



[1] **EC-TYPE EXAMINATION CERTIFICATE**
(Translation)

- [2] Equipment and Protective System intended for use in Potentially explosive atmospheres, Directive 94/9/EC
- [3] EC-Type Examination Certificate Number: **IBExU02ATEX1126**
- [4] Equipment or Protective System: Limit Monitor EEx
Type 07-31A-...../.... up to 07-31E-...../....
- [5] Manufacturer: BARTEC Componenten und Systeme GmbH
- [6] Address: Max-Eyth-Straße 16
D-97980 Bad Mergentheim
- [7] This equipment or protective system and any acceptable variation 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 Council Directive 94/9/EC of 23 March 1994, 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 or protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential test report IB-02-3-567 of 15.11.2002 .
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 50014:1997/A1/A2 and EN 50019:2000 in association with EN 50018:2000, EN 50028:1987, EN 50020:1994 and with EN 50281-1-1:1998/A1.
- [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 or protective system. If applicable, further requirements of this directive apply to the manufacture and supply of this equipment or protective system.
- [12] The marking of the equipment or protective system shall include the following:

II 2 G EEx edmi IIC T5 resp. T6 II 2 D IP 65 T 80 °C resp. 95 °C

The combination of the symbols of type of protection conforms to the type of protection of the used components.

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Tel.: 00493731 3805-0 - Fax: 00493731 23650

Authorised for certifications Explosion protection

By order

(Dr. Lösch)



- Seal -
(ID no. 0637)

Freiberg, 15.11.2002

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 IBExU02ATEX1126**

[15] **Description of equipment or protective system**

The Limit Monitor EEx converts mechanical positions of a spindle into electrical signals. It consists of an enclosure in type of protection increased safety or, for the intrinsically safe version, in industry quality. In the enclosure are build-in transmitters like switches or initiators and other components.

Technical data:

Nominal voltage:	up to 750 V ¹⁾
Nominal frequency:	AC 50 Hz / 60 Hz or DC ¹⁾
Nominal current:	up to 7 A ¹⁾
Ambient temperature range:	-20 °C up to +40 °C
Expanded:	-55 °C up to +70 °C
Degree of protection according to EN 60529:	min. IP 65

¹⁾ depending on used components

The values are maximum values. The actual electrical values depend on the electrical equipment incorporated. The manufacturer fixes in the context of these rated values the definite nominal values. He guarantees so the retention of the maximum surface temperature and of the permitted operating temperature of the components.

The real ambient temperature range conforms to the allowable temperature range of the used components.

Test documents

- 1 "Beschreibung" (7 Pages) of 02.07.2002, signed on 09.08.2002
- 2 Drawing no. 01-31A1-6501 of 08.08.2002, signed on 09.08.2002
- 3 Parts list no. 31-31A1-6501St of 02.07.2002, last change of 02.11.2002, signed on 04.11.2002

[16] **Test report**

The examination and test results are recorded in confidential test report IB-02-3-567 of 15.11.2002.

Summary:

The Limit Monitor EEx type 07-31A-..../.... up to 07-31E-..../.... fulfil the requirements of explosion protection for equipment group II and equipment category 2 G and 2 D.

Safety instructions

- The required degree of protection at least IP 54 or IP 6X during construction and operation is reached only at proper use of cable entries, which are checked and confirmed at explosion protection. Not needed openings for cable entries have to be sealed up by suitable screw plugs, which are checked and confirmed at explosion protection.

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

None

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

Confirmed by norms (see [9]).

By order



(Dr. Lössch)

Freiberg, 15.11.2002

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

- [1] **1st Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1126
(Translation)



- [2] Equipment: Limit Monitor EEx
Type 07-31A^{-****/****} up to 07-31E^{-****/****}
- [3] Manufacturer: BARTEC GmbH,
formerly BARTEC Komponenten und Systeme GmbH
- [4] Address: Max-Eyth-Straße 16
D-97980 Bad Mergentheim

[5] **Additions/ Modifications**

A sealing ring material was added for the operating temperature range of -55 °C up to +100 °C.

The temperature class T4 may be used exclusively at the installation of appropriate certified intrinsically safe circuits. The marking is changed appropriately.

[6] **Test result**

The proof of explosion protection of the modification/addition of the Limit Monitor EEx is given in the test report IB-03-3-699 of 16 December 2003. The test documents are component of the test report and they are listed there.

The Limit Monitors EEx type 07-31A^{-****/****} up to 07-31E^{-****/****} fulfil the requirements of explosion protection for equipment group II and equipment category 2G and 2D also furthermore.

The specifications contained in the EC-Type Examination Certificate IBExU02ATEX1126, including schedule, have to be noticed.

- [7] The Marking of the Limit Monitor with intrinsically safe components changes as follows:

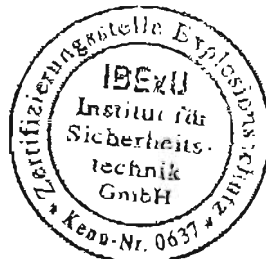
Ex II 2G EEx e d m Ia resp. Ib IIC T6, T5 resp. T4

The combination of the symbols of type of protection complies with the type of protection of the used components.

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(Dr. Lösch)



- Seal-
(ID no. 0637)

Freiberg, 16 December 2003

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[1] **2nd Addition to
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1126
(Translation)**

- [2] Equipment: Limit Monitor EEx
Type 07-31A^{-****/****} up to 07-31E^{-****/****}
- [3] Manufacturer: BARTEC GmbH
- [4] Address: Max-Eyth-Straße 16
D-97980 Bad Mergentheim

[5] **Additions**

The Limit Monitor EEx type 07-31A^{-****/****} up to 07-31E^{-****/****} is added with the type 07-31M^{-****/****}. This type consists of an aluminium enclosure in type of protection Increased safety "e", in this are built in terminals and switches. The openings of the enclosure wall are equipped either with cable entries or with cable entry and plug. The built in and built on components are certified separately. The Limit Monitor EEx type 07-31M^{-****/****} can used also in areas in which explosive atmospheres caused by air/dust mixtures are likely to occur.

Technical data:

Rated voltage up to	400 V	
Rated operating voltage	250 V	250 V
Rated operating current	4 A	0.15 A
Utilisation category	AC-15	DC-13
Thermal rated current	6 A	
Ambient temperature range (according to the used sealing rings and built on components)	-30 °C up to +60 °C or -55 °C up to +60 °C	
Degree of protection according to EN 60529	IP 65	

[6] **Test result**

The proof of explosion protection for the appended type 07-31M^{-****/****} is given in the test report IB-03-3-699 of 16 December 2003. The test documents are component of the test report and they are listed there.

The Limit Monitor EEx type 07-31M^{-****/****} fulfills the requirements of explosion protection for equipment group II and equipment category 2G and 2D.

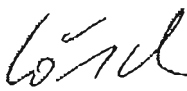
The specifications contained in the EC-Type Examination Certificate IBExU02ATEX1126, including schedule, have to be noticed.

[7] The Marking of the Limit Monitors EEx type 07-31M^{-****/****} is:

⊕ II 2 G EEx ed IIC T6 ⊕ II 2 D IP 65 T 80 °C
T_a -30 °C up to +60 °C or T_a -55 °C up to +60 °C

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Freiberg, 16 December 2003

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cated completely and un-
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[1] **3rd Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1126
(Translation)

[2] Equipment: Limit monitor EEx
Type 07-31A*-****/**** to 07-31E*-****/**** and 07-31M*-****/****

[3] Manufacturer: BARTEC GmbH

[4] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

[5] **Addition**

The Limit monitor EEx Type 07-31D*-****/**** can be used in an ambient temperature range from -55 °C to +60 °C in dependence on the used seal.

[6] **Test result**

The proof of explosion protection of the Addition at the Limit monitor EEx is recorded in the test report IB-04-3-359 of 21 January 2005. The test documents are part of the test report and listed there.

Summary

The Limit monitors EEx Type 07-31A*-****/**** to 07-31E*-****/**** and 07-31M*-****/**** also fulfil the requirements of explosion protection for Equipment group II and Equipment categories 2G as well as 2D in future.

Safety instructions

- At use of the Limit monitor EEx Type 07-31D*-****/**** in an ambient temperature range from -55 °C to +60 °C the used components must be suitable for this temperature range as well.
- The specifications, contained in the EC-Type Examination Certificate IBExU02ATEX1126, including schedule, have to be noticed.

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- Seal -
(ID no. 0637)

Freiberg, 21 January 2005

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[1] **4th Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1126
(Translation)

[2] Equipment: Limit monitor Ex
Type 07-31A*-****/**** to 07-31E*-****/**** and 07-31M*-****/****

[3] Manufacturer: BARTEC GmbH

[4] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY

[5] **Addition**

The Limit monitor Ex Type 07-31A*-****/**** to 07-31E*-****/**** and 07-31M*-****/**** also fulfil the requirements standard series EN 60079.
The device set was extended by 2 housing sizes, printed circuit and remote display.

[6] **Test result**

The proof of explosion protection at the Limit monitor Ex is recorded in the test report IB-05-3-272 of 05th January 2006. The test documents are part of the test report and listed there.

Summary

IBExU certified, that the under [2] mentioned Equipment the in Annex II to the Directive 94/9/EC to comply with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2004, EN 60079-1:2004, EN 60079-7:2003, E IEC 60079-11:2004, EN 60079-18:2004, prEN 61241-0:2002 und EN 61241-1:2004.

Safety instructions

- At use of Limit monitors Ex Type 07-31A*-****/**** and 07-31D*-****/**** in an ambient temperature range from -55 °C to +60 °C the used components must be suitable for this temperature range as well.
- The specifications, contained in the EC-Type Examination Certificate IBExU02ATEX1126, including schedule and their Additions, have to be noticed.
- All used separate certified Ex components are also fulfil the requirements standard series EN 60079.

[7] Marking of the under [2] mentioned Limit Monitor Ex is:

II 2G Ex e d ia or ib ma or mb IIC T6 or T5
 II 2D Ex tD A21 IP6X T 80 °C, 90 °C or 95 °C
-55 °C ≤ T_a ≤ +60 °C

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(Dr. Lösch)



- Seal -
(ID no. 0637)

Freiberg, 06th January 2006

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[1] **Summarized 5th Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1126
according to Directive 94/9/EC, Annex III
(Translation)

[2] Equipment: **Limit monitor Ex**
Type 07-31A*-****/**** to 07-31E*-****/**** and 07-31M*-****/****

[3] Manufacturer: BARTEC GmbH

[4] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY

[5] **Addition**

The additions / alterations of the equipment stated in [2] compared with the equipment already certified comprise of:

- a) Extension of the temperature range of suitable types to -60 ° C to +70 ° C.
- b) The equipment fulfils also the requirements of the current standard series EN 60079-0:2012.

Technical data:

Nominal voltage:	up to 750 V ^{*)}
Nominal frequency:	AC 50 Hz / 60 Hz or DC ^{*)}
Nominal current:	up to 7 A ^{*)}
Ambient temperature range:	-20 °C up to +70 °C
Expanded:	-60 °C/ -55 °C up to +70 °C
Degree of protection according to EN 60529:	min. IP 65

^{*)} depending on used components

The values are maximum values. The actual electrical values depend on the electrical equipment incorporated. The manufacturer fixes in the context of these rated values the definite nominal values. He guarantees so the maintenance of the maximum surface temperature and the permitted operating temperature of the components.

The actual ambient temperature range conforms with the allowable temperature range of the used components.

[6] **Test result**

The proof of the explosion protection of the equipment stated in [2] is documented in the Test Report IB-12-3-340 of 13 June 2013. The test documents are part of the test report and are listed there.

Summary

IBExU certifies that the equipment mentioned in [2] fulfils the Essential Health and Safety Requirements given in Annex II of the Directive 94/9/EC by compliance with EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007, EN 60079-11:2012, EN 60079-18:2009 and EN 60079-31:2009.

The equipment stated in [2] fulfils the requirements of the explosion protection for equipment group II, categories 2G as well as 2D in the types of protection increased safety "e" and protection by enclosure "tb" for the explosion groups IIC and IIIC.

Safety instructions

- The required degree of protection at least IP 54 or IP 6X during construction and operation is reached only at proper use of cable entries, which are tested and confirmed on explosion protection. Not needed openings for cable entries have to be sealed up by suitable screw plugs, which are tested and confirmed on explosion protection.
- When using a Limit Monitor Ex in an ambient temperature range of -60 ° C or -55 ° C to +70 ° C, the components used must also be suitable for this temperature range.
- All used, separately certified Ex components must also fulfil the requirements of the actual standard series EN 60079.

[7] The marking of the equipment mentioned under [2] shall include at least one of the following:

⊕ II 2G Ex e d mb ia or ib IIC T6 or T5 Gb
⊕ II 2G Ex ia or ib IIC T6 Gb
⊕ II 2D Ex tb IIIC T90 °C Db
-60 °C / -55 °C / -20 °C ≤ T_a ≤ +70 °C

The combination of the symbols of type of protection conforms with the type of protection of the components used.

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-Explosion protection-

By order



(Dr. Wagner)



- Seal -
(ID no. 0637)

Freiberg, 13 June 2013

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IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] **EU-TYPE EXAMINATION CERTIFICATE - Translation**



- [2] Equipment or protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU
- [3] EU-type examination certificate number **IBExU02ATEX1126** | Issue 1
- [4] Product: **Limit Monitor Ex**
Type 07-31A*-****/**** to 07-31E*-****/**** and 07-31M*-****/****
- [5] Manufacturer: BARTEC GmbH
- [6] Address: Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY

- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-16-3-174.

- [9] Compliance with the essential health and safety requirements has been assured by compliance with: EN 60079-0:2012+A11:2013, EN 60079-1:2015, EN 60079-7:2015, EN 60079-11:2012, EN 60079-18:2015 und EN 60079-31:2014.
except in respect of those requirements listed at item [18] of the schedule.
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.
- [11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include at least one of the following::

Ex II 2G Ex eb db mb ia or ib IIC T6 or T5 Gb
Ex II 2G Ex ia or ib IIC T6 Gb
Ex II 2D Ex tb IIIC T90 °C Db
-60 °C / -55 °C / -20 °C ≤ T_a ≤ +70 °C

The combination of the symbols for the type of protection depends on the types of protection of components actually used.

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By order

(Dipl.-Ing. Willamowski)



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.

Freiberg, 2016-09-05

[13] **Schedule**

[14] **Certificate number IBExU02ATEX1126** | Issue 1

[15] **Description of product**

The Limit Monitor Ex converts mechanical positions of a spindle into electrical signals. It consists of an enclosure in type of protection Increased safety or, for the intrinsically safe version, in industry quality. In the enclosure are build-in transmitters like switches or initiators and other components.

Technical data:

Nominal voltage:	up to 750 V *)
Nominal frequency:	AC 50 Hz / 60 Hz or DC *)
Nominal current:	up to 7 A *)
Ambient temperature range:	-20 °C up to +40 °C
Expanded:	-60 °C / -55 °C up to +70 °C
Degree of protection according to EN 60529:	min. IP 65
*) depending on used components	

The values are maximum values. The actual electrical values depend on the electrical equipment incorporated. The manufacturer fixes in the context of these rated values the definite nominal values. He guarantees so the retention of the maximum surface temperature and of the permitted operating temperature of the components.

The real ambient temperature range conforms to the allowable temperature range of the used components.

Variations compared to issue x of this certificate:

The device conforms to the current standards.

[16] **Test report**

The test results are recorded in the confidential test report IB-16-3-174 of 2016-09-05.

The test documents are part of the test report and they are listed there.

Summary of the test results

The equipment stated under [2] fulfils the requirements of explosion protection for Equipment group II, Categories 2G as well as 2D in type of protection increased safety "e" and protection by enclosure "tb" in combination with separately certified components for the Explosion groups IIC and IIIC.

Safety instructions

- The required degree of protection at least IP 54 or IP 6X during construction and operation is reached only at proper use of cable entries, which are checked and confirmed for explosion protection. Not needed openings for cable entries have to be sealed up by suitable screw plugs, which are checked and confirmed for explosion protection.
- When using the Limit Monitor Ex in an ambient temperature range of -60 °C or -55 °C up to +70 °C, the components used must also be suitable for this temperature range.
- All used separate certified Ex components have to fulfil the requirements of the standard series EN 60079.

[17] **Specific conditions of use**

None

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

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

[19] **Drawings and Documents**

The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
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By order


(Dipl.-Ing. Willamowski)

Freiberg, 2016-09-05