THERMASGARD® RTF 1

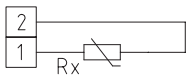
Room temperature sensor,
on-wall, with passive output

S+S REGELTECHNIK

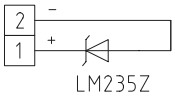
Room temperature sensor **THERM**ASGARD® **RTF 1** with passive output, in attractive plastic housing (Baldur 1) with snap-on enclosure cover, base with 4-hole attachment, for mounting on vertically or horizontally installed in-wall flush boxes, with predetermined breaking point for on-wall cable entry or in stainless steel housing (top and base made of stainless steel, screwed-on enclosure cover) as vandal-proof version e.g. for schools, barracks and public buildings.

This residential room temperature sensor is used to detect the temperature (–30 to +70 °C) in closed, dry rooms, in apartments, cinemas, supermarkets, storage rooms, office and business facilities.

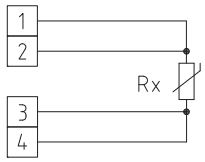
1x two-wire connection
standard



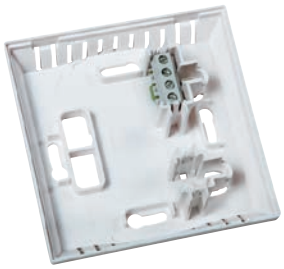
1x two-wire connection
LM 235 Z (KP 10)



1x four-wire connection
(optional)







TECHNICAL DATA

Measuring range:	–30...+70 °C
Sensor / output:	passive, see table
Switching type:	2-wire connection (4-wire connection for Pt100 / Pt1000A, optional for other sensors)
Testing current:	< 0.6 mA (Pt1000) < 1.0 mA (Pt100) < 0.3 mA (Ni1000, Ni1000 TK5000) < 2.0 mW (NTC xx) 400 µA...5 mA (LM235Z)
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010), optionally in stainless steel **V2A** (1.4301)
Dimension:	85 x 85 x 27 mm (Baldur 1) 75 x 75 x 25 mm (stainless steel **V2A** 1.4301)
Mounting:	wall mounting or on in-wall flush box, Ø 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for top / bottom cable entry for surface-mounted installation
Electrical connection:	0.14–1.5 mm², via screw terminals, secured against unscrewing, only with safety extra-low voltage, max. 24 VDC
Process connection:	via screws
Permitted humidity:	max. 90 % RH, non-condensing air
Protection class:	III (according to EN 60 730)
Protection type:	**IP 30** (according to EN 60 529)

THERMASGARD® **RTF 1**	Room temperature sensor (Standard)		
Type / WG03	**Sensor / Output**	**Item No.**	**Price**
RTF1 xx		Baldur 1	
RTF1 Pt100	Pt100 (according to DIN EN 60 751, class B)	1101-40A0-1003-000	**24,05 €**
RTF1 Pt1000	Pt1000 (according to DIN EN 60 751, class B)	1101-40A0-5000-000	**26,75 €**
RTF1 Pt1000A	Pt1000 (according to VDI / VDE 3512, class A-TGA)	1101-40A0-6003-000	**28,58 €**
RTF1 Ni1000	Ni1000 (according to DIN EN 43 760, class B, TCR = 6180 ppm / K)	1101-40A0-9000-000	**26,38 €**
RTF1 NiTK	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40A1-0000-000	**26,38 €**
RTF1 LM235Z	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40A2-1000-000	**24,67 €**
RTF1 NTC1,8K	NTC 1.8 K	1101-40A1-2000-000	**22,47 €**
RTF1 NTC10K	NTC 10K	1101-40A1-5000-000	**22,47 €**
RTF1 NTC20K	NTC 20K	1101-40A1-6000-000	**22,47 €**
Extra charge:	**Stainless steel housing** optional Other sensors optional	on request	**112,97 €**

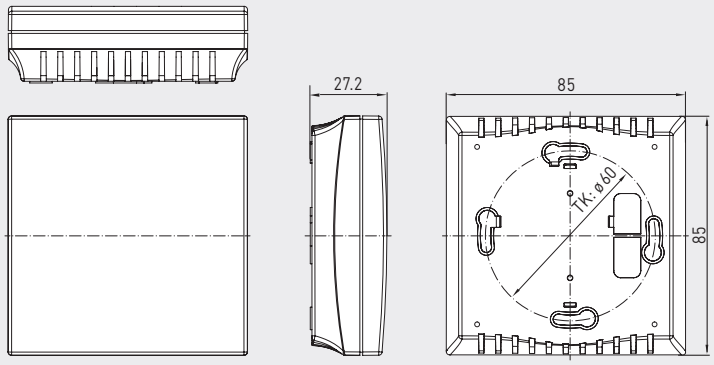
S+S REGELTECHNIK

THERMASGARD® RTF 1
THERMASGARD® RTF xx

Room temperature sensors / room control unit in different versions, on-wall, with passive output

Dimensional drawing
[mm]

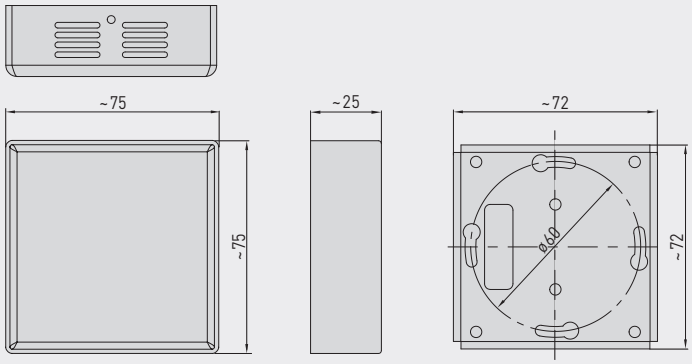
Housing **Baldur 1**



RTF 1
(Baldur 1)



Housing **stainless steel**

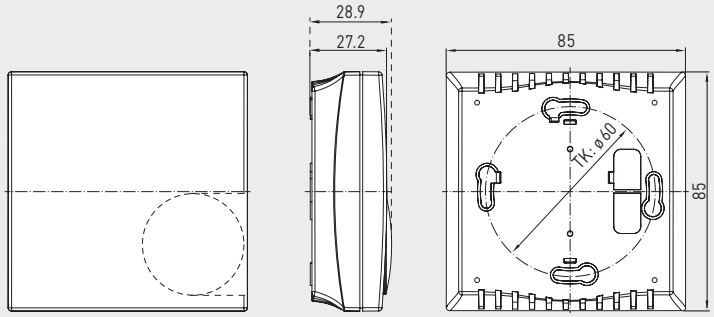


RTF 1
(stainless steel)



Dimensional drawing
[mm]

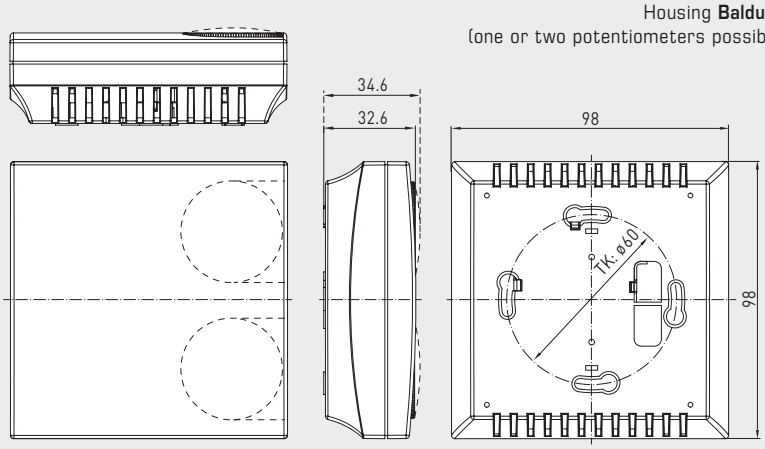
Housing **Baldur 1**
(only one potentiometer possible)



RTF xx
(Baldur 1)



Housing **Baldur 2**
(one or two potentiometers possible)



RTF xx
(Baldur 2)



THERMASGARD® RTF xx

**Room temperature sensors /
room control unit in different versions,
on-wall, with passive output**

S+S REGELTECHNIK

Room temperature sensor **THERM**ASGARD® **RTF xx** with passive output, in attractive plastic housing (Baldur 1 / Baldur 2) with snap-on enclosure cover, base with 4-hole attachment, for mounting on vertically or horizontally installed in-wall flush boxes, with predetermined breaking point for on-wall cable entry. Available as a room control unit in various type versions with **control elements** such as setpoint potentiometer (%), rotary switch (max. 5-step), rocker switch, push-button or coloured **LEDs** for displaying the operating states.

This residential room temperature sensor is used to detect / display the temperature (–30…+70 °C) in closed, dry rooms, in apartments, in cinemas, supermarkets, storage rooms, office and business facilities.

RTF xx
Potentiometer / rotary switch
with angle of rotation limiter
(Fig. without rotary knob)




(1)


(2)



(3)

The standard **print** is
a swelling arrow with
centre position unfilled (**1**)
optionally wedge-shaped and unfilled (**2**)
or with marking points ±3K… +3K (**3**)

TECHNICAL DATA

Measuring range:	–30…+70 °C
Sensor / output:	passive, see table
Switching type:	depending on type, see connection diagram
Testing current:	< 0.6 mA (Pt1000) < 1.0 mA (Pt100) < 0.3 mA (Ni1000, Ni1000 TK5000) < 2.0 mW (NTC xx) 400 µA…5 mA (LM235Z)
Potentiometer:	Standard 1 kOhm, max. 0.1 W (other values optionally available upon request, e.g. 100 Ohm, 2.5 kOhm, 5 kOhm, 10 kOhm – units with active potentiometer **RTM xx**), with angle of rotation limiter
Rotary switch:	max. 24 V AC / DC, max. 130 mA, up to 5 switching speeds (0, Auto, I, II, III), with angle of rotation limiter
Rocker switch:	max. 24 V AC / DC, max. 130 mA
Push-button:	NO contact, max. 24 VDC, max. 10 mA
LED:	max. 24 VDC (optionally max. 24 VAC), standard green and red (optionally red, yellow or two-tone)
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimension:	85 x 85 x 27 mm (Baldur 1) 98 x 98 x 33 mm (Baldur 2)
Mounting:	wall mounting or on in-wall flush box, Ø 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for top/ bottom cable entry for surface-mounted installation
Electrical connection:	0.14–1.5 mm², via screw terminals, only with safety extra-low voltage, max. 24 V DC
Process connection:	via screws
Permitted humidity:	max. 90 % RH, non-condensing air
Protection class:	III (according to EN 60 730)
Protection type:	**IP 30** (according to EN 60 529)

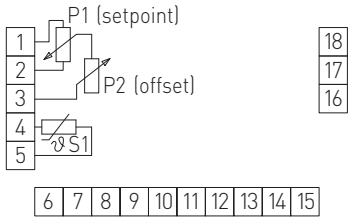
THERMASGARD® **RTF xx**	Room temperature sensor Baldur 1 / Baldur 2)
RTF xx	various equipment versions see type tables
Please specify with special orders:	**Ohm value** of potentiometer (standard is 1 kOhm; optionally 100 Ohm, 2.5 kOhm, 5 kOhm, 10 kOhm) **Swelling arrow type** (standard print is filled with centre position; optionally wedge-shaped or with marking points –3K… +3K) deviating **wiring requests** (available upon request)
Extra charge:	**unique special print** – see "Accessories" chapter
Note:	Unit versions with **active** potentiometer, see **RTM xx –** special versions available upon request



RTF xx P
(Baldur 1)

Version with sensor and potentiometer (1 kOhm, max. 0.1 W)

Connection diagram **RTF xx P**



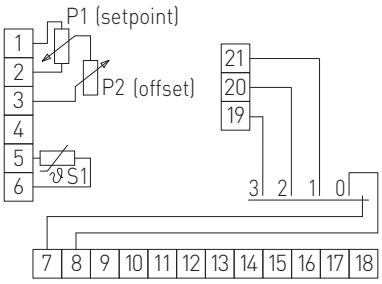
THERMASGARD® RTF xx P	Room temperature sensor with potentiometer			
Type / WG01	**Sensor / Output**	**Display**	**Item No.**	**Price**
RTF xx P			Baldur 1	
RTF Pt100 P	Pt100 (according to DIN EN 60751, class B)		1101-40A0-1001-345	**48,50 €**
RTF Pt1000 P	Pt1000 (according to DIN EN 60751, class B)		1101-40A0-5001-345	**49,82 €**
RTF Ni1000 P	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)		1101-40A0-9001-345	**51,14 €**
RTF NiTK P	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000		1101-40A1-0001-345	**51,82 €**
RTF LM235Z P	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10		1101-40A2-1001-345	**49,82 €**
RTF NTC1,8K P	NTC 1,8 K		1101-40A1-2001-345	**49,96 €**
RTF NTC10K P	NTC 10K		1101-40A1-5001-345	**48,50 €**
RTF NTC20K P	NTC 20K		1101-40A1-6001-345	**48,50 €**
Note:	Unit versions with active potentiometer, see **RTM xx**			



RTF xx PD
(Baldur 2)

Version with sensor, potentiometer (1 kOhm, max. 0.1 W) and and turn switch (max. 24 V AC/DC, max. 130 mA)

Connection diagram **RTF xx PD**



THERMASGARD® RTF xx PD	Room temperature sensor with potentiometer and rotary switch		
Type / WG01	**Sensor / Output**	**Item No.**	**Price**
RTF xx PD		Baldur 2	
RTF Pt100 P D4	Pt100 (according to DIN EN 60751, class B)	1101-40B0-1007-349	**54,95 €**
RTF Pt1000 P D4	Pt1000 (according to DIN EN 60751, class B)	1101-40B0-5007-349	**56,97 €**
RTF Ni1000 P D4	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)	1101-40B0-9007-349	**57,29 €**
RTF NiTK P D4	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40B1-0007-349	**59,67 €**
RTF LM235Z P D4	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40B2-1007-349	**59,01 €**
RTF NTC1,8K P D4	NTC 1,8 K	1101-40B1-2007-349	**59,12 €**
RTF NTC10K P D4	NTC 10K	1101-40B1-5007-349	**57,65 €**
RTF NTC20K P D4	NTC 20K	1101-40B1-6007-349	**57,65 €**
Note:	Special versions available upon request		

THERMASGARD® RTF xx

**Room temperature sensors /
room control unit in different versions,
on-wall, with passive output**

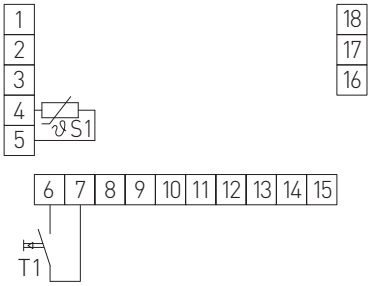
S+S REGELTECHNIK



RTF xx T
(Baldur 1)

Version with sensor and
push-button (max. 24 V DC, max. 10 mA)

Connection diagram **RTF xx T**



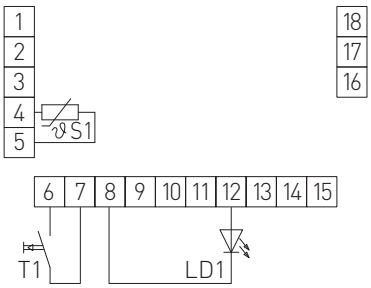
THERMASGARD® RTF xx T	Room temperature sensor with push-button		
Type / WG01	**Sensor / Output**	**Item No.**	**Price**
RTF xx T		Baldur 1	
RTF Pt100 T	Pt100 (according to DIN EN 60751, class B)	1101-40A0-1617-000	**45,89 €**
RTF Pt1000 T	Pt1000 (according to DIN EN 60751, class B)	1101-40A0-5617-000	**45,89 €**
RTF Ni1000 T	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)	1101-40A0-9617-000	**47,73 €**
RTF NiTK T	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40A1-0617-000	**48,91 €**
RTF LM235Z T	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40A2-1617-000	**48,39 €**
RTF NTC1,8K T	NTC 1,8 K	1101-40A1-2617-000	**48,66 €**
RTF NTC10K T	NTC 10K	1101-40A1-5617-000	**45,24 €**
RTF NTC20K T	NTC 20K	1101-40A1-6617-000	**45,24 €**
Note:	Special versions available upon request		



RTF xx LT
(Baldur 1)

Version with sensor, LED (green) and
push-button (max. 24 V DC, max. 10 mA)

Connection diagram **RTF xx LT**



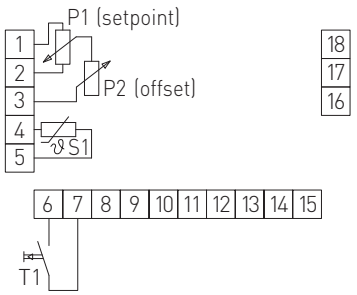
THERMASGARD® RTF xx LT	Room temperature sensor with LED and push-button		
Type / WG01	**Sensor / Output**	**Item No.**	**Price**
RTF xx LT		Baldur 1	
RTF Pt100 L T	Pt100 (according to DIN EN 60751, class B)	1101-40A0-1593-002	**48,50 €**
RTF Pt1000 L T	Pt1000 (according to DIN EN 60751, class B)	1101-40A0-5593-002	**50,27 €**
RTF Ni1000 L T	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)	1101-40A0-9593-002	**50,62 €**
RTF NiTK L T	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40A1-0593-002	**54,34 €**
RTF LM235Z L T	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40A2-1593-002	**49,65 €**
RTF NTC1,8K L T	NTC 1,8 K	1101-40A1-2593-002	**54,03 €**
RTF NTC10K L T	NTC 10K	1101-40A1-5593-002	**48,97 €**
RTF NTC20K L T	NTC 20K	1101-40A1-6593-002	**48,97 €**
Note:	Special versions available upon request		



RTF xx PT
(Baldur 1)

Version with sensor, potentiometer (1 kOhm, max. 0.1 W) and push-button (max. 24 V DC, max. 10 mA)

Connection diagram **RTF xx PT**



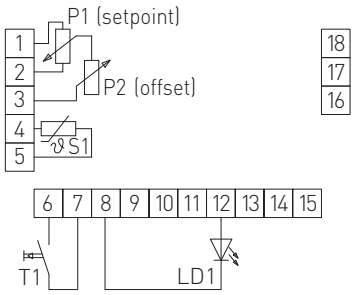
THERMASGARD® RTF xx PT	Room temperature sensor with potentiometer and push-button		
Type / WG01	**Sensor / Output**	**Item No.**	**Price**
RTF xx PT		Baldur 1	
RTF Pt100 P T	Pt100 (according to DIN EN 60751, class B)	1101-40A0-1021-345	**53,64 €**
RTF Pt1000 P T	Pt1000 (according to DIN EN 60751, class B)	1101-40A0-5021-345	**55,67 €**
RTF Ni1000 P T	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)	1101-40A0-9021-345	**56,00 €**
RTF NiTK P T	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40A1-0021-345	**58,36 €**
RTF LM235Z P T	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40A2-1021-345	**57,70 €**
RTF NTC1,8K P T	NTC 1,8 K	1101-40A1-2021-345	**57,81 €**
RTF NTC10K P T	NTC 10K	1101-40A1-5021-345	**56,32 €**
RTF NTC20K P T	NTC 20K	1101-40A1-6021-345	**56,32 €**
Note:	Special versions available upon request		



RTF xx PLT
(Baldur 1)

Version with sensor, potentiometer (1 kOhm, max. 0.1 W), LED (green) and push-button (max. 24 V DC, max. 10 mA)

Connection diagram **RTF xx PLT**



THERMASGARD® RTF xx PLT	Room temperature sensor with potentiometer, LED and push-button		
Type / WG01	**Sensor / Output**	**Item No.**	**Price**
RTF xx PLT		Baldur 1	
RTF Pt100 P L T	Pt100 (according to DIN EN 60751, class B)	1101-40A0-1663-347	**68,37 €**
RTF Pt1000 P L T	Pt1000 (according to DIN EN 60751, class B)	1101-40A0-5663-347	**71,80 €**
RTF Ni1000 P L T	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)	1101-40A0-9663-347	**72,12 €**
RTF NiTK P L T	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40A1-0663-347	**75,25 €**
RTF LM235Z P L T	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40A2-1663-347	**70,42 €**
RTF NTC1,8K P L T	NTC 1,8 K	1101-40A1-2663-347	**74,74 €**
RTF NTC10K P L T	NTC 10K	1101-40A1-5663-347	**68,37 €**
RTF NTC20K P L T	NTC 20K	1101-40A1-6663-347	**68,37 €**
Note:	Special versions available upon request		

THERMASGARD® RTF xx

**Room temperature sensors /
room control unit in different versions,
on-wall, with passive output**

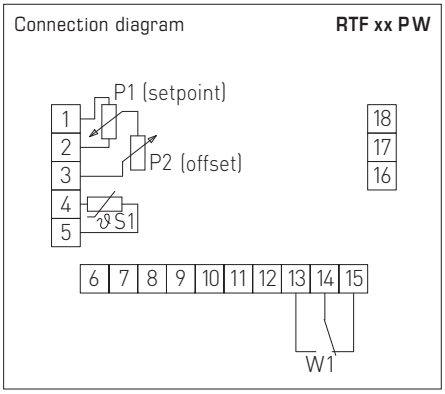
S+S REGELTECHNIK



RTF xx P W
(Baldur 1)

Version with sensor,
potentiometer (1 kOhm, max. 0.1 W) and
rocker switch (max. 24 V AC/DC, max. 130 mA)

Connection diagram **RTF xx P W**



THERMASGARD® RTF xx PW	Room temperature sensor with potentiometer and rocker switch		
Type / WG01	**Sensor / Output**	**Item No.**	**Price**
RTF xx P W		Baldur 1	
RTF Pt100 P W	Pt100 (according to DIN EN 60751, class B)	1101-40A0-1061-348	**54,43 €**
RTF Pt1000 P W	Pt1000 (according to DIN EN 60751, class B)	1101-40A0-5061-348	**56,38 €**
RTF Ni1000 P W	Ni1000 (according to DIN EN 43760, class B, TCR = 6180 ppm / K)	1101-40A0-9061-348	**56,92 €**
RTF NiTK P W	Ni1000 TK5000 (TCR = 5000 ppm / K), LG-Ni1000	1101-40A1-0061-348	**59,01 €**
RTF LM235Z P W	LM235Z (TCR = 10 mV / K; 2.73 V at 0 °C), KP10	1101-40A2-1061-348	**58,36 €**
RTF NTC1,8K P W	NTC 1,8 K	1101-40A1-2061-348	**58,89 €**
RTF NTC10K P W	NTC 10K	1101-40A1-5061-348	**57,06 €**
RTF NTC20K P W	NTC 20K	1101-40A1-6061-348	**57,06 €**
Note:	Special versions available upon request		

Room temperature sensors / room control unit in different versions, on-wall, with passive output

Operating elements Baldur 1 — Possible combinations	1	2	3	4	5	6
Sensor 1	●	●	●	●	●	●
Sensor 2	●		●			
Sensor 3 LM235Z with calibrating pot (4-wire)	●			●	●	
Potentiometer 1 with / without series resistor	●	●	●	●		
Potentiometer 2 with calibrating pot					●	●
LED 1 (max. one LED)						
LED 2 (max. two LEDs)						
LED 3 (max. three LEDs)						
LED 4 (max. four LEDs)	●	●	●	●	●	●
Rocker switch		●	●			●
Push-button 1 (max. one button)	●		●		●	●
Push-button 2 (max. two buttons)		●		●		

With 4-conductor-circuitry, Sensor 3 is used, thus a maximum of 3 LEDs is possible.
LM235Z with calibrating pot = calibration of sensor output signal.
Satchwell switching possible with sensor 2.
Turn switches are not possible with Baldur 1!

Please specify in your order:
Ohm rating of potentiometer (e. g. 100 Ohm, 1 kOhm, 2.5 kOhm, 5 kOhm, 10 kOhm)
Colour of LED (e. g. green, red, yellow)
Printing, form of swelling arrow (wedge-shaped or with central position, points or numerical scale)
Requested features regarding operating and / or display elements and wiring
We offer special designs on request in written form including approval drawing.
Special printing: See last chapter "Accessories"

Operating elements Baldur 2 — Possible combinations	1	2	3	4	5	6	7	8	9	10
Sensor 1	●	●	●	●	●	●	●	●	●	●
Sensor 2 LM235Z with calibrating pot	●						●			
Sensor 3 with heat sink (4-wire)										
Potentiometer 1 (at bottom) with / without series resistor	●	●		●		●	●	●		●
Potentiometer 2 (at top)		●						●		
Key switch (at bottom)			●						●	
Turn switch 1 (at top) with / without series resistor				●						●
Turn switch 2 (at bottom)					●					
LED 1 (max. one LED)										
LED 2 (max. two LEDs)										
LED 3 (max. three LEDs)		●						●		
LED 4 (max. four LEDs)				●						●
LED 5 (max. five LEDs)	●		●		●		●		●	
LED 6 (max. six LEDs)						●				
Rocker switch	●	●	●	●	●	●				
Push-button 1 (max. one button)										
Push-button 2 (max. two buttons)	●	●	●		●	●				●
Push-button 3 (max. three buttons)										
Push-button 4 (max. four buttons)							●	●	●	

Sensor 3 can also be used instead of sensor 1.
LM235Z with calibrating pot = calibration of sensor output signal.
In the case cascade connections with turn switch 1, LEDs are not possible!
With the Baldur 2 housing, only one operating element is possible at each of the positions "(at bottom)" and "(at top)"!