

Certificate of Conformity

Ex EQUIPMENT

Certificate No.:	ANZEx 20.3002X	Current Issue:	1	Date of Issue:	2023-09-27
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Applicant: **Pepperl+Fuchs SE**
Lilienthalstrasse 200
68307 Mannheim
Germany

Equipment: Encoder ***78E Mining

Type of Explosion Protection: Flameproof 'd'

Explosion Protection Marking: Ex db I Mb
-40 °C ≤ T_a ≤ +70 °C

*This certificate is granted subject to the requirements as set out in
Joint Accreditation System of Australia and New Zealand Publications
ANZEx System Rules 2020 & ANZEx Certified Equipment Scheme Rules 2021*

Signed for and on behalf of issuing body



Name & Position

Debbie Wouters – Acting Quality & Certification Manager

This certificate is not transferable and remains the property of the issuing body.

The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753 Australia

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Manufacturer : **Pepperl+Fuchs SE**
Lilienthalstrasse 200
68307 Mannheim
Germany

Additional Manufacturing Location(s): **PEPPERL+FUCHS SE**
take-off Gewerbepark 35
78579 Neuhausen ob Eck
Germany

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 Ed:7.0 Explosive atmospheres - Part 0: General requirements

IEC 60079-1:2014 Ed:7.0 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"

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

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Schedule

Equipment Description:

The Optical Encoders *****78E Mining** are small flameproof enclosures containing electronics. The encoder housing is manufactured from stainless steel or acid proof stainless steel with a drive shaft in one end shield. The shaft can be either solid type shaft or hollow type shaft. The body makes one cylindrical joint with the drive end shield on another side. Each end shield (the drive end and the non-drive end) is secured to the body with six M4 counter bored socket head cap screws. O-rings are fitted to each cylindrical joint. There is a shaft seal on drive end seal, where two ball bearings are mounted to the cylindrical joint between the shaft and the drive end shield. The encoder housing can be provided with up to two M20 × 1.5 or M25 × 1.5 threaded entries on the non-drive end shield.

These threaded entries are closed with the suitable separately IECEx certified cable glands. All unused entries must be closed with suitable separately IECEx certified blanking elements.

The instruction refers to the document number **16-1519TE-09A**: "Instructions - Type *****78E Mining** - ANZEx Certificate for rotary encoder type *****78E Mining**".

Electrical Ratings/Parameters

The apparatus is rated at 300 mA maximum current, and voltage range from 10 V dc to 30 V dc. Rate speed for type variants with seal max 3000 rpm, without seal max. 6000 rpm Max. permissible load on the shaft: axial 60 N and 80 N radial.

Specific Conditions of Use:

1. The flame paths have to comply with the manufacturers drawing and can only be repaired by the manufacturer.
2. The precautions must be taken to avoid dust from forming layers on the encoder.
3. The fasteners used to secure enclosure body to end shields shall have a minimum yield stress of 450 MPa.
4. Use only suitably certified Ex db I Mb cable glands, thread adapters and blanking elements.

Additional Information:

Routine Test:

"None"

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Register of Issues and Variations

includes the current issue

Issue 0 dated 2020-06-24

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: 37064, TestSafe Australia
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/11, PTB
 File Reference: 2020/007994

Standards relevant for this issue:

IEC 60079-0:2011 Ed:6.0 Explosive atmospheres - Part 0: General requirements
IEC 60079-1:2014 Ed:7.0 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31:2013 Ed:2 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

Manufacturer's Documents/Drawings associated with this issue:

Document/Drawing Title	Document/Drawing Number	Pages / Sheets	Revision	Date
Description – Type ***78E/***78E Mining ATEX and IECEx Certification for rotary encoder type***78E	16-1227IN-00	5	-	2015-11-30
Summary - Type ***78E Mining ANZEx Certification for rotary encoder type***78E Mining	16-1519TE	1	-	2020-05-07
Instructions - Type ***78E Mining ANZEx Certification for rotary encoder type***78E Mining	16-1519TE-09	4	-	2020-04-21
Marking label - Type ***78E Mining ANZEx Certification for rotary encoder type***78E Mining	16-1519TE-10	5	-	2020-05-07

Issue 1 dated 2023-09-27

Variations Permitted by this Issue

1. Update applied standards from IEC 60079-0:2011 Ed 6 to IEC 60079-0:2017 Ed 7.
2. Removal of Gas and Dust marking from the Mining variant.
3. Change of Applicant and Manufacturers name to "Pepperl+Fuchs SE".
4. Removed the specific condition of use related to the list of the permissible combination of cable glands and cable that can be used, as this list is not relevant for Group I.

Standards relevant for this issue:

IEC 60079-0:2017 Ed:7.0 Explosive atmospheres - Part 0: General requirements
IEC 60079-1:2014 Ed:7.0 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"

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Certificate No.: **ANZEx 20.3002X** Current Issue: 1 Date of Issue: 2023-09-27

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: 38096, TestSafe Australia
 QAR No. & Issuing CB: DE/PTB/QAR06.0008/18, PTB
 File Reference: 2023/011017

Manufacturer's Documents/Drawings associated with this issue:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: yyyy-mm-dd
16-1519TEA	1	*Summary– Type ***78E Mining	-	2023-08-29
16-1519TE-09A	3	*Instructions – Type ***78E Mining Certificate ANZEx 20.3002X	A	2023-08-29
16-1519TE-10A	5	*Type label – Marking label type ***78E Mining Certificate ANZEx 20.3002X	A	2023-08-29

Note: An * is included before the title of documents that are new or revised.