



Translation

EC-TYPE EXAMINATION CERTIFICATE

- (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



TÜV 96 ATEX 1098

- (4) Equipment: Flow controller type MS-96-...Ex... resp. MS96-...Ex0...
- (5) Manufacturer: Hans Turck GmbH & Co KG
- (6) Address: Witzlebenstr. 7, D-45472 Mülheim an der Ruhr
- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system 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 N° 44/96/2006.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 50 014:1977 +A1...A5 1.87** **EN 50 020:1977 +A1...A5 4.92**
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system must include the following:

II 1 G [EEx ia] IIC bzw.
II 2 G [EEx ib] IIC

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TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Head of the
Certification Body



Hanover, 2004-11-18

TÜV NORD CERT GmbH & Co. KG
legal successor of the notified body
of TÜV Hannover/Sachsen-Anhalt e.V.

German original certificate
issued on 1996-07-16

This certificate may only be reproduced without any change, schedule included.
Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH & Co. KG

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SCHEDULE

(13)

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 96 ATEX 1098**

(15) Description of equipment

The flow controller type MS-96-...Ex... resp. MS96-...Ex0 is used for the transmission of electrical signals from the control circuit to the relay circuit.
The flow controller must be erected outside of the hazardous explosive atmosphere.
The maximum permissible ambient temperature is 60°C. It is allowed to lead the control circuit in dependence on the type in the zone 0 resp. 1.
The relations have to be taken from the following table:

Type	Marking	Control circuit permissible for zone
MS 96... Ex...	[EEx ib] IIC	1
MS 96... Ex0...	[EEx ia] IIC	0

Electrical data

Mains circuit 110 V a.c., 220 V a.c.; 48 ... 62 Hz; about 2,2 VA
or according to the mains transformer
20 ... 28 V d.c.; about 2.3 W

Control circuit in type of protection "Intrinsic Safety" EEx ia IIC with the following maximum values

	U ₀	I ₀	C ₀	L ₀
EEx ib IIC	12,6 V	200 mA	1,2 µF	0,5 mH
EEx ia IIC	12,6 V	200 mA	170 nF	0,5 mH

R_i = 68,5 Ω
Characteristic line: trapezoidal

Contact circuit	Maximum values	
	Alternating current (a.c.)	Direct current (d.c.)
Voltage	250 V	60 V
Current	4 A	0,5 A
cos phi	≥ 0,7	
L/R		≤ 50 ms

The control circuit is safely galvanically separated from all other circuits up to a peak value of the nominal voltage of 375 V.

- (16) Test documents consisting of 6 sheets inclusively of 4 drawings are listed in the test report.
- (17) Special conditions for safe use
none
- (18) Essential Health and Safety Requirements
no additional ones

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1. SUPPLEMENT to

EC-TYPE EXAMINATION CERTIFICATE No. TÜV 96 ATEX 1098

of the company: Hans Turck GmbH & Co KG
Witzlebenstr. 7
D-45472 Mülheim an der Ruhr

In the future, the evaluation devices types MS-96-...Ex... resp. MS96-...Ex0... may also be manufactured according to the test documents listed in the test report. The amendments concern the internal design, partly the electrical data and the marking.

The marking per type will be read as follows : MS 96... Ex... Ex II (2) G D [EEx ib] IIC
MS96-...Ex0... Ex II (1) G D [EEx ia] IIC

Electrical data

Contact circuit

	Alternating voltage	Direct voltage		
$U \leq$	250 V	250 V	60 V	24 V
$I \leq$	4 A	0,3 A	0,8 A	2 A
$\cos \varphi$	$\geq 0,7$			
L/R	-----	$\leq 200 \text{ ms}$		

Control circuit

In type of protection Intrinsic Safety EEx ia IIC/IIB/IIA
resp. EEx ib IIC/IIB/IIA

maximum values: $U_o = 12,6 \text{ V}$
 $I_o = 200 \text{ mA}$
 $P_o = 685 \text{ mW}$

characteristic line: trapezoidal
 $R_i = 68,5 \Omega$

The maximum permissible values pairs of the outer reactances have to be taken from the table:

EEx ia/ib	IIC	IIB	IIA
C_o	1,2 μF	7,4 μF	27 μF
L_o	0,5 mH	4,7 mH	10 mH

The before stated maximum values for the outer reactances apply only for the case that the simultaneous occurrence of L_o and C_o have not to be considered. In case of the simultaneous occurrence of capacitance and inductance in concentrated form, the maximum permissible values have to be taken from the following table:

EEx ia/ib	IIC	IIB	IIA
C_o	360 nF	1300 nF	3000 nF
L_o	1 mH	4,7 mH	10 mH

1. Supplement to EC-Type Examination Certificate No. TÜV 96 ATEX 1098

All further data apply unchanged for this amendment.

The test documents are listed in the test report N° 04 YEX 551754.

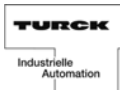
TÜV NORD CERT GmbH & Co. KG
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Tel.: 0511 986-1470
Fax: 0511 986-2555

Hanover, 2005-02-17

Head of the *Stewil*
Certification Body

Konformitätserklärung Nr. 4066 M

Declaration of Conformity



Diese Konformitätserklärung entspricht der Europäischen Norm EN 45014 "Allgemeine Kriterien für Konformitätserklärungen von Anbietern". Die Grundlage der Kriterien sind internationale Dokumente, insbesondere ISO/IEC Leitfaden 22, 1982: "Information on manufacturer's declaration of conformity with standards or other technical specifications".

This "Declaration of Conformity" complies with the European Standard EN 45014 "General criteria for a supplier's declaration of conformity". These criteria are based on the relevant international documentation, particularly the ISO/IEC Guide 22, 1982: "Information on the manufacturer's declaration of conformity with standards or other technical specifications".

Wir/ We **HANS TURCK GMBH & CO KG**
WITZLEBENSTR. 7, D - 45472 MÜLHEIM A.D. RUHR

erklären in alleiniger Verantwortung, dass die Produkte
declare under our sole responsibility that the products

Auswertegerät Typ MS96-..Ex...

auf die sich die Erklärung bezieht, mit den folgenden Normen übereinstimmen
to which this declaration relates are in conformity with the following standards

EN 61000-6-2:2005

und wo anwendbar
and where applicable

EN 60079-0:2009 EN 60079-11:2007

Gemäß den Bestimmungen der Richtlinie (falls zutreffend)
Following the provisions of Directive (if applicable)

EMV - Richtlinie	/ EMC Directive	2004 / 108 / EG	15. Dez. 2004
Richtlinie ATEX 100a	/ Directive ATEX 100a	94 / 9 / EG	23. März 1994

Weitere Normen, Bemerkungen
additional standards, remarks

Das Produkt stimmt mit den Anforderungen der Richtlinie 94/9/EG überein. Eine oder mehrere in der zugehörigen EG-Baumusterprüfbescheinigung TÜV 96 ATEX 1098 genannten Normen wurden bereits durch neue Ausgaben ersetzt. Der Hersteller erklärt für das Produkt auch die Übereinstimmung mit den neuen Normenausgaben, da die veränderten Anforderungen der neuen Normenausgaben für dieses Produkt nicht relevant sind.

The product complies with the directive 94/9/EG. One or more standards mentioned in the respective EC type examination certificate TÜV 96 ATEX 1098 were already replaced by new ones. The manufacturer declares that the product complies with the new valid standards, as the changed requirements mentioned there are not relevant for the product.

Aussteller der EG-Baumusterbescheinigung:

TÜV Hannover / Sachsen-Anhalt e.V.

Am TÜV 1, D-30519 Hannover

Kenn-Nr. 0044, Registriernummer: TÜV 96 ATEX 1098 Kennzeichnung  II 2 (1) G

Mülheim, den 31.05.2011

(i.V. W. Stoll)

Ort und Datum der Ausstellung /
Place and date of issue

Name und Unterschrift des Befugten /
Name and signature of authorized person