

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 TUN 16.0035X** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2017-05-29** Page 1 of 4

Applicant: **KROHNE Pressure Solutions GmbH**
Gewerbepark Meißen 14
32423 Minden
Germany

Equipment: **Differential pressure transmitter type OPTIBAR DP 7060 C**
Optional accessory:

Type of Protection: **Flameproof enclosures "d" , Intrinsic safety "i"**

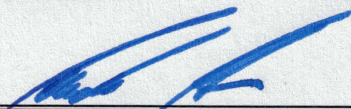
Marking: **Ex d ia IIC T4/T6 Ga/Gb or**
Ex d ia IIC T4/T6 Gb

Approved for issue on behalf of the IECEx Certification Body: **Andreas Meyer**

Position: **Head of IECEx CB**

Signature:
(for printed version)

Date:

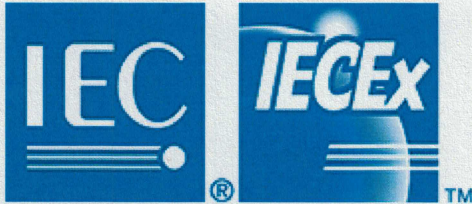

2017-05-29

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:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany





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Manufacturer: **KROHNE Pressure Solutions GmbH**
Gewerbepark Meißen 14
32423 Minden
Germany

Additional Manufacturing location(s):

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 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2014-10 Edition: 3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

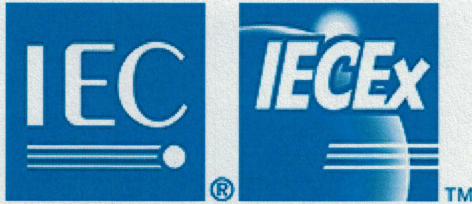
*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
[DE/TUN/ExTR16.0047/00](#)

Quality Assessment Report:
[DE/BVS/QAR13.0005/03](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description:

The differential pressure transmitter type OPTIBAR DP 7060 C VGK7 * ***** 0 0 are two-wire devices and serve for differential pressure, flow and level measurement in the gas-endangered area. The OPTIBAR DP 7060 C consists of an intrinsically safe measuring cell (type: DP 7000 and other variations) in conjunction with an intrinsically safe converter electronic, which is installed in a flameproof enclosure Ex "d".

- Z 2-wire 4 ... 20 mA current output
- H 2-wire 4 ... 20 mA current output with superimposed HART signal
- A 2-wire 4 ... 20 mA current output with superimposed HART signal and additional SIL qualification
- F Foundation Fieldbus
- P Profibus PA

Type reference:

VGK7 * ***** 0 0

VGK7 * **1 ***** *2 *3 *4 *5 *6 ***** 0 0

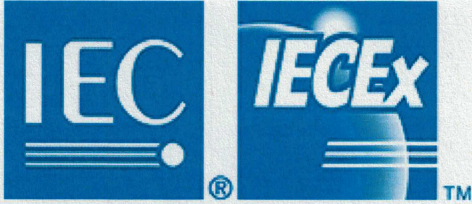
**1	AE/WE/VE	Approval type
*2	Z/H/A/F/P	Electronic
*3	X/Z	Suppl. electronic
*4	A/D/V/W	Enclosures
*5	1/K/A/L/S	Enclosures type
*6	0/6/D/N/P/8	electr. connect. / material
	Other asterisks	Not relevant or free variable parameter

Parameters and ambient temperatur range:

See Attachment to IECEx TUN 16.0035X Issue 00

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. At the plastic parts of the difference pressure transmitter type OPTIBAR DP 7060 C VGK7* there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For EPL Ga resp. EPL Ga/Gb applications, at the metallic parts of the difference pressure transmitter type OPTIBAR DP 7060 C VGK7* made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For EPL Ga/Gb applications, the medium tangent materials of the difference pressure transmitter type OPTIBAR DP 7060 C VGK7* have to be resistant to the media. Observe manual of the manufacturer.
4. For the execution with separate housing of the difference pressure transmitter type OPTIBAR DP 7060 C VGK7* , potential equalization has to exist in the complete course of the erection of the connecting cable between the electronics housing and the measuring sensor enclosure.



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Additional information:

Parameters:

OPTIBAR DP 7060 C VGK7*A/W/V E with electronics Z (4...20 mA), H (4...20 mA/HART®), A (4...20 mA/HART® with SIL qualification), Version with single chamber enclosure A, V	
Supply and signal circuit: (Terminals 1 [+], 2 [-] in the electronic compartment Indicator and control circuit: (Terminals 5,6,7,8)	U _i = 9.6...35 VDC U _m = 253 VAC
Circuit for the display and Operating module: Spring contacts in the electronics compartment	For connection to the indicating and adjustment module.

OPTIBAR DP 7060 C VGK7*A/W/V E with electronics H (4...20 mA/HART®), A (4...20 mA/HART® with SIL qualification), Version with two-chamber housing D, W	
Supply and signal circuit: (Terminals 1 [+], 2 [-] in the electronic compartment Indicator and control circuit: (Terminals 5,6,7,8)	U _i = 9.6...35 VDC U _m = 253 VAC
Circuit for the display and Operating module: Spring contacts in the electronics and connection compartment	For connection to the indicating and adjustment module.

OPTIBAR DP 7060 C VGK7*A/W/V E with electronics P (Profibus PA), F (Foundation Fieldbus), Version with single chamber enclosure A, V	
Supply and signal circuit: (Terminals 1 [+], 2 [-] in the electronic compartment Indicator and control circuit: (Terminals 5,6,7,8)	U _i = 9.6...32 VDC U _m = 253 VAC
Circuit for the display and Operating module: Spring contacts in the electronics compartment	For connection to the indicating and adjustment module.

OPTIBAR DP 7060 C VGK7*A/W/V E with electronics P (Profibus PA), F (Foundation Fieldbus), Version with two-chamber housing D, W	
Supply and signal circuit: (Terminals 1 [+], 2 [-] in the electronic compartment Indicator and control circuit: (Terminals 5,6,7,8)	U _i = 9.6...32 VDC U _m = 253 VAC
Circuit for the display and Operating module: Spring contacts in the electronics and connection compartment	For connection to the indicating and adjustment module.

OPTIBAR DP 7060 C VGK7*A/W/V E with electronics H (4...20 mA/HART®), A (4...20 mA/HART® with SIL qualification), Version with two-chamber housing D, W and suppl. Electronics Z (2nd current output)	
Supply and signal circuit 1: (Terminals 1 [+], 2 [-] in the electronic compartment	U _i = 9.6...32 VDC U _m = 253 VAC
Supply and signal circuit 2: (Terminals 7 [+], 8 [-] in the electronic compartment	U _i = 9.6...35 VDC U _m = 253 VAC
Circuit for the display and Operating module: Spring contacts in the electronics compartment	For connection to the indicating and adjustment module.

OPTIBAR DP 7060 C VGK7*A/W/V E design with separate cable outlet (All electronics)	
Circuit between probe unit and external electronics Terminal 1 - yellow, Terminal 2 - White, Terminal 3 - Red, Terminal 4 - black	Type of protection Intrinsic Safety Ex ia IIC. For the OPTIBAR DP 7060 C VGK7 * A/W/V E version with fixed cable on the probe unit and external electronics, the length of the supplied cable must be between the external housing and the probe unit do not exceed 180 m.

Ambient temperature range:

1/2G:

Temperature class	Process temperature measuring cell	Ambient temperature Enclosure and electronics
T4	-40 ... 55 °C (-40 ... 85 °C)	-40 ... 60 °C
	-40 ... 72 °C (-40 ... 85 °C)	-40 ... 50 °C
	-40 ... 85 °C (-40 ... 85 °C)	-40 ... 40 °C
T6	-40 ... 46 °C (-40 ... 55 °C)	-40 ... 46 °C

The values in brackets are only for the separate sensor unit.

2G:

Temperature class	Process temperature measuring cell	Ambient temperature Enclosure and electronics
T4	-40 ... 55 °C (-40 ... 85 °C)	-40 ... 60 °C
	-40 ... 72 °C (-40 ... 85 °C)	-40 ... 50 °C
	-40 ... 85 °C (-40 ... 85 °C)	-40 ... 40 °C
T6	-40 ... 46 °C (-40 ... 55 °C)	-40 ... 46 °C

The values in brackets are only for the separate sensor unit.