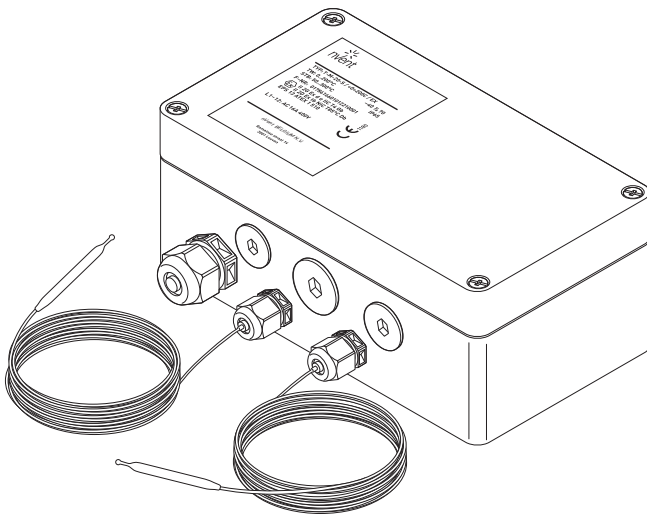


# T-M-20-S/+X+Y/EX

## CONNECT AND PROTECT

### Surface sensing thermostat with safety limiter for hazardous area

#### PRODUCT OVERVIEW



A surface sensing thermostat providing temperature control and temperature limit in hazardous areas.

The safety limiter prevents the heating system exceeding a preset maximum temperature should the control function fail to operate or an unsafe process temperature occur. The maximum rated voltage is 400 VAC. The switching current capacity is 16 A maximum via independent Ex d single pole change over micro switches with volt-free contacts.

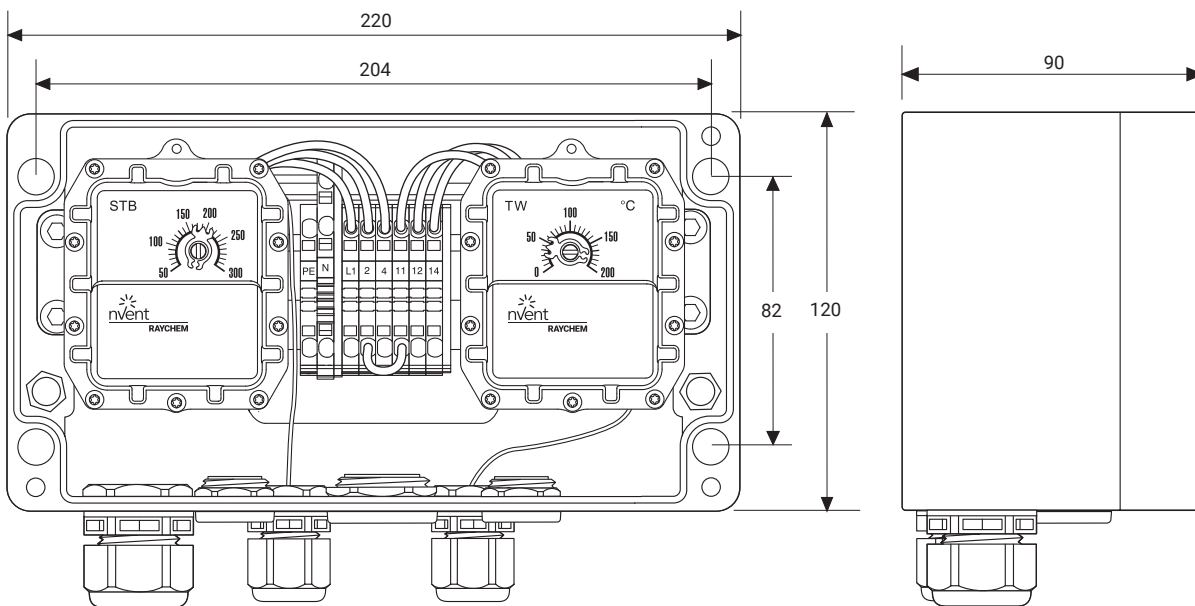
The switches are mounted within an Ex e enclosure together with a spring-type terminal block for fast easy connection. The sensors are 3 meter long stainless steel fluid filled bulb and capillary.

The thermostat is delivered with Ex approved power cable glands and plugs and the entries offer the possibility for a variety of connections such as connecting M25 and M20 glands for direct heating cable entry or alarm output.

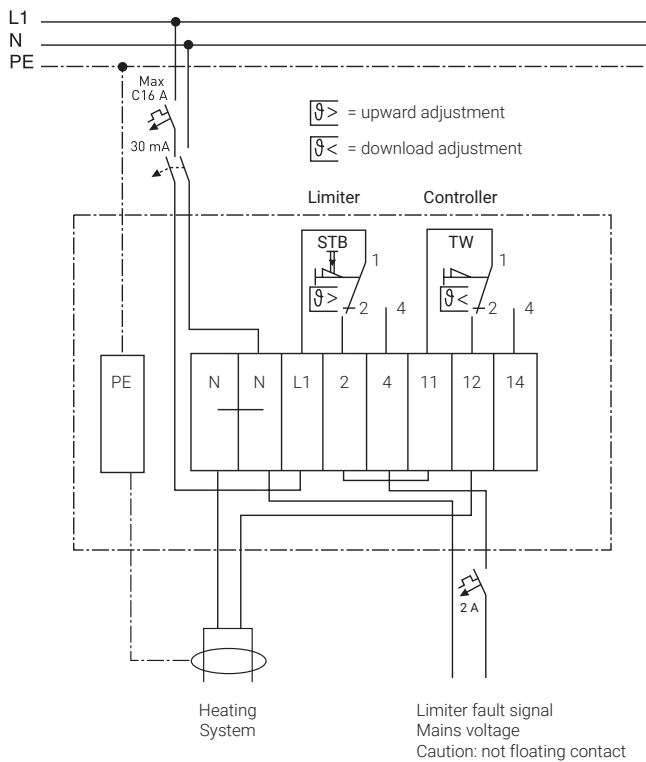
The thermostat with limiter is available in 3 temperature ranges: +0°C +120°C, +0°C +200°C and +50°C +300°C

#### PRODUCT SPECIFICATIONS

##### Dimensions (in mm)



## Connection details



## Technical details

		T-M-20-S/+0+120C/EX	T-M-20-S/+0+200C/EX	T-M-20-S/+50+300C/EX
Temperature setting	Controller	+0°C to +120°C	+0°C to +200°C	+50°C to +300°C
	Limiter	+0°C to +120°C	+50°C to +300°C	+50°C to +300°C
Switching type		Single pole change over (SPDT) >100.000 cycles at I nom	Single pole change over (SPDT) >100.000 cycles at I nom	Single pole change over (SPDT) >100.000 cycles at I nom
Switching capacity		Maximum 16 A at 400 Vac, resistive load	Maximum 16 A at 400 Vac, resistive load	Maximum 16 A at 400 Vac, resistive load
Hysteresis/Differential	Controller	max. 2.5% range, calibrated downwards	max. 2.5% range, calibrated downwards	max. 2.5% range, calibrated downwards
	Limiter	max 7% calibrated upwards	max. 7.5%, calibrated upwards	max. 7.5%, calibrated upwards
Setting		Inside enclosure	Inside enclosure	Inside enclosure
Reset limiter		Inside enclosure by means of a screwdriver		
Terminal size		4 mm <sup>2</sup>	4 mm <sup>2</sup>	4 mm <sup>2</sup>
Terminal type		spring-type terminals	spring-type terminals	spring-type terminals
Ambient operating temp. range		-60°C to +70°C	-40°C to +70°C	-40°C to +70°C

## Output parameters

Control relay	Change-over switch	Change-over switch	Change-over switch
Limiter relay	Change-over switch with possibility for external alarm Capillary leakage detection system		

## Enclosure

	T-M-20-S/+0+120C/EX	T-M-20-S/+0+200C/EX	T-M-20-S/+50+300C/EX
Protection	IP65	IP65	IP65
Dimension	220 x 120 x 90 mm	220 x 120 x 90 mm	220 x 120 x 90 mm
Materials body and lid	Black, glass filled polyester enclosure	Black, glass filled polyester enclosure	Black, glass filled polyester enclosure
Lid fixing	4 captive screws, stainless steel	4 captive screws, stainless steel	4 captive screws, stainless steel
Entries	6 entries: 1 x M25 gland (Ø 8-17 mm): power supply 1 x M25 stopping plug: output to heating cables 2 x M20 stopping plug: output to heating cables (possibility to connect single conductor heating element) 2 x M20: capillary sensors		

## Temperature sensor

Type		Fluid filled capillary, 3 m long	Fluid filled capillary, 2 m long	Fluid filled capillary, 2 m long
Dimensions	Controller	Ø 6 mm; length sensing element = 90 mm	Ø 6 mm; length sensing element = 72 mm	Ø 4 mm; length sensing element = 135 mm
	Limiter	Ø 6 mm; length sensing element = 58 mm	Ø 4 mm; length sensing element = 78 mm	Ø 4 mm; length sensing element = 78 mm
Material			stainless steel	stainless steel
Temperature exposure	Controller	-40°C +138°C	-40°C +230°C	-40°C +345°C
	Limiter	-40°C +138°C	-40°C +345°C	-40°C +345°C
Minimum bending radius		5 mm for capillary (not for sensor)	5 mm for capillary (not for sensor)	5 mm for capillary (not for sensor)

## Mounting method

Support bracket	SB-120, SB-125 or surface mounting via 4 fixing holes at 204 x 82 centres		
PN		SB-120	165886-000
		SB-125	1244-00603

## APPROVALS

For use in ordinary and hazardous area Zone 1 and Zone 2 (Gas), Zone 21 and Zone 22 (Dust)

### Temperature classification

T6...T4

### Product certification



More details about product certification, approvals and conditions of safe use are available in the installation manual at [www.nVent.com/RAYCHEM](http://www.nVent.com/RAYCHEM).

## ORDERING INFORMATION

Ordering References:	PN Number	Weight
T-M-20-S/+0+200C/EX	1244-013410	2 kg
T-M-20-S/+50+300C/EX	1244-013411	2 kg
T-M-20-S/+0+120C/EX	1244-016536	2 kg

### Meaning of reference: nVent RAYCHEM T-M-20-S/+x+y/Ex

T = thermostat

M = mechanical thermostat

20 = control thermostat + limiter

S = surface sensing

x = min temperature of control range

y = max temperature of control range

Ex = hazardous area

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