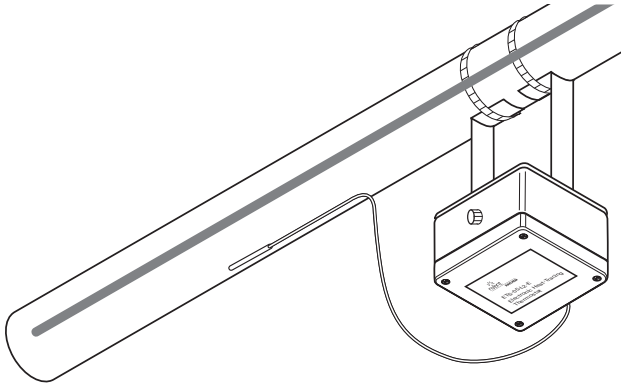


### SURFACE AND AMBIENT SENSING ELECTRONIC THERMOSTAT



#### PRODUCT OVERVIEW

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

The ETS-05 is available in three 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 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 users requirement.

#### PRODUCT CHARACTERISTICS

	ETS-05-L2-E (P)	ETS-05-H2-E (P)	ETS-05-A2-E
Application	Surface sensing	Surface sensing	Ambient sensing
Area of use	Hazardous area: Zone 1 or Zone 2 (Gas) or Zone 21 or Zone 22 (Dust) Ordinary		

#### APPROVALS CERTIFICATION

All units:

 II 2(1)G II 2D  
 Ex e ia mb (Ga) IIC T5 Gb  
 Ex tb IIIC T100°C Db IP66  
 Ta -40 to +60°C Supply = 99-121V  
 (ETS-05-x1-x) or 195-230V  
 (ETS-05-x2-x)  
 IECEx BAS 13.0071  
 Baseefa13ATEX0137

ETS-05-L2-E(P)



TC RU C-BE.ИМ43.В.01764  
 000 "ТехИмпорт"  
 1Ex e ia mb [iaGa] IIC T5 Gb X  
 Ex tb IIIC T100°C  
 Db X IP66  
 Ta -52°C...+60°C

ETS-05-H2-E(P):



TC RU C-BE.ИМ43.В.01764  
 000 "ТехИмпорт"  
 1Ex e ia mb [iaGa] IIC T5 Gb  
 Ex tb IIIC T100°C Db IP66  
 Ta -60°C...+60°C

ETS-05-A2-E

No EAC Ex available yet

**PRODUCT SPECIFICATION**

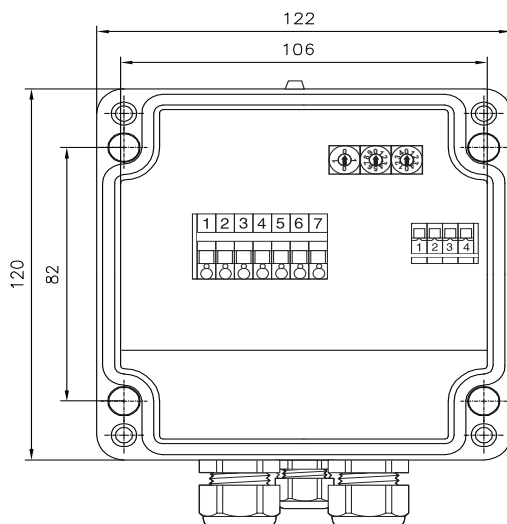
No earth plate (standard)	Order ETS-05-L2-E	Order ETS-05-H2-E	Order ETS-05-A2-E
With earth plate (optional)	Order ETS-05-L2-EP	Order ETS-05-H2-EP	
Temperature setpoint range	0°C to 199°C	0°C to 499°C	0°C to 49°C
Temperature measurement range	-55°C to 260°C	-55°C to 585°C	-55°C to 260°C
Maximum sensor lead resistance	20 Ohm	20 Ohm	20 Ohm
Ingress protection	IP66	IP66	IP66
Switching accuracy	±1 K at 5°C	±1 K at 5°C, 2K at 499°C	±1 K at 5°C
Switching differential (Hysteresis)	≈ 3°C	≈ 3°C	≈ 3°C
Output relay	Single Pole change over type (SPST)	Single Pole change over type (SPST)	Single Pole change over type (SPST)
Switching capacity	32 A resistive load	32 A resistive load	32 A resistive load
Ambient temperature range	-40°C to + 60°C	-40°C to + 60°C	-40°C to + 60°C
Supply voltage	230 V +10% / -15% 50/60 Hz	230 V +10% / -15% 50/60 Hz	230 V +10% / -15% 50/60 Hz
Internal power consumption	3 VA	3 VA	3 VA
Terminal size	max. 6 mm <sup>2</sup>	max. 6 mm <sup>2</sup>	max. 6 mm <sup>2</sup>

**PRODUCT SPECIFICATION**

Cable entries	2 x M25: 1 x M25 gland for power cable in 1 x M25 rain plug for heating cable out	2 x M25: 1 x M25 gland for power cable in 1 x M25 rain plug for heating cable out	2 x M25: 1 x M25 gland for power cable in 1 x M25 rain plug for heating cable out
Sensor	M16 gland with 3 wire PT100 flexible sensor, 2 m long	M16 gland with 3 wire PT100, stainless steel sensor, 2 m long,	MONI-PT100-EXE-AMB sensor

**LED STATUS INDICATIONS**

Green: ETS-05 powered on, heat-tracing cable off	Green: ETS-05 powered on, heat-tracing cable off	Green: ETS-05 powered on, heat-tracing cable off
Yellow: ETS-05 powered on, heat-tracing cable on	Yellow: ETS-05 powered on, heat-tracing cable on	Yellow: ETS-05 powered on, heat-tracing cable on
Red flashing: Sensor failure - controller in fail safe mode	Red flashing: Sensor failure - controller in fail safe mode	Red flashing: Sensor failure - controller in fail safe mode

**DIMENSIONS (IN MM)**

Remark: The ETS-05-A2-E has two rotary switches for the temperature set point. Range is between 0°C and 49°C

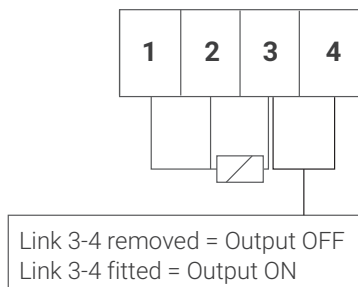
**Power Terminals**

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**



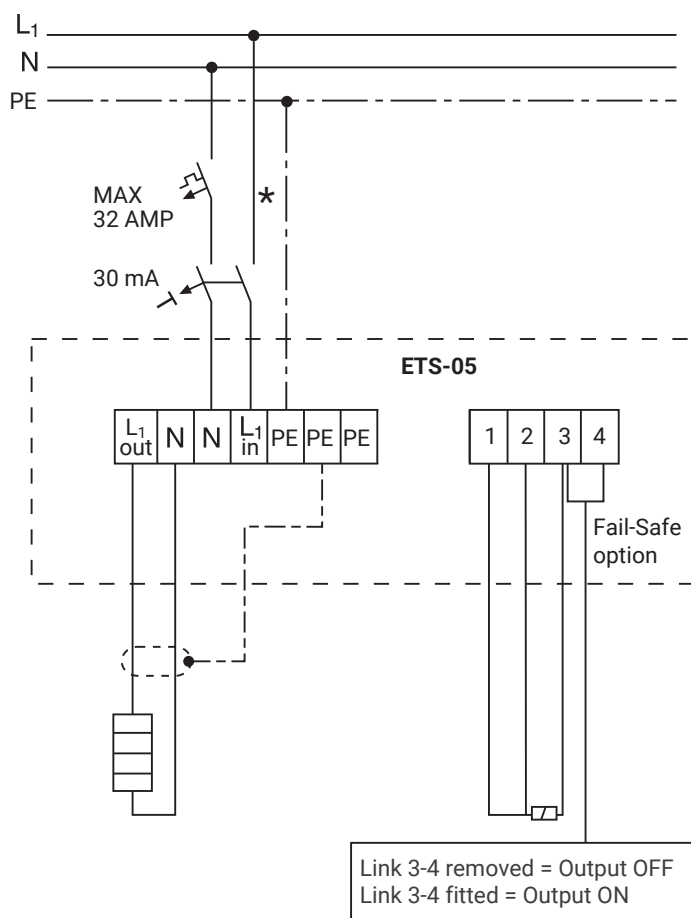
Terminals 1 to 3 allow for the connection of a three wire PT100 sensor.

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

**TYPICAL WIRING DIAGRAM FOR DIRECT SWITCHING**



\* Circuit breaker configurations 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 centres	Support bracket SB-100, or SB-101, SB-110, SB-111, SB-130 or surface mounting with 4 fixing holes on 106 x 82 mm centres	To be mounted at representative location for correct ambient temperature measurement.
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## ETS-05 VARIATIONS 110V

Below variations share all characteristic (except EAC Ex) with the referenced products.  
The voltage range of these thermostats differ as indicated.

Reference product	Voltage range
ETS-05-L1-J	99-121V +10%, 50/60 Hz
ETS-05-L1-JP	99-121V +10%, 50/60 Hz
ETS-05-H1-J	99-121V +10%, 50/60 Hz
ETS-05-H1-JP	99-121V +10%, 50/60 Hz

## ORDERING DETAILS

Product name	Reference number
ETS-05-L2-E	1244-014367
ETS-05-L2-EP	1244-017508
ETS-05-H2-E	1244-014368
ETS-05-H2-EP	1244-017509
ETS-05-A2-E	1244-022311
ETS-05-L1-J	1244-015658
ETS-05-L1-JP	1244-017510
ETS-05-H1-J	1244-015659
ETS-05-H1-JP	1244-017511

### North America

Tel +1.800.545.6258  
Fax +1.800.527.5703  
thermal.info@nVent.com

### Europe, Middle East, Africa

Tel +32.16.213.511  
Fax +32.16.213.604  
thermal.info@nVent.com

### Asia Pacific

Tel +86.21.2412.1688  
Fax +86.21.5426.3167  
cn.thermal.info@nVent.com

### Latin America

Tel +1.713.868.4800  
Fax +1.713.868.2333  
thermal.info@nVent.com



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