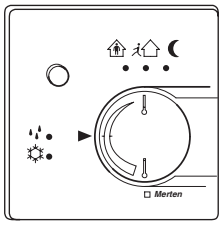
Room temperature control unit, flush-mounted/PI (System M)



Colour	Article no.
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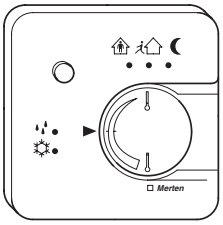
polar white	624719
anthracite	624714
aluminium	624760

Room temperature control unit, flush-mounted/PI (System Basis)



Colour	Article no.
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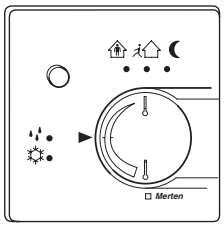
polar white	624819

Room temperature control unit, flush-mounted/PI (System Design)



Colour	Article no.
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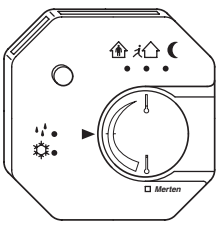
polar white	624919
vanilla	624982
ice blue	624988
light grey	624929
midnight blue	624978
dark brazil	624915
black grey	624969
aluminium	624960
stainless steel	624946

Room temperature control unit, flush-mounted/PI (OctoColor)



Colour	Article no.
white	624644
polar white	624619
bronze metallic	624642
titanium	624605

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1. Function

The INSTABUS room temperature control unit, flush-mounted/PI enables proportional-plus-integral control for individual rooms under consideration of local influences. The control unit can be used for heating and/or cooling or for two-step heating or cooling. The room temperature control unit, flush-mounted/PI compares the measured temperature value (actual value) with the required setpoint values for heating and cooling. Depending on the parameterisation, it sends corresponding switching telegrams (heating/cooling) or continuous control values in 255 steps (1 byte; 0-255) for heating or cooling. It is also possible to set 2-step control instead of PI control. The control unit knows 5 operating states to which a unique setpoint value can be assigned in heating/cooling mode. The active operating state is determined by the states of the communication objects: "Push-button", "Comfort/Standby", "Night", "Frost/Heat protection" and "Dew point alarm" as well as the presence button on the device.

Further functions include frost alarm signal, comfort extension, protection against unauthorised use, common/separate control value output, disabling of the additional level, adjustable setpoint transitions.

2. Installation

The room temperature control unit, flush-mounted/PI is an application module in the System M design (art. no. 6247..), System Basis design (art. no. 6248..), System Design (art. no. 6249..) or OctoColor design (art. no. 6246..) and is clipped onto a flush-mounted bus coupler. The room temperature control unit is supplied with a flush-mounted bus coupler (article no. 690099). The colour ring is only supplied for OctoColor.

Installation site:

- Installation on an interior wall and opposite the heat source is preferrable.
- External walls and draughts from windows and doors should be avoided.
- Ensure that the normal convection air in the room reaches the control unit without any obstacles. The control unit should therefore not be mounted inside shelving or curtains or similar coverings.
- External heat has a negative influence on the accuracy of the control unit. Direct sunlight, proximity to televisions, radio and heating appliances, lamps, chimneys and heating pipes should be avoided.

3. Technical Data

Display elements:	Three green LEDs for the current operating mode (comfort, standby, night)
	Red LED for frost/heat protection
	Yellow LED for dew point alarm
Operating elements:	Rotary knob for manual setpoint adjustment, can be parameterised between 0 and ±10 °C
	Presence button, parameterisable
Temperature measurement	
Measuring range:	0 °C to +40 °C
Resolution:	0.08 K
Accuracy related to sensor temperature:	±1.0 K under reference conditions
	±2.0 K under ambient conditions and in measuring range
Ambient temperature	
Operation:	-5 °C to + 45 °C
Storage:	-20 °C to +70 °C
Connection to the bus coupler:	via PEI, 10-pole plug connector
Type of protection:	IP 20 in accordance with EN 60529, DIN VDE 0470
Protection class:	III in accordance with EN 60730

4. Settings in the EIB Tool Software (ETS)

Selection in the product database

Manufacturer:	Merten	
Product family:	7.1	Heating/Single room thermostat
Product type:	7.1.17	System M thermostat
Program name:		Heating/cooling continuous/2-step 2118/1.0
Media type:	Twisted Pair	
Product name:	System M room temperature control unit, flush-mounted/PI	
Order number:	6247..	

Manufacturer:	Merten	
Product family:	7.1	Heating/Single room thermostat
Product type:	7.1.15	System Basis thermostat
Program name:		Heating/cooling continuous/2-step 2118/1.0
Media type:	Twisted Pair	
Product name:	System Basis room temperature control unit, flush-mounted/PI	
Order number:	6248..	

Manufacturer:	Merten	
Product family:	7.1	Heating/Single room thermostat
Product type:	7.1.16	System Design thermostat
Program name:		Heating/cooling continuous/2-step 2118/1.0
Media type:	Twisted Pair	
Product name:	System Design room temperature control unit, flush-mounted/PI	
Order number:	6249..	

Manufacturer:	Merten	
Product family:	7.1	Heating/Single room thermostat
Product type:	7.1.14	OctoColor thermostat
Program name:		Heating/cooling continuous/2-step 2118/1.0
Media type:	Twisted Pair	
Product name:	OctoColor room temperature control unit, flush-mounted/PI	
Order number:	6246..	

5. Application overview

The following application is available:

Application	Vers.	Function
Heating/cooling continuous/2-step 2118/1.0	1	Group addresses: Number = 26/ Associations = 27, dynamic
		Heating; cooling; heating and cooling
		2-step heating; 2-step cooling
		PI control; 2-step control
		Continuous actuating signal (8 bit) or switching (pulse-width-modulated) actuating signal (1 bit)
		Either heating, cooling or heating and cooling with manual or automatic toggling and common or separate control outputs
		5 operating states with their own setpoint values
		Comfort extension
		Frost alarm
		Output of setpoint value, actual value and thermostat status