



[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: **IBExU10ATEX1172 X**

[4] Equipment: **Encoder**
Type AX65

[5] Manufacturer: Hengstler GmbH

[6] Address: Uhlandstraße 49
78554 Aldingen
GERMANY

[7] The design of the equipment mentioned under [4] and any acceptable variations thereto 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 Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that the equipment mentioned under [4] has been found to comply with the Essential Health and Safety Requirements (given in Annex II to the Directive) relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive. The test results are recorded in the test report IB-10-3-099 of 03 August 2011.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2009, EN 60079-1:2007 and EN 60079-31:2010.

[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:

I M2 Ex db I
-20 °C ≤ T_a ≤ 60 °C

II 2G Ex db IIC T4
-40 °C ≤ T_a ≤ 60 °C

II 2D Ex tb IIIC T135 °C
-20 °C ≤ T_a ≤ 60 °C

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. Wagner)



- Seal -
(ID no. 0637)

Freiberg, 03 August 2011

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 the EC-TYPE EXAMINATION CERTIFICATE IBExU10ATEX1172 X**

[15] **Description of equipment**

The Encoder type AX65 serves to the collecting of rotation by a magnetic sensor system. It consists of a flameproof enclosure made of stainless steel with direct cable entry.

Technical data:

- Nominal voltage: 10 up to 30 V DC
- max. power input: 2 W
- max. speed: 3000 min⁻¹
- Ambient temperature range: -40 °C up to +60 °C (II 2G)
-20 °C up to +60 °C (II 2D, I M2)
- Yield stress of the locking screws: 200 N/mm²
- Degree of protection according to EN 60529: IP 66/67

[16] **Test report**

The test results are recorded in the test report IB-10-3-099 of 03 August 2011. The test documents are listed in the annex to the test report.

Summary:

The Encoder type AX65 fulfils the requirements of explosion protection for equipment of Group I, Category M2 and Group II, Category 2G, type of protection flameproof enclosure „d“ as well as Group II, Category 2D, type of protection protection by enclosure “tb“.

[17] **Special conditions for safe use**

- Repairs of the flameproof joints must be made in compliance with the constructive specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 1 and 2 of EN 60079-1.
- The cable entry has to be selected corresponding to the equipment category. At a marking with “X” the special conditions (i. e. use only with additional clamping) have to be noticed.
- The max. service temperature for the flameproof cable entry and the connecting cable have to be noticed in accordance with the max. speed and ambient temperature (see operating instruction). At use in the reduced temperature range of < -20 °C up to -40 °C the cable entry and the connecting cable must be suitable for the appropriate operating temperature.
- Unneeded openings for cable entries have to be closed durably with suitable screw plugs, which are confirmed for explosion protection according to EN 60079-1, 11.9.

[18] **Essential Health and Safety Requirements**

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

By order

Freiberg, 03 August 2011



(Dr. Wagner)



[1] **1st Addition to
EC-TYPE EXAMINATION CERTIFICATE IBExU10ATEX1172 X**
according to Directive 94/9/EC, Annex III
(Translation)

[2] Equipment: **Encoder type AX65**

[3] Manufacturer: **Hengstler GmbH**

[4] Address: **Uhlandstraße 49
78554 Aldingen
GERMANY**

[5] **Additions/Modifications**

The operating temperature range of the Encoder type AX65 mentioned under [2] is extended to -40 °C also for I M2 and II 2D.

[6] **Test report**

The proof of explosion protection of the Additions/Modifications mentioned under [5] is recorded in the test report IB-11-3-237 of 25 June 2012. The test documents are part of the test report and listed there.

[7] **Test result**

IBExU certifies that the equipment mentioned under [2] fulfils the Essential Health and Safety Requirements given in Annex II to the Directive 94/9/EC by compliance with EN 60079-0:2009, EN 60079-1:2007 and EN 60079-31:2009.

The Encoder type AX65 fulfils the requirements of explosion protection for equipment of Group I, Category M2 and Group II, Category 2G, type of protection flameproof enclosure „d“ as well as Group II, Category 2D, type of protection protection by enclosure “tb”.

The marking of the equipment mentioned under [2] shall include the following:

I M2 Ex db I
-40 °C ≤ T_a ≤ +60 °C

II 2G Ex db IIC T4
-40 °C ≤ T_a ≤ +60 °C

II 2D Ex tb IIIC T135 °C
-40 °C ≤ T_a ≤ +60 °C

[8] **Special conditions**

The special conditions contained in the schedule to the EC-Type Examination Certificate IBExU10ATEX1172 X keep their validity.

This Addition is only valid in combination with the EC-Type Examination Certificate IBExU10ATEX1172 X of 03 August 2011.

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. Wagner)



- Seal -
(ID no. 0637)

Freiberg, 25 June 2012

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.

[1] **2nd Addition to
EC-TYPE EXAMINATION CERTIFICATE IBExU10ATEX1172 X**
according to Directive 94/9/EC, Annex III
(Translation)



[2] Equipment: **Encoder type AX65**

[3] Manufacturer: **Hengstler GmbH**

[4] Address: **Uhlandstraße 49
78554 Aldingen
GERMANY**

[5] **Additions/Modifications**

The following modifications are made on the Encoder mentioned under [2]:

- Transition to the current standards
- optimization of component tolerances and other minimal constructive modifications

All technical data remain unchanged.

[6] **Test report**




The proof of explosion protection of the additions mentioned under [5] is recorded in the test report IB-15-3-044 of 02 February 2016. The test documents are part of the test report and listed there.

[7] **Test result**

IBExU certifies that the equipment mentioned under [2] fulfils the Essential Health and Safety Requirements given in Annex II to the Directive 94/9/EC by compliance with EN 60079-0:2012+A11:2013, EN 60079-1:2014 and EN 60079-31:2014.

The Encoder type AX65 fulfils the requirements of explosion protection for Equipment Group I, Category M2 and Equipment Group II, Category 2G, type of protection flameproof enclosure „db“ as well as for Equipment Group II, Category 2D, type of protection dust ignition protection by enclosure “tb”.

The marking of the equipment mentioned under [2] shall include the following:

 I M2 Ex db I -40 °C ≤ T_a ≤ 60 °C	 II 2G Ex db IIC T4 -40 °C ≤ T_a ≤ 60 °C	 II 2D Ex tb IIIC T135 °C -40 °C ≤ T_a ≤ 60 °C
--	--	--

[8] **Special conditions**

The specifications and special conditions contained in the EC-Type Examination Certificate IBExU10ATEX1172 X including annex and Addition keep their validity.

This Addition is only valid in combination with the EC-Type Examination Certificate IBExU10ATEX1172 X of 03 August 2011 with 1st Addition.

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

(Dipl.-Ing. (FH) Henker)



Freiberg, 02 February 2016

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.