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EC – TYPE EXAMINATION CERTIFICATE[2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC[3] EC-Type Examination Certificate Number: **EXA 15 ATEX 0040X**Issue: **1**[4] Equipment or Protective System **Limit switch box**Type: **Guardbox – GI series**[5] Manufacturer: **Eisenbau**[6] Address: **Via T.A.Edison,16 – 20090 Cusago (MI) Italy**

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

[8] Ex-Agencija, Notified Body number 2465 according to Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or protective system intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in confidential report number: **EXA 15CR054**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012/ A11:2013**EN 60079-11:2012**

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 equipment or protective system is subject to specific conditions for safe use specified in the schedule to this certificate.

[11] This EC-Type Examination Certificate relates only to the design, examination and test of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

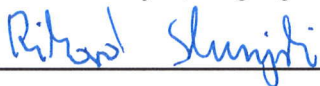
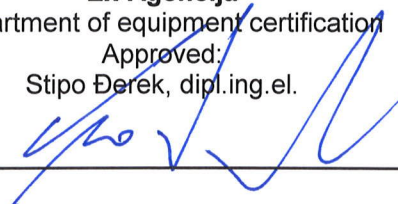
**II 1G Ex ia IIB/IIC T6...T1 Ga**
II 1D Ex ia IIIC T135°C Da

or

II 2G Ex ia IIB/IIC T6...T1 Gb

Date: 01.10.2015

PB.14.TC.787/RS

Prepared:
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Department of equipment certification
Approved:
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[13]

SCHEDULE

[14] EC - TYPE EXAMINATION CERTIFICATE No.: EXA 15 ATEX 0040X

[15] Description of Equipment or Protective System

Guardbox Limit switch boxes are electromechanical devices for monitoring the operation of industrial valves in plants. The Guardbox devices are used to control the position of the valve and provide electrical feedback signal of valve status to plant control systems. They are equipped with visible position indicator that represents a true indication of valve position.

Marking of Ex Equipment: Gas group, temperature class, maximum and minimum ambient temperature depend on device configuration type i.e. on type of installed components.

Ambient temperature range is: $T_{amb} = -60^{\circ}\text{C}$ to 105°C and it is reduced according to ambient temperature range of installed components.

Connection for limit switch box shall be provided with cable of thermal stability not less than maximum ambient temperature of particular configuration + 9K.

Intrinsically safe circuits:

Maximum of 5 independent intrinsically safe circuits:

Four terminals: pins 1-2, 3-4, 5-6, 7-8 for 2-wire sensors or 1-2-3, 4-5-6, 7-8-9, 10-11-12 for 3-wire sensors) + terminal for single certified programmable encoder or temperature transmitter.

Extra terminal block (pins "+,-,+,-") for connection of a single intrinsically safe circuit (e.g. an external solenoid) with following parameters $U_i = 30\text{V}$, $I_i = 250\text{mA}$.

List of installed certified components:

Switch series	Manufacturer	ATEX certificate
Cylindrical inductive proximity sensors of types NC..and NJ...	Pepperl&Fuchs	PTB 00 ATEX 2048X
SN-type proximity sensors series NJ..and SJ...	Pepperl&Fuchs	PTB 00 ATEX 2049X
Slot-type proximity sensors series SJ..and SC...	Pepperl&Fuchs	PTB 99 ATEX 2219X
Cuboidal inductive proximity sensors series FJ..and NB...	Pepperl&Fuchs	PTB 00 ATEX 2032X
Cuboidal inductive proximity sensors series NC..and NJ...	Pepperl&Fuchs	PTB 00 ATEX 2032X
Valve position sensors type NCN.., N4... , PL.F25..-N4... ,NC...F31..-N5..	Pepperl&Fuchs	TUV 99 ATEX 1479X
Inductive proximity switch series N*50*A	IFM electronics GmbH	BVS 04 ATEX E091X

Transmitter/encoder type	Manufacturer	Description	ATEX certificate
ST-1509-V1-B ST-1509-V1-A ST-1910-V1-A	ZETTEX	Programmable encoder	FTZU09ATEX0221X
5333D	PR electronics	2-wire programmable transmitter	KEMA 03ATEX1535X
5335D, 5337D	PR electronics	2-wire transmitter with Hart protocol	KEMA 03ATEX1537
5350 B	PR electronics A/S	Profibus PA/Foundation Fieldbus Transmitter	KEMA 02ATEX1318

List of simple apparatus:

Potentiometer series	Manufacturer	Intrinsically safe input parameters
Potentiometer 640 Series	Honeywell	Connected to sensor circuit of 2-wire transmitter PR Electronics
Potentiometer WAL305 Series	Contelec	

Switch Type	Switch series & Contact type		Max nominal switching voltage/ current	Manufacturer	Equipment Category	Intrinsically safe input parameters for dry contact simple apparatus
	Micromechanical switch SPDT/DPDT gold plated	Reed switch SPDT or DPDT				
SPDT*	D41 series		0,1A-250Vac	Cherry	2G	Ui : 16V Ii: 76mA Pi: 242mW
	DC3 series (sealed)					
	V3D series		0,1A-250Vac 0,1A-30Vdc	Crouzet		
	V3 series					
	V15W series (sealed IP67)		0,1A-250Vac 0,1A-30Vdc	Honeywell		
	SM series					
DPDT**	DB3 series		0,1A-250Vac	Cherry		
SPDT		MS series	0,1A-250Vac 1A-24Vdc	As applicable or Eisenbau	1G or 2G	
DPDT		MD series				

* SPDT is single-pole double-throw switch type.
* DPDT is double-pole double-throw switch type.

List of possible device configurations:

Configuration	Switch type and max quantity	Encoder/Transmitter type and max quantity
1	Max n°2 - Electromechanical SPDT	0
2	Max n°4 - Electromechanical SPDT or Max n°3 Electromechanical DPDT	0
3	Max n°4 - Reed switches SPDT or Max n°3 Reed switches DPDT	0
4	Max n°4 - Cuboidal inductive proximity	0
5	Max n°4 - Cylindrical inductive proximity	0
6	Max n°4 - Slot-type inductive proximity	0
7	0	Max n°1 - Programmable encoder Zettlex ST-1509 or ST1910 series
8	Max n°2 - Slot-type or cylindrical inductive proximity	Max n°1 - Programmable encoder Zettlex ST-1509 or ST1910 series
9	Max n°4 - Cuboidal inductive proximity	Max n°1 - Programmable encoder Zettlex ST-1509 or ST1910 series
10	Max n°4 - Electromechanical SPDT or Max n°2 Electromechanical DPDT	Max n°1 - Programmable encoder Zettlex ST-1509 or ST1910 series
11	Max n°3 - Reed switches SPDT or Max n°3 Reed switches DPDT	Max n°1 - Programmable encoder Zettlex ST-1509 or ST1910 series
12	0	Max n°1 - 2 wire transmitter PR electronics 5333D or 5335D or 5337D or 5350 B + Max n°1 - Honeywell 640 series or Contelec WAL305 series
13	Max n°2 - Slot-type or cylindrical inductive proximity	Max n°1 - 2 wire transmitter PR electronics 5333D or 5335D or 5337D or 5350 B + Max n°1 - Honeywell 640 series or Contelec WAL305 series
14	Max n°4 - Cuboidal inductive proximity	Max n°1 - 2 wire transmitter PR electronics 5333D or 5335D or 5337D or 5350 B + Max n°1 - Honeywell 640 series or Contelec WAL305 series
15	Max n°4 - Electromechanical SPDT or Max n°2 Electromechanical DPDT	Max n°1 - 2 wire transmitter PR electronics 5333D or 5335D or 5337D or 5350 B + Max n°1 - Honeywell 640 series or Contelec WAL305 series
16	Max n°3 - Reed switches SPDT or Max n°3 Reed switches DPDT	Max n°1 - 2 wire transmitter PR electronics 5333D or 5335D or 5337D or 5350 B + Max n°1 - Honeywell 640 series or Contelec WAL305 series

