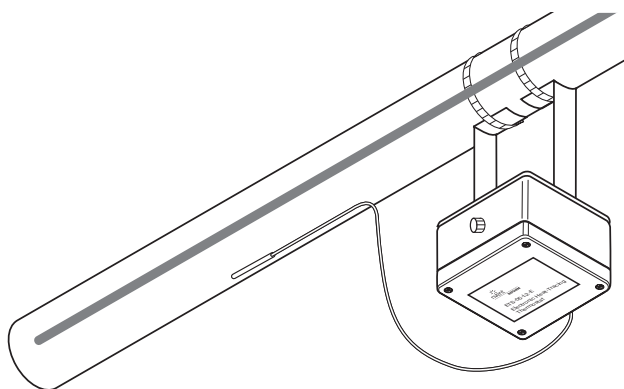


Surface and Ambient Sensing Electronic Thermostat

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.

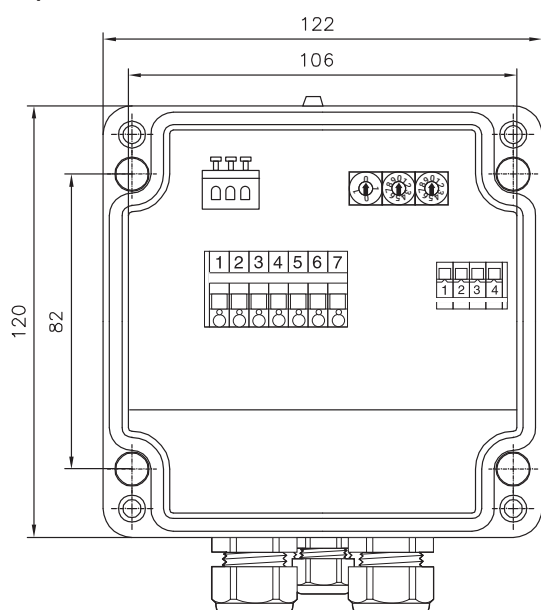
The maximum nominal load is 32 A for the thermostats. Temperature setting is accurate via digital rotary switches inside the enclosure.

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

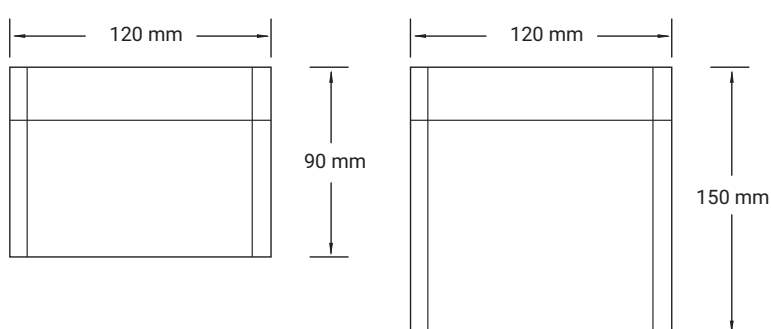
The ETS-05 has a LED indicator which indicates the status of the thermostat (powered on/off), the status of the heat-tracing cable (powered on/off) and the status of the sensor. In case of sensor failure, the thermostat can switch to an on or off state, depending upon the user's requirement.

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

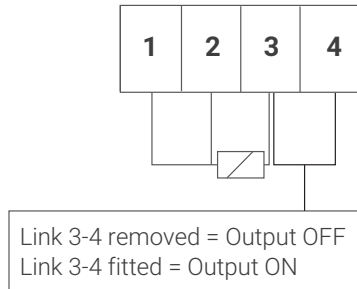
Power Terminals

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

Terminals 2 and 3 are joined electrically

Terminals 5, 6 and 7 are joined electrically

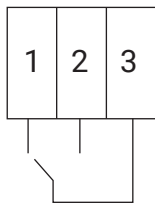
Sensor/Failure Mode Select Terminals



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

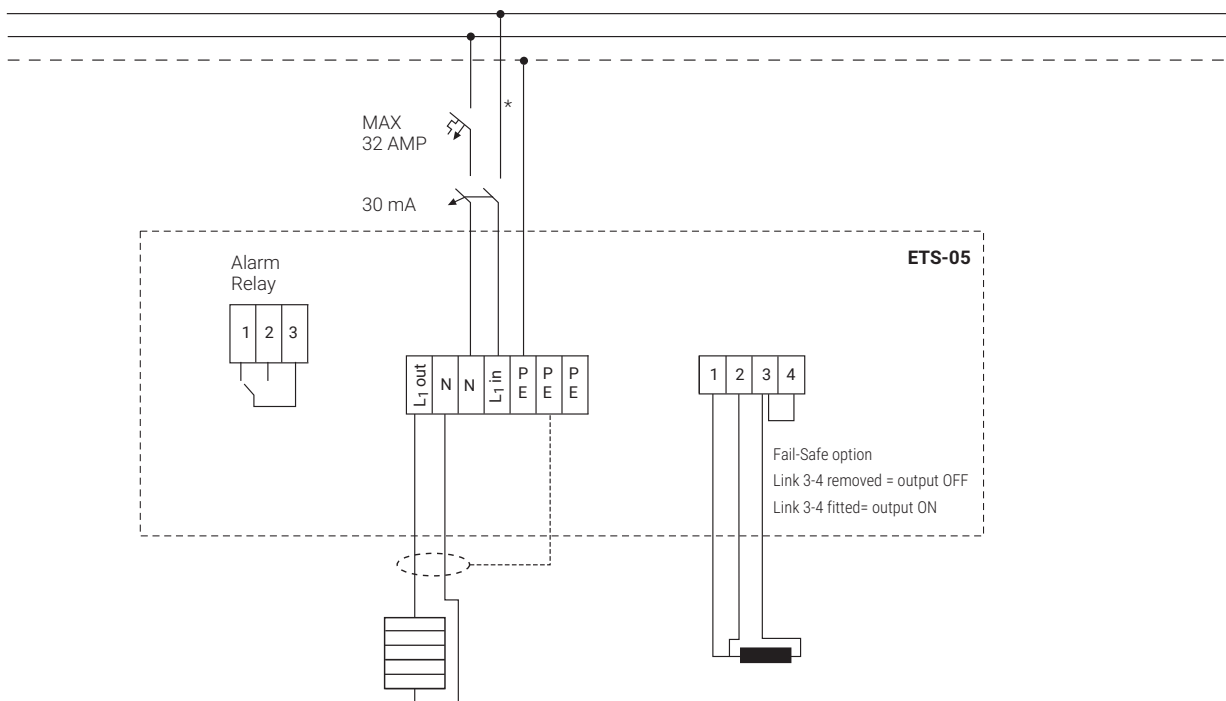
Alarm Relay



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

ATEX Baseefa13ATEX0137

Ex II 2(1)G Ex eb ia mb [ia Ga] IIC T5 Gb $-40^{\circ}\text{C} \leq \text{Ta} \leq +60^{\circ}\text{C}$

Ex II 2D Ex tb IIIC T100°C Db

IECEX BAS 13.0071

Ex eb ia mb [ia Ga] IIC T5 Gb $(-40^{\circ}\text{C} \leq \text{Ta} \leq +60^{\circ}\text{C})$

Ex tb IIIC T100°C Db $(-40^{\circ}\text{C} \leq \text{Ta} \leq +60^{\circ}\text{C})$

Russian Approvals:

All ETS-05 versions marked with (EAC) have the following EAC Ex certification:



EAЭC RU C-BE.AЖ58.B.02648/22

ООО Центр «ПрофЭкс»

Ex 1Ex e ia mb [ia Ga] IIC T5 Gb

Ex Ex tb IIIC T100°C Db IP66

$-60^{\circ}\text{C} \leq \text{Ta} \leq +60^{\circ}\text{C}$

ORDERING DETAILS

Product Name	Reference Number
ETS-05-L2-E	1244-014367
ETS-05-H2-E	1244-014368
ETS-05-A2-E	1244-022311
ETS-05-L2-EP	1244-017508
ETS-05-H2-EP	1244-017509
ETS-05-A2-E-A	1244-022663
ETS-05-L2-EP-A	1244-022669
ETS-05-H2-EP-A	1244-022670
ETS-05-H2R-EP-A	1244-022680

Product Name	Reference Number
ETS-05-L2-E (EAC)	1244-022701
ETS-05-H2-E (EAC)	1244-022702
ETS-05-A2-E (EAC)	1244-022700
ETS-05-L2-EP (EAC)	1244-022703
ETS-05-H2-EP (EAC)	1244-022704
ETS-05-A2-E-A (EAC)	1244-022710
ETS-05-L2-EP-A (EAC)	1244-022713
ETS-05-H2-EP-A (EAC)	1244-022714
ETS-05-H2R-EP-A (EAC)	1244-022719

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