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 BVS 14.0030X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2014-07-11) Issue 0 (2014-04-01)
Date of Issue:	2019-11-15		

Applicant: **WIKA Alexander Wiegand SE & Co. KG**
Alexander-Wiegand-Straße
63911 Klingenberg/Main
Germany

Equipment: **Pressure transducer type IS-3**

Optional accessory:

Type of Protection: **Intrinsic Safety "i", Equipment protection level (EPL) Ga**

Marking:
Ex ia IIA T4/T5/T6 Ga
Ex ia IIC T4/T5/T6 Ga
Ex ia IIC T4/T5/T6 Ga/Gb
Ex ic IIC T4/T5/T6 Gc
Ex ia IIIB T_{200}135°C Da
Ex ia IIIB T_{200}135°C Da/Db
Ex ia IIIC T135°C Da
Ex ia IIIC T135°C Da/Db
Ex ia I Ma

Approved for issue on behalf of the IECEx Certification Body: **Dr Franz Eickhoff**

Position: **Deputy Head of Certification Body**

Signature: (for printed version)

Date: 2019-11-15

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 www.iecex.com or use of this QR Code.

Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 14.0030X**

Date of issue: 2019-11-15 Issue No: 2

Manufacturer: **WIKA Alexander Wiegand SE & Co. KG**
Alexander-Wiegand-Straße
63911 Klingenberg/Main
Germany

Additional manufacturing locations:

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
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 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/BVS/ExTR14.0031/02

Quality Assessment Report:

DE/BVS/QAR07.0010/14

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Type Code

IS-3-*-bcde-***-*******-*qrst**-****

* = not relevant for Ex

Position	Meaning	Feature
bc	Area of use	"11" = EPL Ga
		"12" = EPL Ga , EPL Ma
		"13" = EPL Ga , EPL Da
		"14" = EPL Ga , EPL Da, EPL Ma
		"21" = EPL Ga/Gb
		"22" = EPL Ga/Gb , EPL Ma
		"23" = EPL Ga/Gb , EPL Da/Db
		"24" = EPL Ga/Gb , EPL Da/Db, EPL Ma
		"31" = EPL Gc
d	Approvals	"1", "3" or "4" = with explosion protection
e	Ignition protection type	"1" = Intrinsically safe
q	Adjustability	"Z" = Without
		"T" = Zero point / span adjustable
rs	Electrical connection	Electrical outputs two characters according to table 1 below
t	Cable material	"Z" = Without
		"A" = PUR
		"B" = FEP

SPECIFIC CONDITIONS OF USE: YES as shown below:
See Annex

IECEx Certificate of Conformity

Equipment (continued):

General product information:

The pressure transducer type IS-3 converts a pressure into an electrical current. It is intended for measuring the pressure in an area with potentially explosive atmosphere. The IS-3 is intended for connection to intrinsically safe circuits.

Ratings:

See Annex

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Testing according to current standards

Extension of requirements for dust: ambient and media temperatures for Group IIIB and P_i = 800 mW or 650 mW for T_{200} 135°C

Supplementary data for dust for variants with cooling section between process connection and housing

Amendment of the labelling for dust Group IIIB

Annex:

BVS_14_0030X_WIKA_Annex_issue2.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 14.0030 X issue No.: 2**
Annex

Specific Conditions of Use

The installation of the Pressure Transmitter in the wall to areas requiring EPL Ga equipment shall provide a degree of protection IP67 according to IEC 60529.
The installation of the Pressure Transmitter in the wall to areas requiring EPL Da equipment shall provide a degree of protection IP6X according to IEC 60529.
Manufacturer's technical information related to use of the Pressure Transmitter in contact with aggressive / corrosive media and to avoid any risk of mechanical impact shall be observed.
In case of applications of the Pressure Transmitter in areas requiring EPL Ga or Da equipment the screen of the interconnection cable shall be included in the equipotential-bonding / grounding of the vessel.
The cable inlet of the apparatus in the wall to areas requiring EPL Ga equipment shall provide a degree of protection IP67 according to IEC 60529.
The cable inlet of the apparatus in the wall to areas requiring EPL Da equipment shall provide a degree of protection IP6X according to IEC 60529.
Measuring of pressure media providing temperatures exceeding the values of the medium temperature ranges listed in table 1 is permitted, if special heat sink assembly is used. But permissible surface temperatures, applicable to this range with regard to the specified temperature class shall not be exceeded.

Ratings:

Intrinsically safe supply and signal circuit (4 -20 mA current loop)

Parameter	Group I	Group II	Group III
Voltage U_i	DC 30 V	DC 30 V	DC 30 V
Current I_i	100 mA	100 mA	100 mA
Power P_i	800 mW	800 mW	750 / 650 / 550 mW (IIIC) 800 / 650 mW (IIIB)
Effective internal capacitance C_i	16.5 nF + 0.2 nF/m	16.5 nF + 0.2 nF/m	16.5 nF + 0.2 nF/m
Effective internal inductance L_i	0 µH + 2 µH/m	0 µH + 2 µH/m	0 µH + 2 µH/m

Ambient temperature range / Assignment to device Category / Temperature class

Table 1: Ambient and medium temperature range for medium temperatures ≤ 105 °C

Nomenclature	2014/34/EU (ATEX)	EPL	Group	Ambient and medium temperature range (°C)	Temperature class / Surface temperature (°C)
BAYONET CONNECTOR ACC. TO MIL-DTL-26482 not adjustable IS-3-*-****-***-*******-*ZO5Z**-**** IS-3-*-****-***-*******-*ZO6Z**-****	1/2G 3G	Ga/Gb Gc	IIC	-50 ≤ T_a ≤ +60 -50 ≤ T_a ≤ +75 -50 ≤ T_a ≤ +105	T6 T5 T4
	1/2D	Da/Db	IIIB	-50 ≤ T_a ≤ +85 (800 mW) -50 ≤ T_a ≤ +95 (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	-50 ≤ T_a ≤ +40 (750 mW) -50 ≤ T_a ≤ +70 (650 mW) -50 ≤ T_a ≤ +100 (550 mW)	T135 °C
BAYONET CONNECTOR ACC. TO MIL-DTL-26482 adjustable IS-3-*-****-***-*******-*TO5Z**-**** IS-3-*-****-***-*******-*TO6Z**-****	1/2G 3G	Ga/Gb Gc	IIC	-30 ≤ T_a ≤ +60 -30 ≤ T_a ≤ +75 -30 ≤ T_a ≤ +105	T6 T5 T4
	1/2D	Da/Db	IIIB	-30 ≤ T_a ≤ +85 (800 mW) -30 ≤ T_a ≤ +95 (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	-30 ≤ T_a ≤ +40 (750 mW) -30 ≤ T_a ≤ +70 (650 mW) -30 ≤ T_a ≤ +100 (550 mW)	T135 °C

Nomenclature	2014/34/EU (ATEX)	EPL	Group	Ambient and medium temperature range (°C)	Temperature class / Surface temperature (°C)
CIRCULAR CONNECTOR M16x0,75 ACC. TO IEC61076-2-106 5-PIN not adjustable IS-3-*-****-***-*******-*ZB4Z**-**** adjustable IS-3-*-****-***-*******-*TB4Z**-****	M1	Ma	I	$-30 \le T_a \le +85$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +75$ $-30 \le T_a \le +85$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-30 \le T_a \le +85$ (800 mW) $-30 \le T_a \le +85$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +85$ (550 mW)	T135 °C
CIRCULAR CONNECTOR M12x1 ACC. TO IEC61076-2-101 A-COD 4-PIN not adjustable IS-3-*-****-***-*******-*ZM2Z**-**** adjustable IS-3-*-****-***-*******-*TM2Z**-****	M1	Ma	I	$-30 \le T_a \le +105$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +75$ $-30 \le T_a \le +105$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-30 \le T_a \le +85$ (800 mW) $-30 \le T_a \le +95$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +100$ (550 mW)	T135 °C
CIRCULAR CONNECTOR 7/8-16UN 4-PIN not adjustable IS-3-*-****-***-*******-*ZM6Z**-****	M1	Ma	I	$-40 \le T_a \le +70$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-40 \le T_a \le +60$ $-40 \le T_a \le +70$ $-40 \le T_a \le +70$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-40 \le T_a \le +70$ (800 mW) $-40 \le T_a \le +70$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-40 \le T_a \le +40$ (750 mW) $-40 \le T_a \le +70$ (650 mW) $-40 \le T_a \le +70$ (550 mW)	T135 °C
ANGULAR CONNECTOR ACC. TO DIN EN175301-803-A adjustable IS-3-*-****-***-*******-*TA3Z**-**** IS-3-*-****-***-*******-*TAWZ**-**** IS-3-*-****-***-*******-*TAVZ**-****	M1	Ma	I	$-30 \le T_a \le +105$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +75$ $-30 \le T_a \le +105$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-30 \le T_a \le +85$ (800 mW) $-30 \le T_a \le +95$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +100$ (550 mW)	T135 °C
CABLE OUTLET IP67 adjustable IS-3-*-****-***-*******-*TDPA**-****	M1	Ma	I	$-30 \le T_a \le +70$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +70$ $-30 \le T_a \le +70$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-30 \le T_a \le +70$ (800 mW) $-30 \le T_a \le +70$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +70$ (550 mW)	T135 °C
CABLE OUTLET IP68 CABLE GLAND not adjustable IS-3-*-****-***-*******-*ZXPA**-**** adjustable IS-3-*-****-***-*******-*TXPA**-****	M1	Ma	I	$-30 \le T_a \le +70$	N/A
	1G 1/2G 3G	Ga Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +70$ $-30 \le T_a \le +70$	T6 T5 T4
	1D 1/2D	Da Da/Db	IIIB	$-30 \le T_a \le +70$ (800 mW) $-30 \le T_a \le +70$ (650 mW)	T_{200} 135 °C
	1D 1/2D	Da Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +70$ (550 mW)	T135 °C

Nomenclature	2014/34/EU (ATEX)	EPL	Group	Ambient and medium temperature range (°C)	Temperature class / Surface temperature (°C)
CABLE OUTLET IP68 CABLE GLAND CONDUIT 1/2NPT not adjustable IS-3-*-****-***-*******-*Z5WA**-****	M1	Ma	I	$-30 \le T_a \le +70$	N/A
	1G 1/2G 3G	Ga Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +70$ $-30 \le T_a \le +70$	T6 T5 T4
	1D 1/2D	Da Da/Db	IIIB	$-30 \le T_a \le +70$ (800 mW) $-30 \le T_a \le +70$ (650 mW)	T_{200} 135 °C
	1D 1/2D	Da Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +70$ (550 mW)	T135 °C
CABLE OUTLET IP68 (CONTINUOUS USE IN MEDIUM) PUR not adjustable IS-3-*-****-***-*******-*ZDCA**-****	M1	Ma	I	$-30 \le T_a \le +70$	N/A
	1G	Ga	IIA	$-30 \le T_a \le +60$ $-30 \le T_a \le +70$ $-30 \le T_a \le +70$	T6 T5 T4
	1/2G 3G	Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +70$ $-30 \le T_a \le +70$	T6 T5 T4
	1D 1/2D	Da Da/Db	IIIB	$-30 \le T_a \le +70$ (800 mW) $-30 \le T_a \le +70$ (650 mW)	T_{200} 135 °C
	1D 1/2D	Da Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +70$ (550 mW)	T135 °C
CABLE OUTLET IP68 (CONTINUOUS USE IN MEDIUM) FEP not adjustable IS-3-*-****-***-*******-*ZDCB**-****	M1	Ma	I	$-30 \le T_a \le +95$	N/A
	1G	Ga	IIA	$-30 \le T_a \le +60$ $-30 \le T_a \le +75$ $-30 \le T_a \le +95$	T6 T5 T4
	1/2G 3G	Ga/Gb Gc	IIC	$-30 \le T_a \le +60$ $-30 \le T_a \le +75$ $-30 \le T_a \le +95$	T6 T5 T4
	1D 1/2D	Da Da/Db	IIIB	$-30 \le T_a \le +85$ (800 mW) $-30 \le T_a \le +95$ (650 mW)	T_{200} 135 °C
	1D 1/2D	Da Da/Db	IIIC	$-30 \le T_a \le +40$ (750 mW) $-30 \le T_a \le +70$ (650 mW) $-30 \le T_a \le +95$ (550 mW)	T135 °C
FIELD CASE, CABLE GLAND BRASS NICKEL-PLATED IS-3-*-****-***-*******-*TFHZ**-**** IS-3-*-****-***-*******-*TFKZ**-**** FIELD CASE, CABLE GLAND STAINLESS STEEL IS-3-*-****-***-*******-*TFCZ**-**** IS-3-*-****-***-*******-*TFDZ**-**** FIELD CASE, CONDUIT IS-3-*-****-***-*******-*TFSZ**-**** IS-3-*-****-***-*******-*TFTZ**-**** IS-3-*-****-***-*******-*TFLZ**-**** IS-3-*-****-***-*******-*TFMZ**-****	M1	Ma	I	$-50 \le T_a \le +105$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-50 \le T_a \le +60$ $-50 \le T_a \le +75$ $-50 \le T_a \le +105$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-50 \le T_a \le +85$ (800 mW) $-50 \le T_a \le +95$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-50 \le T_a \le +40$ (750 mW) $-50 \le T_a \le +70$ (650 mW) $-50 \le T_a \le +100$ (550 mW)	T135 °C
FIELD CASE, CABLE GLAND PLASTIC IS-3-*-****-***-*******-*TFAZ**-**** IS-3-*-****-***-*******-*TFBZ**-****	M1	Ma	I	$-20 \le T_a \le +85$	N/A
	1/2G 3G	Ga/Gb Gc	IIC	$-20 \le T_a \le +60$ $-20 \le T_a \le +75$ $-20 \le T_a \le +85$	T6 T5 T4
	1/2D	Da/Db	IIIB	$-20 \le T_a \le +85$ (800 mW) $-20 \le T_a \le +85$ (650 mW)	T_{200} 135 °C
	1/2D	Da/Db	IIIC	$-20 \le T_a \le +40$ (750 mW) $-20 \le T_a \le +70$ (650 mW) $-20 \le T_a \le +85$ (550 mW)	T135 °C

N/A = "not applicable"

Optional cooling elements are provided for medium temperature ranges 105 °C < T_{med} ≤ 200 °C.

The following tables show the maximum medium temperatures at the corresponding ambient temperatures for the respective temperature classes.
The minimum ambient and medium temperatures from table 1 "Ambient and medium temperature range for medium temperatures ≤ 105 °C" remain valid.

Table 2: Maximum medium and ambient temperature depending on the temperature class when using cooling elements with pressure channel as process connection suitable for medium temperatures 105 °C < T_{med} ≤ 200 °C for Group II (gas atmosphere).

Temperature class	T2	T3				T4		
T (medium,max) / ° C	200	195	175	155	135	130	110	105
Model	T(ambient,max) / ° C							
Circular connector M12x1 IS-3-*-****-***-*******-*TM2Z**-**** IS-3-*-****-***-*******-*ZM2Z**-**** Bayonet connector IS-3-*-****-***-*******-*ZO5Z**-**** IS-3-*-****-***-*******-*ZO6Z**-**** IS-3-*-****-***-*******-*TO5Z**-**** IS-3-*-****-***-*******-*TO6Z**-**** Angular connector DIN EN175301-803-A IS-3-*-****-***-*******-*TA3Z**-**** IS-3-*-****-***-*******-*TAWZ**-**** IS-3-*-****-***-*******-*TAVZ**-**** Field case, cable gland brass nickel-plated IS-3-*-****-***-*******-*TFHZ**-**** IS-3-*-****-***-*******-*TFKZ**-**** Field case, cable gland stainless steel IS-3-*-****-***-*******-*TFCZ**-**** IS-3-*-****-***-*******-*TFDZ**-**** Field case, conduit IS-3-*-****-***-*******-*TFSZ**-**** IS-3-*-****-***-*******-*TFTZ**-**** IS-3-*-****-***-*******-*TFLZ**-**** IS-3-*-****-***-*******-*TFMZ**-****	40	45	55	70	85	85	100	105
Cable outlet IP68 (continuous use in medium) FEP IS-3-*-****-***-*******-*ZDCB**-****	40	45	55	70	85	85	85	85
Circular connector M16x0,75 IS-3-*-****-***-*******-*TB4Z**-**** IS-3-*-****-***-*******-*ZB4Z**-**** Field case, cable gland plastic IS-3-*-****-***-*******-*TFAZ**-**** IS-3-*-****-***-*******-*TFBZ**-****	40	45	55	70	70	70	70	70
Circular connector 7/8-16UN IS-3-*-****-***-*******-*ZM6Z**-**** Cable outlets PUR cable IS-3-*-****-***-*******-*TDPA**-**** IS-3-*-****-***-*******-*ZXPA**-**** IS-3-*-****-***-*******-*TXPA**-**** IS-3-*-****-***-*******-*Z5WA**-**** IS-3-*-****-***-*******-*ZDCA**-****	40	45	50	50	50	50	50	50

Table 3: Maximum medium and ambient temperature as a function of power P_i for Group IIIB (dust atmosphere) when using cooling elements with pressure channel as process connection suitable for medium temperatures 105 °C < T_{med} ≤ 135 °C

Power P_i:	800 mW				650 mW			
Group:	IIIB							
Surface Temperature	T_{200} 135 °C							
T (medium,max) / ° C	135	130	110	105	135	130	110	105
Model			T(ambient,max) / ° C					
Circular connector M12x1 IS-3-*-****-***-*******-*TM2Z**-**** IS-3-*-****-***-*******-*ZM2Z**-**** Bayonet connector IS-3-*-****-***-*******-*ZO5Z**-**** IS-3-*-****-***-*******-*ZO6Z**-**** IS-3-*-****-***-*******-*TO5Z**-**** IS-3-*-****-***-*******-*TO6Z**-**** Angular connector DIN EN175301-803-A IS-3-*-****-***-*******-*TA3Z**-**** IS-3-*-****-***-*******-*TAWZ**-**** IS-3-*-****-***-*******-*TAVZ**-**** Field case, cable gland brass nickel-plated IS-3-*-****-***-*******-*TFHZ**-**** IS-3-*-****-***-*******-*TFKZ**-**** Field case, cable gland stainless steel IS-3-*-****-***-*******-*TFCZ**-**** IS-3-*-****-***-*******-*TFDZ**-**** Field case, conduit IS-3-*-****-***-*******-*TFSZ**-**** IS-3-*-****-***-*******-*TFTZ**-**** IS-3-*-****-***-*******-*TFLZ**-**** IS-3-*-****-***-*******-*TFMZ**-****	70	70	70	70	75	80	85	85
Cable outlet IP68 (continuous use in medium) FEP IS-3-*-****-***-*******-*ZDCB**-****	70	70	70	70	75	80	85	85
Circular connector M16x0,75 IS-3-*-****-***-*******-*TB4Z**-**** IS-3-*-****-***-*******-*ZB4Z**-**** Field case, cable gland plastic IS-3-*-****-***-*******-*TFAZ**-**** IS-3-*-****-***-*******-*TFBZ**-****	70	70	70	70	70	70	70	70
Circular connector 7/8-16UN IS-3-*-****-***-*******-*ZM6Z**-**** Cable outlets PUR cable IS-3-*-****-***-*******-*TDPA**-**** IS-3-*-****-***-*******-*ZXPA**-**** IS-3-*-****-***-*******-*TXPA**-**** IS-3-*-****-***-*******-*Z5WA**-**** IS-3-*-****-***-*******-*ZDCA**-****	50	50	50	50	50	50	50	50

Table 4: Maximum medium and ambient temperature as a function of the power P_i for Group IIIC (dust atmosphere) when using cooling elements with pressure channel as process connection suitable for medium temperatures 105 °C < T_{med} ≤ 135 °C

Power P_i:	750 mW				650 mW				550 mW			
Group:	IIIC											
Surface Temperature	135 °C											
T (medium,max) / ° C	135	130	110	105	135	130	110	105	135	130	110	105
Model	T(ambient,max) / ° C											
Circular connector M12x1 IS-3-*-****-***-*******-*TM2Z**-**** IS-3-*-****-***-*******-*ZM2Z**-**** Bayonet connector IS-3-*-****-***-*******-*ZO5Z**-**** IS-3-*-****-***-*******-*ZO6Z**-**** IS-3-*-****-***-*******-*TO5Z**-**** IS-3-*-****-***-*******-*TO6Z**-**** Angular connector DIN EN175301-803-A IS-3-*-****-***-*******-*TA3Z**-**** IS-3-*-****-***-*******-*TAWZ**-**** IS-3-*-****-***-*******-*TAVZ**-**** Field case, cable gland brass nickel-plated IS-3-*-****-***-*******-*TFHZ**-**** IS-3-*-****-***-*******-*TFKZ**-**** Field case, cable gland stainless steel IS-3-*-****-***-*******-*TFCZ**-**** IS-3-*-****-***-*******-*TFDZ**-**** Field case, conduit IS-3-*-****-***-*******-*TFSZ**-**** IS-3-*-****-***-*******-*TFTZ**-**** IS-3-*-****-***-*******-*TFLZ**-**** IS-3-*-****-***-*******-*TFMZ**-****	0	0	0	0	50	50	50	50	75	80	95	95
Cable outlet IP68 (continuous use in medium) FEP IS-3-*-****-***-*******-*ZDCB**-****	0	0	0	0	50	50	50	50	75	80	85	85

Circular connector M16x0,75 IS-3-*-****-***-*******-*TB4Z**-**** IS-3-*-****-***-*******-*ZB4Z**-**** Field case, cable gland plastic IS-3-*-****-***-*******-*TFAZ**-**** IS-3-*-****-***-*******-*TFBZ**-****	0	0	0	0	50	50	50	50	70	70	70	70
Circular connector 7/8-16UN IS-3-*-****-***-*******-*ZM6Z**-**** Cable outlets PUR cable IS-3-*-****-***-*******-*TDPA**-**** IS-3-*-****-***-*******-*ZXPA**-**** IS-3-*-****-***-*******-*TXPA**-**** IS-3-*-****-***-*******-*Z5WA**-**** IS-3-*-****-***-*******-*ZDCA**-****	0	0	0	0	50	50	50	50	50	50	50	50

Table 5: Maximum medium and ambient temperature depending on the temperature class when using cooling elements with front flush process connection suitable for medium temperatures 105 °C < T_{med} ≤ 150 °C for Group II (gas atmosphere)

Temperature class	T3		T4		
T (medium,max) / ° C	150	135	130	110	105
Model	T(ambient,max) / ° C				
Circular connector M12x1 IS-3-*-****-***-*******-*TM2Z**-**** IS-3-*-****-***-*******-*ZM2Z**-**** Bayonet connector IS-3-*-****-***-*******-*ZO5Z**-**** IS-3-*-****-***-*******-*ZO6Z**-**** IS-3-*-****-***-*******-*TO5Z**-**** IS-3-*-****-***-*******-*TO6Z**-**** Angular connector DIN EN175301-803-A IS-3-*-****-***-*******-*TA3Z**-**** IS-3-*-****-***-*******-*TAWZ**-**** IS-3-*-****-***-*******-*TAVZ**-**** Field case, cable gland brass nickel-plated IS-3-*-****-***-*******-*TFHZ**-**** IS-3-*-****-***-*******-*TFKZ**-**** Field case, cable gland stainless steel IS-3-*-****-***-*******-*TFCZ**-**** IS-3-*-****-***-*******-*TFDZ**-**** Field case, conduit IS-3-*-****-***-*******-*TFSZ**-**** IS-3-*-****-***-*******-*TFTZ**-**** IS-3-*-****-***-*******-*TFLZ**-**** IS-3-*-****-***-*******-*TFMZ**-****	20	50	55	95	105
Cable outlet IP68 (continuous use in medium) FEP IS-3-*-****-***-*******-*ZDCB**-****	20	50	55	85	85

Circular connector M16x0,75 IS-3-*-****-***-*******-*TB4Z**-**** IS-3-*-****-***-*******-*ZB4Z**-**** Field case, cable gland plastic IS-3-*-****-***-*******-*TFAZ**-**** IS-3-*-****-***-*******-*TFBZ**-****	20	50	55	70	70
Circular connector 7/8-16UN IS-3-*-****-***-*******-*ZM6Z**-**** Cable outlets PUR cable IS-3-*-****-***-*******-*TDPA**-**** IS-3-*-****-***-*******-*ZXPA**-**** IS-3-*-****-***-*******-*TXPA**-**** IS-3-*-****-***-*******-*Z5WA**-**** IS-3-*-****-***-*******-*ZDCA**-****	20	50	50	50	50

Table 6: Maximum medium and ambient temperature as a function of power P_i for Group IIIB (dust atmosphere) when using cooling elements with front flush process connection suitable for medium temperatures 105 °C < T_{med} ≤ 135 °C

Power P_i:	800 mW				650 mW			
Group:	IIIB							
Surface Temperature	T_{200} 135 °C							
T (medium,max) / ° C	135	130	110	105	135	130	110	105
Model			T(ambient,max) / ° C					
Circular connector M12x1 IS-3-*-****-***-*******-*TM2Z**-**** IS-3-*-****-***-*******-*ZM2Z**-**** Bayonet connector IS-3-*-****-***-*******-*ZO5Z**-**** IS-3-*-****-***-*******-*ZO6Z**-**** IS-3-*-****-***-*******-*TO5Z**-**** IS-3-*-****-***-*******-*TO6Z**-**** Angular connector DIN EN175301-803-A IS-3-*-****-***-*******-*TA3Z**-**** IS-3-*-****-***-*******-*TAWZ**-**** IS-3-*-****-***-*******-*TAVZ**-**** Field case, cable gland brass nickel-plated IS-3-*-****-***-*******-*TFHZ**-**** IS-3-*-****-***-*******-*TFKZ**-**** Field case, cable gland stainless steel IS-3-*-****-***-*******-*TFCZ**-**** IS-3-*-****-***-*******-*TFDZ**-**** Field case, conduit IS-3-*-****-***-*******-*TFSZ**-**** IS-3-*-****-***-*******-*TFTZ**-**** IS-3-*-****-***-*******-*TFLZ**-**** IS-3-*-****-***-*******-*TFMZ**-****	35	45	75	75	35	45	90	90
Cable outlet IP68 (continuous use in medium) FEP IS-3-*-****-***-*******-*ZDCB**-****	35	45	75	75	35	45	90	90
Circular connector M16x0,75 IS-3-*-****-***-*******-*TB4Z**-**** IS-3-*-****-***-*******-*ZB4Z**-**** Field case, cable gland plastic IS-3-*-****-***-*******-*TFAZ**-**** IS-3-*-****-***-*******-*TFBZ**-****	35	45	75	75	35	45	75	75

Circular connector 7/8-16UN IS-3-*-****-***-*******-*ZM6Z**-**** Cable outlets PUR cable IS-3-*-****-***-*******-*TDPA**-**** IS-3-*-****-***-*******-*ZXPA**-**** IS-3-*-****-***-*******-*TXPA**-**** IS-3-*-****-***-*******-*Z5WA**-**** IS-3-*-****-***-*******-*ZDCA**-****	35	45	55	55	35	45	55	55

Table 7: Maximum medium and ambient temperature as a function of power P_i for Group IIIC (dust atmosphere) when using cooling elements with front flush process connection suitable for medium temperatures 105 °C < T_{med} ≤ 135 °C

Power Pi:	750 mW				650 mW				550 mW			
Group:	IIIC											
Surface Temperature	135 °C											
T (medium,max) / ° C	135	130	110	105	135	130	110	105	135	130	110	105
Model	T(ambient,max) / ° C											
Circular connector M12x1 IS-3-*-****-***-*******- *TM2Z**-**** IS-3-*-****-***-*******- *ZM2Z**-**** Bayonet connector IS-3-*-****-***-*******- *ZO5Z**-**** IS-3-*-****-***-*******- *ZO6Z**-**** IS-3-*-****-***-*******- *TO5Z**-**** IS-3-*-****-***-*******- *TO6Z**-**** Angular connector DIN EN175301-803-A IS-3-*-****-***-*******- *TA3Z**-**** IS-3-*-****-***-*******- *TAWZ**-**** IS-3-*-****-***-*******- *TAVZ**-**** Field case, cable gland brass nickel-plated IS-3-*-****-***-*******- *TFHZ**-**** IS-3-*-****-***-*******- *TFKZ**-**** Field case, cable gland stainless steel IS-3-*-****-***-*******- *TFCZ**-**** IS-3-*-****-***-*******- *TFDZ**-**** Field case, conduit IS-3-*-****-***-*******- *TFSZ**-****	15	15	15	15	35	45	55	55	35	45	90	95

IS-3-*-****-***-*******- *TFTZ**-**** IS-3-*-****-***-*******- *TFLZ**-**** IS-3-*-****-***-*******- *TFMZ**-****												
Cable outlet IP68 (continuous use in medium) FEP IS-3-*-****-***-*******- *ZDCB**-****	15	15	15	15	35	45	55	55	35	45	90	90
Circular connector M16x0,75 IS-3-*-****-***-*******- *TB4Z**-**** IS-3-*-****-***-*******- *ZB4Z**-**** Field case, cable gland plastic IS-3-*-****-***-*******- *TFAZ**-**** IS-3-*-****-***-*******- *TFBZ**-****	15	15	15	15	35	45	55	55	35	45	75	75
Circular connector 7/8-16UN IS-3-*-****-***-*******- *ZM6Z**-**** Cable outlets PUR cable IS-3-*-****-***-*******- *TDPA**-**** IS-3-*-****-***-*******- *ZXPA**-**** IS-3-*-****-***-*******- *TXPA**-**** IS-3-*-****-***-*******- *Z5WA**-**** IS-3-*-****-***-*******- *ZDCA**-****	15	15	15	15	35	45	55	55	35	45	55	55