



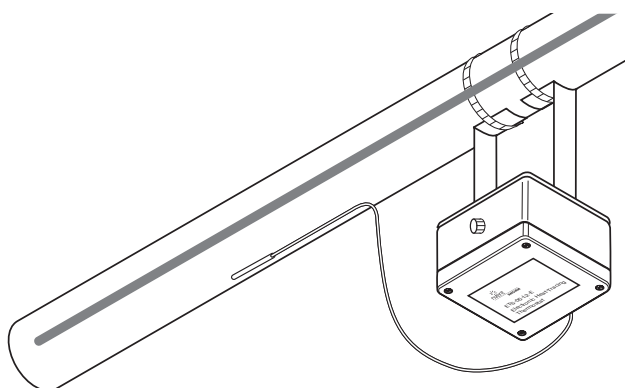
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# ETS-05

## Surface and ambient sensing electronic thermostat

### PRODUCT OVERVIEW



nVent RAYCHEM ETS-05 electronic surface and ambient sensing thermostat provides accurate temperature control for heating cables.

The ETS-05 is available in many versions. The ETS-05-L2-E is for temperatures up to 199°C, while the ETS-05-H2-E can be used for temperatures up to 499°C. The ETS-05-A2-E is an ambient sensing thermostat with a temperature setpoint in the range of 0°C to +49°C.

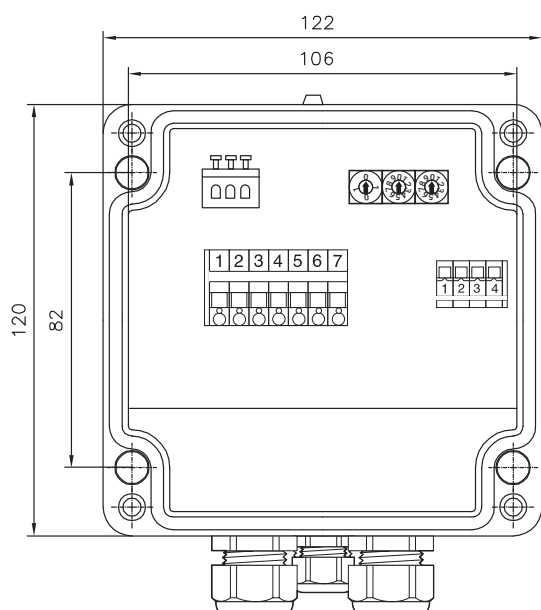
The maximum nominal load is 32 A for the thermostats. Temperature setting is accurate via digital rotary switches inside the enclosure.

The ETS-05 is available with an alarm relay for remote monitoring.

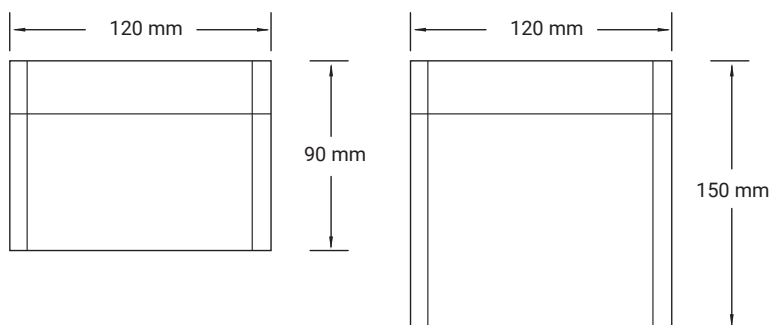
The ETS-05 has a LED indicator which indicates the status of the thermostat (powered on/off), the status of the heat-tracing cable (powered on/off) and the status of the sensor. In case of sensor failure, the thermostat can switch to an on or off state, depending upon the user's requirement.

### Dimensions (in mm)

#### Top view



#### Side view



ETS-05 versions without alarming, without extended voltage range

ETS-05 versions with extended voltage range and/or alarm relay



## PRODUCT SPECIFICATIONS

The following table shows the general information applicable for all versions of the ETS-05.

Maximum sensor lead resistance	20 Ohm
Ingress protection	IP66
Switching accuracy	±1 K at 5°C, 2 K at 499°C
Switching differential (Hysteresis)	≈ 3°C
Output relay	Single pole change over type (SPST)
Switching capacity	32 A resistive load
Ambient temperature range	-40°C to +60°C (ATEX / IECEx) -60°C to +60°C (EAC Ex)
Internal power consumption	3 VA
Terminal size	max. 6 mm <sup>2</sup>
Cable gland entries	2 x M25: 1 x M25 gland for power cable in 1 x M25 rain plug for heating cable out 1 x M20 gland for alarm wire (when alarm relay is available in unit)
Sensor	The ETS-05 for ATEX/IECEx countries includes a sensor. The ETS-05 for EAC countries does not include a sensor. The sensor needs to be ordered separately.
Alarm light	Green: ETS-05 powered on, heat-tracing cable off Yellow: ETS-05 powered on, heat-tracing cable on Red flashing: Sensor failure, controller in fail-safe mode
Fail safe	Fail safe "On" and Fail Safe "Off" configurable
Weight	ETS-05 with Alarm Relay 2.38 kg Other versions: 1.64 kg

### Versions

The ETS-05 is available in different versions. These are:

#### ETS-05-AB-CD-E

Letters ABCDE described in table below

Type description ETS-05		
<b>"A":</b>	Setpoint range	Temperature measurement range
<b>A: Ambient Sensing</b>	0°C to +49°C	-65°C to +260°C
<b>L: Line Sensing, Low Temp.</b>	0°C to +199°C	-65°C to +260°C
<b>H: Line Sensing, High Temp.</b>	0°C to +499°C	-65°C to +585°C
<b>"B"</b>	Voltage range	
<b>1: 110 Vac</b>	99-121 Vac	
<b>1R: 110 Vac</b>	99-132 Vac	
<b>2: 230 Vac</b>	195-230 Vac +10%	
<b>2R: 277 Vac</b>	195-277 Vac +3%	
<b>"C"</b>		
<b>E: ATEX / IECEx approved (IEC countries)</b>		
<b>J: ATEX / IECEx approved (for Japan)</b>		
<b>"D"</b>		
<b>P: Earth Plate</b>		
<b>"E"</b>		
<b>A: Alarm Relay</b>	NO and NC contacts	275 Vac, 3 A resistive load max
<b>(EAC) in the product name indicates that the product has a Russian language label on it for Eurasian Customs Union countries.</b>		
<b>Examples:</b>		
ETS-05-L2-EP: ETS-05 thermostat, setpoint range 0-199°C, 195-230 Vac, ATEX/IECEx approved, Earth Plate		
ETS-05-H2R-EP-A: ETS-05 thermostat, setpoint range 0-499°C, 195-277 Vac, ATEX/IECEx, Earth Plate, Alarm Relay		

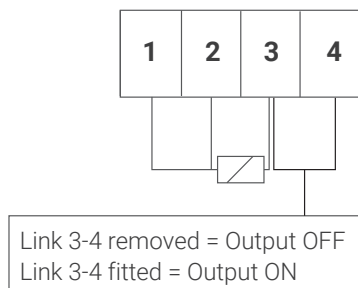
## Terminals

### Power terminals

1	2	3	4	5	6	7
Line Out	Neutral Out	Neutral Supply	230 V Supply	Earth	Earth	Earth

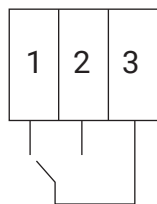
Terminals 2 and 3 are joined electrically  
Terminals 5, 6 and 7 are joined electrically

### Sensor/Failure mode select terminals



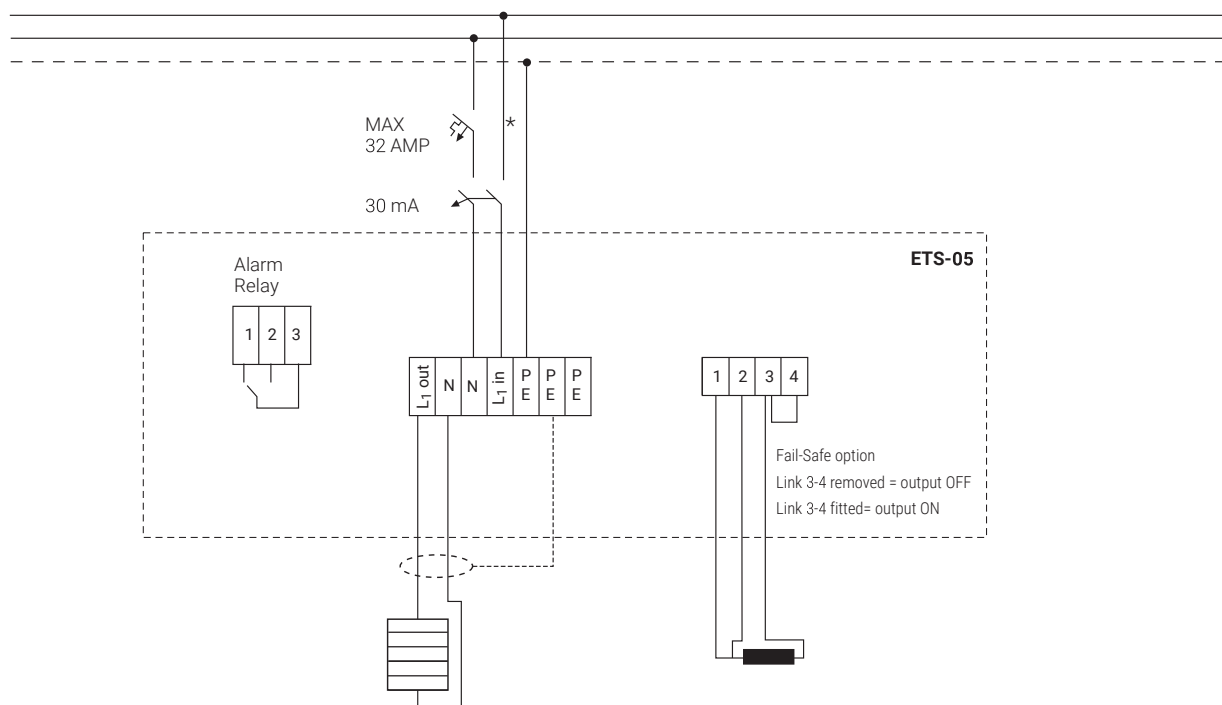
Terminals 1 to 3 allow for the connection of a three wire PT100 sensor.  
Terminals 3 to 4 allow the user to select the default heating status on sensor error. Without a link fitted the heating will turn OFF if a sensor error is detected (default). With a link fitted the heating will turn ON if a sensor error is detected

### Alarm relay



Healthy situation: 1-3 is closed, 2-3 is open  
Alarm situation: 1-3 is open, 2-3 is closed

### Typical wiring diagram for direct switching



\* Circuit breaker configuration may vary according to local standards / requirements

### Mounting method

Support bracket SB-100, SB-101, SB-110, SB-111, SB-130 or surface mounting with 4 fixing holes on 106 x 82 mm centers

## APPROVALS

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

### Temperature classification

T5

### 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 DETAILS

Product Name	Part Number	Product Name	Part Number
ETS-05-L2-E	1244-014367	ETS-05-L2-E (EAC)	1244-022701
ETS-05-H2-E	1244-014368	ETS-05-H2-E (EAC)	1244-022702
ETS-05-A2-E	1244-022311	ETS-05-A2-E (EAC)	1244-022700
ETS-05-L2-EP	1244-017508	ETS-05-L2-EP (EAC)	1244-022703
ETS-05-H2-EP	1244-017509	ETS-05-H2-EP (EAC)	1244-022704
ETS-05-A2-E-A	1244-022663	ETS-05-A2-E-A (EAC)	1244-022710
ETS-05-L2-EP-A	1244-022669	ETS-05-L2-EP-A (EAC)	1244-022713
ETS-05-H2-EP-A	1244-022670	ETS-05-H2-EP-A (EAC)	1244-022714
ETS-05-H2R-EP-A	1244-022680	ETS-05-H2R-EP-A (EAC)	1244-022719

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