



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 ITA 12.0010X Issue No: 2 Certificate history:
Status: **Current** Page 1 of 4 Issue No. 2 (2017-03-15)
Date of Issue: **2017-03-15** Issue No. 1 (2014-02-27)
Applicant: **Amphenol Industrial Operations** Issue No. 0 (2013-03-08)
40-60 Delaware Avenue, Sidney
New York, 13838-1395
United States of America
Equipment: **EX-*-13***, EX-*-15***, EX-*-17***, 'Starline' EX Range of Connectors and Panel
Mounted Receptacle Connectors**
Optional accessory:
Type of Protection: **d, e, tb**
Marking:
Ex d I Mb, Ex d IIC T.... Gb
Ex de I Mb, Ex de IIC T.... Gb
Ex tb IIIC T....°C Db
Tamb -20°C to +.....°C
Refer to Annex for Ex Marking Codes

Approved for issue on behalf of the IECEx
Certification Body:

James Bes

Position:

Certification Authority

Signature:
(for printed version)

Date:

2017-03-15

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](http://www.iecex.com).

Certificate issued by:

TUV Rheinland Australia Pty. Ltd
1/30 Kennington Drive
Tomago NSW 2322
Australia





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Manufacturer: **Amphenol Middle East**
C1-16 Warehouses
Ajman Free Zone
United Arab Emirates

Additional Manufacturing location(s):

Amphenol Industrial - Nogales Operations
Plant 4 "Tolteca"
Los Gavilanes 51, Parque Industrial San Ramon
Nogales, Sonora 84090
Mexico

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 : 2007-10 Edition:5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition:4	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:

[AU/ITA/ExTR12.0013/00](#)
[GB/SIR/ExTR10.0201/00](#)

[AU/ITA/ExTR14.0001/00](#)

[GB/SIR/ExTR10.0143/00](#)

Quality Assessment Report:

[GB/SIR/QAR08.0010/05](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

'Starline' Range of Connectors. These connectors comprise a metallic body plug and receptacle to form in-line cable connections. The Group I body is constructed of only stainless steel and for Group II and Group III the body can be constructed of stainless steel, aluminium alloy or brass. The bodies each contain an insulator and contact pins/tubes at one end and a certified cable gland at the other. The plug and socket, when connected together, form a flamepath and are mechanically locked by means of a threaded nut retained by a grub screw. The range comprises five body (shell) sizes, each with a number of pin/tube size combinations. The connector shell size, pin configuration and rating are reflected in the individual type designations.

See Annex for further details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex for details



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

See annex for details

Annex:

[IECEX ITA 12.0010X-2 Annex.pdf](#)

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Annexe



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Ex Marking Codes:

In-line Plugs and In-line receptacles:	In-line Plugs and In-line receptacles: (limited range, Refer to conditions of use)	Panel-mounted receptacles:
Ex d I Mb Ex d IIC T6 Gb Ex tb IIIC T80°C Db	Ex d I Mb Ex d IIC T5 Gb Ex tb IIIC T95°C Db Tamb -20°C to +55°C	Ex de I Mb Ex de IIC T6 Gb Ex tb IIIC T80°C Db

Description: Further to the Equipment details provided in the Certificate, the current ratings, at 1000 V maximum, are detailed in the tables provided in the Annex.

Shell Size	Max. total current	Pin Size	Max. current
12	210 A	18 AWG	9 A
16	570 A	16 AWG	16 A
20	1110 A	12 AWG	30 A
24	1740 A	10 AWG	40 A
28	1420 A	8 AWG	50 A
		1/0 AWG	155 A
		4/0 AWG	225 A
		350 MCM	750 A
		500 MCM	750 A
		646 MCM	940 A
		777 MCM	1135 A

Design Options:

- Alternative body materials: Group I – stainless steel. Group II and Group III – stainless steel, aluminium alloy or brass.
- Alternative association with a screw-on blanking cap when in-line connection is not required.
- The replacement of the cable gland by an auxiliary cable clamp assembly, the connector body being completely filled with epoxy resin
- Panel mounted receptacles marked Ex de I Mb, Ex de IIC T6 Gb, indicating they are suitable for fitting to increased safety (Ex e) enclosures when the internal free volume of the receptacle is filled with epoxy resin.

Additional Information concerning the Amphenol EX⁻-13^{***}, EX⁻-15^{***}, EX⁻-17^{***}, 'Starline' EX Range of Connectors and Panel Mounted Receptacle Connectors

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Product Nomenclature

Product Code Logic	Ex	#	-	##	-	#	-	##	-	###	###	-	#	#	#	-	###
Position		1		2		3		4		5	6		7	8	9		10

Position	Item	Options
1	Material	B – Brass S – Stainless Steel Omitted – Aluminium (STD)
2	Shell Type	13 – Male Skirt 15 – Female Skirt 17 – Flange Mount
3	Cable Adapter Styles	1 – Enclosure 2 – Mechanical 3 – Ex Gland 4 – Basket Weave 5 - Compression
4	Grommet I.D.	See Catalog Available Sizes
5	Shell Size	12, C12, 16, C16, 20, C20, 24, C24, 28, C28
6	Contact Insert	See Catalog for Configs
7	Contact Gender	P – Pin S - Socket
8	Termination Style	N - Crimp R - Pressure
9	Insert Key Position	Omitted – Normal (STD) For Others, See Catalog
10		Planned Additions

Conditions of Certification pertaining to Issue 0 of this Certificate:

Conditions of Manufacture and Safe use

i. The panel mounted variants may be installed in suitably certified and dimensioned flameproof equipment providing that the certification of the flameproof equipment will allow such installation.

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ii. The panel mounted variants may be fitted in an increased safety enclosure providing the certification of the enclosure will allow such installation. An electric strength test in accordance with IEC 60079-7:2007 Clause 7.1 must be performed on each unit after installation of the epoxy resin.

iii. If an application requires special continuity features, within certain connector components, seek manufacturers approval regarding conductive hardware options. Final configurations are the electrical system designers responsibility, as they best understand the intricacies that make up their particular electrical system, and the environment in which they exist

iv. A copy of the relevant drawing, instructions and a copy of the Certificate must be made available with each connector

Additional condition of safe use, these conditions are in additional to the above conditions:

1. All receptacles must have the blanking cap installed and secured when not connected to a plug connector.
2. All plug connectors shall be de-energised when disconnected from a receptacle.
3. Receptacles utilising the epoxy compound, are not to be utilised in areas that are likely to expose the epoxy compound to oils and/or hydraulic fluids.
4. The plug connectors and the panel mount receptacles are rated for a minimum ambient of -20°C, for a maximum ambient of 40°C, however the Ex-13-3, Ex-15-3 and Ex-17-3 products in the range may be used in a maximum ambient of 55°C.
5. Suitable separately certified flameproof (Ex d) cable glands must be utilised with the cable adapter suitable for use with Ex glands.
6. The panel mount receptacles shall only be used where the temperature at the point of entry in service on the associated enclosure is between -20°C to +84°C.

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Drawing list pertaining to Issue 0 of this Certificate:

Manufacturer's Documents

Title:	Drawing No.:	Rev. Level:	Date:
ASSEMBLY, STALINE-EX SERIES SUBMISSION DRAWINGSIRA – FM – TUV Sheets 1 to 10	10-838357	D	2012-11-28
Software Label Format Starline IECEx Stainless SeriesTUV MARKING, FRP1 (MINING) Sheet 1 of 1	10-838394	C	2013-02-11
MATERIAL U“SEE WARNING NOTE”	SPECIFICATION 9- 6593	D	1996-04-02
3 mm METRIC “O” RING	10-838478	A	2008-04-07
ADAPTOR, DUAL-PURPOSEEX GLAND & POTTING TYPOMETRIC, EX-m SERIES	10-838479	A	2008-01-28
2 mmMETRIC “O” RING	10-838477	A	2006-05-05

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Variations permitted by Issue 1 of this Certificate:

Ex code marking has been revised, and assessed for compliance in report AU/ITA/ExTR14.0001/00. This revision includes inserting 'de' for Group I panel mounted receptacles and adding the surface temperature for the Group III marking.

Conditions pertaining to Issue 1 of this Certificate:

As provided in details under Issue 0 (minor editorial changes made).

Drawing list pertaining to Issue 1 of this Certificate:

Manufacturer's Documents

Title:	Drawing No.:	Rev. Level:	Date:
Software Label Format Starline IECEx Stainless Series TUV MARKING, GRP1 (MINING)	10-838394	E	2014-02-11
Warning Label, Text Amphe-Ex Series Lanyard Mount Tab	10-838527	B	2012-02-13

Variations permitted by Issue 2 of this Certificate:

- 1) The components for the cable glands and connectors are manufactured at the Amphenol Optimize plant in Nogales Mexico and the product meant for Australia is then assembled, labelled and supplied by Amphenol Middle East plant in Ajman, UAE
- 2) Ex marking table moved from Page 1 of the certificate to the Annex.

Conditions pertaining to Issue 2 of this Certificate:

No variations from earlier issues of this certificate.