



EU-TYPE EXAMINATION CERTIFICATE

Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU

EU-Type Examination Certificate No: FM12ATEX0014X

Equipment or protective system: HTSX Parallel Circuit Self-Regulating Heating Cable Systems
(Type Reference and Name)

Name of Applicant: Thermon Inc

Address of Applicant: 100 Thermon Drive
San Marcos, Texas 78666
United States of America

This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3042407 dated 29th January 2014

Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN IEC 60079-0:2018, EN 60079-30-1:2017 and EN 60529:1991+A1:2000+A2:2013

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

The marking of the equipment or protective system shall include:



II 2 G Ex 60079-30-1 IIC T* Gb
II 2 D Ex 60079-30-1 IIC T* Db
-60°C<Ta<+55°C

* Temperature Classes depend on the cable model and are given on the following page.

Digitally signed by
Richard Zammitt
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Richard Zammitt
Certification Manager, FM Approvals Europe Ltd.

Issue date: 25th April 2019

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SCHEDULE

to EU-Type Examination Certificate No. FM12ATEX0014X

13 Description of Equipment or Protective System:

HTSX Parallel Circuit Heat Trace Cable Systems are intended to heat metal or plastic piping and vessels. The products are twin-lead parallel circuit self-regulating heating cables that produce heat inversely proportional to pipe temperature. The cable is rated 3 to 20 watts per foot (10 to 66 W/m) and has temperature ratings of 150°C for maximum maintenance, 250°C for maximum intermittent exposure (power on) as well as maximum exposure temperature (power off). The maximum rated voltage is 277 Vac. The maximum exposure temperature is 230°C for ET-8C, PETK-2, SCTK-2, TBX-4LC kits or 250°C for the SK-SX kit.

* Temperature Class:

Using "product classification approach"

T3 for Category 2G; T200°C for Category 2D; for HTSX 3-1, 3-2, 6-1, 6-2, 9-1, 9-2, 12-1, 12-2, 15-2

215°C (T2) for Category 2G; T215°C for Category 2D; for HTSX 15-1, 20-1

230°C (T2) for Category 2G; T230°C for Category 2D; for HTSX 20-2

Using "systems approach – stabilized and controlled design verification":

T3...T2 for Category 2G; T200°C... T300°C for Category 2D.

The HTSX Series cables meet the requirements for Degree of Protection IP66 in accordance with EN 60529. The final Degree of Protection of the equipment depends on the ratings of the wiring accessory kits that are separately certified.

HTSXa-b-c. Parallel Circuit Self-Regulating Heating Cable Systems

a = Output, W/ft @ 50°F (W/m @ 10°C): 3 (10), 6 (20), 9 (30), 12 (39), 15 (49), or 20 (66)

b = Voltage: 1 or 2

c = Outerjacket Material Option: OJ

14 Specific Conditions of Use:

Heating cable systems must be installed using the manufacturer's suitably rated accessory kits in accordance with the applicable instructions.

For insulated externally heated surfaces, lower T- class systems may be obtained by utilizing stabilized design of a trace heating system using methods described in EN 60079-30-2, using CompuTrace Electric Heat Tracing Design Software or by Therman Engineering. The system design parameters, including the resulting T-class, shall be retained as a record of system documentation for each stabilized system design for as long as the system is in use. The parameters in the system documentation shall be checked during commissioning of the system.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals

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Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
5 th February 2014	Original Issue.
29 th March 2017	<u>Supplement 1:</u> Report Reference: RR208795 dated 27 th March 2017 Description of the Change: Updating to EU-Type Examination Certificate, updating the standards used, adding the Specific Conditions of Use, and updating temperature characteristics.
19 th June 2017	<u>Supplement 2:</u> Report Reference: 3062371 dated 16 th June 2017 Description of the Change: Drawing updates and testing conducted in order to qualify reduction of conductive braid coverage from 80% to 70% and in order to clarify existing cable material descriptions given on controlled documentation.
25 th April 2019	<u>Supplement 3:</u> Report Reference: RR217536 dated 27 th March 2019 Description of the Change: Gap analysis evaluation satisfactorily conducted, marking and documentation updates made in order to demonstrate continued compliance with EN IEC 60079-0:2018 and EN 60079-30-1:2017, clarification added to temperature ratings and in order to address CE number change from 1725 to 2809 with transfer of QAN. Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., no. 2809.

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Blueprint Report

Thermon Inc (1000001137)

Class No **ATEX**

Original Project I.D. **3042407**

Certificate I.D. **FM12ATEX0014X**

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>
A0118009	4	HTSX Heating Cable Design Specifications	3062371
OP 5.61.1	R20	HTSX / KSX Cable Marking	RR217536
PN 50207U	0319	Electrical Heat Tracing Installation Instructions	RR217536
TEP0074	0219	HTSX Product Specifications	RR217536