



## (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 01 ATEX 2191**

(4) Equipment: Inductive proximity switch, type series NE\*\*\*\*, NF\*\*\*\*,  
NG\*\*\*\*, NI\*\*\*\*, NN\*\*\*\*, NT\*\*\*\* and NS\*\*\*\*

(5) Manufacturer: ifm electronic gmbh

(6) Address: 45127 Essen, Germany

(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 01-21257.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 50014:1997 + A1 + A2    EN 50020:1994    EN 50284:1999    EN 1127-1:1997**

(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.

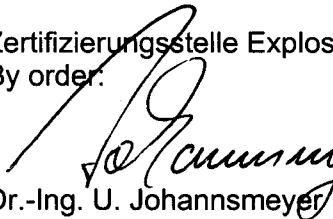
(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

 **II 1 G    EEx ia IIC T6**

Zertifizierungsstelle Explosionsschutz  
By order:

Braunschweig, February 5, 2002

  
Dr.-Ing. U. Johannsmeyer  
Regierungsdirektor



(13)

## SCHEDULE

(14)

### EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 2191

(15) Description of equipment

The inductive proximity switches of type series NE\*\*\*\*, NF\*\*\*\*, NG\*\*\*\*, NI\*\*\*\*, NN\*\*\*\*, NT\*\*\*\* and NS\*\*\*\* are designed for use in potentially explosive atmospheres.

The relationship between maximum permissible ambient temperature, temperature class, and equipment category for all type series of the inductive proximity switches certified under this certificate is shown in the table below.

Equipment category	Temperature class	Maximum permissible ambient temperature
II 1 G	T6	55 °C
II 1 G	T5	65 °C
II 2 G	T6	70 °C
II 2 G	T5	80 °C

For assignment of the different type series to groups for use in specific categories, reference is made to the table below.

Type series	Equipment category	Permissible groups
NT****, NE****, NF****	II 1 G	IIC / IIB
NT****, NE****, NF****	II 2 G	IIC / IIB
NG****, NI****, NN****, NS****	II 1 G	IIB
NG****, NI****, NN****, NS****	II 2 G	IIC / IIB

#### Electrical data

##### Supply and signal

circuit..... type of protection Intrinsic Safety EEx ia IIC or EEx ia IIB  
for connection to certified intrinsically safe circuits only

Maximum values:

$U_i = 15 \text{ V}$

$I_i = 50 \text{ mA}$

$P_i = 120 \text{ mW}$

For the effective internal inductance and capacitance of the different types with open-ended lines, 2 m long, reference is made to the table below.

Type	C <sub>i</sub>	L <sub>i</sub>
NT5001	80 nF	70 µH
NE5001	80 nF	70 µH
NF5001	140 nF	340 µH
NF5002	140 nF	340 µH
NF5003	140 nF	130 µH
NF5004	140 nF	130 µH
NG5001	145 nF	45 µH
NG5002	145 nF	45 µH
NG5003	155 nF	50 µH
NG5004	155 nF	50 µH
NI5001	145 nF	140 µH
NI5002	145 nF	140 µH
NI5003	145 nF	110 µH
NI5004	145 nF	110 µH
NN5001	110 nF	135 µH
NN5002	110 nF	135 µH
NS5002	80 nF	110 µH

(16) Test report PTB Ex 01-21257

(17) Special conditions for safe use

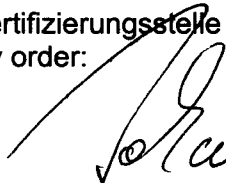
None

(18) Essential health and safety requirements

Covered by the above standards.

Zertifizierungsstelle Explosionsschutz

By order:



Dr.-Ing. U. Johannsmeyer  
Regierungsdirektor



Braunschweig, February 5, 2002