CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 14ATEX0117 X** Issue Number: **2**

(4) Product: **Guided Radar Level Transmitter Pulscon LTC50, LTC51 and LTC57**

(5) Manufacturer: **Pepperl+Fuchs SE**

(6) Address: **Lilienthalstrasse 200, 68307 Mannheim Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR14.0072/01.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018	**EN 60079-1 : 2014**	**EN 60079-7 : 2015 + A1 : 2018**
EN 60079-11 : 2012	**EN 60079-26 : 2015**	**IEC 60079-26 : 2021**
EN 60079-31 : 2014		

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



See Annex 1

Date of certification: 27 August 2025

DEKRA Certification B.V.

R. Schuller
Certification Manager

Throughout this document, a point is used as the decimal separator.

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(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 14ATEX0117 X** Issue No. **2**

(15) **Description**

Guided Radar Level Transmitters Pulscon LTC50, LTC51 and LTC57 are used for the measurement of the level of liquid or solid materials on basis of the Time of Flight (ToF) method.

The transmitter consists of an electronics enclosure and an integral probe or rod probe.

Depending on the interface applied, the probe measurement signal is converted into an electrical output signal.

See Annex 1 for detailed information on all possible variations and options and the applicable electrical data.

Ambient temperature range -50 °C to +80 °C.

See Annex 1 for detailed information on the relation between ambient temperature and process temperature and temperature class and maximum surface temperature.

Electrical data

See Annex 1 for the electrical data.

Installation instructions

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

(16) **Report Number**

NL/DEK/ExTR14.0072/01.

(17) **Special conditions for safe use**

Depending on the configuration and the application of the equipment, specific conditions of use may apply, e.g. regarding electrostatic discharge. For details, refer to the equipment specific Safety Instructions.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report NL/DEK/ExTR14.0072/01.

Annex 1 to EU-Type Examination Certificate DEKRA 14ATEX0117 X, issue 2, to Certificate of Conformity IECEx DEK 14.0066X, issue 2 and to IECEx Test Report NL/DEK/ExTR14.0072/01

Description

Guided Radar Level Transmitter Pulscon LTC 5x, for the measurement of the level of liquid or solid materials on basis of the Time of Flight (ToF) method.

Type designation

Guided Radar Level Transmitter Pulscon code LTC5x-(1)-(2)(3)(4)-(5)(6)(7)-(8)(9) -L

x = Device
0, 1, or 7

(1) = Type of probe
1, 2, 3, 5 or X for x = 0
1 to 9 and A to X for x = 1
2 or 3 and L to X for x = 7

(2) = Process connection
G21, N21 or XXX for x = 0
A51 to XXX for x = 1 and 7

(3) = Electrical connection
A, B, C, D, I, M or X

(4) = Seal
2 or X for x = 0
3, 4, 5 or X for x = 1
3, 5 or X for x = 7

(5) = Housing
A1, A2 or XX for x = 0
A1, A2, A3 or XX for x = 1 and 7

(6) = Electrical output (/O interface)

AH	=	4-wire; 90 - 253 Vac, 4 - 20 mA HART
DH	=	4-wire; 10.4 - 48 Vdc, 4 - 20 mA HART
ID	=	2-wire; 4 - 20 mA HART, switching output
IE	=	2-wire; 4 - 20 mA HART, 4 - 20 mA
IH	=	2-wire; 4 - 20 mA HART
X	=	Special version, not safety relevant

(7) = Display, operation

B	=	No display
D or E	=	Internal display

(8) = Approval code
For x = 0 and 1:

IECEx	ATEX		ATEX	IECEx / ATEX
IA	E1	=	II 1 G	Ex ia IIC T6...T1 Ga
IB	EX	=	II 1/2 G	Ex ia IIC T6...T1 Ga/Gb
IC	ED	=	II 1/2 G	Ex ia/db [ia Ga] IIC T6...T1 Ga/Gb
IG		=		Ex ec IIC T6...T1 Gc
IH		=		Ex ic IIC T6...T1 Gc
	SX	=	II 1/2 G	Ex ia IIC T6...T1 Ga/Gb or
			II 1/2 D	Ex ia IIIC Txx °C Da/Db
	EG	=	II 1/2 G	Ex ia/db [ia Ga] IIC T6...T1 Ga/Gb
			II 1/2 D	Ex ta/tb IIIC Txx °C Da/Db

	EW	=	II 1/2 G	Ex ia IIC T6...T1 Ga/Gb, Ex ia/db [ia Ga] IIC T6...T1 Ga/Gb

For x = 7:

IECEx	ATEX		ATEX	IECEx / ATEX
IA	E1	=	II 1 G	Ex ia IIC T6...T1 Ga
IB	EX	=	II 1/2 G	Ex ia IIC T6...T1 Ga/Gb
IE	S3	=	II 1/2 G	Ex ta IIIC T_{200} xx °C Da
IF	S4	=	II 1/2 D	Ex ta/tb IIIC Txx °C Da/Db
IG		=		Ex ec IIC T6...T1 Gc
IH				Ex ic IIC T6...T1 Gc
	SX	=	II 1/2 G II 1/2 D	Ex ia IIC T6...T1 Ga/Gb or Ex ia IIIC Txx °C Da/Db

(9) = Additional options
any combination of numbers and letters = not relevant for safety

L = Probe length, depends on chosen type of probe:
for x = 0; 16 to 12000 mm;
for x = 1 and 7; 16 to 45000 mm;

Thermal data

Ambient temperature at the electronics enclosure -50 °C to +80 °C.

The process temperature range, depending on the probe specifications and the relation between ambient temperature, process temperature and temperature class and maximum surface temperature T for the different models of Guided Radar Level Transmitters Pulscon LTC5x is listed in the safety instructions, provided with the equipment.

Electrical data

I/O Interface

The codes of the type(s) of protection in the following table only relate to the electrical data of the I/O Interface and may differ from the codes as listed for the approval code in the Type Designation table.

Intrinsically safe versions

Approval Code	I/O Interface		Type of protection	Electrical data/maximum values	
	Code	Mode (functional)		Supply/output (terminals 1 and 2)	Supply/output (terminals 3 and 4)
E1, EX, SX, IA, IB	IH	4 ... 20 mA HART	Ex ia IIC	U_i = 30 V; I_i = 300 mA; P_i = 1 W; C_i = 12 nF; L_i = 0 mH	---
EW			Ex ia IIC/IIIC	U_i = 30 V; I_i = 300 mA; P_i = 1 W; C_i = 5 nF; L_i = 0 mH	---
E2, ID			Ex ic IIC	U_i = 35 V; I_i = N/A [1]; P_i = N/A; C_i = 5 nF; L_i = 0 mH	---
IH				U_i = 35 V; I_i = N/A [1]; P_i = N/A; C_i = 12 nF; L_i = 0 mH	

Annex 1 to EU-Type Examination Certificate DEKRA 14ATEX0117 X, issue 2, to Certificate of Conformity IECEx DEK 14.0066X, issue 2 and to IECEx Test Report NL/DEK/ExTR14.0072/01

E1, EX, SX, EW, IA, IB	ID	4 ... 20 mA HART + switching output	Ex ia IIC/IIIC	U_i = 30 V; I_i = 300 mA; P_i = 1 W; C_i = 5 nF; L_i = 0 mH	U_i = 30 V; I_i = 300 mA; P_i = 0,7 W/0,85 W/1 W [2]; C_i = 3 nF/5.28 nF [3]; L_i = 0 mH
E2, IH			Ex ic IIC	U_i = 35 V; I_i = N/A [1]; P_i = N/A; C_i = 5 nF; L_i = 0 mH	U_i = 35 V; I_i = N/A [1]; P_i = 0.7 W/0,85 W/1 W [2]; C_i = 3 nF/5,28 nF [3]; L_i = 0 mH
E1, EX, SX EW, IA, IB	IE	4 ... 20 mA HART + 4 ... 20 mA	Ex ia IIC/IIIC	U_i = 30 V; I_i = 300 mA; P_i = 1 W; C_i = 30 nF; L_i = 0 mH	U_i = 30 V; I_i = 300 mA; P_i = 1 W; C_i = 30 nF; L_i = 0 mH
E2, IH			Ex ic	U_i = 30 V; I_i = N/A [1]; P_i = N/A; C_i = 30 nF; L_i = 0 mH	U_i = 30 V; I_i = N/A [1]; P_i = N/A; C_i = 30 nF; L_i = 0 mH

Non-intrinsically safe versions

Approval Code	**I/O Interface**		**Type of protection**	**Electrical data/maximum values**	
	Code	**Mode (functional)**		**Supply/output (terminals 1 and 2)**	**Supply/output (terminals 3 and 4)**
ED, EG, EW, IC	IH	4 ... 20 mA HART	Ex db IIC	U_N = 35 V, I_{max} = 22 mA, P_N = 0,7 W U_m = 250 Vac	---
S3, S4, EG, IE, IF,			Ex ta IIIC		
IG			Ex ec IIC		
ED, EG, EW, IC	ID	4 ... 20 mA HART+ switching output	Ex db IIC	U_N = 35 V, I_{max} = 22 mA, P_N = 0,7 W U_m = 250 Vac	U_N = 35 V, P_N = 0.7 W U_m = 250 Vac
S3, S4, EG, IE, IF			Ex ta IIIC		
IG			Ex ec IIC		
ED, EG, EW, IC	IE	4 ... 20 mA HART + 4 ... 20 mA	Ex db IIC	U_N = 10,4 ... 30 V, I_{max} = 22 mA, P_N = 0,7 W U_m = 250 Vac	U_N = 10.4 ... 30 V, I_{max} = 22 mA, P_N = 0.7 W U_m = 250 Vac
S3, S4, EG, IE, IF			Ex ta IIIC		
IG			Ex ec IIC		
ED, EG, IC	AH	4-wire ac, 4 - 20 mA HART	Ex db IIC	90 ... 253 Vac, 50/60 Hz U_m = 250 Vac	U_N = 22 V, I_{max} = 22 mA U_m = 250 Vac
S3, S4, EG, IE, IF			Ex ta IIIC		
IG			Ex ec IIC		
ED, EG, IC	DH	4-wire dc, 4 - 20 mA HART	Ex db IIC	10.4 ... 48 Vdc U_m = 250 Vac	U_N = 22 V, I_{max} = 22 mA, U_m = 250 Vac
S3, S4, EG, IE, IF			**Ex ta IIIC**		
IG			**Ex ec IIC**		

Notes: 1) Current controlled output, $I_N \leq$ 25 mA
2) Different values of P_i or P_N resulting in different surface temperature values (refer to thermal data)
3) Capacitance between the lines, respectively with respect to ground

Service connector, equivalent to connector X500 / service interface (CDI)

The type of protection of the service connector, which is intended for connection to the Certified Service Tool or any other interface, depends on the Approval code of the equipment.
If used as interface in type of protection intrinsic safety Ex ia IIC/IIIC, the following maximum values apply:
U_o = 7.3 V; I_o = 100 mA; P_o = 160 mW; U_i = 7.3 V; C_i = 0 nF; L_i = 0 mH.
If used as non-intrinsically safe interface, U_N = 6.5 V