Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

T R A N S L A T I O N

(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 01 ATEX 2171

(4) Equipment: Model 3766-1.. 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.

The examination and test results are recorded in confidential report: **PTB Ex 01-21198**

(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.

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

 **II 2G EEx ia IIC T6**

Zertifizierungsstelle Explosionsschutz Braunschweig, 26 November 2001
By order

(Signature) (Seal)

Dr. Ing. U. Johannsmeyer
Regierungsdirektor

14) **EC TYPE EXAMINATION CERTIFICATE No. PTB 01 ATEX 2171**

(15) **Description of Equipment**

The model 3766-1.. Positioner is intended for attachment to pneumatic control valves and serves for converting control signals of 0.2 to 1 bar from a control device into a pneumatic signal pressure of 6 bar max. for pneumatic auxiliary power non-combustible media are used.

The inductive limit switches, position indicator and solenoid valves 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.

Electrical data

Models 3766 - 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 respectively only for connection to a certified intrinsically safe circuit		
Maximum values	U_i =	16 V	
	I_i =	52 mA	
	P_i =	169 W	
	C_i =	30 nF, L_i =	100 µH
	or		
	U_i =	16 V	
	I_i =	25 mA	
	P_i =	64 W	
	C_i =	30 nF, L_i =	100 µH

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
T6	-45 °C ... 45 °C	
T5	-45 °C ... 60 °C	52 mA or
T4	-45 °C ... 75 °C	

Temperature class	Permissible ambient temperature range	Maximum short-circuit current
T6	-45 °C ... 60 °C	
T5	-45 °C ... 80 °C	25 mA
T4	-45 °C ... 80 °C	

Model 3766-16 with Position Indicator

Signal Circuit (terminals 31/32) Type of protection: Intrinsic safety EEx ia IIC

Maximum values: U_i = 28 V
I_i = 115 mA
P_i = 1 W

C_i = 5.3 nF, L_i = negligible

Model 3766-1.2/ ..-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	**U_N**	**6V**	**12 V**	**24 V**
Temperature class	**T6**	60 °C		
	T5	-45 °C ≤ **T_a** ≤ 70 °C		
	T4	80 °C		
Characteristic linear or rectangular	**P_i**	*	**	

C_i negligible, L_i 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:

U_i	25 V	27 V	28 V	30 V	32 V
I_i	150 mA	125 mA	115 mA	100 mA	85 mA
P_i	**no limitation**				

C_i negligible; L_i negligible

(16) **Test report** PTB Ex 01-21198

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

None

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

In compliance with the standards specified above.

Zertifizierungsstelle Explosionsschutz Braunschweig, 26 November 2001
By order

(Signature) (seal)

Dr. Ing. U. Johannsmeyer
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