Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

TRANSLATION

(1) 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

PTB 02 ATEX 2199

(4) Equipment: Model 6116-1. I/P Converter

(5) Manufacturer: SAMSON AG

(6) Address: Weismüllerstr. 3, 60314 Frankfurt, Germany

(7) This equipment and any acceptable variation thereof are specified in the schedule to this certificate.

(8) The Physikalisch-Technische Bundesanstalt, notified body number 0102 in according to 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 Requirement 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 confidential report: **PTB Ex 02-22374**

(9) The essential health and safety requirements are satisfied by compliance with

EN 50014: 1997+A1+A2 EN 50020: 1994

(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) According to the Directive 94/9/EC, this EC TYPE EXAMINATION CERTFICATE relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of the equipment.

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

 **II 2G EEx ia IIC T6**

Zertifizierungsstelle Explosionsschutz Braunschweig, 07 March 2003
By order

(Signature) (Seal)

(13) # Schedule

(14) **EC TYPE EXAMINATION CERTIFICATE No. PTB 02 ATEX 2199**

(15) **Description of Equipment**

The Model 6116-1.. I/P Converter serves for converting a load-independent current into a standard pressure signal in the 0.2 to 1 or 0.4 to 2 bar range respectively. It consists of an i/p module and a downstream pneumatic amplifier.

The Model 6116-1.. I/P Converter is a passive two-terminal network which may be connected to any certified intrinsically safe circuit, provided the permissible maximum values of U_i, I_i and P_i are not exceeded.

For air supply non-combustible media are used.

The device is intended for use inside and outside of hazardous locations.

The correlation between equipment version, temperature classification, permissible ambient temperature ranges and maximum short-circuit currents is shown in the tale below:

Version with I/P Module 6109-1..

Temperature class	Permissible ambient temperature range	Maximum short-circuit current
T6	-45 °C ... 60 °C	
T5	-45 °C ... 70 °C	85 mA
T4	-45 °C ... 80 °C	
T5	-45 °C ... 70 °C	100 mA
T4	-45 °C ... 80 °C	

Version with I/P Module 6112-2..

Temperature class	Permissible ambient temperature range	Maximum short-circuit current
T6	-45 °C ... 60 °C	85 mA or
T5	-45 °C ... 70 °C	100 mA or
T4	-45 °C ... 80 °C	120 mA

Schedule to the EX Type Examination Certificate PTB 02 ATEX 2199

Electrical data

Version with I/P Module 6109-1.

Signal Circuit (terminals 11/12)	Type of protection. Intrinsic safety EEx ia IIC only for connection to a certified intrinsically safe circuit

Maximum values:

U_i = 28 V
I_i = 85mA or 100 mA resp.
P_i = 0,7 W

C_i = negligible, L_i = negligible

Version with I/P Module 6112-2.

Signal circuit (terminals 11/12)	Type of protection. Intrinsic safety EEx ia IIC only for connection to a certified intrinsically safe circuit

U_i = 28 V
I_i = 100 mA or 85 mA resp.
P_i = 0,7 W

C_i = negligible, L_i = negligible

or

U_i = 25 V
I_i = 120 mA
P_i = 0,7 W

C_i = negligible, L_i = negligible

(16) Test report: **PTB Ex-02-22374**

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

None

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

In compliance with the standards specified above

Zertifizierungsstelle Explosionsschutz
By order

Braunschweig, 7 March 2003

(Signature) (seal)

Dr. Ing. U. Johannsmeyer
Regierungsdirektor

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1. S U P P L E M E N T

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2199

(Translation)

Equipment: i/p-converter, type 6116-1..

Marking:  **II 2 G EEx ia IIC T6**

Manufacturer: SAMSON AG Mess- und Regeltechnik

Address: Weismüllerstr. 3, 60314 Frankfurt, Germany

Description of supplements and modifications

The i/p-converter of type 6116-1.. is used for the conversion of a load-independent current into a normalized pressure signal ranging from 0.2 to 1 bar or 0.4 to 2 bar respectively. It consists of an i/p-module and a downstream pneumatic amplifier.

The i/p-converter of type 6116-1.. is a passive two-terminal network that may be connected to all intrinsically safe circuits provided that the permissible maximum values for U_i, I_i and P_i are not exceeded.

Non-flammable media are used as pneumatic auxiliary power.

The equipment is intended for the application inside and outside of hazardous areas.

For relationship between variant, temperature class, permissible ambient temperature ranges and maximum short-circuit current, reference is made to the following tables:

Variant with i/p-module 6109-1..

Temperature class	Permissible ambient temperature range	Maximum short-circuit current
T6	-45 °C ... 60 °C	85 mA
T5	-45 °C ... 70 °C	
T4	-45 °C ... 80 °C	
T5	-45 °C ... 70 °C	100 mA
T4	-45 °C ... 80 °C	

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2199

Variant with i/p-module 6112-2..

Temperature class	Permissible ambient temperature range	Maximum short-circuit current
T6	-45 °C ... 60 °C	85 mA bzw.
T5	-45 °C ... 70 °C	100 mA bzw.
T4	-45 °C ... 80 °C	120 mA

Electrical data

Variant with i/p-module 6109-1..

Signal circuit ..... type of protection Intrinsic Safety Ex ia IIC
(terminals 11/12) only for connection to a certified intrinsically safe circuit

Maximum values:

U_i = 28 V
I_i = 85 mA or 100 mA
P_i = 0.7 W
C_i negligibly low
L_i negligibly low

Variant with i/p-module 6112-2..

Signal circuit ..... type of protection Intrinsic Safety Ex ia IIC
(terminals 11/12) only for connection to a certified intrinsically safe circuit

Maximum values:

U_i = 28 V
I_i = 85 mA or 100 mA
P_i = 0.7 W
C_i negligibly low
L_i negligibly low

or

U_i = 25 V
I_i = 120 mA
P_i = 0.7 W
C_i negligibly low
L_i negligibly low

The future marking reads:

⟨Ex⟩ **II 2 G Ex ia IIC T6 Gb**

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2199

Applied standards

EN 60079-0:2009 **EN 60079-11:2012**

Test report: PTB Ex 14-23187

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 3, 2014

Dr.-Ing. U. Johannsmeyer
Direktor und Professor