



(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 00 ATEX 1107**



(4) Equipment:                               Synchro-transmitter RX70T.....  
  Synchro-transmitter RX71T.....

(5) Manufacturer:                           Hengstler GmbH

(6) Address:                                 Umlandstrasse 49; 78554 Aldingen, 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 01-10090.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 50014:1997+A1+A2                   EN 50018:1994**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

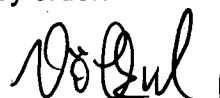
(12) The marking of the equipment shall include the following:

 **II 2 G   EEx d IIC T4 or T6**

Zertifizierungsstelle Explosionsschutz

Braunschweig, July 24, 2001

By order:

  
Dipl.-Phys. U. Völkel



(13)

## SCHEDULE

(14)

### EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1107

(15) Description of equipment

The synchro-transmitter consists of a tubular enclosure, which is optionally made from an aluminium alloy or stainless steel. A tapped hole provided in one of the enclosure end faces serves as a cable entry. At the other end, the flameproof enclosure is closed by a screwed flange, made from stainless steel or aluminium. The cable entry may be provided in either a radial or an axial direction. The flange is used to make sure that during operation the synchro-transmitter is fixed in such a way that the shaft end cannot be damaged mechanically. The shaft is supported in twin deep-groove ball bearings.

The enclosure accommodates the shaft-mounted bar code face with the required electronics system; multiturn synchro-transmitters are additionally provided with gears.

#### Technical data

Max. admissible speed	Adm. ambient temperature range	Temperature class	Minimum temperature resistance of the cable and the cable entry
6,000 rpm	-20°C...60 °C	T6	-20°C...85 °C
10,000 rpm	-20°C...60 °C	T4	-20°C...85 °C
10,000 rpm	-20°C...50 °C	T6	-20°C...75 °C

Supply voltage	Current input	Power loss in case of failure
5 V	max. 600 mA	max. 3 W
10...30V	max. 300 mA	max. 3 W

The technical data shown here are maximum values, which may differ for the version used from case to case.

(16) Test report PTB Ex 01-10090

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

Complied with by compliance with the Standards stated on the cover sheet.

Zertifizierungsstelle Explosionsschutz

By order:



Dipl.-Phys. U. Völker



Braunschweig, July 24, 2001

## 1st SUPPLEMENT

according to Directive 94/9/EC Annex III.6

### to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1107

(Translation)

Equipment: synchro-transmitter RX70T.....  
synchro-transmitter RX71T.....

Marking: II 2 G EEX d IIC T4 or T6

Manufacturer: Hengstler GmbH

Address: Uhlandstrasse 49  
78554 Aldingen; Germany

#### Description of supplements and modifications

The synchro-transmitter of the multiturn-type may optionally have its shaft provided with an additional memory collar. In addition, the maximum admissible power loss is increased to 5 W.

#### Technical data

Max. admissible speed	Adm. ambient temperature range	Temperature class	Minimum temperature resistance of the cable and the cable entry
10,000 rpm	-20 °C...60 °C	T4	-20 °C...100 °C

Supply voltage	Current input	Power loss in case of a failure
5 V	max. 1000 mA	max. 5 W
10...30V	max. 500 mA	max. 5 W

The technical data shown here are maximum values and may vary subject to the version used. All other technical data remain unchanged.

Test report: PTB Ex 02-12126

Zertifizierungsstelle Explosionsschutz

Braunschweig, May 30, 2002

By order:

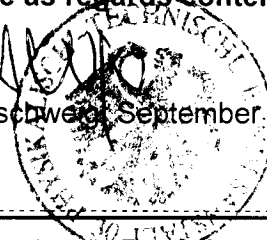
(signature)

Dr.-Ing. U. Klausmeyer  
Regierungsdirektor

**3 pages, correct and complete as regards content.**

By order:

Dr.-Ing. U. Klausmeyer Braunschweig, September 10, 2004  
Regierungsdirektor



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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

## 2nd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1107

(Translation)

Equipment: synchro-transmitter RX70T.....  
synchro-transmitter RX71T.....

Marking:  II 2 G EEX d IIC T4 or T6

Manufacturer: Hengstler GmbH

Address: Uhlandstrasse 49  
78554 Aldingen; Germany

### Description of supplements and modifications

The synchro-transmitter of the singleturn- or incremental type, may optionally have its shaft provided with an additional memory collar. In addition, the maximum admissible power loss is increased to 5 W.

### Technical data

Max. admissible speed	Adm. ambient temperature range	Temperature class	Minimum temperature resistance of the cable and the cable entry
10.000 rpm	-20 °C...60 °C	T4	-20 °C...100 °C

Supply voltage	Current input	Power loss in case of a failure
5 V	max. 1000 mA	max. 5 W
10...30V	max. 500 mA	max. 5 W

The technical data shown here are maximum values and may vary subject to the version used. All other technical data remain unchanged.

Test report: PTB Ex 02-12294

Zertifizierungsstelle Explosionsschutz

Braunschweig, October 14, 2002

By order:

*(gez. Klausmeyer)*

Dr.-Ing. U. Klausmeyer  
Regierungsdirektor

## 3rd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1107

(Translation)

Equipment: synchro-transmitter AX70.... , synchro-transmitter RX70T....  
synchro-transmitter AX71.... , synchro-transmitter RX71T....

Marking:  II 2 G/D EEx d IIC T4 or T6 IP 65 / IP 66 135 °C or 85 °C

Manufacturer: Hengstler GmbH

Address: Uhlandstraße 49, 78554 Aldingen, Germany

### Description of supplements and modifications

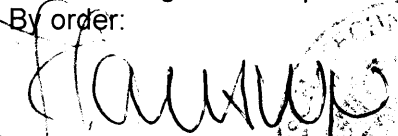
The product line is extended to additionally include synchro-transmitter types AX70.... and AX71.... . With the new types, the total length of the units is shorter, and the flanges include some minor modifications. Because of the changed design of the flanges, a separate spacer ring can be dispensed with.

The approval is extended and includes the range D "dust explosion protection".

Test report: PTB Ex 04-13300

Zertifizierungsstelle Explosionsschutz

By order:

  
Dr.-Ing. U. Klausmeyer  
Regierungsdirektor



Braunschweig, September 10, 2004

**4th SUPPLEMENT**  
according to Directive 94/9/EC Annex III.6  
**to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1107**  
**(Translation)**

Equipment: Rotary transducer, type AX70.... , Rotary transducer, type RX70T....  
Rotary transducer, type AX71.... , Rotary transducer, type RX71T....

Marking:  II 2 G/D EEx d IIC T4 or T6

 IP 65 / IP 66 135 °C or 85 °C

Manufacturer: Hengstler GmbH

Address: Uhlandstraße 49,  
78554 Aldingen, Germany

Description of supplements and modifications

The range of ambient temperatures is extended. The units may also be employed at ambient temperatures down to -40 °C.

Applied standards

EN 50014:1997 + A1 + A2

EN 50018:2000 + A1

EN 50281-1-1:1998

Test report: PTB Ex 05-15117

Zertifizierungsstelle Explosionsschutz

Braunschweig, June 2, 2005

By order:

  
Dr. M. Thedens

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