MTEx
Ontploffingvoorkomingstegnologie
Explosion Prevention Technologies

MTEx Laboratories

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INSPECTION AUTHORITY (IA) CERTIFICATE

WIKA INSTRUMENTS (PTY) LTD.
P.O. BOX 75225
GARDENVIEW
2047

Issued: 2024/03/11
Expire: 2027/03/11
Revision: 0
Job File Number:2529

Applicant:
WIKA INSTRUMENTS (PTY) LTD.

For validity purposes, the following Marking must be added to all equipment covered by this certificate:

IA Number:	MTEx-S/24.0114 X
Manufacturer:	WIKA Alexander Wiegand SE Co. KG
Supplier:	Wika Instruments (Pty) Ltd.
Equipment:	Pressure transmitter
Model/Type:	PEU-2*
Ex Rating:	Refer to Clause 1.
Serial No.:	All units imported between the issue and expiry dates of this certificate.

Standards used:

SANS 60079-0: 2019 Ed.6 **IEC 60079-0: 2017 Ed.7**	**Explosive atmospheres - Part 0: Equipment — General requirements.**
SANS 60079-11: 2012 Ed.4 **IEC 60079-11: 2011 Ed.6**	**Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i".**
SANS 60079-26: 2022 Ed.4 **IEC 60079-26: 2021 Ed.4**	**Explosive atmospheres - Part 26: Equipment with Separation Elements or combined Levels of Protection**

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

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(3) of the Occupational Health and Safety Act, provided that the apparatus is used as prescribed in accordance with the following **Notes**:

1) Compliance with any conditions set out in this Certificate.
2) This certificate only covers equipment imported between the “Issued” and “Expiry” dates of this certificate.
3) When the supporting Q.A.N. (Quality Assurance Notification) of the equipment manufacturer expires, it is the responsibility of the applicant (as mentioned above) to submit a valid Q.A.N to MTEx Laboratories.
4) It is the responsibility of the supplier to ensure that the marking label complies with the requirements of the relevant regulator.
5) Once issued, the certificate remains valid for the serviceable lifecycle of the device. The state of the device is validated by visual or close inspections, by the end user, at intervals not exceeding two years.

Reviewed By + Signature (TL):	A. van Niekerk	
Approved By + Signature (CB): (MTEx Laboratories Technical Signatory)	D. Young	

1. OVERVIEW

The pressure transmitter type PEU-2* converts a pressure into a digital Signal which is transmitted via UART-interface (Universal Asynchronous Receiver Transmitter) to an external device, e.g. to a radio unit. It is intended for measuring the pressure in an area with potentially explosive atmosphere (gas/dust). The PEU-2* is intended for connection to intrinsically safe circuits of external devices.

Marking

Model	Ex-marking
PEU-2*-**C-*-*****-******-****	Ex ia IIC T6…T1 Ga
PEU-2*-**D-*-*****-******-****	Ex ia IIC T6…T1 Ga/Gb
PEU-2*-**E-*-*****-******-****	Ex ia IIC T6…T1 Gb
PEU-2*-**H-*-*****-******-****	Ex ia IIIC T135°C Da
PEU-2*-**F-*-*****-******-****	Ex ia IIIC T135°C Da/Db
PEU-2*-**G-*-*****-******-****	Ex ia IIIC T135°C Db

Subject and Type

Pressure transmitter type PEU-2*

Type code.

PEU - 2a - bcd - * - ***** - ef**** - ****

a pressure connection option
"0" = pressure channel
"1" = front flush

b approvals
"A, I, W, E, G, J, K, P, U, 1, 2, 3, 4 or 5" = ATEX + IECEx "C, D, F" = IECEx

c type of ignition protection
"I" = Ex ia

d zone
"C" = Zone 0: Ex ia IIC T6…T1 Ga
"D" = Zone 1 adjacent to zone 0: Ex ia IIC T6…T1 Ga/Gb
"E" = Zone 1: Ex ia IIC T6…T1 Gb
"H" = Zone 20: Ex ia IIIC T135°C Da
"F" = Zone 21 adjacent to zone 20: Ex ia IIIC T135°C Da/Db
"G" = Zone 21: Ex ia IIIC T135°C Db

ef process connection (maximum media temperature)
e = any character
f = "4" or "2" model with cooling element for high media temperature
f = any character other than "4" or "2" for standard model

In the complete type denomination, the characters "*" can be replaced by further numbers or letters which characterize different variants without influence on explosion protection.

Listing of all components used

Subject and type	Certificate	Standards
Pressure transducer TIS-2*	IECEx BVS 14.0051U	IEC/SANS 60079-0:2017, Ed. 7.0 IEC/SANS 60079-11:2011, Ed. 6.0 IEC/SANS 60079 26:2021, Ed. 4

2. REASON FOR REVIEW

Revision 0: ARP 0108 requirement (Initial IA Certificate).

3. DOCUMENTATION PROVIDED

- EU - Type Examination Certificate (BVS 23 ATEX 046 X, Issue 00).
- IECEx Certificate of Conformity (IECEx BVS 23.0027 X, Issue 0).
- IECEx Quality Assessment Report (DE/BVS/QAR07.0010/19).

4. ELECTRICAL / SAFETY PARAMETERS

Electrical parameters

Supply and signal circuit

Connection via M12-plug

Maximum input voltage	U_i	DC	6.7	V
Maximum input current	I_i		250	mA
Maximum input power	P_i		300	mW
Effective internal capacitance	C_i		4.4	nF
Effective internal inductance	L_i		negligible	

The pressure transmitter PEU-2* has to be considered as power supply circuit with the following values:

Maximum output current [(1)]	I_o		400	mA
Maximum output voltage (= U_i) [(1)]	U_o	DC	6.7	V

[(1)] (short time; from capacitor discharge time constant: $5*\tau < 25$ ms; based on IECEx BVS 14.0051U).

Thermal parameters

Ambient temperature range for ambient temperature = media temperature

Temperature class T1 to T4	-40 °C … 80 °C
Maximum surface temperature T135°C for Dust ex- atmosphere	-40 °C … 80 °C

Ambient temperature range for high media temperature range

Temp. class	**Maximum media temperature [°C]**	**Maximum media temperature [°C]**	
		All models except PEU-2*-***-*-*****-*2****-**** and PEU-2*-***-*-*****-*4****-**** (Models without cooling element)	**Models** PEU-2*-***-*-*****-*2****-****,PEU-2*-***-*-*****-*4****-**** (Models with cooling element)
T3	150	N/A	40
T4	120	30	50
T4	105	40	50
T4	85	80	80
T5	85	80	80
T6	70	70	70

5. INSTALLATION INSTRUCTIONS

The instructions provided with the product shall be followed in detail to assure safe operation.

6. CONDITIONS OF CERTIFICATE (X)

- The permissible ambient temperature range depends on the temperature class. Refer to the manufacturer's instructions.
- For functional reasons, the partition wall (membrane) to the wetted area has a wall thickness < 0.2 mm. In the application it has to be,
- ensured, that an impairment of the separation wall e.g. by aggressive media or mechanical hazards is excluded.
- In gas-explosive areas, the device shall be installed in such a way that electrostatic charging at the type label is excluded.
- In dust-explosive areas with conductive dust IIIC, the intrinsically safe circuit is not safely separated from earth/potentially earthed metal parts. Along the intrinsically safe circuit, potential equalization must exist.

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End of Certificate