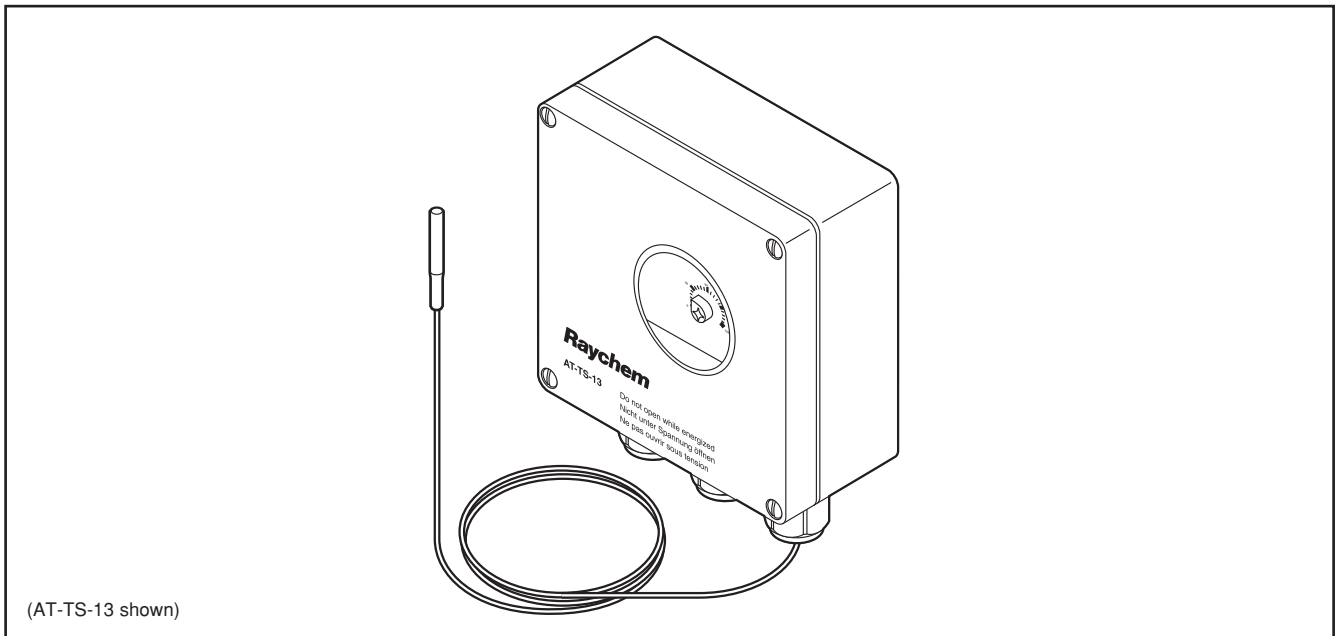


## Surface sensing thermostat, electronic

A surface sensing thermostat provides temperature control in safe areas. The maximum rated voltage is 230VAC. The electric switching element is rated for 16A maximum at 250VAC. The temperature set point can be checked through a

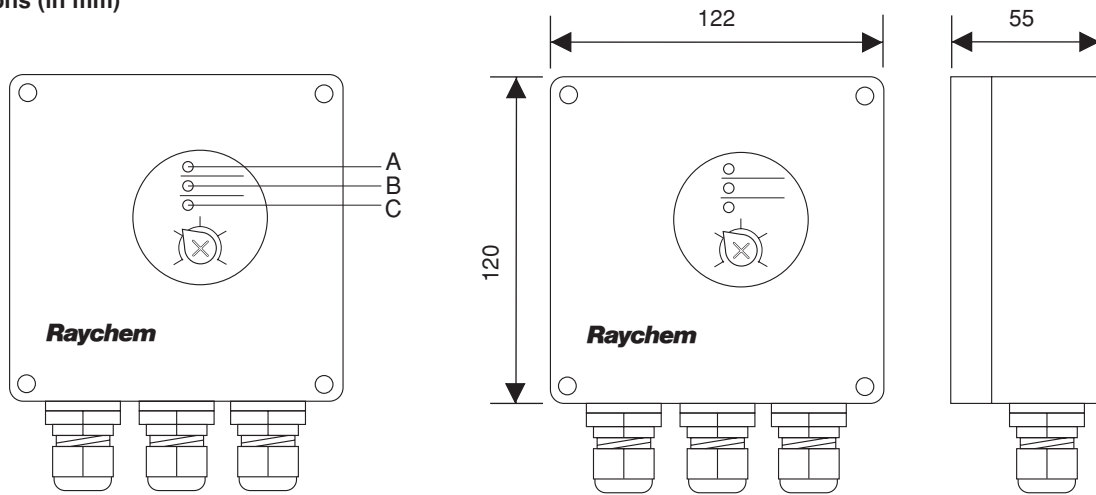
window in the lid as well as the LED indication for the alarm. The sensor is a 3 meter long PTC cable and can be shortened for ambient sensing operation. Direct connection of the heating element is possible through the

M25 cable gland. The thermostat is available in 2 temperature ranges:  $-5^{\circ}\text{C} +15^{\circ}\text{C}$  and  $0^{\circ}\text{C} +120^{\circ}\text{C}$ .



	AT-TS-13	AT-TS-14
<b>General</b>		
Area of use	Ordinary area, outdoors	Ordinary area, outdoors
Supply voltage	230 VAC +10% -15% 50/60 Hz	230 VAC +10% -15% 50/60 Hz
Max. switching current	16 A, 250 Vac	16 A, 250 Vac
Max. conductor size	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Switching differential	0.6 K to 1 K	0.6 K to 1 K
Switching accuracy	$\pm 1$ K at $5^{\circ}\text{C}$ (calibration point)	2 K at $60^{\circ}\text{C}$ (calibration point)
Switch type	SPST (normally open)	SPST (normally open)
Adjustable temperature range	$-5^{\circ}\text{C}$ to $+15^{\circ}\text{C}$	$0^{\circ}\text{C}$ to $+120^{\circ}\text{C}$
<b>Housing</b>		
Temperature setting	inside	inside
Exposure temperature	$-20^{\circ}\text{C}$ to $+50^{\circ}\text{C}$	$-20^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
Ingress protection	IP65 according to EN 60529	IP65 according to EN 60529
Entries	1 x M20 for supply cable ( $\varnothing 8-13$ mm) 1 x M25 for heating element ( $\varnothing 11-17$ mm) 1 x M16 for the sensor	1 x M20 for supply cable ( $\varnothing 8-13$ mm) 1 x M25 for heating element ( $\varnothing 11-17$ mm) 1 x M16 for the sensor
Material	ABS	ABS
Lid fixing	nickel-plated quick release screws	nickel-plated quick release screws
Mounting	SB-110 and SB-111 or surface mount	SB-110 and SB-111 or surface mount

Dimensions (in mm)

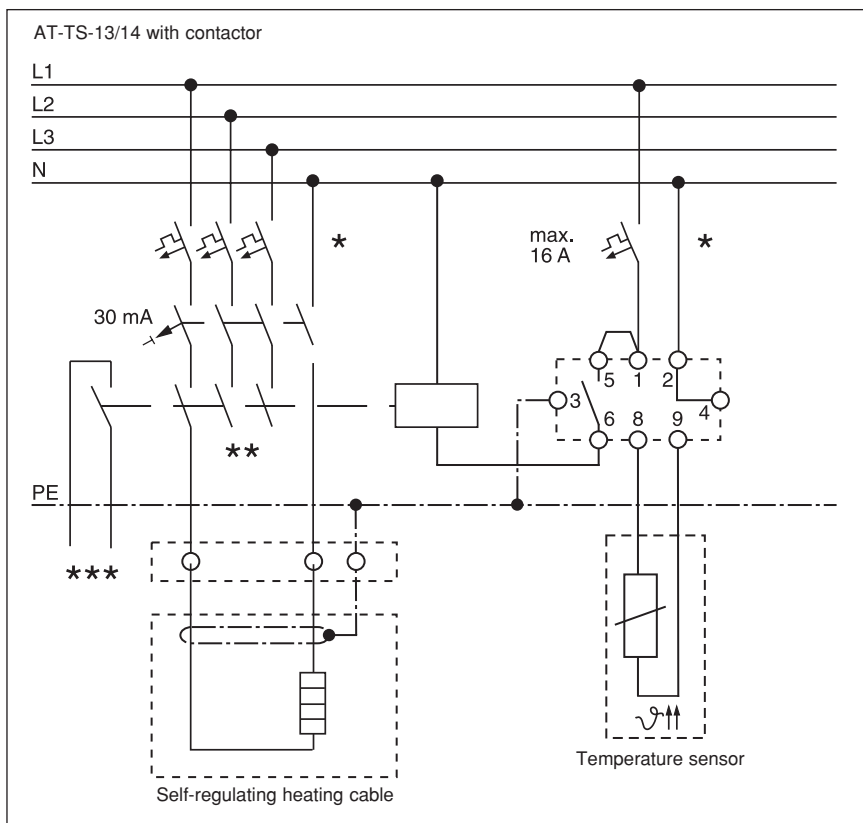
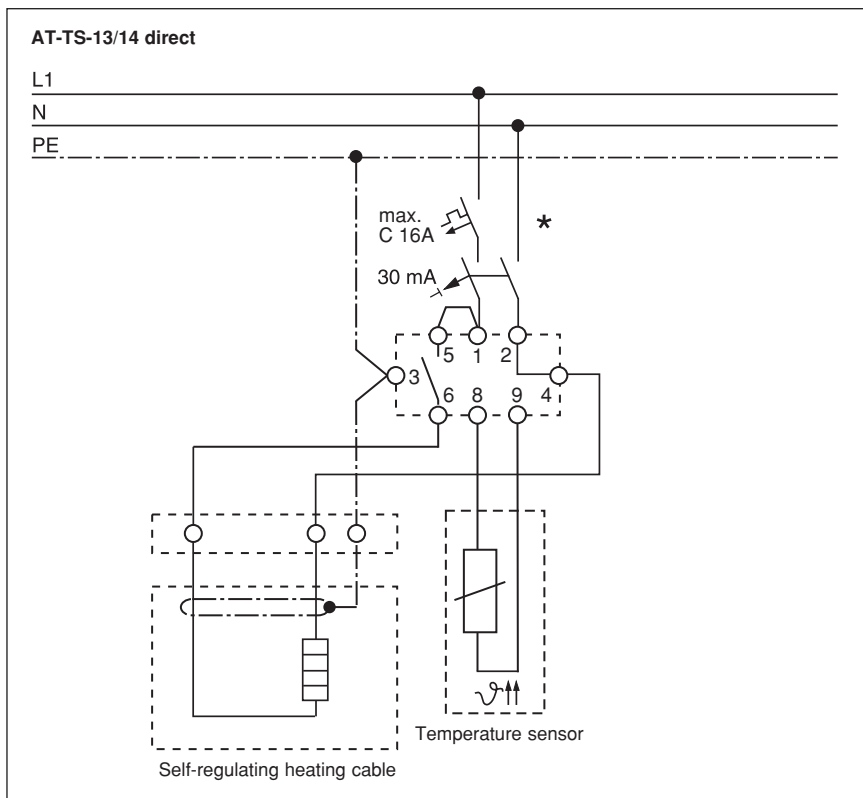


- A Green LED Heating cable on
- B Red LED Sensor break
- C Red LED Sensor short-circuit

	AT-TS-13	AT-TS-14
<b>Temperature sensor (HARD-69)</b>		
Type	PTC KTY 83-110	PTC KTY 83-110
Length sensor cable	3 m	3 m
Diameter sensor cable	5.5 mm	5.5 mm
Diameter sensor head	6.5 mm	6.5 mm
Max. exposure temperature sensor cable	160°C	
<p>The sensor cable may be extended to a maximum of 100 m using a 2-conductor wire with a cross-section of 1.5 mm<sup>2</sup>. The sensor cable should be shielded if it is laid in cable ducts or in the vicinity of high-voltage carrying cables. The shield of the extension cable should be grounded at the controller end only.</p>		
<b>Out put parameters</b>		
Alarm on LED	Green LED: Heating Cable ON Red LED: Sensor break Red LED: Sensor short-circuit	Green LED: Heating Cable ON Red LED: Sensor break Red LED: Sensor short-circuit
<b>Ordering details</b>		
Part description	AT-TS-13	AT-TS-14
PN (Weight)	728129-000 (440 g)	648945-000 (440 g)
<b>Accessories</b>		
PA Reducer	REDUCER-M25/M20-PA M25 male/M20 female	REDUCER-M25/M20-PA M25 male/M20 female
PN	184856-000	184856-000
Temperature sensor	HARD-69	HARD-69
PN (Weight)	133571-000 (180 g)	133571-000 (180 g)

Control and Monitoring

Wiring diagram for thermostat AT-TS-13 or AT-TS-14



\* Two- or four-pole electrical protection by circuit-breaker may be needed for local circumstances, standards and regulations  
 \*\* Depending on the application, one- or three-pole circuit-breakers or contactors may be used  
 \*\*\* Optional: Potential-free circuit-breaker for connection to the BMS