

Flush mounted 5 binary inputs + thermostat + LED control

Flush mounted 5 binary inputs / LED control with temperature sensor and thermostat is simply mounted on the backside of the conventional switch and makes it as a KNX sensor. In total 5 push buttons can be connected to one device. It acts also like a normal thermostat by having temperature sensor on-board. Each port of the device can be used as output for LED control.



ENG - Data sheet

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Application

Lighting, HVAC applications

Types of product

Flush mounted 5 binary inputs EXT5T

Standards and norms compliance

EMC: EN61000-6-1
 EN61000-6-3
PCT Certificate

Technical data:

Power supply:	29V DC	KNX/EIB bus
Power consumption:	11 mA	Input mode
Interface:	Binary inputs or outputs	5
	Voltage if used as output	5V
	Current if used as output	5mA (enough for regular LED)

	KNX/EIB	1
	Temperature sensor	1
Clamps:	KNX bus:	1.5mm ²
	Inputs/Outputs	Sharp ZH 1.5mm connector (6 cables included)
Operating elements	1 – programming LED	
	1 – programming button	
Enclosure:	Material:	Polyamide
	Color:	White
	Dimensions:	37(W)x12(H)x31.2(L) mm
Usage temperature:	-5C ... +55C	
Storage temperature:	-20C ... +70C	
Weight:	100g	
Warranty:	2 years	



Caution
Security advice

The installation and assembly of electrical equipment may only be performed by skilled electrician. The devices must not be used in any relation with equipment that supports, directly or indirectly, human health or life or with application that can result danger of people, animals or real value

Mounting advice

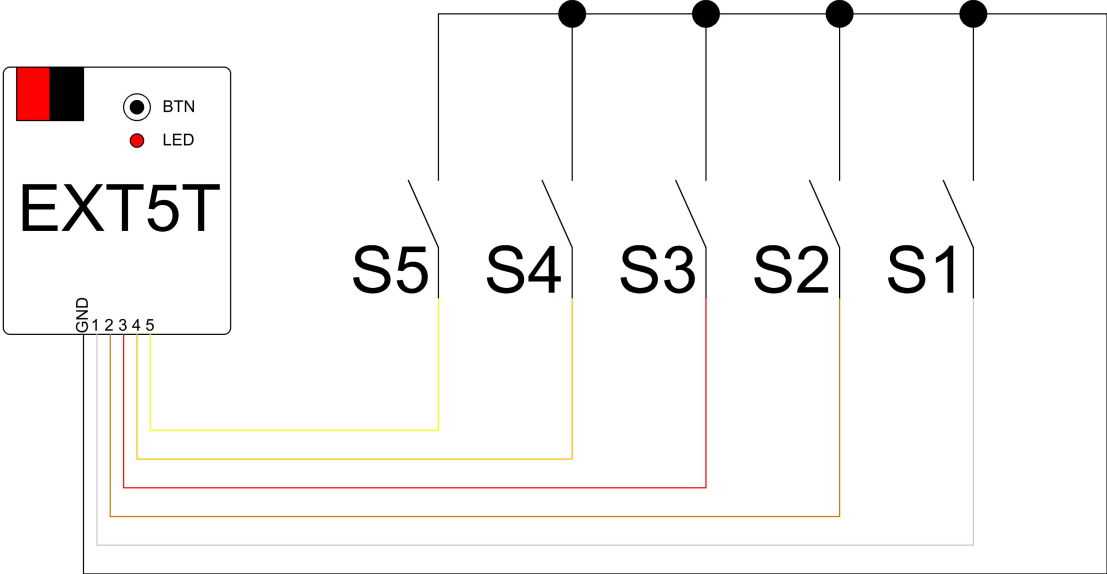
The devices are supplied in operational status. The cables connections included can be clamped to the housing if required.

Electrical connection

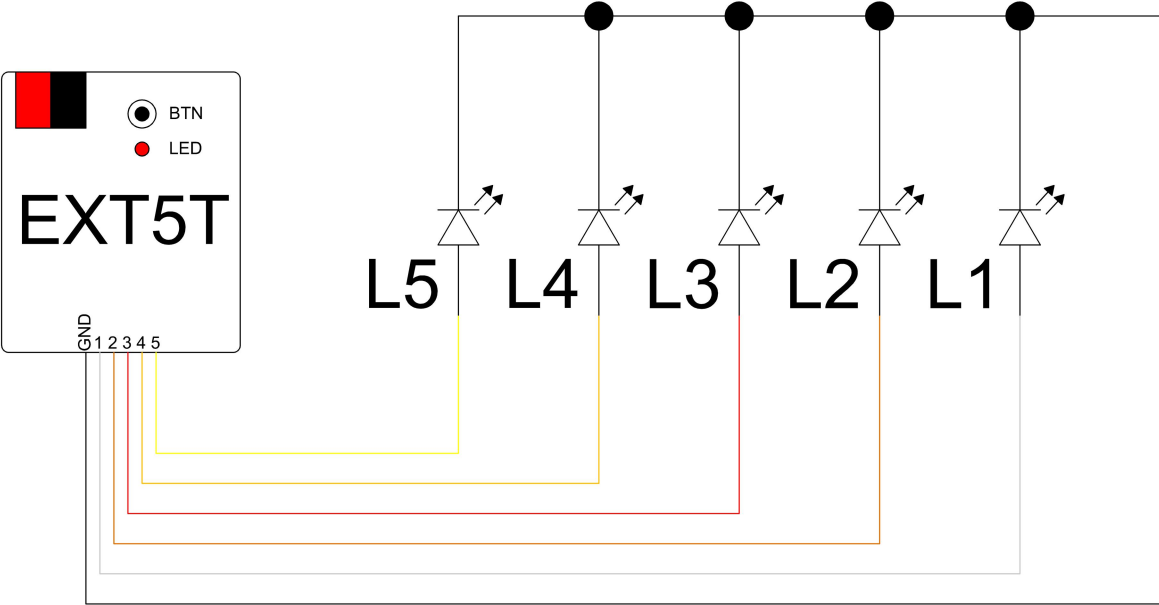
The devices are constructed for the operation of protective low voltage (SELV). Grounding of device not needed. When switching the power supply on or off, power surges must be avoided.

Terminal connection scheme EXT-5

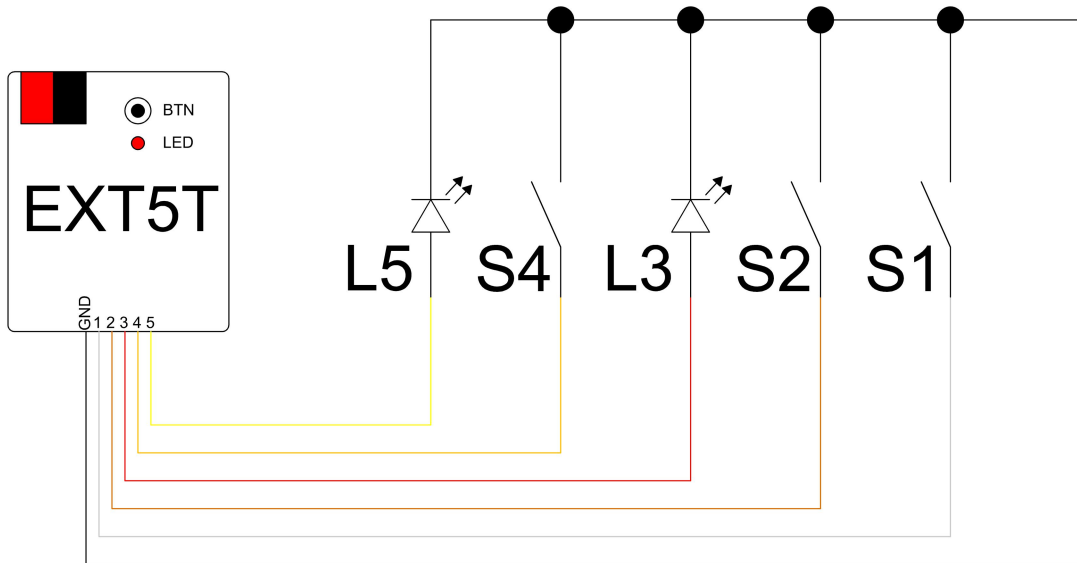
Binary input



LED output

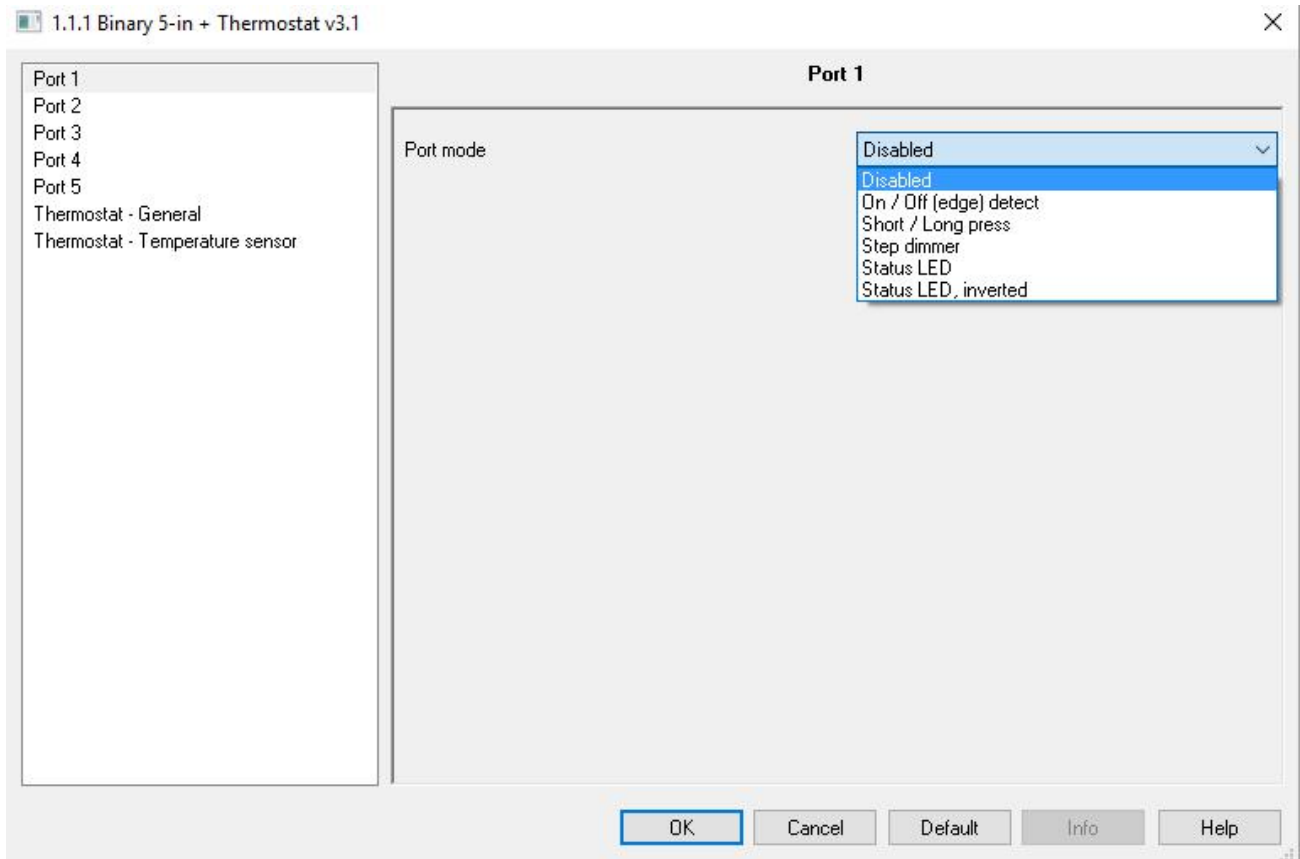


LED + binary input (combined mode)



ETS programming

Binary input settings



Port 1-5 settings:

- **Disabled** – specific input channel is disabled
- **On / Off (edge) detect** – On or Off state detection for the channel

Port mode	On / Off (edge) detect
On (rising edge)	Send 0
Off (falling edge)	Send 1

- **On (rising edge) [No action / Send 0 / Send 1 / Toggle]** – action to perform on rising edge
- **Off (falling edge) [No action / Send 0 / Send 1 / Toggle]** – action to perform on falling edge

- **Short / Long press** – Short or Long key press detection

Port mode	Short / Long press
Short press	Send 0
Long press	Send 1
Long press delay	250 milliseconds

- **Short press [No action / Send 0 / Send 1 / Toggle]** – action to perform on short press
- **Long press [No action / Send 0 / Send 1 / Toggle]** – action to perform on long press
- **Long press delay [250ms..10s]** – time period after which the key press is detected as Long press

- **Step dimmer** – Step dimmer is used to control 1 byte dimmer with a single binary

Port mode	Step dimmer
Dimmer step	16
Dimmer ON preset (0 - use previous)	0

input.

- **Dimmer step [1..127]** – dimmer step to use with long press
 - **Dimmer ON preset [0..255]** – preset value when dimmer is ON
- **Status LED** – set the port is in status LED control mode. 1 = LED On, 0 = LED Off
 - **Status LED, inverted** – set the port is in status LED control mode. 1 = LED Off, 0 = LED On

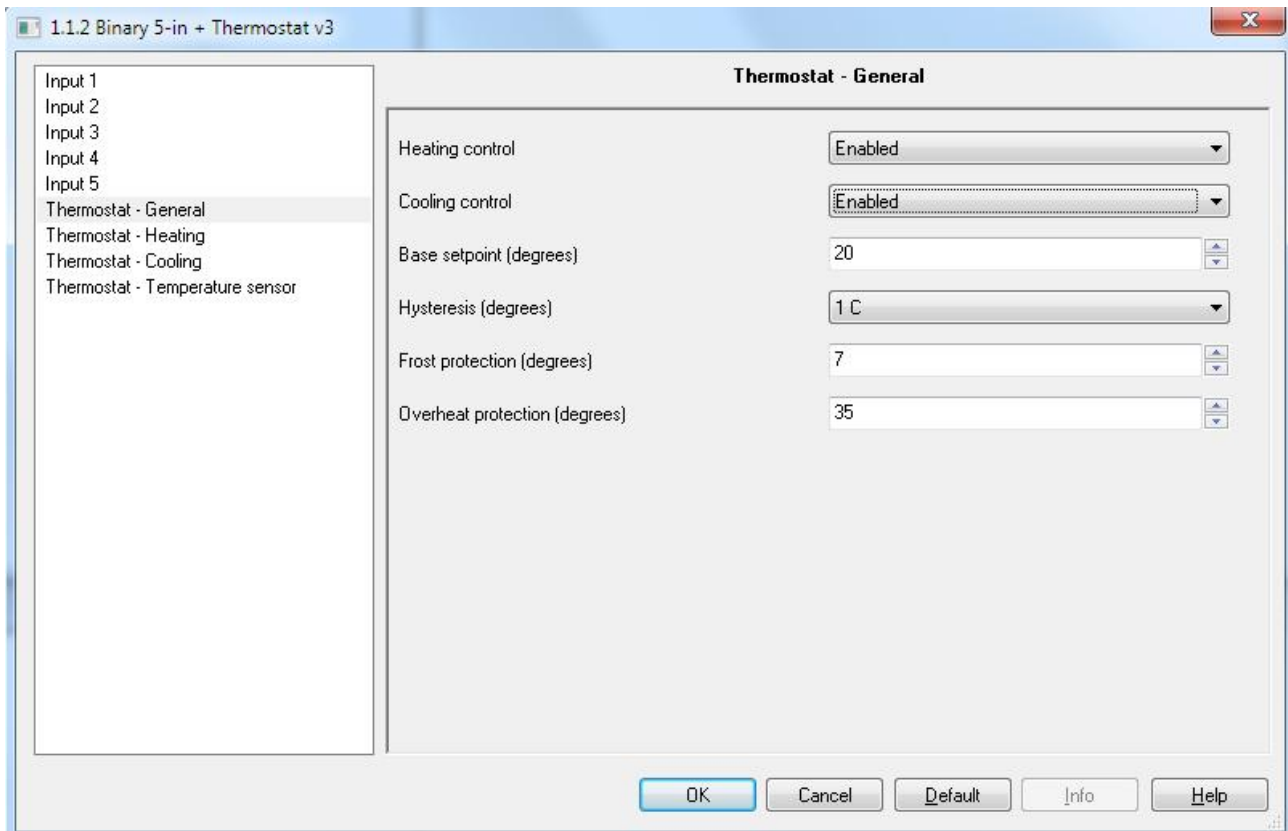
On short press, the device sends off (0%) telegram if current value is not 0%, previous brightness value otherwise.

On long press, new value is increased or decreased by a redefined step. New value is sent about 4 times per second.

If final value is not 0% or 100%, direction of the step is switched to opposite.

The direction is always "UP" when current value is 0%. The direction is always "DOWN" when current value is 100%.

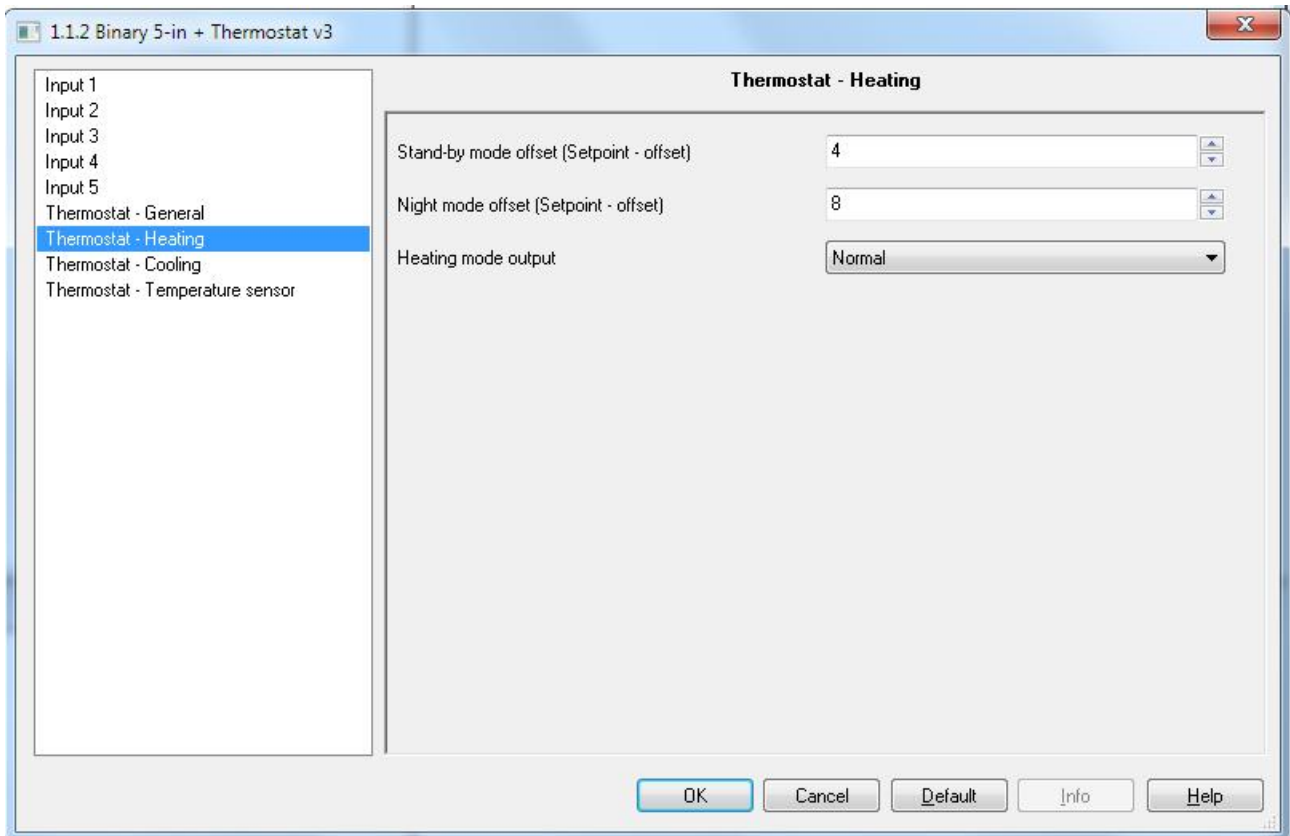
Thermostat general



- **Heating control [Disabled / Enabled]** – defines if the heating control is enabled. Specific menu appears once enabled
- **Cooling control [Disabled / Enabled]** – defines if the cooling control is enabled. Specific menu appears once enabled
- **Base setpoint (degrees) [10..30C]** – room temperature base setpoint
- **Hysteresis (degrees) [0.5..2C]** – interval during which the status will remain as current value. Used to exclude border value instability
- **Frost protections (degrees) [5..10C]** – temperature when the status for system is set as “frost detected”
- **Overheat protection (degrees) [30..45C]** – temperature when the status for system is set as “overheat detected”

Heating control

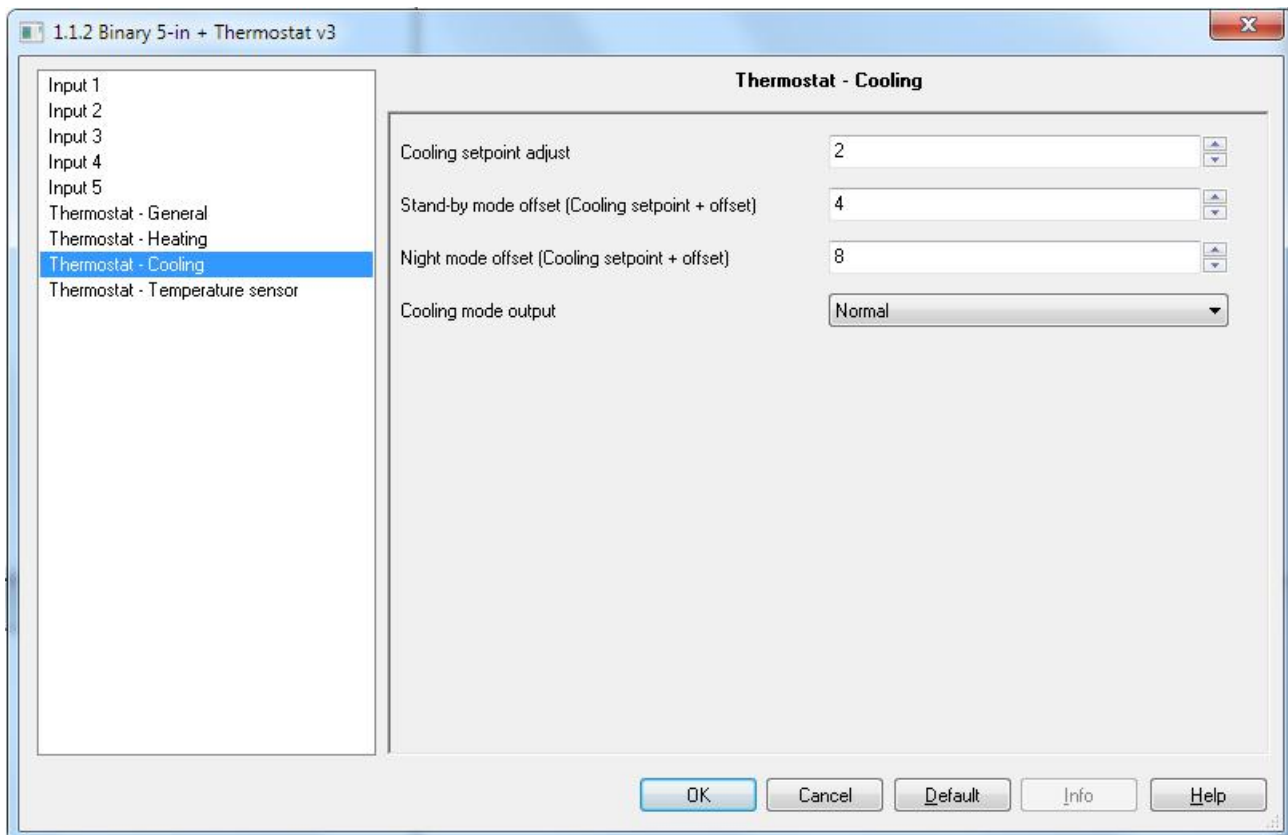
Once enabled in thermostat general setting, a new menu *Thermostat – Heating* appears.



- **Stand-by mode offset (Setpoint - offset) [2..8]** – decrease of the *Base setpoint* temperature while in stand-by mode
- **Night mode offset (Setpoint - offset) [4..16]** – decrease of the *Base setpoint* temperature while in night mode
- **Heating mode output [Normal / Inverted]** – in *normal* mode sends 1 if there is necessity to switch on heating. In *inverted* mode – sends 0

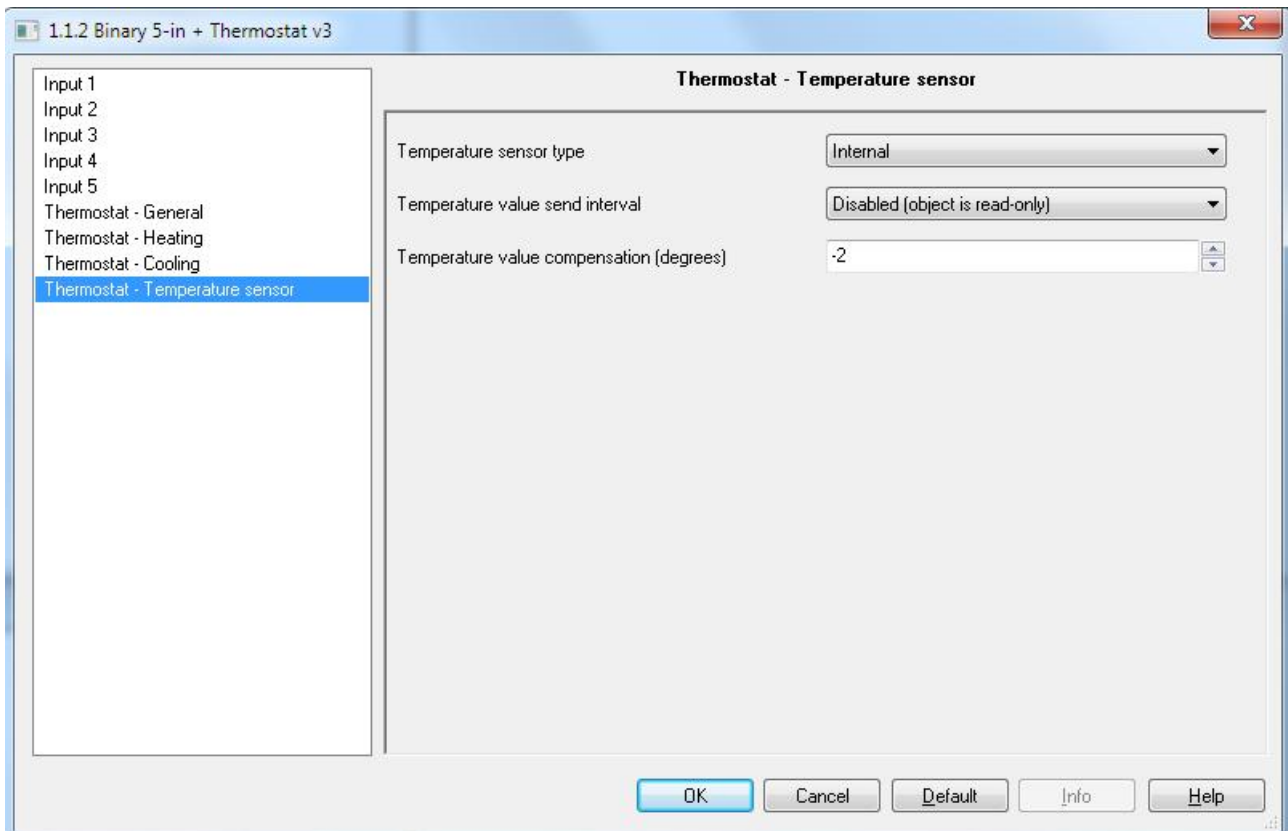
Cooling control

Once enabled in thermostat general setting, a new menu *Thermostat – Cooling* appears.



- **Cooling setpoint adjust [2..8]** – increase of *Base setpoint* while heating and cooling is enabled to detect when cooling should be switched on
- **Stand-by mode offset (Cooling setpoint + offset) [2..8]** – increase of cooling setpoint temperature while in stand-by mode
- **Night mode offset (Cooling setpoint + offset) [4..16]** – increase of cooling setpoint temperature while in night mode
- **Cooling mode output [Normal / Inverted]** – in *normal* mode sends 1 if there is necessity to switch on cooling. In *inverted* mode – sends 0

Thermostat temperature sensor



- **Temperature sensor type [Internal / External]** – type of temperature sensor
- **Temperature value send interval [10s..10min]** – time interval after which to send the temperature value in the bus
- **Temperature value compensation (degrees) [-5..5]** – temperature value compensation e.g. in installation when it is located in place other than room where the heating/cooling control should be done

2.2.6 Object description

Nr	Object	Name	Type	Read	Write	Transmit
0	Thermostat on/off	In: Control value	1.* Boolean (1.001 switch)	-	W	-
1	Thermostat on/off	Out: Status value	1.* Boolean (1.001 switch)	R	-	T
2	External temperature	In: Value	9.* 2-Byte Float (9.001 temperature C)	-	W	-
3	Thermostat temperature	Out: Value	9.* 2-Byte Float (9.001 temperature C)	R	-	T
4	Setpoint temperature	In: Control	9.* 2-Byte Float (9.001 temperature C)	-	W	T
5	Setpoint temperature	Out: Status	9.* 2-Byte Float (9.001 temperature C)	R	-	T
6	Comfort mode	In: 1 = on, 0 = nothing	1.* Boolean (1.001 switch)	-	W	-
7	Stand-by mode	In: 1 = on, 0 = nothing	1.* Boolean (1.001 switch)	-	W	-
8	Night mode	In: 1 = on, 0 = nothing	1.* Boolean (1.001 switch)	-	W	-
9	Heating output	Out: 1 = on, 0 = off	1.* Boolean (1.001 switch)	R	-	T
10	Cooling output	Out: 1 = on, 0 = off	1.* Boolean (1.001 switch)	R	-	T
11	Input 1	Out: Edge detect	1.* Boolean (1.001 switch)	R	W	T
11	Input 1	Out: Short press	1.* Boolean (1.001 switch)	R	W	T
11	Input 1	Out: Step dimmer	5.* 1-Byte Unsigned (5.001 scaling)	-	W	T
11	Port 1	In: Status LED	1.* Boolean (1.001 switch)	-	W	-
11	Port 1	In: Status LED, inverted	1.* Boolean (1.001 switch)	-	W	-
12	Input 2	Out: Edge detect	1.* Boolean (1.001 switch)	R	W	T
12	Input 2	Out: Short press	1.* Boolean (1.001 switch)	R	W	T
12	Input 2	Out: Step dimmer	5.* 1-Byte Unsigned (5.001 scaling)	-	W	T
12	Port 2	In: Status LED	1.* Boolean (1.001 switch)	-	W	-
12	Port 2	In: Status LED, inverted	1.* Boolean (1.001 switch)	-	W	-
13	Input 3	Out: Edge detect	1.* Boolean (1.001 switch)	R	W	T
13	Input 3	Out: Short press	1.* Boolean (1.001 switch)	R	W	T
13	Input 3	Out: Step dimmer	5.* 1-Byte Unsigned (5.001 scaling)	-	W	T
13	Port 3	In: Status LED	1.* Boolean (1.001 switch)	-	W	-
13	Port 3	In: Status LED, inverted	1.* Boolean (1.001 switch)	-	W	-
14	Input 4	Out: Edge detect	1.* Boolean (1.001 switch)	R	W	T
14	Input 4	Out: Short press	1.* Boolean (1.001 switch)	R	W	T
14	Input 4	Out: Step dimmer	5.* 1-Byte Unsigned (5.001 scaling)	-	W	T
14	Port 4	In: Status LED	1.* Boolean (1.001 switch)	-	W	-
14	Port 4	In: Status LED, inverted	1.* Boolean (1.001 switch)	-	W	-
15	Input 5	Out: Edge detect	1.* Boolean (1.001 switch)	R	W	T
15	Input 5	Out: Short press	1.* Boolean (1.001 switch)	R	W	T
15	Input 5	Out: Step dimmer	5.* 1-Byte Unsigned (5.001 scaling)	-	W	T
15	Port 5	In: Status LED	1.* Boolean (1.001 switch)	-	W	-
15	Port 5	In: Status LED, inverted	1.* Boolean (1.001 switch)	-	W	-
16	Input 1	Out: Long press	1.* Boolean (1.001 switch)	R	W	T
17	Input 2	Out: Long press	1.* Boolean (1.001 switch)	R	W	T
18	Input 3	Out: Long press	1.* Boolean (1.001 switch)	R	W	T
19	Input 4	Out: Long press	1.* Boolean (1.001 switch)	R	W	T
20	Input 5	Out: Long press	1.* Boolean (1.001 switch)	R	W	T