

[1] **EC-TYPE EXAMINATION CERTIFICATE**

according to Directive 94/9/EC, Annex III
(Translation)



[2] Equipment and Protective Systems intended for use
in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **IBExU07ATEX1132**

[4] Equipment: Rotation Speed Monitor
type IM21-**Ex-*****

[5] Manufacturer: Hans Turck GmbH & Co. KG

[6] Address: Witzlebenstraße 7
45472 Mülheim an der Ruhr
GERMANY

[7] The equipment mentioned under [4] and any acceptable variation there to are specified in the
schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with
article 9 of the Council Directive 94/9/EC of 23rd March 1994, certifies that the under [4] mentioned
equipment has been found to comply with the Essential Health and Safety Requirements relating to
the design and construction of the equipment intended for use in potentially explosive atmospheres
given in Annex II to the Directive.
The examination and test results are recorded in test report IB-07-3-273 of 01st October 2007.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance
with EN 60079-0:2004, EN 60079-11:2007, EN 61241-0:2006 and EN 61241-11:2006.

[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 under [17] in the schedule to this EC-Type Examination
Certificate.

[11] 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 mentioned under [4] shall include the following:

Ex II (1) GD [Ex ia] IIC/IIB

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7 - 09599 Freiberg, Germany
☎ +49 (0) 3731 3805-0 - 📠 +49 (0) 3731 23650

Authorised for certifications
- Explosion protection -

By order

(Dr. Lösch)



- Seal-
(ID no. 0637)

Freiberg, 5th October 2007

Certificates without signature and
seal are not valid.
Certificates may only be duplicated
completely and unchanged.
In case of dispute, the German text
shall prevail.

Schedule

[13] **Schedule**

[14] **to EC-TYPE EXAMINATION CERTIFICATE IBExU07ATEX1132**

[15] **Description of the equipment**

The Rotation Speed Monitor IM21-**Ex-***** is used for the galvanically isolated monitoring and
evaluation of frequencies, revolutions and impulse sequences. The equipment can supply into ar-
eas which require Category 1 G or 1D-operating supplies. The amplifiers are single- or double-
channel types.

Type code:
IM21- 1 4 Ex-C D T R i
a b c d e f g h i

- a Type designation for Rotation Speed Monitor (IM21)
- b Number of the channels (1 or 2)
- c Number of the outputs (1 to 4)
- d Equipment with Ex-approval (Ex)
- e PC-connection (C)
- f Digital display (D)
- g Transistor outputs (T)
- h Relay outputs (R)
- i Sort of the analogous output (i or u for current or voltage
output)

Ambient temperature range: -25 °C to +70 °C
Degree of protection of the enclosure: ≥ IP 20

Electrical data
Supply current circuit

Rated voltage: U_B 20 ... 250 V AC or
20 ... 125 V DC

max. effective value of alternating voltage
or max. direct voltage: U_m 250 V AC / 125 V DC

Sensor current circuit in type of protection Intrinsic safety Ex ia IIC/IIB

(Terminal 1; 2, 6; 7 or 9;10)

U_o	9.6 V
I_o	10.7 mA
P_o	25 mW
L_i	negligible
C_i	negligible

Linear characteristic: $R_i = 900 \Omega$

The following connection values can be indicated for together available concentrated outer capaci-
ties and inductivities:

	Ex ia IIC				Ex ia IIB			
C_o	510 nF	840 nF	1.2 μ F	3.6 μ F	2.7 μ F	4.4 μ F	6.3 μ F	26 μ F
L_o	100 mH	5 mH	1 mH	10 μ H	100 mH	5 mH	1 mH	10 μ H

Digital output (passive)

in type of protection Intrinsic safety Ex ia IIC/IIB

(Terminal: 6;7)

U_i	20 V
I_i	21,3 mA
P_i	400 mW

The intrinsically safe circuits are galvanically connected with one another, but to the non-intrinsically safe circuits up to a peak value of the nominal voltage of 375 V they are galvanically separated for certain.

[16] **Test report**

The test results are recorded in the test report IB-07-3-273. The test documents are part of the test report and listed there.

Summary of the test results:

The Rotation Speed Monitor IM21-**Ex-**** fulfils the requirements of explosion protection on an associated apparatus for the Equipment Group II and Category 1G respectively 1D in type of protection Intrinsic safety for gases of the Explosion Group IIC/IIB and dusts.

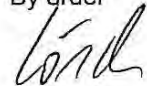
[17] **Special conditions**

none

[18] **Essential health and safety requirements**

Confirmed by compliance of standards (see [9]).

By order



(Dr. Lösch)

Freiberg, 5th October 2007



Konformitätserklärung Nr. 4123M
Declaration of Conformity

Diese Konformitätserklärung entspricht der Europäischen Norm EN ISO/IEC 17050-1:2010 "Allgemeine Kriterien für Konformitätserklärungen von Anbietern".

This "Declaration of Conformity" complies with the European Standard EN ISO/IEC 17050-1:2010 "General criteria for a supplier's declaration of conformity".

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

Drehzahlwächter Typ IM21 - **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 60947-5-6:2000

EN 61326-1:2006

bei ATEX Richtlinie

in case of ATEX Directive

EN 60079-0:2009 EN 60079-11:2007 EN 61241-11:2006 EN 60079-15:2005

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 IBExU 07 ATEX 1132 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 norms mentioned in the respective EC type examination certificate IBExU 07 ATEX 1132 were already replaced by new ones. The manufacturer declares that the product complies with the new valid norms, as the changed requirements mentioned there are not relevant for the product.

Aussteller der EG- Baumusterprüfbescheinigung:


IBExU Institut für Sicherheit GmbH

Fuchsmühlenweg 7, 09599 Freiberg, Germany

Kenn-Nr. 0637, Registriernummer: IBExU 07 ATEX 1132

Kennzeichnung  II (1) GD

IBExU 07 ATEX B010 X

Kennzeichnung  II 3 G

Mülheim, den 20.10.2012



(i.V. W. Bibernell)

Ort und Datum der Ausstellung /
Place and date of issue

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