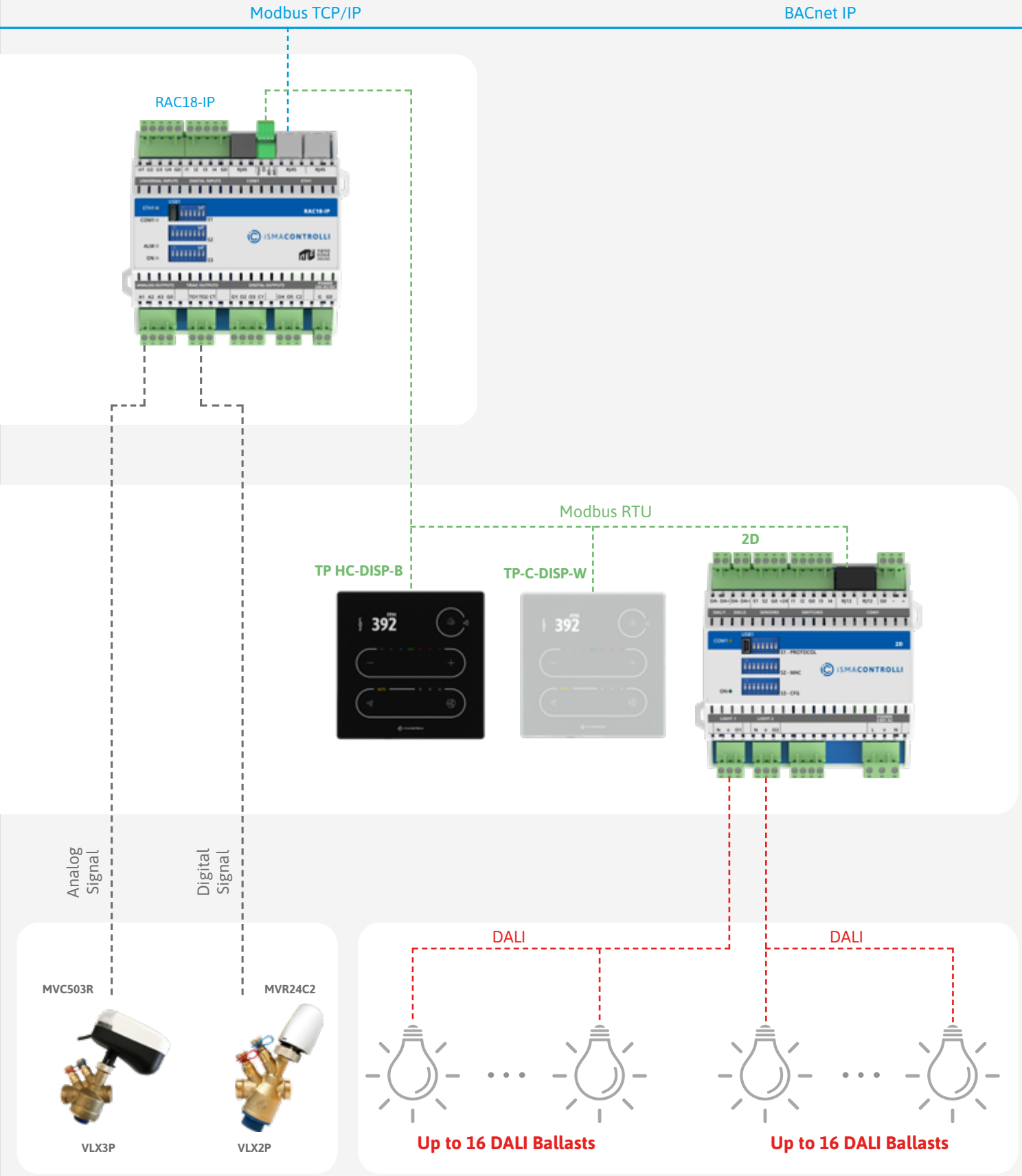




Learn more about valves & actuators at ismacontrolli.com

Comfort Management
Application Example




Modbus TCP/IP
BACnet IP
RAC18-IP
Modbus RTU
TP HC-DISP-B
TP-C-DISP-W
2D
Analog Signal
Digital Signal
MVC503R
MVR24C2
VLX3P
VLX2P
DALI
DALI
Up to 16 DALI Ballasts
Up to 16 DALI Ballasts

Software, Tools, and Applications

iSMA Tool, a Windows-based freeware programming tool made for iSMA CONTROLLI controllers.

Programming Tool Made for System Integrators
The iSMA Tool gives customers a convenient way to create and manage applications for iSMA CONTROLLI products. It allows for online programming and device management. It has been designed as a project-oriented software for easy management of hundreds of controllers on many sites.

Intuitive User Interface with Many Tweaks and Features
Device management is enhanced by the Workspace tree view, which can be created separately for each site. Devices can be grouped into projects, floors, and rooms. For programming configuration and maintenance, many different views have been created to improve a user experience while working with the iSMA Tool. The Wiresheet view allows for straightforward logic creation and component linking with diagram blocks. Logic can be created by simple drag-and-drop, using pre-defined functional blocks available from various Device kits. The Objects Properties view enhances setting parameters without leaving the Wiresheet view.

Key Features
- Free-of-charge, maintenance-free software
- Device and application management
- Workspace Tree to support the management of each site
- The Object Properties window for fast access to components parameters
- Working with many components at once with multislot edition and multiaction
- Trend management
- Schedules management
- History data export
- Multilanguage support

iSMA Modbus Tunnel, a Niagara service that opens a Modbus TCP/IP tunnel between a Niagara controller and a PC. It enables managing iSMA devices connected via RS485 to the Niagara controller.

Managing and Updating Serial Devices Connected Directly to the Niagara controller
The iSMA Modbus Tunnel service opens a Modbus TCP/IP tunnel between a Niagara controller and a PC, which enables managing iSMA devices connected via RS485 to the Niagara controller by using the dedicated iSMA software FCU Updater, or iSMA Configurator. Perform device updates, backup the FCU application, and take advantage of all the software features while being connected directly to the Niagara controller.

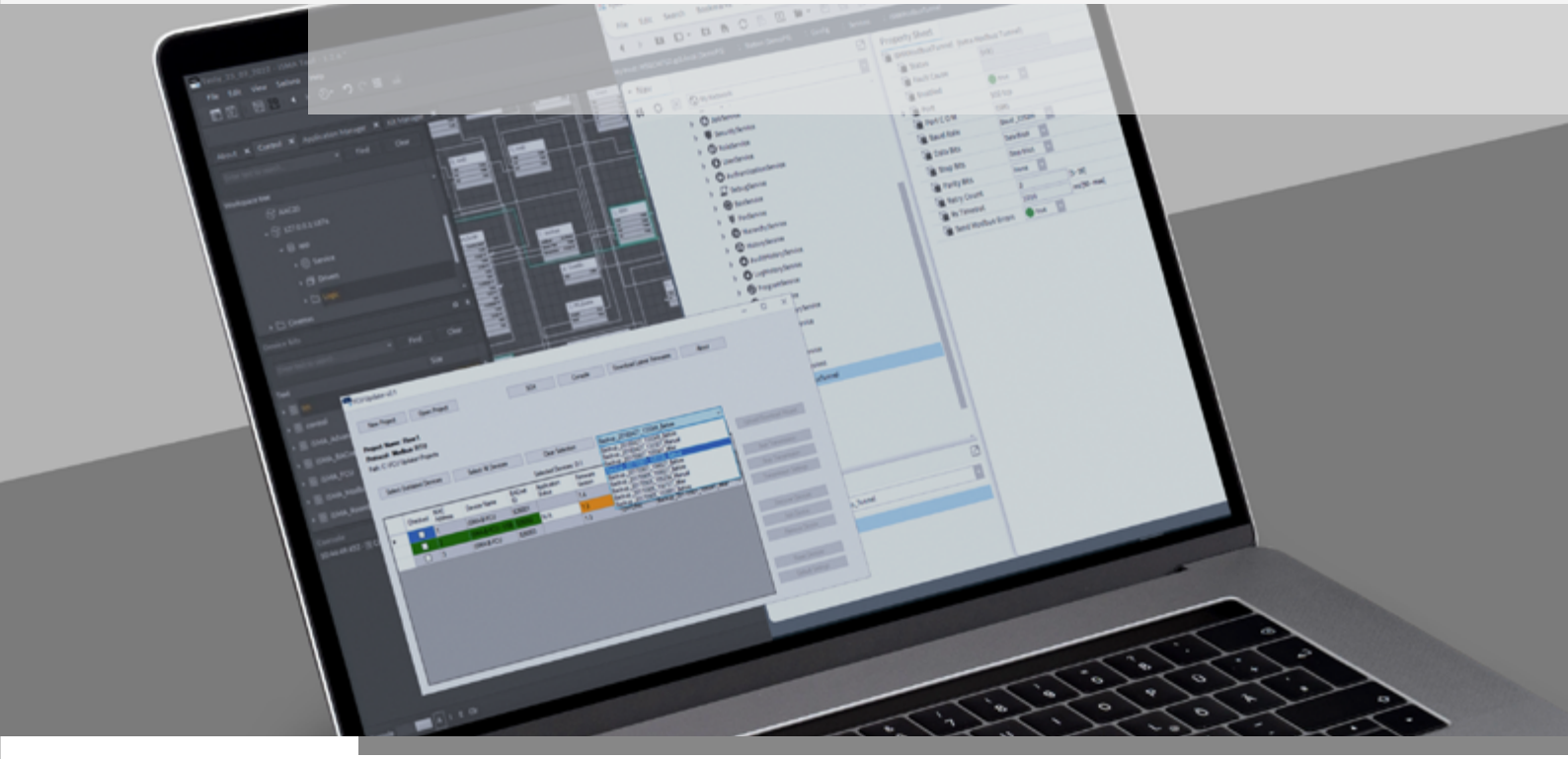
Works with all RS485 interfaces
One or more iSMA Modbus Tunnel modules can be added under services in the Niagara station. Each Tunnel can be connected with one COM port at a time. The COM port must not be occupied by any driver while using the iSMA Modbus Tunnel. The iSMA Modbus Tunnel opens a communication tunnel on the user-specified TCP port.

FCU Updater, a Windows-based freeware configuration tool made for FCU controllers and wall panels.

Multiple Device Management
The FCU Updater is a free software designed to manage multiple FCU controllers to enhance the maintenance of new and existing sites.

Simple and Time-saving
The FCU Updater is designed to guarantee the highest level of security against losing an existing application loaded on a device before any changes are made. The program always automatically backs up the application by downloading it to the local computer, where FCU Updater is running. In addition, the system always checks the compatibility of the FCU controller's firmware with the uploaded application before sending them to the controller.

Key features
- Project management
- Uploading the latest firmware versions
- Uploading new firmware to devices
- Uploading default or custom applications to devices
- Backing up an existing device application to a local PC
- Restore a previously saved application to one or more devices
- Resetting a device
- Restore default settings on multiple devices
- Starting/stopping the SOX protocol to support programming with the iSMA Tool
- Viewing internal logs on the console



iC Tool, a Windows-based freeware programming tool made for iSMA CONTROLLI nano EDGE ENGINE devices.

System Integrators Native Programming Tool
iC Tool covers all customers' requirements to create and manage applications for iSMA CONTROLLI products based on nano EDGE ENGINE. The IC Tool provides a clear and logical programming structure and allows for online programming and device management. It also allows for creating numerous independent, cycle-driven user applications that may work simultaneously on nano EDGE ENGINE devices.

Innovative Concepts of Intuitive User Interface
Convenient visual programming tool designed with engineers in mind. iC Tool offers real-time monitoring of system states, values, and logs. It provides a set of libraries and components tailored to create cycle-driven user applications. A significant part of an end-to-end solution that allows you to create network communication based on Data Points provided automatically exposes as a BACnet object.

Key Features
- Free-of-charge, maintenance-free software
- Clear and logical structure
- Data Points with automatic BACnet exposition
- Reference linking method
- Device, equipment and application management
- Workspace Tree to support the management of each site
- The Object Properties window for fast access to components parameters

iSMA Room Devices a palette made to enhance the iSMA CONTROLLI comfort management devices configuration and integration in the Niagara Framework.

Seamless Device Setup in the Niagara Framework
Take advantage of the dedicated palette with ready-made Modbus registers and BACnet IDs for each device, making the iSMA CONTROLLI devices configuration remarkably easier!

Dedicated for Comfort Management Products
The ready-to-use device components for iSMA CONTROLLI BACnet and Modbus wall panels and room controllers are equipped with device I/O points and configuration points, which significantly speeds up the integration of devices in the Niagara Framework.

Products Codes and Description

Comfort Management Zone Controllers

Product Code	Description
iSMA-B-FCU-HL	Configurable and freely programmable, powered by the Sedona Framework, controller for fan coil units with Modbus or BACnet communication. Equipped with 18 onboard I/Os, adapted to be supplied with 230 V AC voltage and 24 V AC triac control
iSMA-B-FCU-HH	Configurable and freely programmable, powered by the Sedona Framework, controller for fan coil units with Modbus or BACnet communication. Equipped with 18 onboard I/Os, adapted to be supplied with 230 V AC voltage and 230 V AC triac control
iSMA-B-FCU-LL	Configurable and freely programmable, powered by the Sedona Framework, controller for fan coil units with Modbus or BACnet communication. Equipped with 18 onboard I/Os, adapted to be supplied with 24 V AC voltage and 24 V AC triac control
RAC18-IP	Freely programmable Room Application Controller, RAC18-IP, with 4 UI, 4 DI, 5 DO, 3 AO, 2 TO, 1 RS485, 1 USB, and 2 fail-safe protected Ethernet ports. Power supply 24 V AC/DC

Comfort Management Light & Blind Controllers

Product Code	Description
iSMA-B-2D1B	DALI lighting and blind/shutter configurable controller with Modbus RTU communication
iSMA-B-2D	DALI lighting configurable controller with Modbus RTU communication
iSMA-B-2D1B-WD	DALI lighting and blind/shutter configurable controller with Modbus RTU communication. Equipped with Wieland connectors
iSMA-B-2D-WD	DALI lighting configurable controller with Modbus RTU communication. Equipped with Wieland connectors

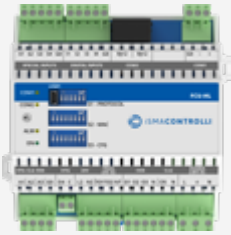
Comfort Management Wall Panels

Product Code	Description
TP-B	Black glass wall panel with touch buttons and temperature sensor. Power supply 24 V AC/DC
TP-H-B	Black glass wall panel with touch buttons, temperature and humidity sensors. Power supply 24 V AC/DC
TP-C-B	Black glass wall panel with touch buttons, temperature and CO2 sensors. Power supply 24 V AC/DC
TP-HC-B	Black glass wall panel with touch buttons, temperature, humidity, and CO2 sensors. Power supply 24 V AC/DC
TP-DISP-B	Black glass wall panel with TFT display, touch buttons, and temperature sensor. Power supply 24 V AC/DC
TP-H-DISP-B	Black glass wall panel with TFT display, touch buttons, temperature and humidity sensors. Power supply 24 V AC/DC
TP-C-DISP-B	Black glass wall panel with TFT display, touch buttons, temperature and CO2 sensors. Power supply 24 V AC/DC
TP-HC-DISP-B	Black glass wall panel with TFT display, touch buttons, temperature, humidity, and CO2 sensors. Power supply 24 V AC/DC
TP-W	White glass wall panel with touch buttons and temperature sensor. Power supply 24 V AC/DC
TP-H-W	White glass wall panel with touch buttons, temperature and humidity sensors. Power supply 24 V AC/DC
TP-C-W	White glass wall panel with touch buttons, temperature and CO2 sensors. Power supply 24 V AC/DC
TP-HC-W	White glass wall panel with touch buttons, temperature, humidity, and CO2 sensors. Power supply 24 V AC/DC
TP-DISP-W	White glass wall panel with TFT display, touch buttons and temperature sensor. Power supply 24 V AC/DC
TP-H-DISP-W	White glass wall panel with TFT display, touch buttons, temperature and humidity sensors. Power supply 24 V AC/DC
TP-C-DISP-W	White glass wall panel with TFT display, touch buttons, temperature, and CO2 sensors. Power supply 24 V AC/DC
TP-HC-DISP-W	White glass wall panel with TFT display, touch buttons, temperature, humidity, and CO2 sensors. Power supply 24 V AC/DC
iSMA-B-LP	Wall panel with 2,6” LCD display, control buttons and temperature sensor. Available in two button versions: for FCU and custom applications
iSMA-B-LP-H	Wall panel with 2,6” LCD display, control buttons, temperature and humidity sensors. Available in two button versions: for FCU and custom applications
iSMA-B-LP-C	Wall panel with 2,6" LCD display, control buttons, temperature and CO2 sensors. Available in two button versions: for FCU and custom applications
iSMA-B-LP-HC	Wall panel with 2,6” LCD display, control buttons, temperature, humidity, and CO2 sensors. Available in two button versions: for FCU and custom applications
iSMA-B-SP	Basic wall panel with potentiometer, built-in temperature sensor, push button, and status LED

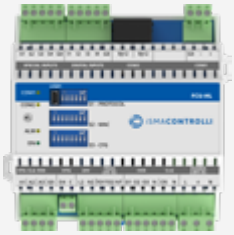
Comfort Management Solution Summary

Zone Controllers
FCU Controllers

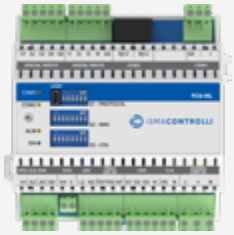
FCU-HL



FCU-HH

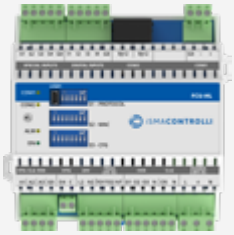


FCU-LL



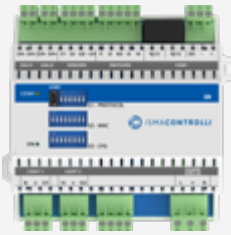
Zone Controllers
Room Aplication Controller

RAC18-IP

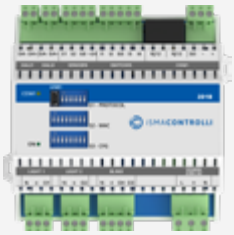


Light & Blind Controllers
2D & 2D1B Controllers

2D



2D1B



2D-WD

2B1D-WD

Wall Panels

Simple Panel

Wall Panels
Touch Point Family

TP-B

TP-H-B

TP-C-B

TP-HC-B

TP-DISP-B

TP-H-DISP-B

TP-C-DISP-B

TP-HC-DISP-B

TP-W

TP-H-W

TP-C-W

TP-HC-W

TP-DISP-W

TP-H-DISP-W

TP-C-DISP-W

TP-HC-DISP-W

Wall Panels
LCD Panels Family

LP

LP-H

LP-C

LP-HC

iSMACONTROLLI

We are the capital group operating in the field of building automation. Our purpose is to build an international brand that helps to make the buildings better places to live and work through innovative solutions for wellbeing, intelligence, sustainability, and efficiency. We create the world of intelligent, eco and advanced ideas, offering the perfect solution for projects of all sizes, implemented in both new and existing BMS systems and increasing living comfort and energy savings. We are iSMA CONTROLLI.

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