IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:	IECEx QPS 12.0004X	Issue No: 3	Certificate history:
			Issue No. 3 (2017-03-24)
Status:	**Current**	Page 1 of 6	Issue No. 2 (2016-02-26)
			Issue No. 1 (2015-04-26)
Date of Issue:	**2017-03-24**		Issue No. 0 (2012-06-06)

Applicant: **Amphenol EEC**
4050 North Rockwell Street, Chicago, IL 60618
United States of America

Equipment: **HDE Series Connectors - Plugs and Receptacles**

Optional accessory:

Type of Protection: **"d" Flameproof**

Marking:

IECEx QPS12.0004X

Ex dbeb IIC T5 or T6 Gb

Or

Ex db IIC T5 or T6 Gb

IP68

ta= -55 ° C/-40 ° C to 40 °C/50°C/ 60 ° C

Approved for issue on behalf of the IECEx Certification Body: Dave Adams

Position: Manager, Hazardous Locations Department [Ex Equipment]

Signature:
(for printed version)

Date:

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 the Official IECEx Website.

IECEx Certificate of Conformity

Certificate No: IECEx QPS 12.0004X Issue No: 3

Date of Issue: **2017-03-24** Page 2 of 6

Certificate issued by:

QPS
Evaluation Services Inc.
81 Kelfield St
Unit 8
Toronto, Ontario M9W 5A3
Canada

IECEx Certificate of Conformity

Certificate No:	IECEx QPS 12.0004X	Issue No: 3
Date of Issue:	**2017-03-24**	Page 3 of 6

Manufacturer: **Amphenol EEC**
4050 North Rockwell Street, Chicago, IL 60618
United States of America

Additional Manufacturing location(s):

DRAKA MARINE OIL AND GAS, PRYSMAIN GROUP
1610 GREENS ROAD, SUITE 300
HOUSTON, TX 77032
USA
United States of America

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical 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 Report:

CA/QPS/ExTR11.0003/03

Quality Assessment Report:

NO/PRE/QAR15.0023/00 CA/QPS/QAR15.0001/01

IECEx Certificate of Conformity

Certificate No:	IECEx QPS 12.0004X	Issue No: 3
Date of Issue:	**2017-03-24**	Page 4 of 6

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

HDE Series
HDE1-22-33-44-55-66778-L99

Where:

1- Material

2- Shell Style

3- Cable Retention Style

4- Gland Size/Grommet/Junction Box

5- Shell Size

6- insert configuration

7- contact Gender

8- Contact termination style

9 - Optional Alternate insert key position

10- Color coding

11- Pigtail length

The temperature class and ambient temperature can be varied based on the maximum wattage in the connector. The maximum wattage is determined from the maximum current and resistance values of the conductors used in the connector using ohm's law and industry standards for resistive values of the conductors.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Cable Glands and blanking plugs used in the assembly shall be IECEx certified components with equivalent or superior ratings to those marked on the connectors and suitable for the supplied cable

2. The connectors must be electrically isolated before connecting or disconnecting the connector halves

3. Protective covers must be secured when the connectors are not engaged

4. End user shall verify creepage and clearance requirements from IEC 60079-7 are satisfied based on the working voltage of the intended installation when used with an Ex e rated device

5. End user shall ensure that the dielectric strength test from IEC 60079-7 clause 7.1 is satisfied before installation when used with an Ex e rated device

IECEx Certificate of Conformity

Certificate No: IECEx QPS 12.0004X Issue No: 3

Date of Issue: **2017-03-24** Page 5 of 6

EQUIPMENT (continued):

Connector Size	Upper Ambient Temperature of +40°C		Upper Ambient Temperature of +50°C		Upper Ambient Temperature of +60°C	
	Temperature Class		Temperature Class		Temperature Class	
	T6	T5	T6	T5	T6	T5
12	23.8	31.7	17	24.3	10.7	18.7
16	39.6	52.8	30.2	43.2	14.6	25.6
20	52.1	69.4	37.2	53.1	17.1	29.8
24	64.3	85.1	47	67.1	24.1	42.1
28	79.5	106.1	57.3	81.8	29.8	52.2

Note: the ambient temperature can be extended down to -55°C when potted with Hysol EE4183

IECEx Certificate of Conformity

Certificate No:	IECEx QPS 12.0004X	Issue No: 3
Date of Issue:	**2017-03-24**	Page 6 of 6

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

issue 1 – Correction to specific conditions of use and upper ambient to 60°C

issue 2 – re-issue of ExTR to include change in Applicant and Manufacturer name
issue 3 – update to include latest edition of IEC 60079-1,60079-7 and clarification of drawing list. ExTR documents re-issued