



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEX TUN 22.0011X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2022-08-23
Applicant: **Barksdale GmbH**
Dorn-Assenheimer Str. 27, 61203, Reichelsheim
Germany
Equipment: **Pressure switches as described in the Attachment to IECEx TUN 22.0011X issue No.0**
Optional accessory:
Type of Protection: **Intrinsic Safety "ia"**
Marking: Refers to the Attachment to IECEx TUN 22.0011X issue No.0 for details.

Approved for issue on behalf of the IECEx
Certification Body:

Andreas Meyer

Position:

Deputy Head of the IECEx Certification Body

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

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





IECEX Certificate of Conformity

Certificate No.: **IECEX TUN 22.0011X**

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Date of issue: 2022-08-23

Issue No: 0

Manufacturer: **Barksdale GmbH**
Dorn-Assenheimer Str. 27
61203 Reichelsheim
Germany

Manufacturing
locations: **Barksdale GmbH**
Dorn-Assenheimer Str. 27
61203 Reichelsheim
Germany

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 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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with 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/ExTR22.0008/00](#)

Quality Assessment Report:

[DE/TUN/QAR13.0009/05](#)



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Date of issue: 2022-08-23

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description:

The pressure switches type **DPD1T-xxxxxSS-ST1-EXI**, **DPD1T-xxxxxSS-xxx-EXI**, **DPD2T-xxxxxSS-ST2-EXI**, **DPD2T-xxxxxSS-ST3-EXI**, **DPD2T-xxxxxSS-xxx-EXI**, **KLM-xxx-xx-K2-x-x-EXI**, **KLM-xxx-xx-xx-x-x-EXI**, **KLM-xxx-xx-S1-x-x-EXI**, **KLK-xxx-xx-K2-x-x-EXI**, **KLK-xxx-xx-xx-x-x-EXI**, **KLK-xxx-xx-S1-x-x-EXI**, **D1X-xxxxxSS-xxx-EXI**, **D2X-xxxxxSS-xxx-EXI**, **B1T-xxxxxSS-xxx-EXI**, **B1T-xxxxxSS-ST1-EXI**, **B2T-xxxxxSS-xxx-EXI**, **B2T-xxxxxSS-ST1-EXI**, **B2T-xxxxxSS-ST3-EXI**, **P1H-xxxxx-xx-xx-x-EXI**, **P1X-xxxxx-xx-xx-x-EXI**, **E1H-xxxxxxx-xx-x-EXI**, **E1H-xxxxxxx-xx-x-ST1-EXI**, **E1H-xxxxxxx-PLS-x-EXI**, **B1X-xxxxxSS-xxx-EXI** and **B2X-xxxxxSS-xxx-EXI** are used for monitoring and controlling processes with maximum or minimum pressures. When minimum or maximum pressures are reached, an electrical signal is triggered by a microswitch.

Type code:

Refers to the Attachment to IECEX TUN 22.0011X issue No.0 for details.

Electrical and thermal data:

Refers to the Attachment to IECEX TUN 22.0011X issue No.0 for details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The size of the nameplate exceeds the permissible area and can therefore be electrostatically charged:

For IIC Ga uses the pressure switches have to be installed and used in such a way, that electrostatic charging from operation, maintenance and cleaning is excluded.

For the use in explosive dust atmospheres process-related electrostatic charges, e.g. due to passing media have to be excluded.

2. All metallic parts of the devices have to be included in the local potential equalization.

3. The intrinsically safe circuit of the device is connected to the earth potential, therefore potential equalization has to exist in the entire area of the installation of the intrinsically safe circuit.

4. The housings of the devices consist of more than 10% aluminum, therefore in EPL Ga applications the installation has to be carried out in such a way, that ignition hazard due to impact or friction can be excluded.

Annex:

[Attachment to IECEX TUN 22.0011X issue No.0.pdf](#)

General product information:

Description:

The pressure switches type **DPD1T-xxxxxSS-ST1-EXI**, **DPD1T-xxxxxSS-xxx-EXI**, **DPD2T-xxxxxSS-ST2-EXI**, **DPD2T-xxxxxSS-ST3-EXI**, **DPD2T-xxxxxSS-xxx-EXI**, **KLM-xxx-xx-K2-x-x-EXI**, **KLM-xxx-xx-xx-x-x-EXI**, **KLM-xxx-xx-S1-x-x-EXI**, **KLK-xxx-xx-K2-x-x-EXI**, **KLK-xxx-xx-xx-x-x-EXI**, **KLK-xxx-xx-S1-x-x-EXI**, **D1X-xxxxxSS-xxx-EXI**, **D2X-xxxxxSS-xxx-EXI**, **B1T-xxxxxSS-xxx-EXI**, **B1T-xxxxxSS-ST1-EXI**, **B2T-xxxxxSS-xxx-EXI**, **B2T-xxxxxSS-ST1-EXI**, **B2T-xxxxxSS-ST3-EXI**, **P1H-xxxxx-xx-xx-x-EXI**, **P1X-xxxxx-xx-xx-x-EXI**, **E1H-xxxxxxx-xx-x-EXI**, **E1H-xxxxxxx-xx-x-ST1-EXI**, **E1H-xxxxxxx-PLS-x-EXI**, **B1X-xxxxxSS-xxx-EXI** and **B2X-xxxxxSS-xxx-EXI** are used for monitoring and controlling processes with maximum or minimum pressures. When minimum or maximum pressures are reached, an electrical signal is triggered by a microswitch.

Marking:

	Ex ia IIC T6 Ga or Ex ia IIIC T₂₀₀100°C Da	DPD1T-xxxxxSS-xxx-EXI , DPD2T-xxxxxSS-xxx-EXI , KLM-xxx-xx-K2-x-x-EXI , KLM-xxx-xx-xx-x-x-EXI , KLK-xxx-xx-K2-x-x-EXI , KLK-xxx-xx-xx-x-x-EXI , D1X-xxxxxSS-xxx-EXI , D2X-xxxxxSS-xxx-EXI , B1T-xxxxxSS-xxx-EXI , B2T-xxxxxSS-xxx-EXI , P1H-xxxxx-xx-xx-x-EXI , P1X-xxxxx-xx-xx-x-EXI , B1X-xxxxxSS-xxx-EXI , B2X-xxxxxSS-xxx-EXI
	Ex ia IIB T6 Ga or Ex ia IIIC T₂₀₀100°C Da	DPD1T-xxxxxSS-ST1-EXI , DPD2T-xxxxxSS-ST2-EXI , DPD2T-xxxxxSS-ST3-EXI , KLM-xxx-xx-S1-x-x-EXI , KLK-xxx-xx-S1-x-x-EXI , B1T-xxxxxSS-ST1-EXI , B2T-xxxxxSS-ST1-EXI , B2T-xxxxxSS-ST3-EXI
	Ex ia IIC T6 Ga	E1H-xxxxxxx-xx-x-EXI
	Ex ia IIB T6 Ga	E1H-xxxxxxx-xx-x-ST1-EXI , E1H-xxxxxxx-PLS-x-EXI

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Type code:

DPD	x	T	xx	xxx	SS	-	xxx	-	xxx	-	EXI
											Option
											EXI ATEX (Ex ia)
											GL Germanischer Lloyd (Marine approval)
											UL Underwriter's Laboratories
											FE Epoxy resin paint
											Electrical connections
											ST1
											cube plug DIN EN 175301-803 A(former DIN 43650)(IIB)
											ST3
											Connector Amphenol (Tuchel) according to EN 43651 E 6-pin (only for 2 switching points version) (IIB)
											()
											Wago terminal or screw connection internal
											Material of the medium-contacting parts
											SS VA-Steel, 17.7 PH / SS304
											Pressure ranges
											3 0,02...0,20 bar
											18 0,050...1,20 bar
											80 0,400...5,40 bar
											150 0,70...10,2 bar
											Micro switch contact
											B B-Micro switch (see datasheet for microswitch data)
											C C-Micro switch (see datasheet for microswitch data)
											H H-Micro switch (see datasheet for microswitch data)
											GH GH-Micro switch (see datasheet for microswitch data)
											J J-Micro switch (see datasheet for microswitch data)
											M M-Micro switch (see datasheet for microswitch data)
											GM GM-Micro switch (see datasheet for microswitch data)
											S S-Micro switch (see datasheet for microswitch data)
											Housing type
											T Aluminum enclosure, old and new form
											Number of switching points
											1 1 switch point
											2 2 switch points

KLM	-	xxx	-	xx	-	xx	-	x	-	x	-	EXI
												Option
												HP High Pressure
												EXI ATEX Approval
												Membrane material
												V FKM/FPM – Membrane
												N CR - Membrane
												E EDM - Membrane
												() NBR - Membrane
												Micro switch

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- 1** Silver contact
- 2** Gold contact

Electrical connection

- A1** Flat connector DIN 46244 6,3; green
- A2** Flat connector DIN 46244 6,3; blue
- A3** 3 Flat connector DIN 46244 6,3; green
- A4** 3 Flat connector DIN 46244 6,3; blue
- A5** 3 x 6,3 AMP-3-way connector
- K1** EPD-Cable 3xAWG20
- K2** Silicone Cable 3x0,5
- K3** PUR-Cable 3x0,5
- K4** PU-Cable 2x0,75
- K5** Silicone Cable 4x0,5
- K6** PVC-Cable 2x0,5
- V1** VG 95234 Plug-in connector Form A
- V2** VG 95328 Plug-in connector
- V3** VG 95234 Plug-in connector Form F
- V5** CA3101E10SL-3P Plug-in connector
- M1** MS 8525 Plug-in connector
- S1** EN 175301-803 C, 3 pole (IIB)
- STO** Special connector

Process connection

- M1** Pressure connection M12 x 1,5
- M2** Pressure connection M14 x 1,5
- M3** Pressure connection M16 x 1,5
- M4** Pressure connection M18 x 1,5
- G1** G1/4"
- U1** 7/16-20 UNF

Pressure step code

- 001** Special setting range
- 006** 1-6 Bar
- 025** 5-25 Bar
- 040** 20-40 Bar

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KLK	-	xxx	-	xx	-	xx	-	x	-	x	-	EXI
												Option
												EXI ATEX Approval
												O-Ring material
												V FKM/FPM – Membrane
												N CR - Membrane
												E EDM - Membrane
												() NBR - Membrane
												Micro switch
												1 Silver contact
												2 Gold contact
												Electrical connection
												A1 Flat connector DIN 46244 6,3; green
												A2 Flat connector DIN 46244 6,3; blue
												A3 3 Flat connector DIN 46244 6,3; green
												A4 3 Flat connector DIN 46244 6,3; blue
												A5 3 x 6,3 AMP-3-way connector
												K1 EPD-Cable 3xAWG20
												K2 Silicone Cable 3x0,5
												K3 PUR-Cable 3x0,5
												K4 PU-Cable 2x0,75
												K5 Silicone Cable 4x0,5
												K6 PVC-Cable 2x0,5
												V1 VG 95234 Plug-in connector Form A
												V2 VG 95328 Plug-in connector
												V3 VG 95234 Plug-in connector Form F
												V5 CA3101E10SL-3P Plug-in connector
												M1 MS 8525 Plug-in connector
												S1 EN 175301-803 C, 3 pole (IIB)
												STO Special connector
												Process connection
												M1 Pressure connection M12 x 1,5
												M2 Pressure connection M14 x 1,5

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M3	Pressure connection M16 x 1,5
M4	Pressure connection M18 x 1,5
G1	G1/4"
U1	7/16-20 UNF
F1	Flange 40x40 LK44
Pressure step code	
xxx	Special setting range
100	3-100 Bar
300	60-300 Bar
400	150-400 Bar

D	x	X	xx	xxx	SS	-	-	xxx	-	EXI
Option										
EXI ATEX (Ex ia)										
GL Germanischer Lloyd (Marine approval)										
UL Underwriter's Laboratories										
P2 1/2" NPT IG VA-Membrane										
FE Epoxy resin paint										
Electrical connections										
() Wago terminal or screw connection internal										
Material of the medium-contacting parts										
SS VA-Steel,17.7 PH / SS304										
Pressure ranges										
2 0,005...0,11 bar										
3 0,012...0,20 bar										
18 0,050...1,20 bar										
80 0,300...5,50 bar										
150 0,500...10,3 bar										
3 -0,006...-0,20 bar										
18 -0,040...-1,00 bar										
Micro switch contact										
B B-Micro switch (see datasheet for microswitch data)										
C C-Micro switch (see datasheet for microswitch data)										
H H-Micro switch (see datasheet for microswitch data)										
GH GH-Micro switch (see datasheet for microswitch data)										
J J-Micro switch (see datasheet for microswitch data)										
M M-Micro switch (see datasheet for microswitch data)										
GM GM-Micro switch (see datasheet for microswitch data)										
S S-Micro switch (see datasheet for microswitch data)										
Housing type										
X Ex d enclosure										
Number of switching points										
1 1 switch point										

2 2 switch points

B	x	T	xx	xxx	SS	-	xxx	-	xxx	-	EXI
<p>Option</p> <p>EXI ATEX (Ex ia) GL Germanischer Lloyd (Marine approval) UL Underwriter's Laboratories FE Epoxyresin paint</p>											
<p>Electrical connections</p> <p>ST1 cube plug DIN EN 175301-803 A(former DIN 43650)(IIB) ST3 Connector Amphenol (Tuchel) according to EN 43651 E 6-pin (only for 2 switching points version) (IIB) () Wago terminal or screw connection internal</p>											
<p>Material of the medium-contacting parts</p> <p>SS VA-Steel, 17.7 PH / SS304</p>											
<p>Pressure ranges</p> <p>12 4,8...82 bar 32 13,7...220 bar 48 22,4...330 bar 65 30,3...448 bar 120 79,3...827 bar 180 79,3...950 bar</p>											
<p>Micro switch contact</p> <p>B B-Micro switch (see datasheet for microswitch data) C C-Micro switch (see datasheet for microswitch data) H H-Micro switch (see datasheet for microswitch data) G H GH-Micro switch (see datasheet for microswitch data) J J-Micro switch (see datasheet for microswitch data) M M-Micro switch (see datasheet for microswitch data) G M GM-Micro switch (see datasheet for microswitch data) S S-Micro switch (see datasheet for microswitch data)</p>											
<p>Housing type</p> <p>T Aluminum enclosure, old and new form</p>											
<p>Number of switching points</p> <p>1 1 switch point 2 2 switch points</p>											

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P	1	x	xx	xxxx	xx	-	xx	-	x	-	EXI	Option	
												EXI	ATEX (Ex ia)
												Membrane material	
												()	Buna-N
												T	PTFE
												V	FKM/FPM
												Process connection	
												()	Aluminium 1/4" NPT IG
												P2	1/2" NPT Steel, 1.4401
												Material of the medium-contacting parts	
SS	VA-Steel, 17.7 PH / SS304												
()	Aluminum												
Pressure ranges													
30	0,03...2,0 bar												
85	0,2...5,8 bar												
340	0,4...23,0 bar												
600	1,70...40,0 bar												
1600	27,0...101,0 bar												
Micro switch contact													
B	B-Micro switch (see datasheet for information)												
GB	GB-Micro switch (see datasheet for information)												
H	H-Micro switch (see datasheet for information)												
GH	GH-Micro switch (see datasheet for information)												
M	M-Micro switch (see datasheet for information)												
GM	GM-Micro switch (see datasheet for information)												
J	J-Micro switch (see datasheet for information)												
K	K-Micro switch (see datasheet for information)												
Housing type													
X	Aluminum enclosure, explosion proof												
H	Aluminum enclosure, galvanized steel cover												
Number of switching points													
1	1 switch point												

E	1	H	-	xx	xxx	xx	-	xx	-	x	-	EXI	Options	
													EXI	ATEX (Ex ia)
													RD	Manual reset with G-microswitch
													ST1	connector 3-pole EN 175 301-801-A (IIB) only with E1H
													GE12	Steel cover
													Membrane material	
													()	Buna-N
													T	PTFE
													V	FKM/FPM
													N	CR
E	EPDM													
Material of the medium-contacting parts														
()	Anodized aluminum													

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					SS VA steel, 17.7 PH / SS304 PLS Polysulfone 40% glass fiber (IIB)
					Process connection P4 1/4" NPT female (standard on E1H) P6 1/8" NPT female with 1/2" NPT male (standard for E1S) P6-PLS P6 from PLS (only up to 17 bar) P7 G 1/4 IG
					Pressure ranges VAC Vacuum -0,2...-0,82 bar 15 0,04...1,0 bar 90 0,2...5,0 bar 250 0,70...16,0 bar 500 1,72...4,0 bar
					Micro switch contact B B-Micro switch (see datasheet for information) H H-Micro switch (see datasheet for information) GH GH-Micro switch (see datasheet for information) M M-Micro switch (see datasheet for information) G M GM-Micro switch (see datasheet for information) R R-Micro switch (see datasheet for information)
					Housing type H Aluminum enclosure
					Number of switching points 1 1 switch point

B	x	X	xx	xxx	SS	-	xxx	-	xxx	-	EXI	
												Option EXI ATEX (Ex ia) GL Germanischer Lloyd (Marine approval) UL Underwriter's Laboratories FE Epoxyresin paint
												Electrical connections () Wago terminal or screw connection internal
												Material of the medium-contacting parts SS VA-Steel, 17.7 PH / SS304
												Pressure ranges 12 4,8...82 bar 32 13,7...220 bar 48 22,4...330 bar 65 30,3...448 bar 120 79,3...827 bar 180 79,3...950 bar
												Micro switch contact B B-Micro switch (see datasheet for microswitch data) C C-Micro switch (see datasheet for microswitch data) H H-Micro switch (see datasheet for microswitch data) GH GH-Micro switch (see datasheet for microswitch data)

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J	J-Micro switch (see datasheet for microswitch data)
M	M-Micro switch (see datasheet for microswitch data)
G	
M	GM-Micro switch (see datasheet for microswitch data)
S	S-Micro switch (see datasheet for microswitch data)
Housing type	
X	Ex d enclosure
Number of switching points	
1	1 switch point
2	2 switch points

Electrical data:

Power supply In type of protection intrinsic safety Ex ia IIB/IIC/IIIC
only for the connection to certified intrinsically safe circuits
Maximum values:

$$U_i = 28 \text{ V}$$

$$I_i = 50 \text{ mA}$$

$$P_i = 0.84 \text{ W}$$

Effective internal capacitance C_i is negligibly small

Effective internal inductance L_i is negligibly small

Thermal data:

Permissible ambient temperature range during operation: $-40 \text{ °C} \leq T_a \leq +75 \text{ °C}$

Specific Conditions of Use:

1. The size of the nameplate exceeds the permissible area and can therefore be electrostatically charged:
For IIC Ga uses the pressure switches have to be installed and used in such a way, that electrostatic charging from operation, maintenance and cleaning is excluded.
For the use in explosive dust atmospheres process-related electrostatic charges, e.g. due to passing media have to be excluded.
2. All metallic parts of the devices have to be included in the local potential equalization.
3. The intrinsically safe circuit of the device is connected to the earth potential, therefore potential equalization has to exist in the entire area of the installation of the intrinsically safe circuit.
4. The housings of the devices consist of more than 10% aluminum, therefore in EPL Ga applications the installation has to be carried out in such a way, that ignition hazard due to impact or friction can be excluded.