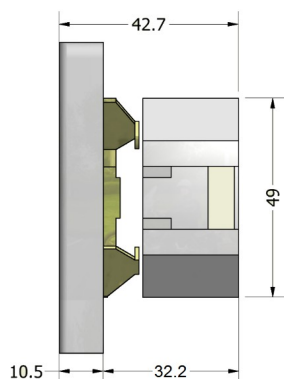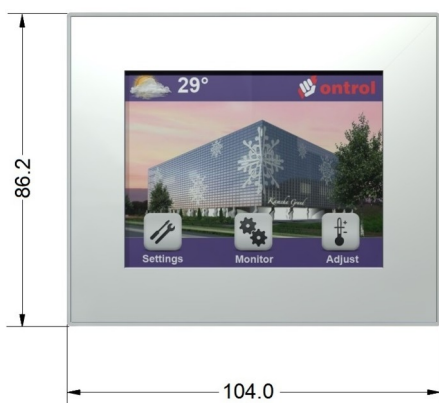# ontrol

- 3.5" resistive color touch-screen
- Freely programmable
- Fully customizable graphics
- Powered by Sedona Framework
- Integrated temperature sensor
- Optional relative humidity sensor
- Multiple communication ports
- KNX option
- Belimo MP-Bus option
- Dali (Digital Addressable Lighting Interface) option
- DMX driver available
- Low profile, only 10.5 mm thick
- Optional Input/output modules optimized for terminal units

Dimensions (mm)

Specifications

Operating voltage and power consumption	24 Vac/dc 2,5 VA
Mounting	Flush wall mount using - standard round electrical box, 60 mm axles distance, min. 45(40)mm depth (both frame styles) - standard UK style box 86x86 mm (frame style 2 only) Surface mount backbox option
Display	3.5" Resistive touch-screen 320x240 pixel resolution 65K colors
Operating Temperature Storage Temperature Relative Humidity	5..50 ºC -25..+75 ºC %5...95 rh, non-condensing
Weight	165 gr (225 gr with packaging)
Protection	IP30 according to EN 60529
Connections	Screw terminals, max 1 mm² (26-16 AWG)
Communication Ports (depending on version)	Port 1: Main RS485 (BacNET Slave, Modbus RTU master or slave) or KNX Port 2 : Auxiliary RS485 (Modbus RTU master) Port 3: DALI (Master) Port 4: Belimo MP-Bus (Master)
Programming Port	Standard Micro USB cable

Versions

Two parts need to be ordered to make-up a R-ION:
RS or RH... Display
B... Base

Replace last 'x' in part number with color code:
W: White   B: Black

	ports				senso		Frame Style 1	Frame Style 2
	1		2	3	4			
	RS485	KNX TP	RS485 / MU	Dali	MP-Bus	Temperature	Humidity	
Primary Comms: RS485 (BACnet MSTP Slave, Modbus RTU)	✓		✓	✓		✓		RS-S-D-x	RS2-S-D-x
	✓		✓	✓		✓	✓	RH-S-D-x	RH2-S-D-x
	✓		✓	✓	✓	✓		RS-S-DB-x	RS2-S-DB-x
	✓		✓	✓	✓	✓	✓	RH-S-DB-x	RH2-S-DB-x
Primary Comms : KNX TP		✓	✓	✓		✓		*Not available*	RS2-K-D-x
		✓	✓	✓		✓	✓		RH2-K-D-x
		✓	✓	✓	✓	✓			RS2-K-DB-x
		✓	✓	✓	✓	✓	✓		RH2-K-DB-x

BASE			
In-wall (flush) base *(use with RS485 primary comms displays)*		BF	B2F
Surface mount base – *specify color: white or black*		*Not available !*	B2S-X-x

| Custom color/material/finish front-plate (only for RS2-.. types) | | *Not available !* | **ask** |

R-ION System Description

Overview
R-ION series products are programmable room controllers ideal for managing a wide range of individual building products such as fan-coil units and VAV boxes.

Extremely flexible customization options are available thanks to configurable color touchscreen, full programmability, custom logo possibility and various style/color options.

The unit has no on-board inputs & outputs, but is able to connect to a multitude of external IO, due to multiple communication ports and protocols. Integrated temperature sensor is standard in all versions. The unit can also be ordered in a temperature plus relative humidity sensing configuration.
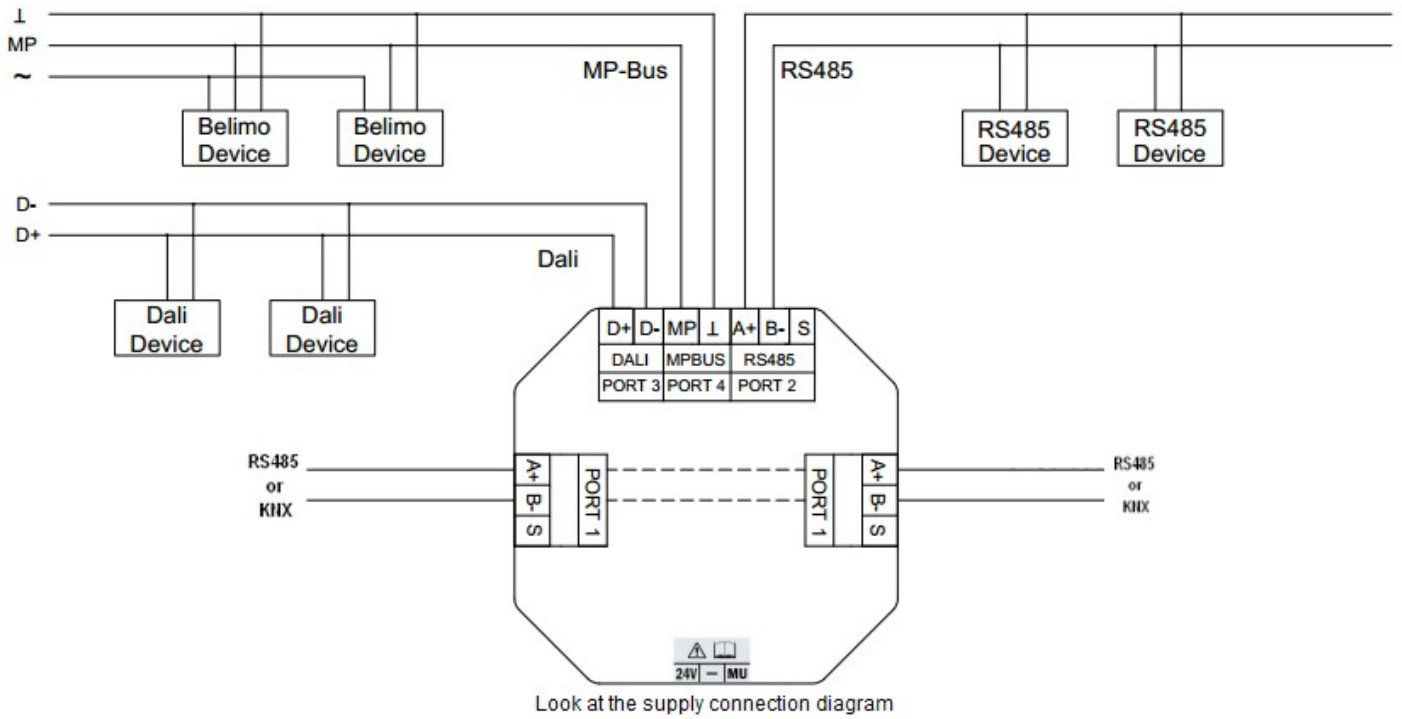
In addition to basic fan-speed and temperature settings, lighting controls can easily be integrated, as well as custom application specific functions (e.g. Do Not Disturb / Make Up Room buttons for hotel rooms).

Display / User Interface
3.5" resistive color touch-screen. 65K colors.
The display pages and user interface is freely customizable by a systems integrator. Multiple pages can be configured with various widgets for displaying / modifying values.

Communications
R-ION controllers support various industry standard protocols simultaneously. The main supervisory system communication (Port 1) is serial RS485 or KNX depending on basic version:

- Serial ports support BACnet MSTP (slave) and Modbus RTU (master and/or slave) or
- KNX

Optionally, one or more of the following auxilliary communication ports may be available:

- Second RS485 port (Modbus & DMX drivers available)
- Belimo MP-Bus port
- DALI (Digital Addressable Lighting Interface) port

Powered by SEDONA Framework
The Sedona Framework™ provides a complete software platform for developing, deploying, integrating, and managing pervasive device applications at the lowest level. It brings the power of programmable control and the Internet down to extremely inexpensive devices. The Sedona Framework distributes decision making control and manageability to any device and brings intelligence and connectivity to the network edge and back.

Connection Diagram

⊥
MP
~

Belimo Device   Belimo Device

MP-Bus   RS485

RS485 Device   RS485 Device

D-
D+

Dali Device   Dali Device

Dali

D+	D-	MP	⊥	A+	B-	S
DALI		MPBUS		RS485		
PORT 3		PORT 4		PORT 2		

RS485 or KNX — A+ B- S | PORT 1 - - - - - - PORT 1 | A+ B- S — RS485 or KNX

⚠ 📖
24V — MU

Look at the supply connection diagram

Power Supply Options

D+	D-	MP	⊥	A+	B-	S
DALI		MPBUS		RS485		

A+ B- S --------------- A+ B- S

⚠ 📖
24V — MU

−	+
MU	

R/MIO or R/TIO Module

D+	D-	MP	⊥	A+	B-	S
DALI		MPBUS		RS485		

A+ B- S --------------- A+ B- S

⚠ 📖
24V — MU

+ −
24 VDC

D+	D-	MP	⊥	A+	B-	S
DALI		MPBUS		RS485		

A+ B- S --------------- A+ B- S

⚠ 📖
24V — MU

~ ⊥
24 AC