

### INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: IECEx DEK 14.0048X Page 1 of 4 Certificate history:

Status: Current Issue No: 5

Date of Issue: 2022-01-18 Issue 2 (2016-10-14) Issue 1 (2016-03-21) Issue 0 (2015-05-20)

Applicant: VEGA Grieshaber KG
Am Hohenstein 113
77761 Schillach

77761 Schiltach Germany

Equipment: Display and adjustment Unit VEGADIS 82, type DIS82(\*).\*\*X\*\*\*\*\*\* and type DIS82(\*).\*\*H\*\*\*\*\*\*

Optional accessory:

Type of Protection: Ex ia

Marking: Ex ia IIC T6...T1 Ga

Ex ia IIC T6...T1 Gb

Approved for issue on behalf of the IECEx Certification Body:

Position:

Signature: (for printed version)

Date:

R. Schuller

Certification manager

2022-01-18

- 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.

Issue 4 (2021-06-22)

Issue 3 (2017-11-10)

Certificate issued by:

DEKRA Certification B.V. Meander 1051 6825 MJ Arnhem ''' ands









Certificate No.: **IECEx DEK 14.0048X** Page 2 of 4

Date of issue: 2022-01-18 Issue No: 5

VEGA Grieshaber KG Manufacturer:

Am Hohenstein 113 77761 Schiltach Germany

Additional manufacturing locations:

VEGA Americas. Inc 4241 Allendorf Drive Cincinnati. Ohio 45209 United States of America **VEGA India Level and Pressure** Measurement Pvt. Ltd.

Plot No. 1 Gat No. 181

Village - Phulgaon Tal. Haveli Pune 412216 India

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

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

STANDARDS:

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:

NL/DEK/ExTR14.0060/05

Quality Assessment Report:

DE/TUN/QAR06.0002/10



Certificate No.: IECEx DEK 14.0048X Page 3 of 4

Date of issue: 2022-01-18 Issue No: 5

#### EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

VEGADIS 82, type DIS82(\*).\*\*X\*\*\*\*\*\*, is used for separate scaling, parameter adjustment and visualization of measured values in conjunction with 4 ... 20 mA, interfaced sensors.

VEGADIS 82, type DIS82(\*).\*\*H\*\*\*\*\*\*, is for in conjunction with 4 ... 20 mA + HART interfaced sensors.

The VEGADIS 82 is looped into the intrinsically safe 4 ... 20 mA, or 4 ... 20 mA + HART, circuit of the sensor.

Optionally, the VEGADIS 82 can be provided with the display and adjustment module called "PLICSCOM".

The user can readily replace the PLICSCOM by an alternative display and adjustment module that is specified by VEGA.

The enclosure of the VEGADIS 82 can be made of plastic, aluminium or stainless steel, and has a cover with or without a plastic window. Or the VEGADIS 82 has a plastic enclosure, with a transparent cover, for panel mounting For more detailed information, see the Annex to this certificate.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

For electrical and thermal data, see Annex 1 to Report No. NL/DEK/ExTR14.0060/05.

If the enclosure of the VEGADIS 82 is made of aluminium (Type DIS82(\*).\*\*\*A\*\*\*\*\*) and if it is mounted in an area where the use of EPL Ga equipment is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Electrostatic charges on all Units VEGADIS 82 shall be avoided, except for the VEGADIS 82, type DIS82(\*).\*\*\*V\*\*X\*\* which is made of unpainted steel and has no window.



Certificate No.: IECEx DEK 14.0048X Page 4 of 4

Date of issue: 2022-01-18 Issue No: 5

### **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- additional manufacturing location
- change of type code
- minor constructional change

### Annex:

226248200-Annex1\_to ExTR14.0060.05.pdf

### Annex 1 to Report No. NL/DEK/ExTR14.0060/05



### Thermal data

Minimum ambient temperature is - 40 °C.

The relation between temperature class and maximum ambient temperature is as listed in the following table:

	T6	T5	T4T1
Type DIS82(*).**X*****	45 °C	60 °C	60 °C
Type DIS82(*).**H*****	42 °C	57 °C	60 °C

### Electrical data

Supply circuit (terminals 3, 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

 $U_i$  = 30 V,  $I_i$  = 131 mA,  $P_i$  = 983 mW (linear barrier),  $P_i$  = 700 mW (electronically limited barrier);

for Type DIS82(\*).\*\* $X^{******}$ :  $C_i = 0$  nF,  $L_i = 5 \mu H$ ,

for Type DIS82(\*).\*\*H\*\*\*\*\*\*:  $C_i = 3.5 \text{ nF}, L_i = 75 \mu\text{H}.$ 

Sensor circuit (terminal 1, 2):

the type of protection, and the electrical values  $U_o$ ,  $I_o$  and  $P_o$  of the sensor circuit are the same as those of the external supply circuit, as connected to terminals 3 and 4.

C<sub>o</sub> is the same as C<sub>o</sub> of the external supply circuit (terminals 3, 4).

 $L_{\text{o}}$  is the same as  $L_{\text{o}}$  of the external supply circuit (terminals 3, 4), decreased with (L\_{\text{i}}) 5  $\mu H.$  for Type DIS82(\*).\*\*H\*\*\*\*\*\*\*

 $C_{\circ}$  is the same as  $C_{\circ}$  of the external supply circuit (terminals 3, 4), decreased with (C\_i) 3.5 nF.

 $L_{\circ}$  is the same as  $L_{\circ}$  of the external supply circuit (terminals 3, 4), decreased with (Li) 75  $\mu H.$ 

If an active sensor is applied, the combination of sensor circuit and supply circuit shall not result in exceeding the maximum electrical values  $U_i$ ,  $I_i$  and  $P_i$  of the supply circuit.

The intrinsically safe circuits are infallibly separated from parts which can be earthed.

### Annex 1 to Report No. NL/DEK/ExTR14.0060/05



### Type designation

Detailed Nomenclature of the approved versions of the VEGADIS 82 is as follows:

DIS82(*).	а	b	С	d	е	f	g	h	i	
	scope									
	Α	europe								
	1	worldw	ide							
	*	other s	cope; n	ot releva	ant for sa	ıfety				
		approv	val							
		С	ATEXI	I 1G, 20	G Ex ia I	IC T6 Ga	a, Gb			
		0	ATEXI	I 1G, 20	G Ex ia I	IC T6 Ga	a, Gb + S	Schiffszu	ulassung	1
		H	ATEXI	I 1G, 20	G Ex ia I	IC T6 Ga	a, Gb + /	ATEX II 1	1D, 2D E	x t IIIC T* Da, Db IP66
		С	IEC Ex	ia IIC	Г6 Ga, G	b				
		0	IEC Ex	ia IIC	Г6 Ga, G	b + ship	approva	ıl		
		H	IEC Ex	ia IIC	Г6 Ga, G	b + IEC	Ex t IIIC	T* Da, I	Db IP66	
			electro	onic						
			Х	420	mA					
			H	420	mA/HAR	T				
				housi						
				K	plastic	/ IP66,I	P67			
				Α			66, IP68(	0,2 bar)		
				V	stainle	ss steel	(precision	on castir	ng) 316L	. / IP66, IP68(0,2 bar)
				S	for pan	el moun	ting (72	x 72 mm	1)	
				H	alumin	um spec	cial color	/ IP66,	IP68(0,2	? bar)
					protec	tion				
					1	IP66/IF	P67 NEM	1A 4X		
					N	IP66/IF	968 NEM	1A 6P (0	,2 bar)	
					S	IP40 N	IEMA 1			
						cable	entry / o	connect	ion	
						Х	without			
						M	M20x1	.5 / cabl	e gland	PA black
						K				PA blue
						L	M20x1	.5 / cabl	e gland	stainless steel
						0				brass nickle-plated
						6	M20x1	.5 / cabl	e gland	brass nickle-plated;
						D	M20x1	.5 / blind	l plug	
						J		Γ/ cable		
						P				rass nickle-plated
						8				rass nickle-plated;
						N		Γ/ blind		
						*				glands, blind plugs,
										onnectors
										ation unit PLICSCOM
							Х	without		
	$\perp$					$\perp \perp$	Α	built-in		
	$\perp$					$\perp \perp$	F			with display window
	$\perp$						K			Bluetooth, magnetic operation
	$\perp$						$\perp$		f mount	
								С		ier rail, wall-mounting with plastic
								E		mounting (2960 mm) incl.
	$\perp$						$\perp \perp$	Α		-mounting with aluminium or
	$\perp$						$\perp$	D		ier rail with aluminium or
	$\perp$							F		el mounting
	-							$\perp$	certific	
	$\perp$							$\vdash$	Х	without
	1				1				M	with
	Ψ	V	V	V	T Y	V	T V	V	V	
DIS82(*).	*	*	*	*	*	*	*	*	*	



### INTERNATIONAL ELECTROTECHNICAL COMMISSION **IEC Certification System for Explosive Atmospheres**

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

Certificate No.: **IECEx DEK 14.0048X** Page 1 of 4 Certificate history:

Issue 3 (2017-11-10) Status: Current Issue No: 4 Issue 2 (2016-10-14)

Issue 1 (2016-03-21) Date of Issue: 2021-06-22 Issue 0 (2015-05-20)

Applicant: VEGA Grieshaber KG Am Hohenstein 113

77761 Schiltach Germany

Equipment: Display and adjustment Unit VEGADIS 82, type DIS82(\*).I\*X\*\*\*\*\* and type DIS82(\*).I\*H\*\*\*\*\*\*

Optional accessory:

Type of Protection:

Marking: Ex ia IIC T6...T1 Ga

Ex ia IIC T6...T1 Gb

Approved for issue on behalf of the IECEx Certification Body:

Position:

Signature: (for printed version)

Date:

R. Schuller

Certification manager

2021-06-22

1. This certificate and schedule may only be reproduced in full.

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 Certification B.V.** Meander 1051 6825 MJ Arnhem

ands







Certificate No.: IECEx DEK 14.0048X Page 2 of 4

Date of issue: 2021-06-22 Issue No: 4

Manufacturer: VEGA Grieshaber KG

Am Hohenstein 113 77761 Schiltach **Germany** 

Additional manufacturing locations:

VEGA Americas, Inc 4241 Allendorf Drive Cincinnati, Ohio 45209 United States of America

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:

NL/DEK/ExTR14.0060/04

Quality Assessment Report:

DE/TUN/QAR06.0002/10



Certificate No.: IECEx DEK 14.0048X Page 3 of 4

Date of issue: 2021-06-22 Issue No: 4

#### EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

VEGADIS, type DIS82(\*).I\*X\*\*\*\*\*, is used for separate scaling, parameter adjustment and visualization of measured values in conjunction with 4 ... 20 mA, interfaced sensors.

VEGADIS, type DIS82(\*).I\*H\*\*\*\*\*\*, is for in conjunction with 4 ... 20 mA + HART interfaced sensors.

The VEGADIS DIS82 is looped into the intrinsically safe 4 ... 20 mA, or 4 ... 20 mA + HART, circuit of the sensor.

Optionally, the VEGADIS DIS82 can be provided with the display and adjustment module called "PLICSCOM".

The user can readily replace the PLICSCOM by an alternative display and adjustment module that is specified by VEGA.

The enclosure of the VEGADIS DIS82 can be made of plastic, aluminium or stainless steel, and has a cover with or without a plastic window. Or the VEGADIS DIS82 has a plastic enclosure, with a transparent cover, for panel mounting For more detailed information, see the Annex to this certificate.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

For electrical and thermal data, see the Annex to this certificate.

If the enclosure of the VEGADIS is made of aluminium (Type DIS82(\*).I\*\*A\*\*\*\*\*) and if it is mounted in an area where the use of EPL Ga equipment is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Electrostatic charges on all Units VEGADIS DIS82(\*).I\*\*\*\*\*\*\* shall be avoided, except for the VEGADIS DIS82(\*).I\*\*V\*\*X\*\* which is made of unpainted steel and has no window.



Certificate No.: IECEx DEK 14.0048X Page 4 of 4

Date of issue: 2021-06-22 Issue No: 4

### **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- assessed per IEC 60079-0 : Ed 7

- change of type code

- PLICSCOM modified

Annex:

225595000-Annex1\_to ExTR14.0060.04.pdf

### Annex 1 to Report No. NL/DEK/ExTR14.0060/04



### Thermal data

Minimum ambient temperature is - 40 °C.

The relation between temperature class and maximum ambient temperature, for EPL Ga and EPL Gb, is as listed in the following table:

	T6 T5		T4T1			
Type DIS82(*).I*X*****						
EPL Ga *	28 °C	40 °C	60 °C			
EPL Gb	45 °C	60 °C	60 °C			
Type DIS82(*).I*H*****						
EPL Ga *	25 °C	37 °C	60 °C			
EPL Gb	42 °C	57 °C	60 °C			

<sup>\*</sup> for EPL Ga equipment, the rated maximum ambient temperatures are specified such, that the maximum surface temperature does not exceed 80% of the auto ignition temperature of the combustible gas or liquid, as required by EN1127-1, clause 6.4.2.

### Electrical data

Supply circuit (terminals 3, 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

U<sub>i</sub> = 30 V, I<sub>i</sub> = 131 mA, P<sub>i</sub> = 983 mW (linear barrier), P<sub>i</sub> = 700 mW (electronically limited barrier);

for Type DIS82(\*).I\*X\*\*\*\*\*\*:  $C_i = 0$  nF,  $L_i = 5 \mu H$ ,

for Type DIS82(\*).I\*H\*\*\*\*\*\*:  $C_i = 3.5 \text{ nF}$ ,  $L_i = 75 \mu\text{H}$ .

### Sensor circuit (terminal 1, 2):

the type of protection, and the electrical values  $U_o$ ,  $I_o$  and  $P_o$  of the sensor circuit are the same as those of the external supply circuit, as connected to terminals 3 and 4.

C<sub>o</sub> is the same as C<sub>o</sub> of the external supply circuit (terminals 3, 4).

L<sub>0</sub> is the same as L<sub>0</sub> of the external supply circuit (terminals 3, 4), decreased with (L<sub>1</sub>) 5 μH.

for Type DIS82(\*).I\*H\*\*\*\*\*:

Co is the same as Co of the external supply circuit (terminals 3, 4), decreased with (Ci) 3.5 nF.

L<sub>o</sub> is the same as L<sub>o</sub> of the external supply circuit (terminals 3, 4), decreased with (L<sub>i</sub>) 75 μH.

If an active sensor is applied, the combination of sensor circuit and supply circuit shall not result in exceeding the maximum electrical values  $U_i$ ,  $I_i$  and  $P_i$  of the supply circuit.

The intrinsically safe circuits are infallibly separated from parts which can be earthed.

### Annex 1 to Report No. NL/DEK/ExTR14.0060/04



### Type designation

Detailed Nomenclature of the approved versions of the VEGADIS 82 is as follows:

DIS82(*).	а	b	С	d	е	f	g	h	i		
	scope										
	Α	europe									
		worldw	ide								
		approv	val								
		С		I 1G. 20	Ex ia l	IC T6 G	a. Gb				
		0					a, Gb + S	Schiffszu	ılassund	1	
		Н								x t IIIC T* Da, [	oh IP66
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		н					Ex t IIIC		DA IDAA		
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		-	-	H			cial color	/ IP66,	IP68(0,2	z bar)	
		-	-	$\perp$	prote						
					1		P67 NEM				
					N		P68 NEM	1A 6P (0	,2 bar)		
					S		IEMA 1				
							entry / c		ion		
						Х	without				
						M				PA black	
						K				PA blue	
						L				stainless steel	
						0	M20x1	.5 / cabl	e gland	brass nickle-pla	ited
						6	M20x1	.5 / cabl	e gland	brass nickle-pla	ited;
						D	M20x1	.5 / blind	l plug		
						J	1/2NP	Γ/ cable	gland P	A black	
						Р	1/2NP	Γ / cable	gland b	rass nickle-plat	ed
						8	1/2NP	Γ / cable	gland b	rass nickle-plat	ed;
						N	1/2NP	Γ/ blind	plug		
						*	anothe	r (certifie	d) cable	e glands, blind p	olugs,
							cable b	ushings	, plug c	onnectors	
							adjust	ment ar	nd indic	ation unit PLI	CSCOM
							Х	without			
							Α	built-in			
							F		; cover \	with display win	dow
							K			Bluetooth, mag	
									fmount		
								С			unting with plastic
								E		e mounting (29	
								A		-mounting with	
								D		ier rail with alun	
								F		el mounting	
								⊢i−	certific		
						+		+	X	without	
						+		+	M	with	
							1	1	W V	VVICII	
DIS82(*).	*	*	*	*	*	*	*	*	*		
D1302(").	+ -				+ -	+ -					
				1 1	1 1			1 1		1	1



## 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 DEK 14.0048X

Current

Issue No: 3

Certificate history:

Issue No. 3 (2017-11-10) Issue No. 2 (2016-10-14)

Date of Issue: 2017-11-10

Page 1 of 4

Issue No. 1 (2016-03-21) Issue No. 0 (2015-05-20)

Applicant:

Status:

VEGA Grieshaber KG

Am Hohenstein 113 77761 Schiltach Germany

Equipment:

Display and adjustment Unit VEGADIS, type DIS82(\*).I\*X\*\*\*\*\* and type

DIS82(\*).I\*H\*\*\*\*\*

Optional accessory:

Type of Protection: Ex la

Marking:

Ex ia IIC T6...T1 Ga Ex ia IIC T6...T1 Gb

Approved for issue on behalf of the IECEx

Certification Body:

R, Schuller

Position:

Signature: (for printed version)

Date:

2017-11-10

- 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.

Certificate issued by:

DEKRA Certification B.V. Meander 1051, 6825 MJ Amhem

The Netherlands

**DEKRA** 





Certificate No:

IECEx DEK 14.0048X

Issue No: 3

Date of Issue:

2017-11-10

Page 2 of 4

Manufacturer:

VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach Germany

Additional Manufacturing location(s):

VEGA Americas, Inc. 4241 Allendorf Drive Cincinnati, Ohio 45209 United States of America

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

Explosive atmospheres - Part 0: General requirements

Edition:6.0

IEC 60079-11: 2011

Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition:6.0

This Certificate does not indicate compliance with 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:

NL/DEK/ExTR14.0060/03

Quality Assessment Report:

DE/TUN/QAR06.0002/07



Certificate No:

IECEx DEK 14.0048X

Issue No: 3

Date of Issue:

2017-11-10

Page 3 of 4

#### Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

VEGADIS, type DIS82(\*).I\*X\*\*\*\*\*\*, is used for separate scaling, parameter adjustment and visualization of measured values in conjunction with 4 ... 20 mA, interfaced sensors,
VEGADIS, type DIS82(\*).I\*H\*\*\*\*\*\*, is for in conjunction with 4 ... 20 mA + HART interfaced sensors.

The VEGADIS DIS82 is looped into the intrinsically safe 4 ... 20 mA, or 4 ... 20 mA + HART, circuit of the sensor,

Optionally, the VEGADIS DIS82 can be provided with the display and adjustment module called "PLICSCOM". The user can readily replace the PLICSCOM by an alternative display and adjustment module that is specified by VEGA,

The enclosure of the VEGADIS DIS82 can be made of plastic, aluminium or stainless steel, and has a cover with or without a plastic

Or the VEGADIS DIS82 has a plastic enclosure, with a transparent cover, for panel mounting For more detailed information, see the Annex to this certificate.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

For electrical and thermal data, see the Annex to this certificate.

If the enclosure of the VEGADIS is made of aluminium (Type DIS82(\*).I\*\*A\*\*\*\*\*) and if it is mounted in an area where the use of EPL Ga equipment is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Electrostatic charges on all Units VEGADIS DIS82(\*).I\*\*\*\*\*\*\* shall be avoided, except for the VEGADIS DIS82(\*).I\*\*V\*\*X\*\* which is made of unpainted steel and has no window.



Certificate No:

IECEx DEK 14.0048X

Issue No: 3

Date of Issue:

2017-11-10

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

- PLICSCOM modified

Annex

Annex to IECEx DEK 14.0048, issue3.pdf



### Annex to Certificate of Conformity IECEx DEK 14.0048 X, issue 3 Annex to Report NL/DEK/ExTR14.0060/03

### Thermal data

Minimum ambient temperature is - 40 °C.

The relation between temperature class and maximum ambient temperature, for EPL Ga and EPL Gb, is as listed in the following table:

	T6	T5	T4T1			
Type DIS82(*).I*X******						
EPL Ga *	28 °C	40 °C	60 °C			
EPL Gb	45 °C	60 °C	60 °C			
Type DIS82(*).I*H******						
EPL Ga *	25 °C	37 °C	60 °C			
EPL Gb	42 °C	57 °C	60 °C			

<sup>\*</sup> for EPL Ga equipment, the rated maximum ambient temperatures are specified such, that the maximum surface temperature does not exceed 80% of the auto ignition temperature of the combustible gas or liquid, as required by EN1127-1, clause 6.4.2.

### Electrical data

Supply circuit (terminals 3, 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

U<sub>i</sub> = 30V, I<sub>i</sub> = 131 mA, P<sub>i</sub> = 983 mW (linear barrier), P<sub>i</sub> = 700 mW (electronically limited barrier);

for Type DIS82(\*).I\*X\*\*\*\*\*\*:  $C_i = 0 \text{ nF}, L_i = 5 \mu\text{H},$ 

for Type DIS82(\*).I\*H\*\*\*\*\*\*\*:  $C_i = 3.5 \text{ nF}$ ,  $L_i = 75 \mu\text{H}$ .

### Sensor circuit (terminal 1, 2):

the type of protection, and the electrical values  $U_0$ ,  $I_0$  and  $P_0$  of the sensor circuit are the same as those of the external supply circuit, as connected to terminals 3 and 4.

Co is the same as Co of the external supply circuit (terminals 3, 4).

 $L_o$  is the same as  $L_o$  of the external supply circuit (terminals 3, 4), decreased with (Li) 5  $\mu H.$  for Type DIS82(\*).1\*H\*\*\*\*\*\*:

Co is the same as Co of the external supply circuit (terminals 3, 4), decreased with (Ci) 3.5 nF.

 $L_0$  is the same as  $L_0$  of the external supply circuit (terminals 3, 4), decreased with (L<sub>i</sub>) 75  $\mu$ H.

If an active sensor is applied, the combination of sensor circuit and supply circuit shall not result in exceeding the maximum electrical values  $U_i$ ,  $I_i$  and  $P_i$  of the supply circuit.

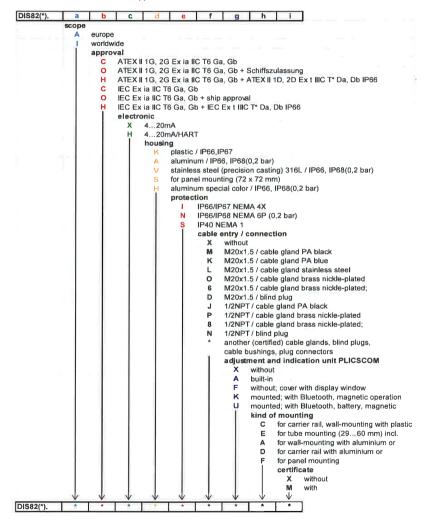
The intrinsically safe circuits are infallibly separated from parts which can be earthed.



### Annex to Certificate of Conformity IECEx DEK 14.0048 X, issue 3 Annex to Report NL/DEK/ExTR14.0060/03

### Type designation

Detailed Nomenclature of the approved versions of the VEGADIS DIS82 is as follows:





### INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx DEK 14.0048X

Issue No: 2 <u>Certificate history</u>:

Page 1 of 4

Status: Current

Issue No. 2 (2016-10-14)

Issue No. 1 (2016-03-21) Issue No. 0 (2015-05-20)

Date of Issue: 2016-10-14

Applicant:

Equipment:

VEGA Grieshaber KG Am Hohenstein 113

77761 Schiltach Germany

Display and adjustment Unit VEGADIS, type DIS82(\*).I\*X\*\*\*\*\* and type DIS82(\*).I\*H\*\*\*\*\*

Optional accessory:

Type of Protection: Ex la

Marking:

Ex ia IIC T6...T1 Ga

Exia IIC 16...11 Gb

Approved for issue on behalf of the IECEx

Certification Body:

L.G. van Schie

Position:

Signature:

(for printed version)

Date:

Certification manager

2016-10-14

- 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.

Certificate issued by:

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem The Netherlands





Certificate No: IECEx DEK 14.0048X Issue No: 2

Date of Issue: 2016-10-14 Page 2 of 4

Manufacturer: **VEGA Grieshaber KG**Am Hohenstein 113

77761 Schi**l**tach **Germany** 

Additional Manufacturing location(s):

VEGA Americas, Inc.

4241 Allendorf Drive Cincinnati Ohio 45209

United States of America

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 Explosive atmospheres - Part 0: General requirements

Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition:6.0

This Certificate **does not** indicate compliance with 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:

NL/DEK/ExTR14.0060/02

Quality Assessment Report:

DE/TUN/QAR06.0002/06



Certificate No: IECEx DEK 14.0048X Issue No: 2

Date of Issue: 2016-10-14 Page 3 of 4

Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

VEGADIS, type DIS82(\*).I\*X\*\*\*\*\*, is used for separate scaling, parameter adjustment and visualization of measured values in conjunction with 4 ... 20 mA, interfaced sensors.

VEGADIS, type DIS82(\*). I\*H\*\*\*\*\*\*, is for in conjunction with 4 ... 20 mA + HART interfaced sensors.

The VEGADIS DIS82 is looped into the intrinsically safe 4 ... 20 mA, or 4 ... 20 mA + HART, circuit of the sensor.

Optionally, the VEGADIS DIS82 can be provided with the display and adjustment module called "PLICSCOM". The user can readily replace the PLICSCOM by an alternative display and adjustment module that is specified by VEGA.

The enclosure of the VEGADIS DIS82 can be made of plastic, aluminium or stainless steel, and has a cover with or without a plastic window.

Or the VEGADIS DIS82 has a plastic enclosure, with a transparent cover, for panel mounting For more detailed information, see the Annex to this certificate.

### CONDITIONS OF CERTIFICATION: YES as shown below:

For electrical and thermal data, see the Annex to this certificate.

If the enclosure of the VEGADIS is made of aluminium (Type DIS82(\*).1\*\*A\*\*\*\*\*) and if it is mounted in an area where the use of EPL Ga equipment is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Electrostatic charges on all Units VEGADIS DIS82(\*).I\*\*\*\*\*\* shall be avoided, except for the VEGADIS DIS82(\*).I\*\*V\*\*X\*\* which is made of unpainted steel and has no window.



Certificate No: IECEx DEK 14.0048X Issue No: 2

Date of Issue: 2016-10-14 Page 4 of 4

### DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 0 - 217282800 - initial approval Issue 1 - 218047900 - addition of type DIS82(\*).I\*H\*\*\*\*\* Issue 2 - 219597800 - approval of electronically limited supply

- approval of connection of active sensors
- change of type code alternative PLICSCOM added

#### Annex:

Annex to IECEx DEK 14.0048, issue 2.pdf



### Annex to Certificate of Conformity IECEx DEK 14.0048 X, issue 2 Annex to Report NL/DEK/ExTR14.0060/02

### Thermal data

Minimum ambient temperature is - 40 °C.

The relation between temperature class and maximum ambient temperature, for EPL Ga and EPL Gb, is as listed in the following table:

	T6	T5	T4T1			
Type DIS82(*).I*X*****						
EPL Ga *	28 °C	40 °C	60 °C			
EPL Gb	45 °C	60 °C	60 °C			
Type DIS82(*).I*H*****						
EPL Ga *	25 °C	37 °C	60 °C			
EPL Gb	42 °C	57 °C	60 °C			

<sup>\*</sup> for EPL Ga equipment, the rated maximum ambient temperatures are specified such, that the maximum surface temperature does not exceed 80% of the auto ignition temperature of the combustible gas or liquid, as required by EN1127-1, clause 6.4.2.

### Electrical data

Supply circuit (terminals 3, 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

U<sub>i</sub> = 30V, I<sub>i</sub> = 131 mA, P<sub>i</sub> = 983 mW (linear barrier), P<sub>i</sub> = 700 mW (electronically limited barrier);

for Type DIS82(\*).I\*X\*\*\*\*\*:  $C_i = 0 \text{ nF}, L_i = 5 \mu\text{H},$ 

for Type DIS82(\*), I\*H\*\*\*\*\*\*: C<sub>i</sub> = 3.5 nF, L<sub>i</sub> = 75 uH.

### Sensor circuit (terminal 1, 2):

the type of protection, and the electrical values  $U_o$ ,  $I_o$  and  $P_o$  of the sensor circuit are the same as those of the external supply circuit, as connected to terminals 3 and 4.

 $C_o$  is the same as  $C_o$  of the external supply circuit (terminals 3, 4).

 $L_o$  is the same as  $L_o$  of the external supply circuit (terminals 3, 4), decreased with ( $L_i$ ) 5  $\mu$ H. for Type DIS82(\*).I\*H\*\*\*\*\*\*\*:

 $C_{\text{o}}$  is the same as  $C_{\text{o}}$  of the external supply circuit (terminals 3, 4), decreased with (C\_{\text{i}}) 3.5 nF.

L<sub>0</sub> is the same as L<sub>0</sub> of the external supply circuit (terminals 3, 4), decreased with (L<sub>1</sub>) 75 μH.

If an active sensor is applied, the combination of sensor circuit and supply circuit shall not result in exceeding the maximum electrical values  $U_i$ ,  $I_i$  and  $P_i$  of the supply circuit.

The intrinsically safe circuits are infallibly separated from parts which can be earthed.



## Annex to Certificate of Conformity IECEx DEK 14.0048 X, issue 2 Annex to Report NL/DEK/ExTR14.0060/02

### Type designation

Detailed Nomenclature of the approved versions of the VEGADIS DIS82 is as follows:

DIS82(*).   a   b   c   d   e   f   g   h   i	
A   europe   I   worldwide   approval   C   ATEX    1G, 2G Ex ia   C T6 Ga, Gb   O   ATEX    1G, 2G Ex ia   C T6 Ga, Gb + Schiffszulassung	
I	
ATEX   I 1G, 2G Ex ia   IC T6 Ga, Gb	
C ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb  ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb + Schiffszulassung  H ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb + ATEX II 1D, 2D Ex t IIIC T* Da  C IEC Ex ia IIC T6 Ga, Gb  O IEC Ex ia IIC T6 Ga, Gb + Ship approval  H IEC Ex ia IIC T6 Ga, Gb + IEC Ex t IIIC T* Da, Db IP66  electronic  X 420mA  H 420mA/HART    housing   K plastic / IP66, IP67   A aluminum / IP66, IP68(0,2 bar)    v stainless steel (precision casting) 316L / IP66, IP68(0,2 bar)    v stainless steel (precision casting) 316L / IP66, IP68(0,2 bar)    protection    I IP66/IP67 NEMA 4X   N IP66/IP68 NEMA 6P (0,2 bar)    protection    I IP66/IP68 NEMA 6P (0,2 bar)    S IP40 NEMA 1   Cable entry / connection  X without  M M20x1.5 / cable gland PA black  M M20x1.5 / cable gland brass nickle-    D M20x1.5 / cable gland brass nickle-   D M20x1.5 / cable gl	
O ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb + Schiffszulassung H ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb + ATEX II 1D, 2D Ex t IIIC T* Da C IEC Ex ia IIC T6 Ga, Gb O IEC Ex ia IIC T6 Ga, Gb + ship approval H IEC Ex ia IIC T6 Ga, Gb + lEC Ex t IIIC T* Da, Db IP66	
H   ATEX   I 1G, 2G Ex ia   IIC T6 Ga, Gb + ATEX   I 1D, 2D Ex t   IIC T* Da	
C   IEC Ex ia IIC T6 Ga, Gb	
Color   Colo	0,2 bar)
H   IEC Ex ia IIC T6 Ga, Gb + IEC Ex t IIIC T* Da, Db IP66     electronic	0,2 bar)
H   IEC Ex ia IIC T6 Ga, Gb + IEC Ex t IIIC T* Da, Db IP66     electronic	(0,2 bar)
	0,2 bar)
X   420mA   H   420mA/HART   housing   K   plastic / IP66,IP67   A aluminum / IP66, IP68(0,2 bar)   V stainless steel (precision casting) 316L / IP66, IP68(0,2 bar)   V stainless steel (precision casting) 316L / IP66, IP68(0,2 bar)   I   IP66/IP67 NEMA 4X   I   IP66/IP67 NEMA 4X   N   IP66/IP68 NEMA 6P (0,2 bar)   Protection   I   IP66/IP68 NEMA 6P (0,2 bar)   IP40 NEMA 1   Cable entry / connection   X   without   M   M20x1.5 / cable gland PA black   M   M20x1.5 / cable gland PA black   I   M20x1.5 / cable gland brass nickle-place   M20x1.5 / cable gland brass nickle-place   M20x1.5 / blind plug   J   1/2NPT / cable gland brass nickle-place   M   M20x1.5 / cable gland brass nickle-place   M   M20x1.5 / cable gland brass nickle-place   M   M20x1.5 / blind plug   M   M20x1.5 / blind plug   M   M20x1.5 / blind plug   M   M20x1.5 / cable gland brass nickle-place   M   M20x1.5 / Cable gland brass nickl	(0,2 bar)
H   420mA/HART	(0,2 bar)
housing  K plastic / IP66, IP67 A aluminum / IP66, IP68(0,2 bar) V stainless steel (precision casting) 316L / IP66, IP68(0,2 bar) V stainless steel (precision casting) 316L / IP66, IP68(0,2 bar) I protection I IP66/IP67 NEMA 4X N IP66/IP68 NEMA 6P (0,2 bar) S IP40 NEMA 1 Cable entry / connection X without M M20x1.5 / cable gland PA black K M20x1.5 / cable gland brass nickle- D M20x1.5 / cable gland brass nickle- G M20x1.5 / blind plug D M20x1.5 / blind plug D M20x1.5 / cable gland PA black N IP7 / cable gland brass nickle- D M20x1.5 / cable gland brass nickle- D M20x1.5 / blind plug D M20x1	0,2 bar)
K plastic / IP66,IP67 A aluminum / IP66, IP68(0,2 bar) V stainless steel (precision casting) 316L / IP66, IP68(0,2 bar) S for panel mounting (72 x 72 mm) H aluminum special color / IP66, IP68(0,2 bar) protection I IP66/IP67 NEMA 4X N IP66/IP68 NEMA 6P (0,2 bar) S IP40 NEMA 1	0,2 bar)
A aluminum / IP66, IP68(0,2 bar)  V stainless steel (precision casting) 316L / IP66, IP68( S for panel mounting (72 x 72 mm)  H aluminum special color / IP66, IP68(0,2 bar)  I IP66/IP67 NEMA 4X  N IP66/IP68 NEMA 6P (0,2 bar)  S IP40 NEMA 1  cable entry / connection  X without  M M20x1.5 / cable gland PA black  K M20x1.5 / cable gland PA blue  L M20x1.5 / cable gland brass nickle-  G M20x1.5 / cable gland brass nickle-  B M20x1.5 / blind plug  J 1/2NPT / cable gland brass nickle-pl  M N 1/2NPT / blind plug  T another (certified) cable glands, blinc cable bushings, plug connectors  adjustment and indication unit Pl  X without  A built-in  F without; cover with display w	0,2 bar)
V stainless steel (precision casting) 316L / IP66, IP68 S for panel mounting (72 x 72 mm) H aluminum special color / IP66, IP68(0,2 bar) protection I IP66/IP67 NEMA 4X N IP66/IP68 NEMA 6P (0,2 bar) S IP40 NEMA 1 Cable entry / connection X without M M20x1.5 / cable gland PA black K M20x1.5 / cable gland brass nickle- D M20x1.5 / cable gland brass nickle- D M20x1.5 / blind plug D M20x1.5 / blind plug D M20x1.5 / blind plug D M20x1.5 / cable gland PA black S P 1/2NPT / cable gland PA black D M20x1.5 / blind plug D M20x1.5 / cable gland brass nickle-plug D M20x1.5 / ca	(0,2 bar)
S for panel mounting (72 x 72 mm)  H aluminum special color / IP66, IP68(0,2 bar)  protection  I IP66/IP67 NEMA 4X  N IP66/IP68 NEMA 6P (0,2 bar)  S IP40 NEMA 1  Cable entry / connection  X without  M M20x1.5 / cable gland PA black  K M20x1.5 / cable gland PA blue  L M20x1.5 / cable gland brass nickle-  M M20x1.5 / cable gland brass nickle-  M M20x1.5 / cable gland brass nickle-  D M20x1.5 / blind plug  J 1/2NPT / cable gland brass nickle-  B 1/2NPT / cable gland brass nickle-  N 1/2NPT / cable gland brass nickle-  a 1/2NPT / cable gland brass nickle-  M 1/2NPT / blind plug  another (certified) cable gland, blint cable bushings, plug connectors  adjustment and indication unit Pl  X without  A built-in  F without; cover with display w	(0,2 bar)
H aluminum special color / IP66, IP68(0,2 bar) protection  I IP66/IP67 NEMA 4X  N IP66/IP68 NEMA 6P (0,2 bar) S IP40 NEMA 1    Cable entry / connection   X without   M M20x1.5 / cable gland PA black   L M20x1.5 / cable gland PA blue   L M20x1.5 / cable gland brass nickle-place   D M20x1.5 / blind plug   D M20x1.5 / blind plug   J 1/2NPT / cable gland brass nickle-place   D M20x1.5 / cable gland brass nickle-place   D M20x1.5 / blind plug   D M20x1.5 / blind plug   J 1/2NPT / cable gland brass nickle-place   D M20x1.5 / blind plug   J 1/2NPT / blind plug   N 1/2NPT / blind plug   another (certified) cable glands, blind cable bushings, plug connectors   D M20x1.5 / blind plug   another (certified) cable glands blind cable bushings, plug connectors   D M20x1.5 / blind plug   A built-in   A built-in   A built-in   A built-in   B without; cover with display without   B without   B without   B without   B without   B wi	
I   IP66/IP67 NEMA 4X	
N IP66/IP68 NEMA 6P (0,2 bar)  IP40 NEMA 1  cable entry / connection  X without  M M20x1.5 / cable gland PA black  K M20x1.5 / cable gland PA blue  L M20x1.5 / cable gland stainless stere  O M20x1.5 / cable gland brass nicklere  M M20x1.5 / cable gland brass nicklere  D M20x1.5 / blind plug  J 1/2NPT / cable gland PA black  P 1/2NPT / cable gland brass nicklere  M 1/2NPT / cable gland brass nicklere  N 1/2NPT / cable gland brass nicklere  N 1/2NPT / blind plug  another (certified) cable glands, blind  cable bushings, plug connectors  adjustment and indication unit Pl  X without  A built-in  F without; cover with display w	
S IP40 NEMA 1  cable entry / connection  X without  M M20x1.5 / cable gland PA black  K M20x1.5 / cable gland PA blue  L M20x1.5 / cable gland stainless stee  O M20x1.5 / cable gland brass nickle-  6 M20x1.5 / cable gland brass nickle-  D M20x1.5 / blind plug  J 1/2NPT / cable gland PA black  P 1/2NPT / cable gland PA black  P 1/2NPT / cable gland brass nickle-pl  8 1/2NPT / cable gland brass nickle-pl  N 1/2NPT / blind plug  * another (certified) cable glands, blind cable bushings, plug connectors  adjustment and indication unit Pl  X without  A built-in  F without; cover with display w	
cable entry / connection  X without  M M20x1.5 / cable gland PA black  K M20x1.5 / cable gland PA blue  L M20x1.5 / cable gland stainless ster  O M20x1.5 / cable gland brass nickle-  6 M20x1.5 / cable gland brass nickle-  M M20x1.5 / blind plug  D M20x1.5 / blind plug  J 1/2NPT / cable gland PA black  P 1/2NPT / cable gland PA black  P 1/2NPT / cable gland brass nickle-pl  8 1/2NPT / cable gland brass nickle-pl  N 1/2NPT / blind plug  * another (certified) cable glands, blint cable bushings, plug connectors  adjustment and indication unit Pl  X without  A built-in  F without; cover with display w	
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D M20x1.5 / blind plug  J 1/2NPT / cable gland PA black  P 1/2NPT / cable gland brass nickle-pl  8 1/2NPT / cable gland brass nickle-pl  8 1/2NPT / blind plug  * another (certified) cable glands, blind  cable bushings, plug connectors    adjustment and indication unit Pl   X without   A built-in     F without; cover with display w	
J 1/2NPT / cable gland PA black P 1/2NPT / cable gland brass nickle-pl 8 1/2NPT / cable gland brass nickle-pl N 1/2NPT / blind plug another (certified) cable glands, blinc cable bushings, plug connectors adjustment and indication unit Pl X without A built-in F without; cover with display w	olated;
P 1/2NPT / cable gland brass nickle-pl 8 1/2NPT / cable gland brass nickle-pl N 1/2NPT / blind plug  * another (certified) cable glands, blind cable bushings, plug connectors adjustment and indication unit Pl X without A built-in F without; cover with display w	
8 1/2NPT / cable gland brass nickle-pl N 1/2NPT / blind plug  * another (certified) cable glands, blind cable bushings, plug connectors  adjustment and indication unit Pl X without A built-in F without; cover with display w	
N 1/2NPT / blind plug  another (certified) cable glands, blinc cable bushings, plug connectors  adjustment and indication unit Pl  X without  A built-in  F without; cover with display w	
* another (certified) cable glands, blint cable bushings, plug connectors  adjustment and indication unit Pl X without A built-in F without; cover with display w	ated;
cable bushings, plug connectors  adjustment and indication unit P  X without  A built-in  F without; cover with display w	
cable bushings, plug connectors  adjustment and indication unit P  X without  A built-in  F without; cover with display w	d plugs,
adjustment and indication unit P  X without  A built-in  F without; cover with display w	
X without A built-in F without; cover with display w	LICSCOM
A built-in F without; cover with display w	
F without; cover with display w	
	/indow/
n imounted; with Bluetooth, ma	
U mounted; with Bluetooth, ba	ttery, magnetic
kind of mounting	
C for carrier rail, wall-n	
E for tube mounting (2	
A for wall-mounting wit	
D for carrier rail with al	uminium or
F for panel mounting	
certificate	
X without	
M with	
With the second	
DIS82(*).	



## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:

IECEx DEK 14.0048X

Issue No: 1

Certificate history:

Issue No. 1 (2016-03-21) Issue No. 0 (2015-05-20)

Status:

Current 2016-03-21

Date of Issue:
Applicant:

VEGA Grieshaber KG

Am Hohenstein 113 77761 Schiltach

Germany

Electrical Apparatus:

Display and adjustment Unit VEGADIS, type DIS82(\*).I\*X\*\*\*\* and type

DIS82(\*).I\*H\*\*\*\*\*

Optional accessory:

Type of Protection:

Ex ia

Marking:

Ex ia IIC T6...T1 Ga Ex ia IIC T6...T1 Gb

Approved for issue on behalf of the IECEx

Certification Body:

R. Schuller

Position:

Certification manager

Signature:

(for printed version)

Date:

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3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA Certification B.V.

Meander 1051, 6825 MJ Arnhern The Netherlands





# of Conformity

Certificate No:

IECEx DEK 14.0048X

Issue No: 1

Date of Issue:

2016-03-21

Page 2 of 4

Manufacturer:

VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach Germany

Additional Manufacturing

location(s):

VEGA Americas, Inc. 4241 Allendorf Drive Cincinnati, Ohio 45209 United States of America

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

Explosive atmospheres - Part 0: General requirements

Edition:6.0

IEC 60079-11: 2011

Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition:6.0

This Certificate does not indicate compliance with 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:

NL/DEK/ExTR14.0060/01

Quality Assessment Report:

DE/TUN/QAR06.0002/06



Certificate No:

IECEx DEK 14.0048X

Issue No: 1

Date of Issue:

2016-03-21

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Schedule

#### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

VEGADIS, type DIS82(\*).1\*X\*\*\*\*\*, is used for separate scaling, parameter adjustment and visualization of measured values in conjunction with 4 ... 20 mA, interfaced sensors.

VEGADIS, type DIS82(\*).1\*H\*\*\*\*\*, is for in conjunction with 4 ... 20 mA + HART interfaced sensors.

The VEGADIS DIS82 is looped into the intrinsically safe 4 ... 20 mA, or 4 ... 20 mA + HART, circuit of the sensor.

Optionally, the VEGADIS DIS82 can be provided with the display and adjustment module called "PLICSCOM". The user can readily replace the PLICSCOM by an alternative display and adjustment module that is specified by VEGA.

The enclosure of the VEGADIS DIS82 can be made of plastic, aluminium or stainless steel, and has a cover with or without a plastic

Or the VEGADIS DIS82 has a plastic enclosure, with a transparent cover, for panel mounting For more detailed information, see the Annex to this certificate.

### CONDITIONS OF CERTIFICATION: YES as shown below:

For electrical and thermal data, see the Annex to this certificate.

If the enclosure of the VEGADIS is made of aluminium (Type DIS82(\*).1\*\*A\*\*\*\*) and if it is mounted in an area where the use of EPL Ga equipment is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Electrostatic charges on all Units VEGADIS DIS82(\*).I\*\*\*\*\*\* shall be avoided, except for the VEGADIS DIS82(\*).I\*\*V\*X\*\* which is made of unpainted steel and has no window.



Certificate No:

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Issue No: 1

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2016-03-21

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Addition of type DIS82(\*).1\*H\*\*\*\*\*.

Annex:

Annex to IECEx DEK 14.0048, iss 1.pdf



### Annex to Certificate of Conformity IECEx DEK 14.0048 X, issue 1 Annex to IECEx Test Report NL/DEK/ExTR14.0060/01

### Thermal data

Minimum ambient temperature is - 40 °C.

The relation between temperature class and maximum ambient temperature, for EPL Ga and EPL Gb, is as listed in the following table:

	T6	T5	T4T1			
Type DIS82(*).I*X*****						
EPL Ga *	38 °C	50 °C	60 °C			
EPL Gb	55 °C	60 °C	60 °C			
Type DIS82(*).I*H	Type DIS82(*).I*H*****					
EPL Ga *	25 °C	37 °C	60 °C			
EPL Gb	42 °C	57 °C	60 °C			

<sup>\*</sup> for EPL Ga equipment, the rated maximum ambient temperatures are specified such, that the maximum surface temperature does not exceed 80% of the auto ignition temperature of the combustible gas or liquid, as required by EN1127-1, clause 6.4.2.

### Electrical data

Supply circuit (terminals 3, 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

 $U_i = 30V$ ,  $I_i = 131$  mA \*,  $P_i = 983$  mW,

for Type DIS82(\*).I\*X\*\*\*\*\*:  $C_i = 0$  nF,  $L_i = 5 \mu H$ ,

for Type DIS82(\*).I\*H\*\*\*\*\*:  $C_i = 3.5 \text{ nF}$ ,  $L_i = 75 \text{ }\mu\text{H}$ .

\* the supply current shall be resistively limited (linear barrier)

### Sensor circuit (terminal 1, 2):

the type of protection, and the electrical values  $U_o$ ,  $I_o$  and  $P_o$  of the sensor circuit are the same as those of the external supply circuit, as connected to terminals 3 and 4.

Co is the same as Co of the external supply circuit (terminals 3, 4).

L<sub>o</sub> is the same as L<sub>o</sub> of the external supply circuit (terminals 3, 4), decreased with (L<sub>i</sub>) 5 μH.

for Type DIS82(\*).I\*H\*\*\*\*:

 $C_o$  is the same as  $C_o$  of the external supply circuit (terminals 3, 4), decreased with ( $C_i$ ) 3.5 nF.

L<sub>o</sub> is the same as L<sub>o</sub> of the external supply circuit (terminals 3, 4), decreased with (L<sub>i</sub>) 75 μH.

The sensor circuit may only be connected to a passive device.

The intrinsically safe circuits are infallibly separated from parts which can be earthed.



## Annex to Certificate of Conformity IECEx DEK 14.0048 X, issue 1 Annex to IECEx Test Report NL/DEK/ExTR14.0060/01

### Type designation

Detailed Nomenclature of the approved versions of the VEGADIS DIS82 is as follows:

A			of app	, ne				
1		ATEX / europe IEC / worldwide						
		roval	wide	1G, 2G Ex ia IIC T6 Ga, Gb				
	C		XII 1G					
	0			II 1G, 2G Ex ia IIC T6 Ga, Gb + ship approval				
	Н			II 1D, 2D Ex t IIIC T* Da Db IP66 + II 1G, 2G Ex ia IIC T6 Ga				
	C			And the second second second	Ga, Gb		URANA ARA	
	0	IEC	Ex ia	IIC T6	Ga, Gb	+ ship	approv	al
	н	IEC	Ex ia	IIC T6	Ga, Gb	+ IEC	Ext I	IIC T* IP66 Da, Db
		ele	ctronic					
		X	42	20mA				
		H	42	20mA/F	HART			
			hou		protect		CIV.	
			K	1000	tic / IP6	1915		S2-2015-04
			A		minium / IP66, IP68(0,2 bar)			
	-		V		ainless steel (precision casting) 316L/IP66,IP68 (0,2			
+	-		S	-		and the Williams of the St.		72 mm)
	-	-	-		le entr	Professional Advantables	nectio	on
				X	with			Jan J. D. A. Lington
-	$\vdash$			M				land PA black
				L			CONTRACTOR AND	land PA blue
				0	M20x1.5 / cable gland stainless steel			
-	-			U	M20x1.5 / cable gland brass nickle-plated M20x1.5 / cable gland brass nickle-plated;			
				6	for shielded cable			
				D			blind pl	
				J				and PA black
				P				and brass nickle-plated
				8	1/2N	IPT/c		and brass nickle-plated;
				N			lind plu	
	$\vdash$			⊢i"				indication unit PLICSCOM
					X	with		
					A	built		
								ounting
								carrier rail, wall-mounting with
						С	plas	stic housing
						Е		ube mounting (2960 mm)
						50	incl.	Mounting material
						Α		vall-mounting with aluminium or nless steel housing
						D	for c	carrier rail with aluminium or
							1	nless steel housing
						F		panel mounting
								ipheral equipment
							×	without
). A/I	V	V .	V	\ <u>\</u>	V	¥	<u> </u>	



## of Conformity

### INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Cerl		

IECEx DEK 14.0048X

Issue No: 0

Certificate history: Issue No 0 (2015-05-20)

Status:

Current

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Date of Issue:

2015-05-20

Applicant:

VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach Germany

Electrical Apparatus:

Display and adjustment Unit VEGADIS, DIS82(\*).I\*X\*\*\*\*\*

Optional accessory:

Type of Protection:

Ex la

Marking:

Ex ia IIC T6...T1 Ga Ex ia IIC T6...T1 Gb

Approved for issue on behalf of the IECEx

Certification Body:

R. Schuller

Position:

Signature. (for printed version)

Date:

Certification manager

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...

Certificate issued by:

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem The Netherlands





Certificate No:

IECEx DEK 14.0048X

Issue No: 0

Date of Issue:

2015-05-20

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Manufacturer:

VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach Germany

Additional Manufacturing

location(s):

VEGA Americas, Inc. 4241 Aliendorf Drive Cincinnati, Ohio 45209 United States of America

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

Explosive atmospheres - Part 0: General requirements

Edition:6.0

IEC 60079-11 : 2011

Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition:6.0

This Certificate does not indicate compliance with 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:

NL/DEK/ExTR14.0060/00

### Quality Assessment Report:

DE/TUN/QAR06.0002/06



Certificate No:

IECEx DEK 14.0048X

Issue No: 0

Date of Issue:

2015-05-20

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Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

### Description

The VEGADIS DIS82 is used for separate scaling, parameter adjustment and visualization of measured values in conjunction with 4 ... 20 mA sensors.

The VEGADIS DIS82 is looped into the intrinsically safe 4 ... 20 mA circuit of the sensor.

The VEGADIS DIS82 consists out of a 4...20 mA PCB and an optional display and adjustment module called "PLICSCOM". The enclosure of the VEGADIS DIS82 can be made of plastic, aluminum or stainless steel, and has a cover with or without a plastic window or it is made as a panel mounted version, with a #FFFFFF cover.

The user can readily replace the PLICSCOM by an alternative display and adjustment module that is specified by VEGA.

Thermal and Electrical Data
See the Annex to this certificate.

Type designation / Nomenclature See the Annex to this certificate.

CONDITIONS OF CERTIFICATION: YES as shown below:

For electrical and thermal data, see the Annex to this certificate.

If the enclosure of the VEGADIS is made of aluminium, and if is is mounted in an area where the use of EPL Ga equipment is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

For all Display and adjustment Units, except for the unpainted metal units without window, measures shall be taken to minimize the risk of ignition from to electrostatic discharge.

### Annex:

Annex to IECEx DEK 14.0048 issue 0.pdf



### Annex to Certificate of Conformity IECEx DEK 14.0048, issue 0 Annex to IECEx Test Report NL/DEK/ExTR14.0060/00

### Thermal data

Minimum ambient temperature is - 40 °C.

The relation between temperature class and maximum ambient temperature, for EPL Ga and EPL Gb, is as listed in the following table:

	T6	T5	T4T1
EPL Ga *	38 °C	50 °C	60 °C
EPL Gb	55 °C	60 °C	60 °C

<sup>\*</sup> for EPL Ga equipment, the rated maximum ambient temperatures are specified such, that the maximum surface temperature does not exceed 80% of the auto ignition temperature of the combustible gas or liquid, as required by EN1127-1, clause 6.4.2.

### Electrical data

Supply circuit (terminals 3, 4):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with

U <sub>i</sub> I <sub>i</sub>		Pi	Ci	Li
30 V	131 mA	983 mW	0 nF	5 µH

<sup>\*</sup> the supply current shall be resistively limited (linear barrier)

Sensor circuit (terminal 1, 2):

the type of protection, and the electrical values U<sub>o</sub>, I<sub>o</sub> ,P<sub>o</sub> and C<sub>o</sub> are the same as those of the external supply circuit, as connected to terminals 3 and 4.

 $L_{o}$  of the sensor circuit is the same as  $L_{o}$  of the supply circuit as connected to terminals 3 and 4, decreased with (L<sub>i</sub>) 5  $\mu$ H.

The sensor circuit may only be connected to a passive device.

The intrinsically safe circuits are infallibly separated from parts which can be earthed.

Circuit of the display and adjustment module (spring contacts inside the enclosure): only for connection to:

- · the display and adjustment module PLICSCOM
- an alternative display and adjustment module that is specified by VEGA.



## Annex to Certificate of Conformity IECEx DEK 14.0048, issue 0 Annex to IECEx Test Report NL/DEK/ExTR14.0060/00

### Type designation

Detailed Nomenclature of the approved versions of the VEGADIS DIS82 is as follows:

				olicatio	on				
A	ATEX/ europe								
	IEC / worldwide								
	approval								
	C ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb								
	O ATEX II 1G, 2G Ex ia IIC T6 Ga, Gb + ship approval								
	Н								
	С		Ex ia IIC T6 Ga, Gb						
	0	IEC Ex ia IIC T6 Ga, Gb + ship approval							
	H IEC Ex ia IIC T6 Ga, Gb + IEC Ex t IIIC T* IP66 Da, Db								
	X 420mA								
	H 420mA/HART								
	housing / protection								
		K plastic / IP66, IP67							
		A aluminium / IP66, IP68(0,2 bar)  V stainless steel (precision casting) 316L/IP66 IP68 (0.2 bar)							
		tuniness steel (presistent edeting) steel in estimate (siz bar)							
		_	S for panel mounting (72 x 72 mm)						
		_	$\vdash$	cable entry / connection  X without					
		_					aabla a	land DA block	
		_		M	M20x1.5 / cable gland PA black				
		_			M20x1.5 / cable gland PA blue				
		_		L	M20x1.5 / cable gland stainless steel				
			O M20x1.5 / cable gland brass nickle-plated M20x1.5 / cable gland brass nickle-plated:						
				6	for shielded cable				
		_							
		_		D M20x1.5 / blind plug					
		_	J 1/2NPT / cable gland PA black						
		_	$\vdash$	Р	1/2NPT / cable gland brass nickle-plated				
				8 1/2NPT / cable gland brass nickle-plated; for shielded cable N 1/2NPT / blind plug					
		_							
		_		N	1/2NPT / blind plug adjustment and indication unit PLICSCOM				
		_							
		-			X	without			
		_			A	built in			
		_				kind of mounting			
					C			carrier rail, wall-mounting with	
		_						tic housing	
						Е		ube mounting (2960 mm)	
		_						Mounting material	
						Α		vall-mounting with aluminium or	
		-			stainless steel housing				
					p for carrier rail with aluminium or				
		_			stainless steel housing				
		_			F for panel mounting				
		_						ipheral equipment	
	1	1,				1	¥	without	
DIS82(*). A/I	C/O/H	*	V		*	*	<u> </u>		