IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx CML 15.0057X**

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Certificate history:
Issue 2 (2019-05-16)
Issue 1 (2018-04-26)
Issue 0 (2018-03-09)

Status: **Current**

Issue No: 3

Date of Issue: 2021-10-13

Applicant: **Heat Trace Limited**
Mere's Edge
Chester Road
Helsby
Frodsham
Cheshire WA6 0DJ
United Kingdom

Equipment: **HTS1FAR-A (40/60) Series Resistance Round Longline (LLR-HV/Longline R)**

Optional accessory:

Type of Protection: **Resistance Trace Heating & Dust**

Marking: Ex 60079-30-1 IIC T* Gb
Ex 60079-30-1 IIIC T**°C Db IP67

* & ** Refer to Description for temperature class/assigned maximum surface temperature options.

Maximum withstand temperature Tp = 230°C

Approved for issue on behalf of the IECEx Certification Body: **R C Marshall**

Position: **Operations Manager**

Signature: (for printed version)

Date: 2021-10-13

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

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Manufacturer: **Heat Trace**
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Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC/IEEE 60079-30-1:2015 Edition:1.0	Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/CML/ExTR18.0065/00 GB/CML/ExTR18.0065/01 GB/CML/ExTR18.0305/00
GB/CML/ExTR21.0232/00

Quality Assessment Report:

GB/CML/QAR19.0027/04

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Longline Round High Voltage (LLR-HV) is a series of round electric resistance heating cables for long cross-country pipelines. The LLR-HV have an aluminium core, silicone rubber insulations, aluminium sheath and optional non-metallic outer jackets (MFA, PFA, TPE, Silicone, HDPE or Polypropylene). The series is rated for a voltage of up to 6,000 V a.c. single-phase and 10,000 V a.c. three-phase.

The series offers seven cables differing in core diameter from 40 mm to 60 mm.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to Annex for specific conditions of use.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1

This issue introduced the following change:

1. To incorporate correction to the product reference in the title, correction of the conductor core size in the table within the product description, and to include the certificate numbers of the HLRS in the product description

Issue 2

This issue introduced the following changes:

1. To assess and permit the addition of optional materials for the outer jacket.
2. To recognise the replacement of drawing LLR-05/C Rev.0 with drawing TK/HTS1FAR/C Rev.0.
3. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the documents previously listed, EN 60079-0:2012+A11:2013 and IEC 60079-0:2011 Ed. 6, are replaced by EN 60079-0:2018 and IEC 60079-0:2017 Ed. 7 respectively.
4. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the documents previously listed, EN 60079-30-1:2007 and IEC 60079-30-1:2007 Ed. 1, are replaced by EN 60079-30-1:2017 and IEC/IEEE 60079-30-1:2015-09 Ed. 1 respectively; as a result, the markings of the equipment were updated.

Issue 3

This issue introduced the following changes:

1. To assess and permit the addition of optional materials for the outer jacket; as a result the product description was amended.
2. To enhance clarity, minor editorial amendments to the Conditions of Manufacture.

Annex:

IECEx CML 15.0057X Iss. 3 Certificate Annex.pdf

Annexe to:	**IECEx CML 15.0057X Issue 3**
Applicant:	**Heat Trace Limited**
Apparatus:	**HTS1FAR-A (40/60) Series Resistance Round Longline (LLR-HV / Longline R)**

Description

The Longline Round High Voltage (LLR-HV) is a series of round electric resistance heating cables for long cross-country pipelines. The LLR-HV have an aluminium core, silicone rubber insulations, aluminium sheath and optional non-metallic outer jackets (MFA, PFA, TPE, PVDF, Silicone, HDPE or Polypropylene). The series is rated for a voltage of up to 6,000 V a.c. single-phase and 10,000 V a.c. three-phase.

The series offers cables with a core diameter of 40 mm or 60 mm.

Product Type	Conductor Size (mm^2)	Conductor Resistance (OHM/KM @ 20°C)
HTS1FAR-A 40	7	0.740 (+/- 5%)
HTS1FAR-A 60	9	0.458 (+/- 5%)

The cables are permitted for a maximum temperature of 230°C and supplied in line with customer's specific application. They are to be installed directly on to pipeline under insulation in accordance with the manufacturer's installation instructions.

The cables should be supplied/installed with consideration to the maximum pipe/workpiece temperatures below:

Product Type	Nominal Output (W/m)	Maximum Permissible Workpiece Temperatures (°C)					
		T6 T85°C	T5 T100°C	T4 T135°C	T3 T200°C	T2 T300°C	T1 T450°C
HTS1FAR-A 40	10	49	68	112	189	230	230
	20	10	34	85	177	230	230
	30	-	-	54	152	230	230
	40	-	-	23	130	230	230
	50	-	-	-	107	228	228
HTS1FAR-A 60	10	53	71	114	190	230	230
	20	25	44	91	174	230	230
	30	-	14	66	159	230	230
	40	-	-	40	140	230	230
	50	-	-	-	121	230	230

The Longline Round High Voltage (LLR-HV) may be spliced or terminated with the use of the HLRS splice, certificate numbers IECEx CML 17.0150U.

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The Longline Round High Voltage (LLR-HV) has the following temperature limitations:

Without HLRS	With HLRS fitted
Maximum withstand temperature (Tp): 230°C	Maximum withstand temperature (Tp): 90°C
Minimum ambient temperature: -60°C	Minimum ambient temperature: -40°C
Minimum installation temperature: -40°C;	Minimum installation temperature: -40°C

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. The primary electrical insulating jacket shall withstand a dry spark test at a minimum of 6,000 Vac. Alternatively, a dielectric strength test of 2U + 1,000 Vrms shall be applied between the conductors and the electrically conductive covering/braid for 60 seconds, as required by Clause 5.1.2 of IEC/IEEE 60079-30-1:2015-09 Ed. 1.
ii. A dielectric strength test of the polymeric sheath (outer jacket) used for corrosion resistance shall be carried out in accordance with the requirements of IEC/IEEE 60079-30-1:2015-09 Ed. 1 Clause 5.2.1.
iii. The manufacturer shall verify the output rating for each cable manufactured in accordance with IEC/IEEE 60079-30-1:2015-09 Ed. 1 clause 5.2.2.
iv. The manufacturer shall demonstrate, through their quality programme, the thermal safety of the trace heating cable with respect to time.
v. A copy of this certificate shall be provided with the equipment or made available on request.
vi. Each unit shall be marked with the temperature class and assigned maximum surface temperature appropriate to the maximum permissible workpiece temperature, as defined on this certificate.

Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

i. The equipment comprises previously certified parts; the user and/or installer shall install and commission the equipment taking into account any restrictions or specific conditions of use that are applicable to the previously certified devices/parts that are fitted to the equipment.