

Roombox is a new innovative device for electrical distribution, protection, electrical energy metering and control for lighting, shutter and HVAC circuits in office buildings.

## 2 or 3 applications:

- Lighting circuits supply and control.
- Heating ventilation and air conditioning (HVAC) circuits supply and control.
- Shutter/roller blinds circuits supply and control.

DB123797



Roombox

DB123795



Left-hand side shutter output



Right-hand side shutter output



Window-side dimmable lighting output



Corridor-side dimmable lighting output



HVAC output  
(230 V valve actuator KNX only)



Window-side ON/OFF lighting output



Corridor-side ON/OFF lighting output

## Function

### Electrical distribution

- Power input: 1 x single phase 16 A, 230 V, +10 %, -15 % - 50 Hz (2.5 mm<sup>2</sup> cable).
- Power output: 12 x single phase of 600 VA max (1.5 mm<sup>2</sup> cable).

### Electrical protection

- Incomer main protection: 16 A, C curve.
- Individual output protection with warranted selectivity.
- Protection via static switch technology against:
  - short circuit: I<sub>cc</sub> = 10 kA
  - overload: I<sub>n</sub> = 2.6 A
  - earth leakage: I<sub>Δn</sub> = 10 mA.
- Remote reset capability of static switch.

### Energy metering

- Class 1 Energy meter providing kW/h reading for:
  - total roombox consumption.
- Class 2 Energy meter providing kW/h reading for:
  - total lighting consumption
  - total HVAC electrical consumption.

### Control

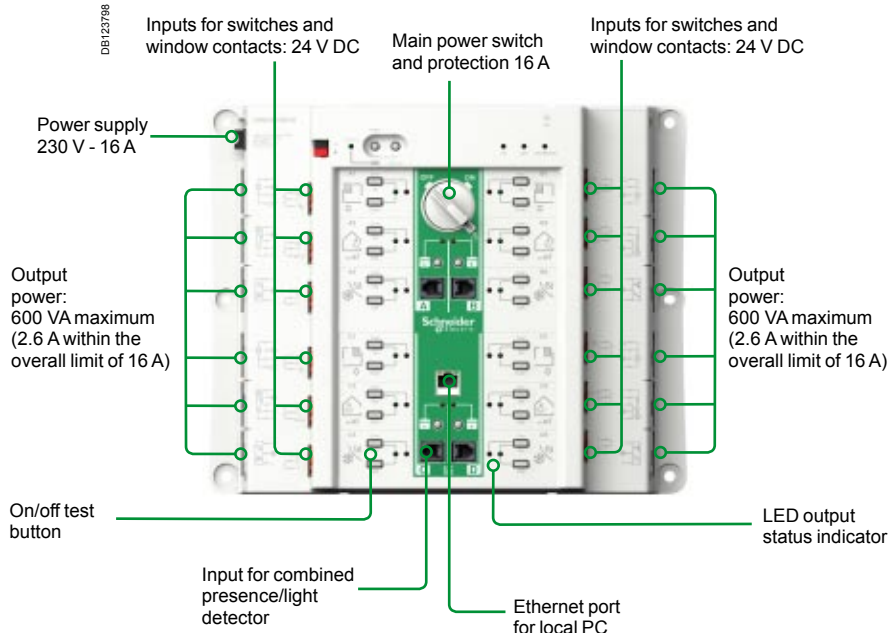
- Inputs:
  - 12 digital input for single / double gang push button or window contact
  - 4 combined analog and digital input for presence detection and light level sensor
  - optional RF zigbee antennae module compatible with self powered switches form Schneider Electric.
- Controlled outputs (as per reference):
  - lighting circuits: ON/OFF, Dimming – DALI
  - automated shutters and blinds: UP/DOWN/TILT (slat angle change) on 220-240 V motors
  - power supply to HVAC terminal controller or supply and control of 230 V valve (KNX only).
- Communication protocols: KNX and LON.
- Configuration:
  - automatic inputs recognition with predefined settings and assignment
  - easy local zone assignment
  - predefined energy optimisation scenario.

## Installation

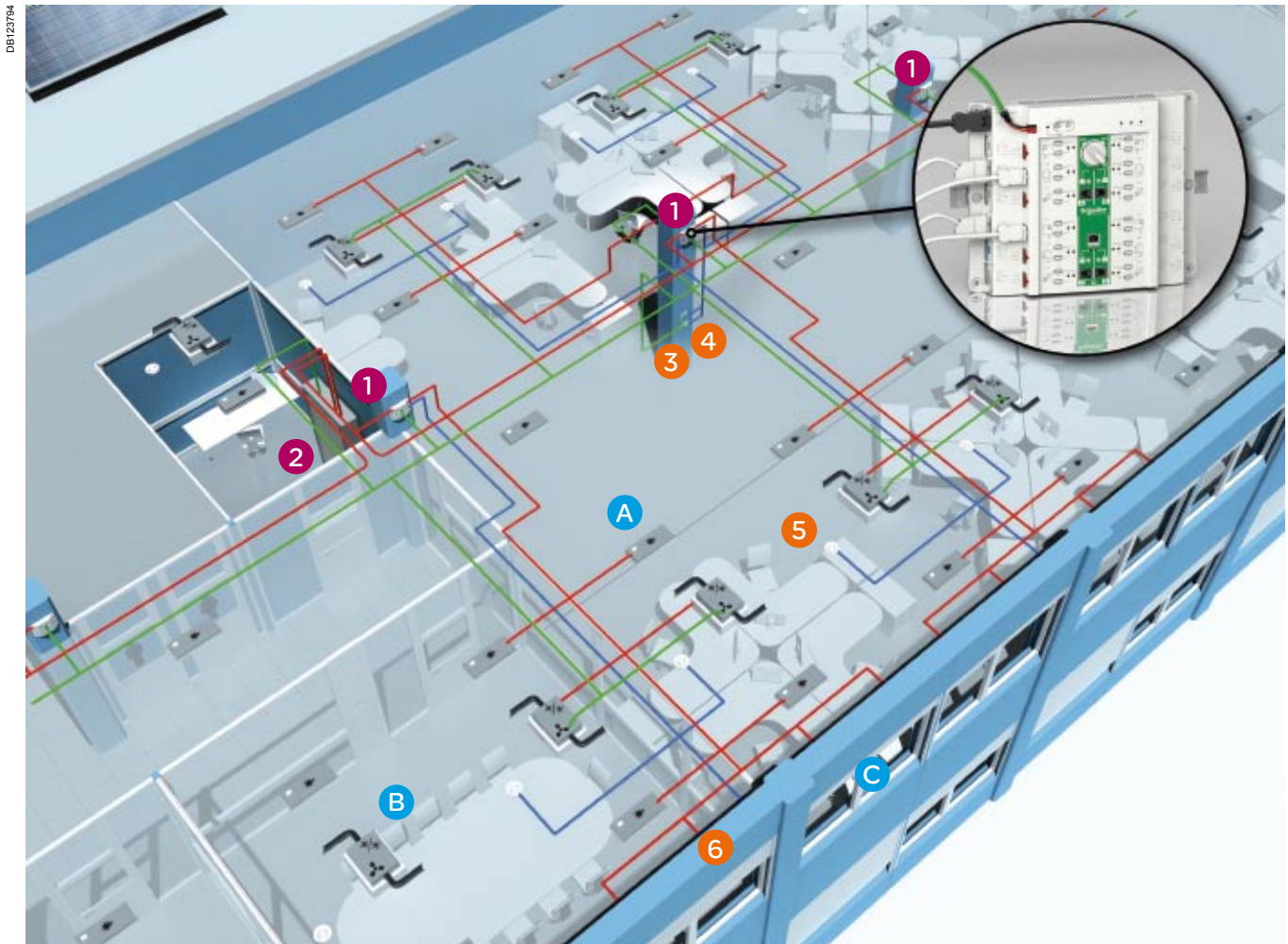
- Horizontal or vertical mounting.
- 4 x M6 screws for direct surface mounting or Din rail fixing with standard accessories.

## Description

DB123798



### Electrical and control architecture



- 1 Roombox
- 2 BMS  
Roombox works either on its own or as part of your BMS (on LON or KNX)

#### Upstream

- A single electrical circuit powers several Roombox units (red line).
- A single communication cable (LON or KNX bus) links HVAC controllers and Roombox units to each other (green line).
- No additional cabling needed to link Roombox to your supervision system

#### Downstream from Roombox

- Roombox powers and controls each system individually, **which reduces the amount of cabling needed and makes installation in drop ceilings easier** (red line).
- You can even opt for RF (radio frequency) instead of cabling downline from the Roombox (blue line).

#### Sensors

- 3 Pushbutton roller blind/shutter control or batteryless and wireless pushbutton
- 4 Pushbutton light control or batteryless and wireless pushbutton light control
- 5 Roombox multisensor motion detector and light sensor
- 6 Open/closed window contact

#### Equipments

- A Lighting
- B Heating, Ventilation and Air Conditioning (HVAC)
- C Blinds/roller shutters

### Technical data

Office Roombox		KNX			
Reference	Standard product	ORBK4D4S4HW	ORBK4L4S4HW	ORBK8D0S4HW	ORBK8L0S4HW
	With RF interface	ORBK4D4S4HR	ORBK4L4S4HR	ORBK8D0S4HR	ORBK8L0S4HR
Power					
Mains power input		16 A			
Output circuits		2.6 A, 600 VA max			
Metering		Class 1, Class 2			
Communication protocol					
KNX		■	■	■	■
LON		–	–	–	–
Controlled output power circuits x 12					
Lighting circuits <sup>(1)</sup>		x 4	x 4	x 8	x 8
ON/OFF		■	■	■	■
Dimming via DALI		■	No	■	No
Daylight harvesting		■	No	■	No
Presence control		■	■	■	■
Automated shutters and roller blinds circuits		x 4	x 4	No	No
UP/DOWN		■	■	No	No
TILT (slat angle change)		■	■	No	No
HVAC circuits <sup>(2)</sup>		x 4	x 4	x 4	x 4
220-230 V power supply		■	■	■	■
230 V valve control		■	■	■	■
Inputs x 16					
Pushbutton for lighting		x 4	x 4	x 8	x 8
Input types		Single/double impulse pushbutton, rocker switch			
Pushbutton for automated shutters and roller blinds		x 4	x 4	No	No
Input types		Double impulse pushbutton			
Window contact		x 4	x 4	x 4	x 4
Input types		Normally closed (normally open configured via ETS)			
Multi-sensor		x 4	x 4	x 4	x 4
Input types		Analogue (1-10 V) for light level, Digital for presence			
Connection					
Mains supply		Wieland GST18, 3 poles			
Power outputs		Wieland GST15, 3, 4 or 5 poles according to load type			
Digital inputs		Wieland GST15, 3 poles with mechanical key			
Multi-sensor input		RJ12 jack			
Environment					
Operating temperature		0°C to + 50°C			
Storage temperature		-15°C to + 65°C			
Humidity		0-95 % non-condensing			
Degree of protection	When no connectors on	IP20			
	When all connectors on	IP30			
		IK07			
Compliance with standards					
Switches for fixed electrical installations		IEC/EN 60669-1			
Low voltage switch gear		IEC/EN 60947-4-2 and IEC/EN 60947-4-3			
Metering		IEC/EN 61557-12			
Product information					
Dimensions L x W x H (mm)		280 x 345 x 89			
Weight (g)		2500			
Material		Polycarbonate UL94 V0 rated			
Color		RAL 9003			

(1) Can be converted to a HVAC circuit through programming in KNX range.

(2) Can be converted to a ON/OFF lighting circuit through programming in KNX range.

LON						
	ORBL6D4S2HW	ORBL6L4S2HW	ORBL6D4S2HW	ORBL8L0S4HW	ORBL8D0S4HW	ORBL9D0S3HW
	ORBL6D4S2HR	ORBL6L4S2HR	ORBL6D4S2HR	ORBL8L0S4HR	ORBL8D0S4HR	ORBL9D0S3HR
	16 A					
	2.6 A, 600 VA max					
	Class 1, Class 2					
	–	–	–	–	–	–
	■	■	■	■	■	■
	x 6	x 6	x 6	x 8	x 8	x 9
	■	■	■	■	■	■
	■	No	■	No	■	■
	■	No	■	No	■	■
	■	■	■	■	■	■
	x 4	x 4	x 4	No	No	No
	■	■	■	No	No	No
	■	■	No	No	No	No
	x 2	x 2	x 4	x 4	x 4	x 3
	■	■	■	■	■	No
	No	No	No	No	No	No
	x 6	x 6	x 6	x 8	x 8	x 9
	Single/double impulse pushbutton, rocker switch					
	x 4	x 4	x 4	No	No	No
	Double impulse pushbutton					
	x 2	x 2	x 2	x 4	x 4	x 3
	Normally open or normally closed configured via ETS					
	x 4	x 4	x 4	x 4	x 4	x 4
	Analogue (1-10 V) for light level, Digital for presence					
	Wieland GST18, 3 poles					
	Wieland GST15, 3, 4 or 5 poles according to load type					
	Wieland GST15, 3 poles with mechanical key					
	RJ12 jack					
	0°C to + 50°C					
	-15°C to + 65°C					
	0-95 % non-condensing					
	IP20					
	IP30					
	IK07					
	IEC/EN 60669-1					
	IEC/EN 60647-4-2 and IEC/EN 60647-4-3					
	IEC/EN 61557-12					
	280 x 345 x 89					
	2500					
	Polycarbonate UL94 V0 rated					
	RAL 9003					

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### Accessories

Type	Qty	Cat. no.
<b>DIN RAIL Mounting</b>		
DIN RAIL bolt for M6 screws	100	<b>NSYTDE6</b>
18 mm M6 screw with ring for DIN rail kit	100	<b>NSYS18M6H</b>

DB123799



<b>Multi-sensor</b>		
Presence detection and light-level sensor, surface mounted	1	<b>MTN6901-0000</b>
Cable 15 m RJ12-M8, 4 poles	1	<b>MTN6901-0003</b>
Extension cable 15 m M8-M8, 4 poles	1	<b>MTN6901-0005</b>
Surface-mounted housing for motion sensors	1	<b>MTN6901-0001</b>

<b>Customer connector</b>		
HVAC, LIGHT On/Off output, gesis MINI GST 15i3, 3 poles, white (pack of 50 pieces)	1	<b>ORBCL50</b>
Automated shutters output, gesis MINI GST 15i4, 4 poles, white (pack of 50 pieces)	1	<b>ORBCS50</b>
Lighting DALI output, gesis MINI GST 15i5, 5 poles, pastel blue (pack of 50 pieces)	1	<b>ORBCD50</b>
Wired input, gesis MINI GST 15i3, 3 poles, brown (pack of 50 pieces)	1	<b>ORBCI50</b>
Mains power supply input, gesis MINI GST 18i3, 3 poles, black (pack of 50 pieces)	1	<b>ORBCM50</b>

<b>Self Powered Switches (SPS)</b>		