

(1) EC-TYPE-EXAMINATION CERTIFICATE

ZELM ex

- (2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**
- (3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 11 ATEX 0452 X

- (4) Equipment: **Head transmitter type ATX-2 and type GIX-22-2**
- (5) Manufacturer: **Aplisens S.A.**
- (6) Address: **ul. Morelowa 7, PL-03-192 Warszawa**
- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
- The examination and test results are recorded in the confidential report ZELM Ex 1691013824.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0:2009 EN 60079-11:2007 EN 60079-26:2007 EN 1127-1:2007**
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. 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 shall include the following:



II 1 G Ex ia IIC T6

Braunschweig, 2011-02-14

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Zertifizierungsstelle ZELM ex
Dipl.-Ing. Harald Zelm



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EC-type-examination Certificates without signature and stamp are not valid. The certificates may only be circulated without alteration. Extracts or alterations are subject to approval by the Prüf- und Zertifizierungsstelle ZELM ex. The English version is based on the German text. In the case of dispute, the German text shall prevail.

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(13)

SCHEDULE

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(14) **EC-TYPE-EXAMINATION CERTIFICATE ZELM 11 ATEX 0452 X**

(15) Description of equipment

The head transmitter type ATX-2 and type GIX-22-2 is used for the signal conversion of resistance thermometers, thermocouples, resistance-type sensors and voltage sensors in a 4...20 mA current loop. The current input loop and signal output are freely scalable via an interface. The measured value registration is realized by A/D conversion. The registered data are evaluated via a D/A converter as a measurement signal in the 4...20 mA current loop. The available galvanical isolation is a function isolation between sensor circuit and supply circuit.

To the head transmitter type ATX-2 resistance thermometers can be connected.

To the head transmitter type GIX-22-2 resistance thermometers and thermocouples can be connected.

The head transmitter can be used in the hazardous location. The head transmitter is to be installed in a way which guarantees protection IP20 according to EN 60529 at least for all connectors as well.

The ambient temperature ranges depending on the temperature class are to be taken from the following table:

Lower ambient temperature limit	Upper ambient temperature limit	Temperature class
-40°C	+55°C	T6
-40°C	+70°C	T5
-40°C	+85°C	T4

Electrical Data

Supply circuit
[terminals 1(+) and 2(-)]

in type of protection Intrinsic Safety Ex ia IIC
for connection to a certified intrinsically safe circuit with the following maximum values:

$$\begin{aligned}U_i &= 30 \text{ V} \\I_i &= 100 \text{ mA} \\P_i &= 750 \text{ mW}\end{aligned}$$

Effective internal capacitance and effective internal inductance are negligibly small.

Setup circuit

only for a short-time connection of a standard personal computer to suitable connection.
Maximum r.m.s a.c or d.c voltage $U_m = 30 \text{ V}$.

Sensor circuit
(terminals 3, 4, 5 and 6)

in type of protection Intrinsic Safety Ex ia IIC resp. Ex ia IIB

maximum values:

$$\begin{aligned}U_o &= 9,6 \text{ V} \\I_o &= 4,5 \text{ mA} \\P_o &= 11 \text{ mW}\end{aligned}$$

(linear output characteristic)

Schedule
to EC-Type-Examination Certificate ZELM 11 ATEX 0452 X

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IIC resp. IIB

Max. permissible external inductance 4,5 mH 8,5 mH
Max. permissible external capacitance 709 nF 1300 nF

The supply circuit and the sensor circuit are to be considered in a combined manner to be galvanic with each other. The technical function of isolation remains.

(16) Report No.

ZELM Ex 1691013824

(17) Special conditions for safe use

The configuration via the setup circuit is only permitted in non-hazardous locations. In this case, none of the connections may be laid into the hazardous location.

The head transmitter is to be installed in a way which guarantees protection IP20 according to EN 60529 at least for all connectors as well.

The head transmitter is to be installed in such a way, that no electrostatic charge is possible.

The instruction manual has to be observed, in particular with regard to the consideration of lesser ambient temperatures during the application in accordance with category 1.

(18) Essential Health and Safety Requirements

met by standards

Braunschweig, 2011-02-14

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1. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

ZELM ex

to EC-type-examination Certificate

ZELM 11 ATEX 0452 X

Equipment: **Head transmitter type ATX-2 and type GIX-22-2**

Manufacturer: **Aplisens S.A.**

Address: **ul. Morelowa 7, PL-03-192 Warszawa**

Description of supplement

Within the scope of this 1. Supplement there was a changeover to a new casting compound and a safety-relevant diode is replaced in future by a successor type. These changes have a bearing on the ambient temperature range so that the maximum ambient temperature for the temperature class T4 has to be reduced. The ambient temperatures are in future:

Lower ambient temperature limit	Upper ambient temperature limit	Temperature class
-40°C	+55°C	T6
-40°C	+70°C	T5
-40°C	+75°C	T4

In Future the maximum temperature range for the use in category 1 under consideration of the reduction according to EN 1127-1:2007 will be marked on the type plate.

The electrical and all other data as well as the Special conditions for safe use according to the EC-type-examination Certificate ZELM 11 ATEX 0452 X remain unchanged and are also valid for this 1. Supplement.

The head transmitter type ATX-2 and type GIX-22-2 may also be manufactured in future under consideration of this 1. Supplement.

Report No.

ZELM Ex 0711213937

Essential Health and Safety Requirements

The essential health and safety requirements are still fulfilled by compliance with the following Standards:

EN 60079-0:2009

EN 60079-11:2012

EN 60079-26:2007

EN 1127-1:2007

Braunschweig, 2012-09-21

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2. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

ZELM ex

to EC-type-examination Certificate

ZELM 11 ATEX 0452 X

Equipment: **Head transmitter type ATX-2 and type GIX-22-2**

Manufacturer: **APLISENS S.A.**

Address: **ul. Morelowa 7, PL-03-192 Warszawa**

Description of supplement

The 2. Supplement concerns the consideration of minor modifications of the design of the equipment and the examination of the equipment for compliance to the applicable requirements of the current Standards.

The marking, the permissible ambient temperatures, the electrical and all further technical data as well as the Special conditions for safe use according to the EC-type-examination Certificate ZELM 11 ATEX 0452 X incl. the 1. Supplement remain unchanged and are also valid for this 2. Supplement.

The head transmitter type ATX-2 and type GIX-22-2 may also be manufactured in future under consideration of this 2. Supplement.

Report No.

ZELM Ex 05315131080

Essential Health and Safety Requirements

The essential health and safety requirements are still fulfilled by compliance with the following Standards:

**EN 60079-0:2012
+ A11:2013**

EN 60079-11:2012

EN 60079-26:2007

EN 1127-1:2011

Braunschweig, 2015-04-13

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