



EU-TYPE EXAMINATION CERTIFICATE

Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

Certificate Number: **Sira 00ATEX1179X** **6**

Equipment: **HYL 80 LST, HYL 80 LS EXD and HYL LED Fibre Optic Process Lights**

Applicant: **J M Canty International Limited**

Address: Ballycoolin Business Park
Blanchardstown
Dublin 15
Ireland

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

Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 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 the confidential reports listed in Section 14.2.

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

EN 60079-0/A11:2013

EN 60079-1:2014

EN 60079-31:2014

EN 60079-26:2015

EN 60079-28:2015

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

The marking of the equipment shall include the following:

HYL80-LST and HYL80-LS-EXD Lights



II 1/2 GD

Ex db IIC T4...T3 Ga/Gb

Ex tb IIIC T98°C...T161°C Db

See specific conditions of use for ambient and process temperatures.

HYL LED Lights



II 1/2 GD

Ex db op is IIC T6...T5 Ga/Gb

Ex tb op is IIIC T73°C...T85°C Db

C. Ellaby

Project Number 70036398

C Ellaby
Deputy Certification Manager

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13 DESCRIPTION OF EQUIPMENT

The fibre optic process light source consists of a housing machined from a casting or an extrusion (made from either stainless steel or aluminium) that is cylindrical in shape with radial cooling fins along one surface. There are two optional threaded lids. The lid options provide different internal volumes depending upon the user's needs. Also provided on the side of the housing is a threaded 1/2" NPT or M20 entry point.

Light is produced by either a tungsten halogen lamp, which passes through an infra-red filter to reduce the heat, or alternatively light is produced by LEDs. Light leaves the enclosure via various optional light pipes that are secured by three M10 X 12 or M12 X 12 set screws and incorporate glass to metal, hermetic, fused seals. The light source may be connected directly to a camera, in which case the light pipe incorporates a light guide or fibre optic bundle for such applications. Alternative light pipes are specified that provide an increased flamepath length when combined volumes exceed 2000 cm³.

Variation 1 - This variation introduced the following changes:

- i. The Applicant's address was changed:
From: Unit 18, IDA Business Park, Whitestown, Tallaght, Dublin 24, Ireland
To: Ballycoolin Business Park, Blanchardstown, Dublin 15, Ireland
- ii The HYL80-LST and HYL80-LS-EXD Fibre Optic Process Lights were allowed to be used in the presence of combustible dust; the marking of the equipment was changed accordingly.
- iii The option to use lower wattage bulbs was recognised.

Variation 2 - This variation introduced the following changes:

- i. A typographical error in the part number on drawing C9809 was corrected.

Variation 3 - This variation introduced the following changes:

- i. The equipment may be used for applications where it interfaces with a Zone 0 with a consequent change in the marking to category 1/2.
- ii. The removal of proprietary information and specific lamp watts ratings from the text of the certificates.

Variation 4 - This variation introduced the following changes:

- i. To permit the use of an alternative LED lighting arrangement, model number HYL LED. The product name and description being amended to include the alternative arrangement and to maintain continuity of product name and description between certificates.
- ii. To permit the use Aluminium 6061 or 316L Stainless Steel as alternative materials of construction for the extended cover.
- iii. Following appropriate assessment to demonstrate compliance with the requirements of more up to date standards, EN 50014:1997 (amendments 1 and 2), EN 50018:1994, EN 50281-1-1:1998 (amendment 1) and EN 60079-26:2004 were replaced with EN 60079-0:2012/A11:2013, EN 60079-1:2014, EN 60079-31:2014, EN 60079-26:2015 and EN 60079-28:2015 was added to the assessment standards. The changes to the standards resulted in the marking being up dated, a specific condition of use being amended, four specific conditions of use being added, one condition of manufacture being added and two conditions of manufacture being amended.
- iv. The description was amended to describe the latest product format; this was to standardise with other certification associated with this equipment.

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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	09 March 2001	R51A4997A	The release of prime certificate.
1	01 September 2003	R51A10005A	The introduction of Variation 1, which was re-issued on 11 October 2005 to correct a typographical error.
2	11 October 2005	R51A13714A	The introduction of Variation 2.
3	08 October 2007	R51A15171A	This Issue covers the following changes: - All previously issued certification was rationalised into a single certificate, Issue 3, Issues 0 to 2 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. - The introduction of Variation 3.
4	23 February 2010	N.A.	The list of drawings introduced by Issue 3 was revised to correct a typographical error.
5	16 October 2013	ADR 55A29991 51Z32207	The list of drawings introduced by Issue 0 was revised to correct a typographical error; in addition, the Issue numbering throughout was reviewed and revised where necessary.
6	25 May 2017	R70036398A	This Issue covers the following changes: - EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i> - The introduction of Variation 4.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 The light source lid shall be securely tightened using a tool to a minimum torque of 68 Nm or 50 ft. lbs., thus preventing its subsequent removal by hand.
- 15.2 The light source shall be mounted in an area where there is a low risk of impact.
- 15.3 Where used in a Zone 1/Zone 0 interface arrangements, the maximum process temperature and the maximum process pressure shall not exceed the values specified on the certification label.

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- 15.4 The temperature class and maximum surface temperature for dusts (T**°C) are defined by the appropriate ambient temperature range and process temperature range as stated in the tables below:

HYL80-LST and HYL80-LS-EXD Light		
Temperature Class (T Dust)	Ambient Range (Ta)	Process Temperature Range (Tp)
T4 (T98°C)	-20°C to +30°C	-20°C to +85°C
T4 (T102°C)	-20°C to +30°C	-20°C to +100°C
T4 (T112°C)	-20°C to +30°C	-20°C to +135°C
T3 (T141°C)	-20°C to +30°C	-20°C to +200°C
T3 (T161°C)	-20°C to +30°C	-20°C to +250°C
T4 (T104°C)	-20°C to +40°C	-20°C to +85°C
T4 (T105°C)	-20°C to +40°C	-20°C to +100°C
T4 (T116°C)	-20°C to +40°C	-20°C to +135°C
T3 (T142°C)	-20°C to +40°C	-20°C to +200°C
T3 (T160°C)	-20°C to +40°C	-20°C to +250°C
T4 (T103°C)	-20°C to +50°C	-20°C to +85°C
T4 (T105°C)	-20°C to +50°C	-20°C to +100°C
T4 (T106°C)	-20°C to +50°C	-20°C to +135°C
T4 (T106°C)	-20°C to +50°C	-20°C to +200°C
T4 (T118°C)	-20°C to +50°C	-20°C to +250°C
HYL LED Light		
Temperature Class (T Dust)	Ambient Range (Ta)	Process Temperature Range (Tp)
T6 (T73°C)	-20°C to +30°C	-20°C to +85°C
T6 (T77°C)	-20°C to +30°C	-20°C to +100°C
T6 (T75°C)	-20°C to +40°C	-20°C to +85°C
T5 (T85°C)	-20°C to +30°C	-20°C to +135°C

- 15.5 When the equipment is coated with an optional paint finish the enclosure is non-conducting and may generate an ignition capable level of electrostatic charge under extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should only be done with a damp cloth.
- 15.6 This equipment has flamepaths which differ from those in EN 60079-1:2014. J M Canty International Ltd shall be contacted for guidance when maintaining the flamepaths.
- 15.7 External fasteners used for securing flameproof joints shall have a minimum yield strength of 210 N/mm².
- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.



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17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 When considered as either individual or combined units if the total volume of the camera, light source and front end cap is greater than 6363cm³ but less than 9596 cm³, then the enclosure shall be subjected to a routine over pressure test of 48.05 bar for at least 10 s as required by clause 16.1 of EN 60079-1:2014. There shall be no damage, permanent deformation or leakage permitted.
- 17.4 The part(s) of each item of equipment that interfaces with the process shall be subjected to a pressure test applied externally at a value of 1.5 times the maximum process pressure as required by clause 16.1 of EN 60079-1:2014, with no damage, permanent deformation or leakage permitted.
- 17.5 All light-pipes comprising a welded construction, shall be subjected to a routine over pressure test of 15 bar for at least 10 s as required by clause 16.1 of EN 60079-1:2014, with no damage, permanent deformation or leakage permitted.

Certificate Annexe



Certificate Number: Sira 00ATEX1179X
Equipment: HYL Fibre Optic Process Lights
Applicant: J M Canty International Limited

Issue 0

Number	Sheet	Rev.	Date	Description
99C7927	1 of 1	0063099	18 Jun 99	Typical Lighting System Master List
99C7907	1 of 1	0063099	14 Jun 99	Typical Flexible Bundle System Master Reference
99C7922	1 of 1	1-032300	22 Jun 99	Typical HYL80 LST-EXP/FP 120VAC Flameproof Exploded Assembly
99C7921	1 of 1	1-032300	22 Jun 99	Typical HYL80 LST-EXP/FP 240VAC Flame Proof Exploded Assembly
99C7920	1 of 1	1-032300	21 Jun 99	Typical HYL 80-LS-EXP/FP Assembly
99D7923	1 of 1	0063099	14 Jun 99	Typical Explosionproof Light Source Detail
99D7925	1 of 1	0063099	14 Jun 99	Typical HYL 80 Light Source And Cover Dimensional Detail
99D7924	1 of 1	0063099	14 Jun 99	Typical HYL80 Explosionproof Light Source Cover And Housing Dimensional Detail
99C7926	1 of 1	0063099	21 Jun 99	Typical HYL80 Extended Cover Dimensional Detail
99C7916	1 of 1	0063099	14 Jun 99	Typical Flush Mount, Cartridge Style Flame-Proof Light Pipe Connection Assembly
99C7917	1 of 1	0063099	14 Jun 99	Typical Insertion Cartridge Style Flame-Proof Light Pipe Assembly
99C7912	1 of 1	0063099	21 Jun 99	Typical 1" Pipe Thread Light Pipe Assembly
99C7913	1 of 1	0063099	16 Jun 99	Typical 1" Pipe Thread, Flame Proof Insertion Light Pipe Subassembly
99C7909	1 of 1	0063099	21 Jun 99	Typical 1" NPT With 1" Flame Path Subassembly Detail
99C7914	1 of 1	0063099	21 Jun 99	Typical 2" Pipe Thread Flame Proof Light Pipe Assembly
99C7915	1 of 1	0063099	14 Jun 99	Typical 2" Pipe Thread Flame Proof Insertion Light Pipe Assembly
99C7918	1 of 1	0063099	14 Jun 99	Typical Flame-Proof Tri-Clamp® Subassembly
99C7919	1 of 1	0063099	14 Jun 99	Typical Flame-Proof Tri-Clamp® Insertion Subassembly
99C7908	1 of 1	0063099	21 Jun 99	Typical Internal Mount Light Pipe Detail Component of Flex Bundle Lighting Systems
99C7910	1 of 1	0063099	21 Jun 99	Typical Fused Light Pipe For Glass Wetted System
99C7911	1 of 1	0063099	21 Jun 99	Typical Explosionproof Light Pipe/G.F.L. Assembly
C8791	1 of 1	0-030601	18 Jan 01	Atex Approval Label For HYL80 Lights Specification Detail

Issue 1

Number	Sheet	Rev.	Date	Description
C9809	1 of 1	1	10 Feb 03	ATEX Approval Label for HYL Lights Specification Detail
99C7907	1 of 1	1	17 Sep 01	Typical Flexible Bundle System Master Reference
99C7920	1 of 1	2	17 Sep 01	Typical HYL Series LS-EXP/FP Assembly
99C7921	1 of 1	2	17 Sep 01	Typical HYL Series LST-EXP/FP 240Vac Flame Proof Exploded Assembly
99C7922	1 of 1	2	17 Sep 01	Typical HYL Series LST-EXP/FP 120Vac Flame Proof Exploded Assembly
99C7926	1 of 1	1	17 Sep 01	Typical HYL Series Extended Cover Dimensional Detail
99C7927	1 of 1	1	17 Sep 01	Typical Lighting System Master List/Sira Certification Services
99D7924	1 of 1	1	17 Sep 01	Typical HYL Series Explosionproof Light Source Cover and Housing Dimensional Detail
99D7925	1 of 1	1	17 Sep 01	Typical HYL Series Light Source And Cover Dimensional Detail

Issue 2

Number	Sheet	Rev.	Date (Sira stamp)	Description
C9809	1 of 1	2	05 Oct 05	ATEX Approval Label For HYL Lights Specification Detail

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Issue 3

Number	Sheet	Rev.	Date	Description
C10895	1 of 1	2	11 Sep 07	Zone 0/Zone 1 Interface Arrangement
C10809	1 of 1	2	04 May 07	Certification label for HYL80 Fibre Optic Process Lights
99C7916	1 of 1	2	19 Sep 07	Flush Mount Light Pipe Connection Assembly
99C7917	1 of 1	2	19 Sep 07	Insertion Type Light Pipe Connection Assembly

Issue 4

(No new drawings were introduced, however, the list of drawings introduced by Issue 3 was revised to correct a typographical error.)

Issue 5

(No new drawings were introduced, however, the list of drawings introduced by Issue 0 was revised to correct a typographical error.)

Issue 6

The following list details all the current versions of the documents needed to construct the products in accordance with the requirements the latest issue certification (Note: drawing lists previously registered are retained for reference purposes)

Number	Sheet	Rev.	Date (Sira stamp)	Description
99C7908	1 of 1	1	28 Mar 17	Typical Internal Mount Light Pipe Detail Component of Flex Bundle Lighting systems.
99C7909	1 of 1	0	16 May 17	Typical 1" NPT With 1" Flame Path Subassembly Detail.
99C7910	1 of 1	1	28 Mar 17	Typical Fused Light Pipe For Glass Wetted System
99C7911	1 of 1	2	28 Mar 17	Typical Explosionproof Light Pipe G.F.L. Assembly.
99C7912	1 of 1	1	28 Mar 17	Typical Fused Light Pipe For Glass Wetted System
99C7913	1 of 1	1	19 Apr 17	Typical 1" Pipe Thread, Flame Proof Insertion Light Pipe Subassembly
99C7914	1 of 1	1	28 Mar 17	Typical 2" Pipe Thread, Flame Proof Light Pipe Assembly
99C7915	1 of 1	1	19 Apr 17	Typical 2" Pipe Thread, Flame Proof Insertion Light Pipe Assembly
99C7916	1 of 1	3	28 Mar 17	Typical Flush Mount, Cartridge Style Flame Proof Light Pipe Connection Assembly
99C7917	1 of 1	3	28 Mar 17	Typical Insertion Cartridge Style Flame Proof Light Pipe Assembly
99C7918	1 of 1	1	28 Mar 17	Typical Flame Proof Tri-Clamp Subassembly
99C7919	1 of 1	1	19 Apr 17	Typical Flame Proof Tri-Clamp Insertion Subassembly
99C7920	1 of 1	2A	19 Apr 17	Typical HYL 80-LS-EXP/FP Assembly
99C7921	1 of 1	3	19 Apr 17	Typical HYL 80-LST-EXP/FP 240VAC Flame proof Exploded Assembly
99C7922	1 of 1	3	19 Apr 17	Typical HYL 80-LST-EXP/FP 120VAC Flame proof Exploded Assembly
99C7926	1 of 1	2	21 Apr 17	Typical HYL Series Extended Cover Dimensional Detail
99C7927	1 of 1	2	28 Mar 17	Typical Lighting System Master List/Sira Certification Services
99D7924	1 of 1	2	19 Apr 17	Typical HYL Series Light Source Cover and Housing Dimensional Detail
99D7925	1 of 1	2	19 Apr 17	Typical HYL Series Light Source and Cover Dimensional Detail
LD10999-1034	1 of 1	0	19 Apr 17	Typical HYL Series Extended Cover Dimensional Detail
LD10999-1047	1 of 2	1	19 Apr 17	TYP HYL LED Series LST-EXP/FP 120VAC Exploded Assembly.
LD10999-1048	1 of 2	1	19 Apr 17	TYP HYL LED Series LST-EXP/FP Exploded Assembly.
LD10999-1049	1 of 1	0	21 Apr 17	Typical HYL LED Housing
LD10999-1056	1 of 2	0	19 Apr 17	TYP HYL LED Series LST-EXP/FP 24VDC Exploded Assembly.
VC10809-200	1 of 1	0	11 May 17	Label Light HYL LED M20 Entry
VC10809-300	1 of 1	0	11 May 17	Label Light HYL LED 1/2" NPT Entry
VC10809-400	1 of 1	0	11 May 17	Label Light HYL80 1/2" NPT Entry

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Equipment: HYL Fibre Optic Process Lights
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Number	Sheet	Rev.	Date (Sira stamp)	Description
VC10809-500	1 of 1	0	11 May 17	Label Light HYL80 M20 Entry

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