

SRI983 Electro-Pneumatic Positioner Elektro-pneumatischer Stellungsregler

Model Code	Type of Protection Zündschutzart	Certificate of Conformity Konformitätsbescheinigung
SRI983-.....EDZ	II 2G Ex d IIB+H2 T6 - II 2D Ex tD A21 IP65 T85°C	FM14 ATEX 0022 X
SRI983-.....E1Z	II 1G Ex ia IIC T4 - II 2D Ex tD A21 IP65 T85°C	FM14 ATEX 0022 X
SRI983-.....E3Z	II 3G Ex nA nL IIC T6 - II 3G Ex nL IIC T4	FM14 ATEX 0023 X
Earlier version / Frühere Version:		
SRI983-.....EDZ	II 2 G EEx d IIC T4...T6 ATEX	AD924

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PTB 03 ATEX 1079		

1 EC-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 94/9/EC

3 EC-Type Examination Certificate No: FM14ATEX0022X

4 Equipment or protective system: IP26 Current-to-Pressure Transducer
(Type Reference and Name)

5 Name of Applicant: Eckardt S.A.S.

6 Address of Applicant: 20 rue de la Marne
F-68360 Soultz
France

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 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of 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 intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3052104 dated 02nd June 2014

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN60079-0: 2006, EN 60079-1: 2007, EN 60079-11: 2007, EN 60529:1992+A1, A2:2000,
EN 61241-0; 2007, EN 61241-1: 2004 + Corr.1; 2005

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 or protective system shall include:



II 2 G Ex d IIB+H2 T6 Ta= -40°C to 75°C

II 2 D Ex tD A21 IP65 T85°C Ta= -40°C to 75°C

II 1 G Ex ia IIC T* Ta= -55°C to +85°C; IP65

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 11th June 2014

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
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SCHEDULE

to EC-Type Examination Certificate No. FM14ATEX0022X

13 Description of Equipment or Protective System:

The IP26 is an electro-mechanical current to pressure converter. The unit operates on a 4 mA to 20 mA current loop. The ambient operating temperature range of the IP26 is dependent on the energy limitation Parameters as specified below.

The housing is constructed of epoxy-painted A380/A383 Aluminum Alloy. The housing is available with a threaded blank cover. The enclosure contains one M20 x 1.5 wiring entry. The housing is provided with internal grounding connection. An o-ring is provided between the cover and base for environmental protection. Two sintered Flame arrestors are pres-fit into the base of the housing.

IP26-1a00. I/P Converter for the SRI983

II 2 G Ex d IIB+H2 T6 Ta= -40°C to 75°C

II 2 D Ex tD A21 IP65 T85°C Ta= -40°C to 75°C

II 1 G Ex ia IIC T* Ta= -55°C to +85°C; IP65

a = Output Pressure Range: 0, 1, or 2

Energy Limitation Parameters for protection by intrinsic safety

*Temperature Class	Ta	Ii	Ui	Pi
T4	85°C	60 mA	38.8 V	2.328 W
T4	85°C	100 mA	30 V	3.0 W
T4	80°C	120 mA	28 V	3.36 W
T4	70°C	150 mA	25.5 V	3.825 W
T5	70°C	60 mA	38.8 V	2.328 W
T5	55°C	100 mA	30 V	3.0 W
T5	45°C	120 mA	28 V	3.36 W
T5	85°C	23 mA	6.75 V	0.155 W
T6	60°C	50 mA	42.5 V	2.125 W
T6	55°C	60 mA	38.8 V	2.328 W

14 Specific Conditions of Use:

- 1) The I/P converter enclosure contains aluminium and is considered to constitute a potential risk of ignition by impact or friction and must be taken into account during category II 1 G installations.
- 2) The User shall permanently mark the protection type chosen. Once the type of protection has been marked it shall not be changed.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM14ATEX0022X

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
11 th June 2014	Original Issue.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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1 TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 94/9/EC

3 Type Examination Certificate No: FM14ATEX0023X

4 Equipment or protective system: IP26 Current-to-Pressure Transducer
(Type Reference and Name)

5 Name of Applicant: Eckardt S.A.S.

6 Address of Applicant: 20 rue de la Marne
F-68360 Soultz
France

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 FM Approvals Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3052104 dated 02nd June 2014

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN60079-0: 2006, EN 60079-15: 2005 and EN 60529: 1991+ A 1: 2000

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 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 or protective system shall include:



II 3 G Ex nL IIC T* Ta = -55°C to 85°C; IP65

II 3 G Ex nA nL IIC T6 Ta = -55°C to 85°C; IP65

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 03rd June 2014

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE

to Type Examination Certificate No. FM14ATEX0023X

13 Description of Equipment or Protective System:

The IP26 is an electro-mechanical current to pressure converter. The unit operates on a 4 mA to 20 mA current loop. The ambient operating temperature range of the IP26 is dependent on the energy limitation Parameters as specified below.

The housing is constructed of epoxy-painted A380/A383 Aluminum Alloy. The housing is available with a threaded blank cover. The enclosure contains one M20 x 1.5 wiring entry. The housing is provided with internal grounding connection. An o-ring is provided between the cover and base for environmental protection. Two sintered Flame arrestors are pres-fit into the base of the housing.

IP26-1a00. I/P Converter for SRI893

II 3 G Ex nL IIC T* Ta = -55°C to +85°C

a = Output Pressure Range: 0, 1, or 2

Energy Limitation Parameters

*Temperature Class	Ta	Ii	Ui	Pi
T4	85°C	60 mA	38.8 V	2.328 W
T4	85°C	100 mA	30 V	3.0 W
T4	80°C	120 mA	28 V	3.36 W
T4	70°C	150 mA	25.5 V	3.825 W
T5	70°C	60 mA	38.8 V	2.328 W
T5	55°C	100 mA	30 V	3.0 W
T5	45°C	120 mA	28 V	3.36 W
T5	85°C	23 mA	6.75 V	0.155 W
T6	60°C	50 mA	42.5 V	2.125 W
T6	55°C	60 mA	38.8 V	2.328 W

SRI983 I/P Converter.

II 3 G Ex nA nL IIC T6 Ta = -55°C to +85°C

Input Parameters

Ui = 40 V; Ii = 20 mA

14 Special Conditions for Safe Use:

The user shall permanently mark the protection type chosen. Once the type of protection has been marked it shall not be changed.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

SCHEDULE

to Type Examination Certificate No. FM14ATEX0023X

16 Test and Assessment Procedure and Conditions:

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Ltd.

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
03 rd June 2014	Original Issue.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE



EG-Baumusterprüfbescheinigung

- (1) .
- (2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**
- (3) EG-Baumusterprüfbescheinigungsnummer



PTB 03 ATEX 1079

- (4) Gerät: Elektropneumatischer Stellungsregler Typ SRI 983, Bauart AD 924
- (5) Hersteller: Eckardt SAS, An Invensys Company
- (6) Anschrift: 20, rue de la Marne, 68360 Soultz, Frankreich
- (7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.
- (8) Die Physikalisch-Technische Bundesanstalt bescheinigt als benannte Stelle Nr. 0102 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PTB Ex 03-13144 festgehalten.

- (9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 50014:1997 + A1 + A2

EN 50018:2000 + A1

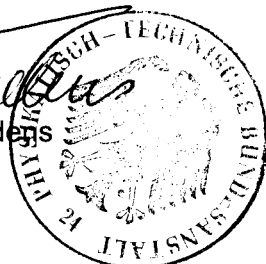
- (10) Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.
- (11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.
- (12) Die Kennzeichnung des Gerätes muß die folgenden Angaben enthalten:

II 2 G EEx d IIC T4 ... T6

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 29. Juli 2003

Dr.-Ing. M. Thedens




Anlage

(13)

(14) **EG-Baumusterprüfbescheinigung PTB 03 ATEX 1079**

(15) Beschreibung des Gerätes

Der elektropneumatische Stellungsregler Typ SRI 983, Bauart AD924 besteht aus einem elektropneumatischen IP-Umformer der Firma ABB und (in einem abgesetzten angeschraubten Gehäuse) einem nachgeschalteten pneumatischen Stellungsregler der Firma Eckardt SAS, Soultz, France. Der IP-Umformer der Firma ABB mit der Typbezeichnung DOC 900771 ist bereits von der DMT unter der Nummer DMT 02 ATEX E 121 X in  II 2 G EEx d IIC T4 ... T6 bescheinigt worden. Er formt das elektrische Gleichstrom-Einheitssignal 4(0) – 20 mA in ein proportionales pneumatisches Einheitssignal 0,2 – 1 bar um, das als Steuersignal für den nachgeschalteten pneumatischen Stellungsregler dient. Der pneumatische Stellungregler enthält keine elektrischen Teile. Für ihn liegt eine Gefahrenanalyse nach EN 13463-1 und 5 vor, die besagt, dass keine potentiellen Zündquellen vorhanden sind. Die Möglichkeit einer elektrostatischen Aufladung des Deckels wegen unzureichender elektrischer Leitfähigkeit wird durch das Anbringen eines Warnschildes berücksichtigt.

Technische Daten

Bemessungsstromstärke: $\leq 50 \text{ mA}$
Versorgung (Druckluft): $\leq 10 \text{ bar}$

(16) Prüfbericht PTB Ex 03-13144

(17) Besondere Bedingungen

keine

Zusätzliche Hinweise für den sicheren Betrieb:

Anschlussbedingungen

1. Der elektropneumatische Stellungsregler Typ SRI 983, Bauart AD924, ist über dafür geeignete Kabel- und Leitungseinführungen bzw. Rohrleitungssysteme anzuschließen, die mindestens dem auf dem Deckblatt angegebenen Normenstand technisch entsprechen und für die eine gesonderte Prüfbescheinigung vorliegt. Die in den entsprechenden Bescheinigungen der Komponenten aufgeführten Einsatzbedingungen sind dabei unbedingt zu beachten.
2. Kabel- und Leitungseinführungen (M20x1,5- oder NPT-Verschraubungen) sowie Verschlußstopfen einfacher Bauart dürfen nicht verwendet werden. Bei Anschluss des SRI 983 über eine für diesen Zweck zugelassene Rohrleitungseinführung muss die zugehörige Abdichtungsvorrichtung unmittelbar am Gehäuse angeordnet sein.
3. Nicht benutzte Öffnungen sind entsprechend EN 50018 Abschnitt 11.9 zu verschließen.

4. Die Anschlussleitung des elektropneumatischen Stellungsreglers Typ SRI 983, Bauart AD924, ist fest und so zu verlegen, daß sie hinreichend gegen Beschädigung geschützt ist.
5. Beträgt die Temperatur an den Einführungsteilen mehr als +70 °C müssen entsprechend temperaturbeständige Anschlußleitungen verwendet werden.

Diese Hinweise sind dem Betreiber in geeigneter Form mitzuteilen.

Umgebungstemperatur

Der Einsatzbereich des elektropneumatischen Stellungsreglers Typ SRI 983, Bauart AD924, erstreckt sich in der

- Temperaturklasse T6 auf Umgebungstemperaturen von -40 °C bis +55 °C, in der
- Temperaturklasse T5 auf Umgebungstemperaturen von -40 °C bis +70 °C, in der
- Temperaturklasse T4 auf Umgebungstemperaturen von -40 °C bis +85 °C.

Arbeitsmedium im Pneumatikbereich

Durch den Betreiber des Betriebsmittels ist sicherzustellen, daß das Arbeitsmedium keine explosionsfähige Atmosphäre bilden kann, d.h. es dürfen nur Gase Verwendung finden, die frei von Stoffen sind, deren Vorhandensein im Medium zur Bildung einer explosionsfähigen Atmosphäre führen könnte.

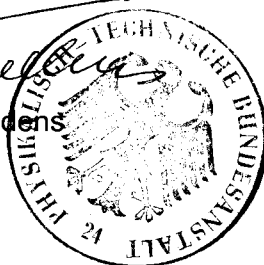
(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

Erfüllt durch Übereinstimmung mit den vorgenannten Normen.

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 29. Juli 2003


Dr.-Ing. M. Theodens





(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

PTB 03 ATEX 1079

(4) Equipment: Electro-pneumatic positioner, type SRI 983, model AD 924

(5) Manufacturer: Eckardt SAS, An Invensys Company

(6) Address: 20, rue de la Marne, 68360 Sultz, France

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 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 PTB Ex 03-13144 .

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

EN 50014:1997 + A1 + A2

EN 50018:2000 + A1

(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 in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

II 2 G EEx d IIC T4 ... T6

Zertifizierungsstelle Explosionsschutz

Braunschweig, 29 July 2003

By order:

Dr.-Ing. M. Thedens
Regierungsrat




SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1079**

(15) Description of equipment

The electropneumatic positioner, type SRI 983, model AD924, consists of an electropneumatic IP transducer produced by ABB and (in a separate bolted enclosure) a downstream pneumatic positioner produced by Eckardt SAS, Soultz, France. The ABB IP transducer (type name DOC 900771) has already been certified by DMT (certificate No. DMT 02) as an ATEX E 121 X in  II 2 G EEx d IIC T4 ... T6 device. This transducer converts the upper limit of the d.c. current signal 4(0) – 20 mA into a proportional pneumatic standard signal 0.2 – 1 bar, which is used as control signal for the downstream pneumatic positioner. The pneumatic positioner does not contain any electric elements. It has been subjected to a hazard analysis in compliance with EN 13463-1 and -5, which says that there are no potential ignition sources. The possibility of the cover being charged electrostatically in the case of inadequate electric conductance, is accounted for by providing a warning.

Technical data

Rated current intensity	≤ 50 mA
Supply (compressed air):	≤ 10 bar

(16) Test report PTB Ex 03-13144

(17) Special conditions for safe use

None

Additional notes for safe operation:

Terminal conditions

1. The electropneumatic positioner, type SRI 983, model AD924, can be used for connection of cable entries and conduit systems which are suited for this purpose and which are of a technical standard that complies with the specifications on the cover sheet as a minimum. They must be covered by a separate examination certificate. The operating conditions specified in the component certificates must by all means be complied with.
2. Cable entries (M20x1.5 or NPT threaded joints) and sealing plugs of simple design must not be used. Should the SRI 983 be connected by means of a conduit entry which has been approved for this purpose, the required sealing device shall be provided immediately at the enclosure.
3. Any openings not used shall be sealed as specified in EN 50018, section 11.9.

4. The connecting cable of the electroneumatic positioner, type SRI 983, model AD924, shall be installed to provide for permanent wiring and adequate protection against mechanical damage.
5. If temperatures at entry fittings exceed +70 °C, connecting cables providing adequate temperature resistance shall be used.

The operator shall be informed of these conditions in a suitable form.

Ambient temperature

The operating range of the electropneumatic positioner, type SRI 983, model AD924, covers the following ranges:

- for temperature class T6: ambient temperatures between -40 °C and +55 °C,
- for temperature class T5: ambient temperatures between -40 °C and +70 °C,
- for temperature class T4: ambient temperatures between -40 °C and +85 °C.

Operating medium in the pneumatic area

The operator using the equipment shall guarantee that the operating medium cannot produce any explosive atmospheres, i.e. the gases used must be free of substances which, when present in the medium, could favour the formation of an explosive atmosphere.

(18) Essential health and safety requirements

Met by compliance with the afore-mentioned Standards.

Zertifizierungsstelle Explosionsschutz

Braunschweig, 29 July 2003

By order:


Dr.-Ing. M. Thedens
Regierungsrat



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