

Interface for control of temperature, fan, light and sun protection
Room control unit with colour TFT display and capacitive keys (touch keys),
with Modbus connection or W-Modbus (Wireless)

The room control units of the RYMASKON® 1000 / 2000 / 3000 series are designed for control (up to 5 climate zones) in residential, hotel and office rooms and individually regulate the heating, cooling and fan levels of the internal rooms. The controller variants can be operated as stand-alone units thanks to the integrated control functions PI, PWM or 2-/3-point control. The product family is characterised by its elegant design, intuitive operation and the many possible combinations of the individual components.

The RYMASKON® 1000 room control units (interface) are used for controlling temperature, fans, sun protection (Venetian blinds, shutters) or light (with dimming function). The room control units make the setpoints available to the BMS either via conventionally wired Modbus or via the wireless, radio-based W-Modbus. Visual indication takes place on a 2" TFT **display**, where as the unit is controlled via capacitive keys (**touch keys**).

In addition to the integrated temperature and humidity sensor, **sensors** for CO₂ and VOC are available as an option. An input for a passive temperature sensor (NTC10K) and an input for a potential-free contact are additionally available. This allows a window contact or a condensation control switch to be connected, for example. This provides all options for air-conditioning of the rooms according to individual requirements.

All unit types are available in the contemporary **housing** Iduna 3 (112 x 89.5 x 24 mm) in white or black colour. Wall-mounting is performed on standard in-wall flush boxes or on-wall.

TECHNICAL DATA

Unit type:	Room control units (interface)
Functions:	Temperature, fan, sun protection and light (see type table)
System of units:	SI (default) or imperial (can be changed in the Modbus register)
Data points:	Temperature [°C] [°F], relative humidity [% RH], air quality (VOC) [%] [ppb], carbon dioxide (CO ₂) [ppm], setpoint (temperature, fan, presence)
Power consumption:	typically < 3 W at 24 V DC; typically < 4.5 VA at 24 V AC
Voltage supply:	24 V AC/DC (± 10 %)
Communication:	Modbus (RTU cable), Slave, address range 1...247, max. 32 units, RS 485 interface, galvanically isolated , 9600 / 19200 / 38400 / 57500 bauds, 8N1, even / odd parity, 1 / 2 stop bits or W-Modbus (Wireless Modbus, AES-128 encrypted), Frequency 2.4 GHz ISM, Transmission power 100 mW , Range max. 500 m (open field) / approx. 50-70 m (inside buildings), Slave, address range 1...247, max. 100 units on one gateway, BMS connection is radio-based via W-Modbus gateway
Display:	TFT display , 2" (41 x 30 mm), 320 x 240 x 3 pixels (RGB), LED backlighting, viewing angle ± 85°
Operating elements:	Capacitive keys (up to 10 keys, depending on type) for setting the target temperature, fan stages, presence message, sensor values, and for operating sun protection and light
Inputs:	1 NTC10K (configurable as a digital input) 1 digital input for potential-free switches
Outputs:	Modbus or W-Modbus
Electrical connection:	0.2- 1.5 mm ² , using push-in terminals
Housing:	plastic, flame retardant (UL 94 V-0), PC/ABS material, colour white (similar to RAL 9016) or black (similar to RAL 9004)
Housing dimensions:	112 x 89.5 x 24 mm (W x H x D) (Iduna 3) in-wall: + 23 mm (D), sensor protection: + 22 mm (H)
Mounting:	wall-mounting on in-wall flush box, Ø 55 mm or on-wall
Ambient temperature:	0...+50°C (operation); -30...+70°C (storage)
Permitted humidity:	0...90 % RH (non-precipitating air)
Protection type:	IP 30 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014/30/EU (Modbus) or Radio Equipment Directive 2014/53/EU (W-Modbus)

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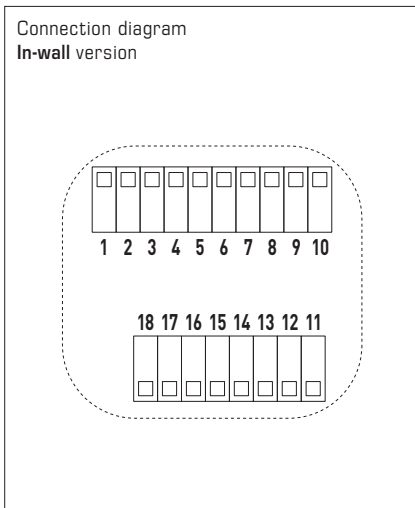
NEW

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with Modbus connection or W-Modbus (Wireless)

TECHNICAL DATA (continuation)

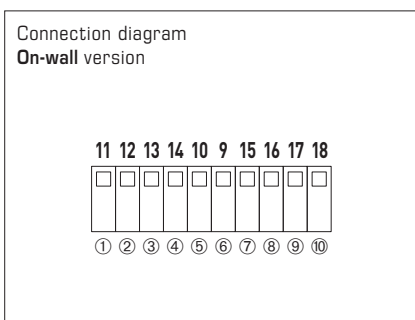
TEMPERATURE (basic equipment)	
Sensor:	digital temperature sensor, low hysteresis, high long-term stability
Measuring range:	0...+50 °C / +32...+122 °F
Accuracy:	typically ±0,5K / ±0.9°F at +25 °C / +77 °F
HUMIDITY (basic equipment)	
Sensor:	digital humidity sensor, low hysteresis, high long-term stability
Measuring range:	0...100 % RH
Accuracy:	typically ±2.0 % (20...80% RH) at +25 °C / +77 °F, otherwise ±3.0 %
CARBON DIOXIDE (CO2) (optional)	
Sensor:	digital photoacoustic NDIR-CO2 sensor (non-dispersive infra-red technology), with automatic calibration and high long-term stability
Measuring range:	0...2000 ppm
Accuracy:	typically ±50 ppm, ±3 % of the measured value at +25 °C / +77 °F
AIR QUALITY (VOC) (optional)	
Sensor:	digital metal oxide (MOX) based VOC sensor
Measuring range:	0...100 % (corresponds to IAQ Index 1...500 or 0...2383 ppb ethanol equivalent – non-linear)
Accuracy:	< ± 15 %
Service life:	> 10 years (if used as intended, depending on type and duration of VOC exposure)

Device versions with optional extra keys for controlling light (L) and sun protection (B)



- RYMASKON 1000-MOD** Interface
In-wall version (RTU cable)
- 1 free
 - 2 free
 - 3 free
 - 4 free
 - 5 free
 - 6 free
 - 7 free
 - 8 free
 - 9 GND (DI2)
 - 10 DI2
 - 11 UB+ 24V AC/DC
 - 12 UB- GND AC/DC
 - 13 NTC10K (DI1, potential-free)
 - 14 GND (NTC10K/DI1)
 - 15 Modbus A
 - 16 Modbus B
 - 17 Modbus A
 - 18 Modbus B

- RYMASKON 1000-WMOD** Interface
In-wall version (Wireless)
- 1 free
 - 2 free
 - 3 free
 - 4 free
 - 5 free
 - 6 free
 - 7 free
 - 8 free
 - 9 GND (DI2)
 - 10 DI2
 - 11 UB+ 24V AC/DC
 - 12 UB- GND AC/DC
 - 13 NTC10K (DI1, potential-free)
 - 14 GND (NTC10K/DI1)
 - 15 free
 - 16 free
 - 17 free
 - 18 free
-

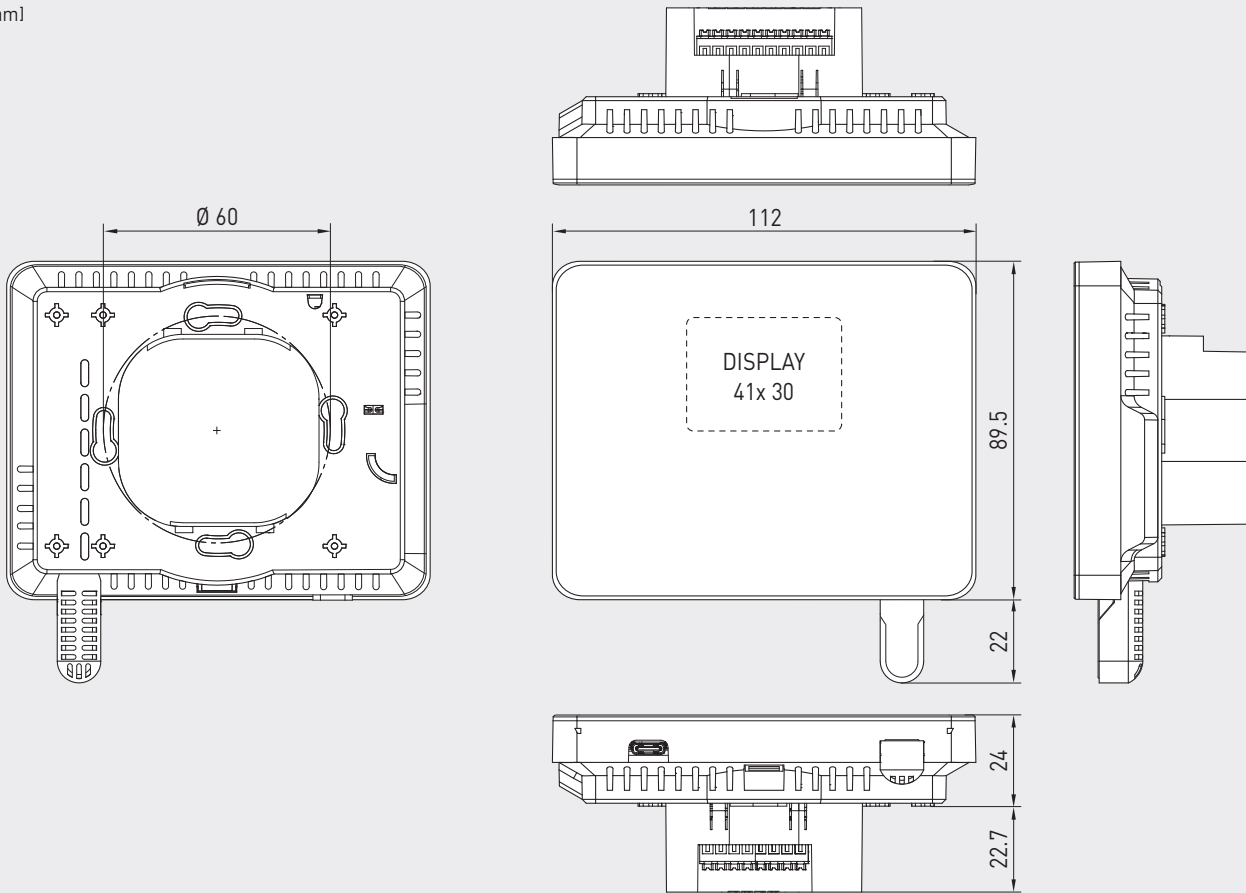


- RYMASKON 1000-MOD** Interface
On-wall version (RTU cable)
- 11 UB+ 24V AC/DC
 - 12 UB- GND AC/DC
 - 13 NTC10K (DI1, potential-free)
 - 14 GND (NTC10K/DI1)
 - 10 DI2
 - 9 GND (DI2)
 - 15 Modbus A
 - 16 Modbus B
 - 17 Modbus A
 - 18 Modbus B

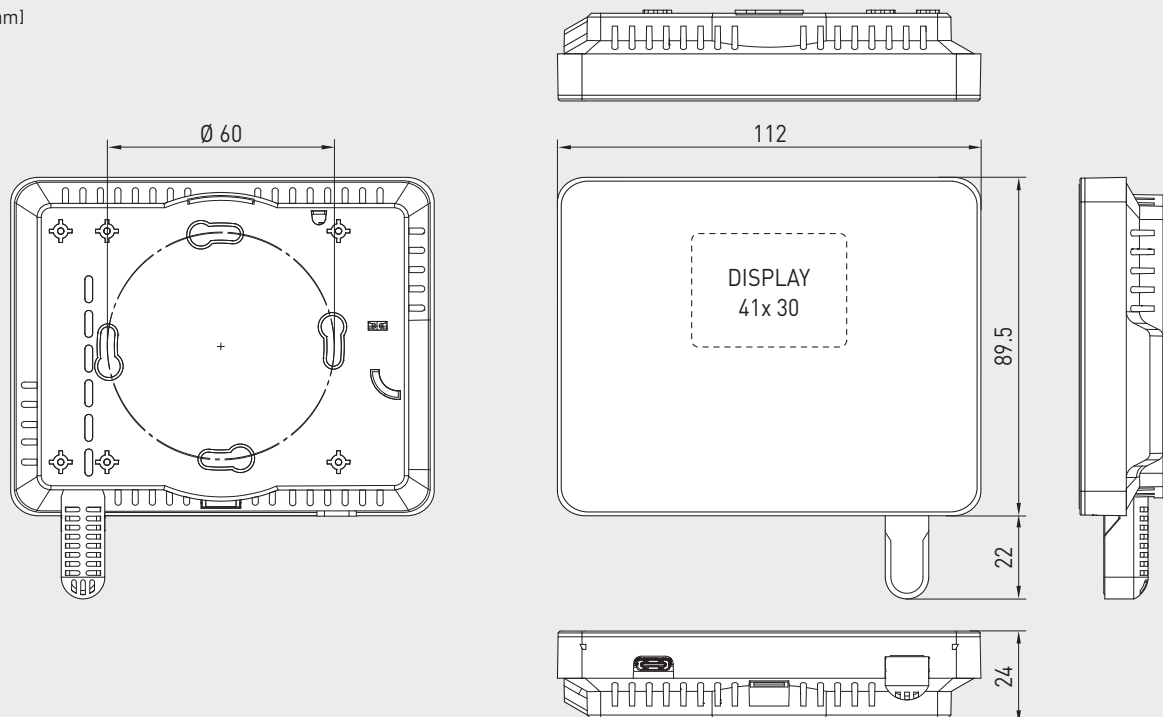
- RYMASKON 1000-WMOD** Interface
On-wall version (Wireless)
- 11 UB+ 24V AC/DC
 - 12 UB- GND AC/DC
 - 13 NTC10K (DI1, potential-free)
 - 14 GND (NTC10K/DI1)
 - 10 DI2
 - 9 GND (DI2)
 - 15 free
 - 16 free
 - 17 free
 - 18 free
-

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Dimensional drawing
in-wall version Iduna 3
[mm]



Dimensional drawing
on-wall version Iduna 3
[mm]





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BASIC MODELS

RYMASKON® 1000 Interface



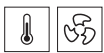
Room control units
for temperature
adjustment



Type 1301



Type 1302



Room control units
for temperature and
fan adjustment

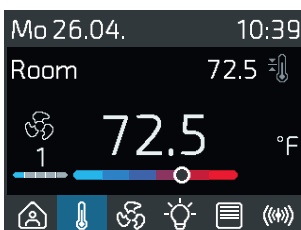
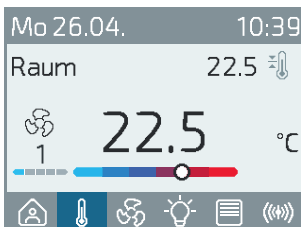


Type 1401



Type 1402

Display symbols



KEY FEATURES

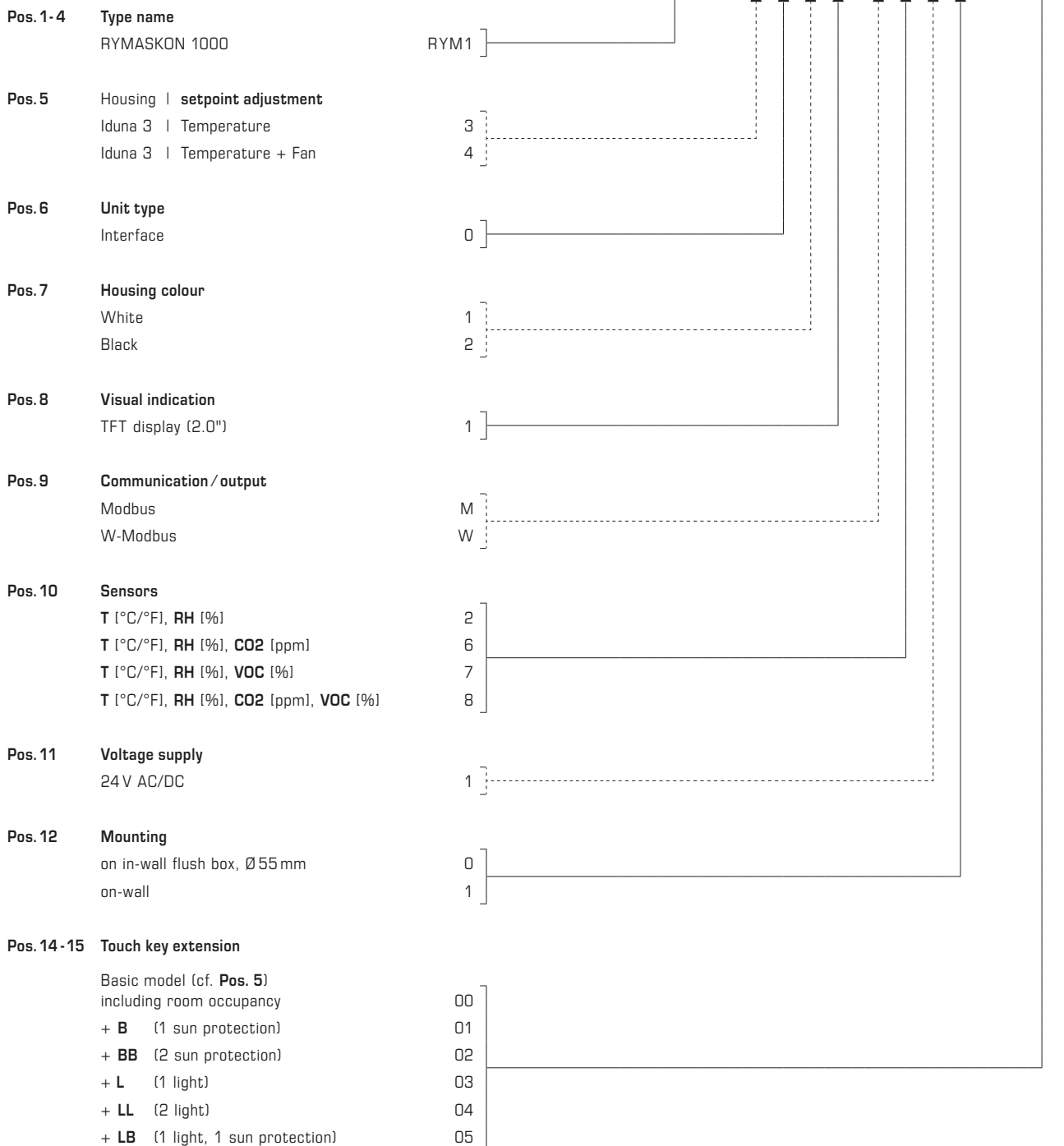
RYMASKON® 1000 Interface

- 24 V AC/DC voltage supply
- **Modbus** connection or wireless **W-Modbus**
- 2.0" TFT **display** (320 x 240 x 3 RGB pixels), with LED backlighting, high contrast, 85° viewing angle
- Capacitive keys (touch keys) (optional extension, see number key pos. 14-15)
- **Housing** Iduna 3 (112 x 89.5 x 24 mm), white and black colours, for wall-mounting on in-wall flush boxes or on-wall, quick and easy installation via push-in terminals
- Integrated temperature and humidity sensor (basic equipment) (additional sensors optional: CO2, VOC)
- **Regulation** of heating, cooling, fan via Modbus/W-Modbus
- **Control** of temperature, fan (sun protection and light with dimming function available as an option)
- Power-saving and environmentally friendly thanks to **features** such as brightness adjustment, stand-by, wake-up, etc.
- **cuRA** (Customized Register Assignment) Assignment of individual register addresses for each data point

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RYMASKON® 1000 Interface (series)
 Number key for type versions

R Y M 1 - x 0 x x - x x 1 x - 0 x x



Sensors

- T Temperature [°C/°F]
- RH Relative humidity [%]
- CO2 Carbon dioxide [ppm]
- VOC Air quality [%]

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RYMASKON® 130x		Interface (basic model) Room control units for temperature adjustment					
Type / WG02	Communi- cation	Measuring element	Control system	Colour / Housing	Display	Item no.	Price
RYMASKON® 130x				Iduna 3	in-wall version		
RYM 1301-RH-MOD	Modbus	T RH	T - R	white	■	RYM1-3011-M210-000	220,12 €
RYM 1302-RH-MOD	Modbus	T RH	T - R	black	■	RYM1-3021-M210-000	220,12 €
RYM 1301-RH-WMOD	W-Modbus	T RH	T - R	white	■	RYM1-3011-W210-000	303,32 €
RYM 1302-RH-WMOD	W-Modbus	T RH	T - R	black	■	RYM1-3021-W210-000	303,32 €
RYMASKON® 130x AP				Iduna 3	on-wall version		
RYM 1301-RH-MOD-AP	Modbus	T RH	T - R	white	■	RYM1-3011-M211-000	220,12 €
RYM 1302-RH-MOD-AP	Modbus	T RH	T - R	black	■	RYM1-3021-M211-000	220,12 €
RYM 1301-RH-WMOD-AP	W-Modbus	T RH	T - R	white	■	RYM1-3011-W211-000	303,32 €
RYM 1302-RH-WMOD-AP	W-Modbus	T RH	T - R	black	■	RYM1-3021-W211-000	303,32 €
Measuring element / control system:	T = Temperature sensor (basic equipment) RH = Humidity sensor		T = Temperature F = Fan R = Room occupancy				

RYMASKON® 140x		Interface (basic models) Room control units for temperature and fan adjustment						
Type / WG02	Communi- cation	Measuring element	Control system	Colour / Housing	Display	Item no.	Price	
RYMASKON® 140x				Iduna 3	in-wall version			
RYM 1401-RH-MOD	Modbus	T RH	T F R	white	■	RYM1-4011-M210-000	220,12 €	
RYM 1402-RH-MOD	Modbus	T RH	T F R	black	■	RYM1-4021-M210-000	220,12 €	
RYM 1401-RH-WMOD	W-Modbus	T RH	T F R	white	■	RYM1-4011-W210-000	303,32 €	
RYM 1402-RH-WMOD	W-Modbus	T RH	T F R	black	■	RYM1-4021-W210-000	303,32 €	
RYMASKON® 140x AP				Iduna 3	on-wall version			
RYM 1401-RH-MOD-AP	Modbus	T RH	T F R	white	■	RYM1-4011-M211-000	220,12 €	
RYM 1402-RH-MOD-AP	Modbus	T RH	T F R	black	■	RYM1-4021-M211-000	220,12 €	
RYM 1401-RH-WMOD-AP	W-Modbus	T RH	T F R	white	■	RYM1-4011-W211-000	303,32 €	
RYM 1402-RH-WMOD-AP	W-Modbus	T RH	T F R	black	■	RYM1-4021-W211-000	303,32 €	
Measuring element / control system:	T = Temperature sensor (basic equipment) RH = Humidity sensor		T = Temperature F = Fan R = Room occupancy					

OPTIONS			
Measuring elements:	CO2 = CO2 sensor	Extra charge	128,54 €
	VOC = VOC sensor	Extra charge	125,33 €
Control:	B / L Keys for sun protection and/or light (cf. Pos. 14-15)	on request	
Communication:	without Modbus	on request	
Optional:	Other type versions available upon request! For configuration options, see number key (left)		

ACCESSORIES			
GW-wModbus	Gateway W-Modbus (Wireless) for radio-based connection to Modbus networks, operating modes 'Gateway' (Master) and 'Node' (adapter function for max. 1 wired sensor)	1801-1211-1101-000	238,16 €
GW-wModbus Pro	and 'Node Pro' (adapter function for max. 16 wired sensors)	1801-1211-1101-100	322,40 €
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination	1906-1300-0000-100	85,49 €
Software:	S+S Configuration Tool configuration software (PC) is available as a free download from www.spluss.de		