



**T R A N S L A T I O N**

(1) **EC TYPE EXAMINATION CERTIFICATION**

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

(3) EC Type Examination Certificate Number

**PTB 01 ATEX 2167**

(4) Equipment: Model 3767-1.. Positioner

(5) Manufacturer: SAMSON AG Mess- und Regeltechnik

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

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

(8) The Physikalisch-Technische Bundesanstalt, notified body number 0102 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 requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres specified in Annex II to the Directive.

(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 as specified in the schedule to this certificate.

(11) According to the Directive 94/9/EC, this EC Type Examination Certificate 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 this equipment.

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EC Type Examination Certificates without signature and seal are invalid.  
This EC Type Examination Certificate may only be reproduced in its entirety and without any changes, schedule included.  
Extracts or changes shall require the prior approval of the Physikalisch-Technische Bundesanstalt.

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



Zertifizierungsstelle Explosionsschutz  
By order

Braunschweig, 26 November 2001

(Signature)

(Seal)

Dr. Ing. U. Johannsmeyer  
Regierungsdirektor

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(13) **S c h e d u l e**

(14) **EC TYPE EXAMINATION CERTIFICATE No. PTB 01 ATEX 2167**

(15) **Description of Equipment**

The model 3767-1.. Positioner is intended for attachment to pneumatic control valves and serves for converting control signals of (0)4 to 20mA from a control device into a pneumatic signal pressure of 6 bar max. For pneumatic auxiliary power non-combustible media are used.

i/p-converter, inductive limit switches, solenoid valves and position indicator are passive two-terminal networks 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.

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

The correlation between temperature classification, permissible ambient temperature ranges and maximum short-circuit currents is shown in the table below.

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

**Electrical data**

**Model 3767-1 . . .**

i/p converter signal circuit  
(terminals 11/12)

Type of protection: Intrinsic safety EEx ia IIC  
only for connection to a certified  
intrinsically safe circuit

**Maximum values**

$U_i = 28 \text{ V}$   
 $I_i = 100 \text{ mA}$  or  $85 \text{ mA}$   
 $P_i = 0,7 \text{ W}$   
 $C_i$  negligible and  $L_i$  negligible  
 $U_i = 25 \text{ V}$   
 $I_i = 120 \text{ mA}$   
 $P_i = 0,7 \text{ W}$   
 $C_i$  negligible and  $L_i$  negligible

**Models 3767 – 11./..- 12. with inductive Limit Switches**

Inductive limit switch  
(terminals 41/42 and 51/52)

Type of Protection: Intrinsic safety  
EEx ia IIC or EEx ia IIB  
only for connection to a certified  
intrinsically safe circuit

**Maximum values**

$U_i = 16 \text{ V}$   
 $I_i = 52 \text{ mA}$   
 $P_i = 169 \text{ mW}$

$C_i = 30 \text{ nF}$        $L_i = 100 \mu\text{H}$     or

$U_i = 16 \text{ V}$   
 $I_i = 25 \text{ mA}$   
 $P_i = 64 \text{ mW}$

$C_i = 30 \text{ nF}$        $L_i = 100 \mu\text{H}$

For positioners with inductive limit switches the correlation between temperature classification, permissible ambient temperature ranges and maximum short-circuit currents is shown in the table below.

Temperature class	Permissible ambient temperature range	Maximum short-circuit current
<b>T6</b>	-45 °C ... 45 °C	52 mA or
<b>T5</b>	-45 °C ... 60 °C	
<b>T4</b>	-45 °C ... 75 °C	
<b>T6</b>	-45 °C ... 60 °C	25 mA
<b>T5</b>	-45 °C ... 80 °C	
<b>T4</b>	-45 °C ... 80 °C	

**Model 3767-16 with Position Indicator**

Signal Circuit (terminals 31/32)

Type of protection: Intrinsic safety EEx ia IIC

**Maximum values:**

$U_i = 28 \text{ V}$   
 $I_i = 115 \text{ mA}$   
 $P_i = .1 \text{ W}$

$C_i = 5.3 \text{ nF}$ ,  $L_i = \text{negligible}$

**Model 3767-1.2/ ..-1.3/..-1.4 with Solenoid Valve**

Signal Circuit  
(terminals 81/82)

Type of protection: Intrinsic safety EEx ia IIC

The correlation between version, temperature classification, permissible ambient temperature ranges and maximum power dissipation is shown in the table below:

Version UN	6V	12 V	24 V
Temperature class	T6 60 °C T5 -45 °C ≤ Ta ≤ 70 °C T4 80 °C		
Characteristic linear or rectangular	Pi #	Pi ##	

Ci negligible Li negligible

# The permissible maximum power dissipation Pi in the 6 V version is 250 mW  
 ## The maximum values for connection to a certified intrinsically safe circuit are shown in the table below:

Ui	25 V	27 V	28 V	30 V	32 V
Ii	150 mA	125 mA	115 mA	100 mA	85 mA
Pi	no limitation				

Ci negligible Li negligible

(16) **Test report PTB Ex 01-21200**

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

None

(18) **Special health and safety requirements**

In compliance with the standards specified above.

Zertifizierungsstelle Explosionsschutz  
 By order

Braunschweig, 26 November 2001

(Signature) (seal)

Dr. Ing. U. Johannsmeyer  
 Regierungsdirektor