Explosionsgeschützte
LED-Rohrleuchte

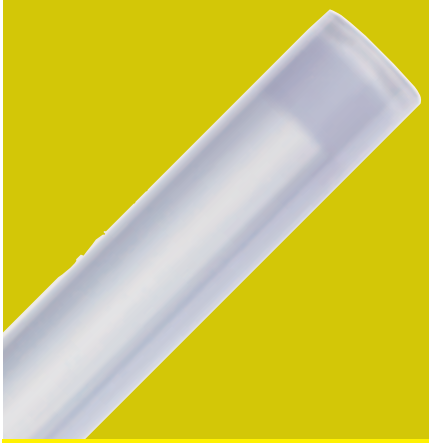
Luminaires tubulaires
antidéflagrants

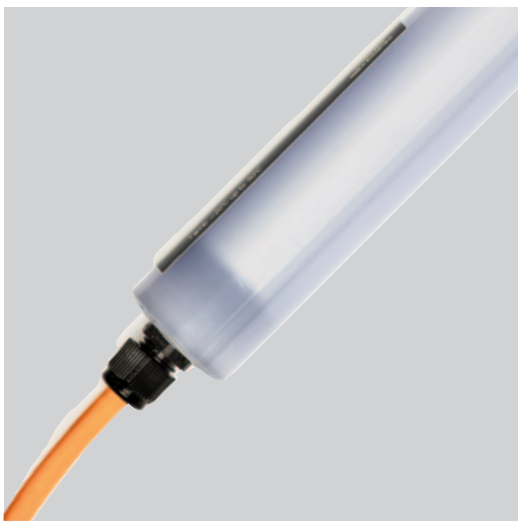
Explosionproof
LED tube light

Typ / type Gb34** ****

MANUAL

BVS 20 ATEX E 082
IECEx BVS 20.0066





Edition August 2022

Explosionsgeschützte LED-Rohrleuchte Typ Gb34 ** **

Zielgruppe:
Erfahrene Elektrofachkräfte gemäss Betriebssicherheitsverordnung und unterwiesene Personen.

Inhalt:
1. Sicherheitshinweise
2. Normenkonformität
3. Technische Daten
4. Installation
5. Inspektion, Wartung und Instandhaltung
6. Reparaturen
7. Entsorgung

1. Sicherheitshinweise

Die explosionsgeschützten LED-Rohrleuchten Typ Gb34 werden mechanisch geschützt in Maschinen in explosionsgefährdeten Bereichen der Zonen 1 und 2 nach EN 60079-10-1 eingebaut.

Betreiben Sie die explosionsgeschützten LED-Rohrleuchten Typ Gb34 bestimmungsgemäss im unbeschädigten und sauberen Zustand und nur dort, wo die Beständigkeit des Gehäusematerials gewährleistet ist.

Die explosionsgeschützten LED-Rohrleuchten sind vollständig verschweisst bzw. verklebt, diese dürfen nicht geöffnet oder repariert werden. Die Leitungs- und Kabeleinführung kann nicht ausgetauscht werden, da diese ebenfalls verklebt ist.

Es dürfen keine Veränderungen oder Reparaturen an den explosionsgeschützten LED-Rohrleuchten Gb34 vorgenommen werden.

Beachten Sie bei allen Arbeiten mit den explosionsgeschützten LED-Rohrleuchten Gb34 die nationalen Sicherheits- und Unfallverhütungsvorschriften und die nachfolgenden Sicherheitshinweise in dieser Betriebsanleitung, die wie dieser Text in Kursivschrift gefasst sind!

Luminaires tubulaires antidéflagrants type Gb 34 ** **

Groupe ciblé:
Électriciens expérimentés selon les directives pour la sécurité au travail et personnel instruit.

Sommaire:
1. Sécurité
2. Conformité aux normes
3. Caractéristiques techniques
4. Installation
5. Inspection, entretien et maintenanc
6. Réparations
7. Elimination

1. Sécurité

Les luminaires tubulaires antidéflagrants type Gb34 sont conçus pour une application en atmosphères explosibles des zones 1 et 2 selon la norme EN 60079-10-1.

Utilisez les luminaires tubulaires antidéflagrants type Gb34 conformément à l'usage auquel ils sont destinés, en état de propreté et non endommagé uniquement, dans des emplacements où l'inaltérabilité du matériel d'encapsulage est assurée.

Les tubes LED antidéflagrants sont entièrement soudés ou collés, ils ne doivent pas être ouverts ou réparés. Le câble et le presse-étoupe ne peuvent pas être remplacés car ils sont également collés.

Aucune modification ni réparation ne doit être apportée aux luminaires tubulaires antidéflagrants Gb34.

Pour tous les travaux touchant les luminaires tubulaires antidéflagrants Gb34, il y a lieu d'observer les prescriptions nationales de sécurité et de prévention des accidents ainsi que les indications de la présente notice ayant trait à la sécurité. À l'instar du présent alinéa, ces indications sont imprimées en italique.

Explosionproof LED tube light
Type Gb34 ** **

Target group:
Experienced electricians as defined by the Operating Safety Ordinance and properly instructed personnel.

Contents:
1. Safety rules
2. Conformity with standards
3. Technical data
4. Installation
5. Inspection, servicing and maintenance
6. Repair
7. Disposal

1. Safety Rules

The explosionproof LED tube lights, type Gb34, are built into machines in Zones 1 and 2 explosive atmospheres according to IEC 60079-10-1, whereby they are mechanically protected

Operate the explosionproof LED tube lights, type Gb34, only for their intended duty in the undamaged and clean condition, and only where the resistance of the enclosure material to the surroundings is assured.

The explosionproof LED tube lights are fully welded or cemented and must not be opened or repaired. The cable gland cannot be replaced, as it is also cemented in.

No modifications or repairs are allowed to the explosionproof LED tube lights, type Gb34.

Whenever work involving explosionproof LED tube lights, type Gb34, is carried out, be sure to observe the national safety and accident prevention regulations and the safety instructions given in this Instruction Manual, which (like this paragraph) are stated in italics!

2. Normenkonformität

Die explosionsgeschützten LED-Rohrleuchten Gb34 entsprechen den Anforderungen der IEC EN IEC 60079-0 und der EN 60079-1. Sie wurden entsprechend dem Stand der Technik und gemäss der ISO 9001:2015 entwickelt, gefertigt und geprüft.

3. Technische Daten

3.1 Kennzeichnung

Ⓔx II 2G Ex db IIC T6 Gb

3.2 Bescheinigung

3.2.1 EU-Baumusterprüfbescheinigung

BVS 20 ATEX E 082

3.2.2 IECEX Certificate of Conformity

IECEx BVS 20.0066

3.3 Gehäuseschutzart

Schutzart IP 66

3.4 Spannungen, Frequenzen und Stromaufnahme

Spannungsbereich	12-50 V DC / AC 100-265 V DC / AC
Frequenz	50/60 Hz
Max. Leistung	max. 36 Watt/m bezogen auf das druckfeste LED-Rohr

3.5 Typenschlüssel

Typenschlüssel für explosionsgeschützte LED-Rohrleuchte Typ Gb34

Gb34 10 0340

- 0340: Länge [mm], max. 1000 mm
- 10: Nennleistung [Watt]

2. Conformité aux normes

Les luminaires tubulaires antidéflagrants Gb34 sont conformes aux normes IEC EN 60079-0 notamment EN IEC 60079-1. Ils ont été développés, fabriqués et testés selon l'état actuel de la technique et conformément à la norme ISO 9001:2015.

3. Caractéristiques techniques

3.1 Marquage

Ⓔx II 2G Ex db IIC T6 Gb

3.2 Certification

3.2.1 Attestation d'examen UE de type

BVS 20 ATEX E 082

3.2.2 IECEX Certificate of Conformity

IECEx BVS 20.0066

3.3 Indice de protection de l'enveloppe

Indice de protection IP 66

3.4 Tensions et fréquences

Tension	12-50 V DC / AC 100-265 V DC / AC
Fréquence	50/60 Hz
Puissance max.	max. 36 Watt/m basé sur le tube LED antidéflagrant

3.6 Code signalétique

Le code signalétique suivant est alloué aux luminaires tubulaires antidéflagrants type Gb34

Gb34 10 0340

- 0340: longueur [mm], max. 1000 mm
- 10: Puissance nominale [Watt]

2. Conformity with Standards

The explosionproof LED tube lights, type Gb34, meet the requirements of IEC 60079-0 and IEC 60079-1. They were developed, manufactured and tested in accordance with ISO 9001:2015.

3. Technical Data

3.1 Marking

Ⓔx II 2G Ex db IIC T6 Gb

3.2 Certification

3.2.1 EU-Type Examination Certificate

BVS 20 ATEX E 082

3.2.2 IECEX Certificate of Conformity

IECEx BVS 20.0066

3.3 Degree of protection of enclosure

Degree of protection IP 66

3.4 Voltages, frequencies and power consumption

Voltage range	12-50 V DC / AC 100-265 V DC / AC
Frequency	50/60 Hz
Max. output	max. 36 Watt/m related to flameproof LED tube

3.5 Type code

Type code for explosionproof LED tube lights, type Gb34

Gb34 10 0340

Length [mm]
max. 1000 mm

Rated output [Watt]

4. Installation

Für das Errichten/Betreiben sind die allgemein anerkannten Regeln der Technik EN 60079-14: «Projektierung, Auswahl und Errichtung elektrischer Anlagen», nationale Vorschriften und diese Betriebsanleitung massgebend.

Die Angaben auf dem Typenschild sind verbindlich!

4.1 Umgebungstemperatur

Zur Einhaltung der zulässigen Oberflächentemperaturen darf die Umgebungstemperatur den Bereich von –20 °C bis 50 °C nicht unter- bzw. überschreiten. Zu beachten sind bei der Betrachtung der Temperaturverhältnisse auch Einflüsse von vorhandenen weiteren Wärmequellen oder Sonneneinstrahlung. Diese dürfen nicht zur zusätzlichen Aufheizung der LED-Rohrleuchten führen.

4.2 Montageort

Die explosionsgeschützten LED-Rohrleuchten Typ Gb34 werden mit mindestens einer metallischen Rohrschelle montiert werden. Diese muss so angebracht werden, dass die leitenden Kontaktstreifen kontakiert und der Potentialausgleich angeschlossen werden kann.

4.3 Anschluss der Leitung

Der Anschluss der Leitung muss in einem Gehäuse einer anerkannten Zündschutzart gemäss EN 60079-0 (beispielsweise in einem Anschlusskasten der Zündschutzart «Erhöhte Sicherheit e») erfolgen, für das eine EU-Baumusterprüfbescheinigung vorliegt.

4.4 Potentialausgleich

Die LED-Rohrleuchten weisen keinen äusseren Anschluss für den Potentialausgleich auf. Die leitfähigen Kontaktstreifen werden durch den Einbau mit Rohrschellen kontakiert. Die Rohschellen sind mit dem Potentialausgliech zu verbinden.

4. Installation

Les règles généralement reconnues, les dispositions de la norme EN 60079-14 «Conception, sélection et construction des installations électriques», les prescriptions nationales et le présent manuel sont déterminantes pour l'installation et le service.

Les indications figurant sur la plaque signalétique sont obligatoires et contraignantes!

4.1 Température ambiante

Afin de maintenir la température de surface admissible, la température ambiante ne doit ni outrepasser ni sous-dépasser une fourchette de –20 à 50 °C. Il y a lieu, dans les considérations relatives à la température, de tenir également compte d'autres sources de chaleur de même que de l'insolation. Ces facteurs ne doivent pas contribuer à une surchauffe de l'enveloppe des luminaires.

4.2 Site d'installation

Les tubes LED antidéflagrants de type Gb34 sont montés avec au moins un collier de serrage métallique. Celui-ci doit être fixé de manière à ce que les bandes de contact conductrices soient en contact et que la liaison équipotentielle puisse être connectée.

4.3 Branchement du câble

Le raccordement de la ligne doit se faire dans un boîtier d'un mode de protection reconnu selon EN 60079-0 (par exemple dans un boîtier de connexion du mode de protection «sécurité augmentée e») disposant d'une attestation d'examen UE de type.

4.4 Liaison équipotentielle

Les tubes LED n'ont pas de connexion externe pour la liaison équipotentielle. Les bandes de contact conductrices sont mises en contact en les installant avec des colliers de serrage. Les colliers de serrage doivent être connectés à la liaison équipotentielle.

4. Installation

The generally recognized rules of engineering, IEC 60079-14 'Electrical installations design, selection and erection', national regulations and the instructions set out in this manual apply for the installation and operation.

The data on the type label is binding!

4.1 Ambient temperature

To keep the permissible surface temperatures within the admissible limits, the ambient temperature shall not fall below or exceed the range – 20 °C to 50 °C. When considering temperature conditions, the effects of other heat sources or direct sunlight shall be taken into account. These shall not be allowed to heat up the LED tube lights unduly.

4.2 Mounting location

The explosionproof LED tube luminaires, type Gb34, are mounted with a metal pipe clamp. This shall be fitted in such a way that the conductive contact strips can be contacted and the equipotential bonding connected.

4.3 Connection of cable

The cable shall be connected in an enclosure in a recognized type of protection in accordance with IEC 60079-0 (for example, in a connection box in the type of protection 'Increased Safety e)' for which an EU Type Examination Certificate is is available.

4.4 Equipotential bonding

The LED tube luminaires have no external connection for equipotential bonding. The conductive contact strips are contacted by the mounting with pipe clamps. The pipe clamps shall be connected to the equipotential bonding.

5. Inspektion, Wartung und Instandhaltung

Die für die Wartung und Instandsetzung geltenden Bestimmungen der EN 60079-17 sind einzuhalten. Im Rahmen der Wartung sind vor allem Teile zu prüfen, von denen die Zünd-schutzart abhängt.

5.1 Qualifikation

Die Prüfung, Wartung und Instandsetzung der explosionsgeschützten LED-Rohrleuchten Typ Gb34 darf nur von erfahrenem Personal ausgeführt werden, dem bei der Ausbildung auch Kenntnisse über die verschiedenen Zündschutzarten und Installationsverfahren, einschlägigen Regeln und Vorschriften sowie die allgemeinen Grundsätze der Zoneneinteilung vermittelt wurden. Eine angemessene Weiterbildung oder Schulung ist vom Personal regelmässig durchzuführen.

5.2 Erneute Inbetriebnahme

Periodisch und vor einer erneuten Inbetriebnahme der explosionsgeschützten LED-Rohrleuchten ist eine Detailprüfung durchzuführen. Werden Defekte an Kabeln und deren Einführung oder an äusseren Polykarbonatrohren festgestellt, dürfen die explosionsgeschützten LED-Rohrleuchten nicht mehr eingesetzt werden.

5.3 Defekte LED-Rohrleuchten

Defekte LED-Rohrleuchten können nicht repariert werden.

5.4 Reinigung des transparenten Schutzrohres

Die transparenten Schutzrohre sind aus Polycarbonat (Makrolon 3227) ausgeführt. Für die Reinigung dürfen keine Lösungsmittel verwendet werden. Für die Beseitigung von Schmutz oder Partikelresten verwenden Sie ein geeignetes Reinigungsmittel (Kunststoffreinigungsmittel).

5. Maintenance et entretien

Les prescriptions de la norme EN 60079-17 «Règles pour l'inspection et la maintenance» devront être respectées pour l'inspection, l'entretien et la maintenance. Dans le cadre des inspections et des travaux d'entretien, tous les éléments dont dépend le mode de protection devront être vérifiés.

5.1 Qualification

Les inspections, l'entretien et la maintenance doivent être effectués par du personnel qualifié et expérimenté ayant subi la formation adéquate concernant les modes de protection et les procédés d'installation, de même que les règles et prescriptions et les principes fondamentaux de la répartition en zones. Il est opportun de veiller régulièrement à la formation et au perfectionnement de ce personnel.

5.2 Remise en service

Avant la remise en service des luminaires tubulaires antidéflagrants, il y a lieu d'effectuer un contrôle visuel. Si l'on constate des défectuosités au cordon, à la prise ou au tube de protection, le luminaire ne doit plus être utilisé.

5.3 Luminaires tubulaires défectueux

Les tubes LED défectueux ne peuvent pas être réparés.

5.5 Nettoyage du tube de protection transparent

Le tube de protection transparent est en polycarbonate Makrolon 3227 (1143). Ne pas utiliser de solvant pour son nettoyage. Utiliser un produit de nettoyage adéquat (nettoyant pour matières synthétiques) pour éliminer les salissures et les traces de particules.

5. Inspection, servicing and maintenance

The valid provisions of IEC 60079-17 for inspections / servicing / maintenance shall be observed. During servicing, it is particularly important to check those components upon which the type of protection depends.

5.1 Qualifications

The inspection, servicing and maintenance of the explosionproof LED tube lights type Gb34 may only be carried out by experienced personnel who during their training have also been instructed in the various types of explosion protection, installation processes, the relevant rules and regulations and the general principles of hazardous zone classification. Appropriate ongoing training or instruction shall be given to personnel on a regular basis.

5.2 Putting back into operation

Periodically and before being put back into operation, it is necessary to carry out a detailed inspection of the explosionproof LED tube lights. If cables and the associated cable entries or external polycarbonate tubes are found to be defective, the explosionproof LED tube lights must no longer be used.

5.3 Defective LED tube lights

Defective LED tube lights cannot be repaired.

5.4 Cleaning the transparent protective tube

The transparent protective tubes are made of polycarbonate (Makrolon ET 3227). Solvents must not be used. Use a suitable cleaning agent (plastics cleaner) to remove any dirt or particle residues.

6. Reparaturen

Die LED-Rohrleuchten können nicht repariert werden.

7. Entsorgung

Bei der Entsorgung der explosionsgeschützten LED-Rohrleuchten sind die jeweils geltenden nationalen Abfallbeseitigungsvorschriften zu beachten.

Defekte explosionsgeschützte LED-Rohrleuchten senden Sie an den Hersteller:

thuba AG
Stockbrunnenrain 9
CH-4123 Allschwil

oder an Ihre Vertretung (siehe www.thuba.com).

6. Réparations

Les tubes LED défectueux ne peuvent pas être réparés.

7. Élimination

Lors de l'élimination des luminaires tubulaires antidéflagrants, les prescriptions nationales applicables devront être respectées.

Envoyer les luminaires tubulaires antidéflagrants défectueux au fabricant:

thuba SA
Stockbrunnenrain 7
CH-4123 Allschwil

ou à sa représentation (cf. www.thuba.com).

6. Repairs

The LED tube lights cannot be repaired.

7. Disposal

When disposing of the explosionproof LED tube lights, the respective national regulations governing waste disposal shall be observed.

Return defective explosionproof LED tube lights to the manufacturer:

thuba AG
Stockbrunnenrain 9
CH-4123 Allschwil

or to our representative (see www.thuba.com).

Beständigkeit gegen Chemikalien

+ beständig – nicht beständig

	6 Tage/23 °C	6 Tage/50 °C
Essigsäure, 10%ig in Wasser	+	+
Salzsäure, 10%ig in Wasser	+	+
Schwefelsäure, 10%ig in Wasser	+	+
Salpetersäure, 10%ig in Wasser	+	
Phosphorsäure, 1%ig in Wasser	+ –	
Zitronensäure, 10%ig in Wasser	+	
Natriumcarbonat (Soda), 10%ig in Wasser	+	– (70 °C)
Natriumchlorid (Kochsalz), gesättigte/wässrige Lösung	+	+
Natriumnitrat, 10%ig in Wasser	+	
Ammoniumnitrat, 10%ig in Wasser/ neutral	+	–
Eisen-(III)-chlorid, gesättigte/wässrige Lösung	+	+
Kaliumhydroxid (Kalilauge), 1%ig in Wasser	–	
Natriumhydroxid (Natronlauge), 1%ig in Wasser	–	
Ammoniak, 0,1%ig in Wasser	–	
Aceton	quillt an	
Benzin (aromatenfrei)	+	+
Benzol	quillt an	
Butylacetat	–	
Chloroform	löst	
Dibutylphthalat	–	
Diethylether	–	
Dimethylformamid	löst	
Dioctylphthalat	–	
Dioxan	löst	
Ethanol (rein)	+	+
Ethylenglykol, 1:1 mit Wasser	+	+
Ethylenchlorid	quillt an	
Ethylacetat	quillt an	
Ethylamin	–	
Glycerin	reagiert	
Isooctan (2,2,4-Trimethylpentan), rein	+	+ (40 °C)
Isopropanol, rein	+	
Hexan	+	+
Methanol	–	
Methylamin	reagiert	
Methylenchlorid	löst	
Methylethylketon	quillt an	
Ozon, 1% in Luft	–	
Paraffin, Paraffinöl, (Vaseline), rein/aromatenfrei	+	+
Perchlorethylen	–	
Perhydrol (Wasserstoffsuperoxid), 30 %ig in Wasser	+	
Propan	+	+
n-Propanol	– (30 °C)	
Styrol	–	
Silikonöl	+	+
Tetrachlorkohlenstoff	quillt an	
Tetrachlorethan	quillt an	
Trichlorethylen	quillt an	
Trikresylphosphat	–	
Triethylenglykol	+	+
Xylol	quillt an	

Haftungsausschluss
Die vorstehenden Informationen und Daten sind Angaben des Herstellers. thuba hat die Angaben nicht überprüft und übernimmt keinerlei Gewähr für die Richtigkeit der Herstellerangaben.
thuba übernimmt die Gewähr für die Qualität ihrer Produkte auschliesslich nach Massgabe ihrer eigenen Geschäftsbedingungen.

Resistance to chemicals

+ resistant – non-resistant

	6 days/23 °C	6 days/50 °C
Acetic acid, 10 % in water	+	+
Hydrochloric acid, 10% in water	+	+
Sulphuric acid, 10 % in water	+	+
Nitric acid, 10 % in water	+	
Phosphoric acid, 1 % in water	+	–
Citric acid, 10 % in water	+	
Sodium carbonate (soda), 10 % in water	+	– (70 °C)
Sodium chloride, saturated/aqueous solution	+	+
Sodium nitrate, 10 % in water	+	
Ammonium nitrate, 10 % in water/neutral	+	–
Iron(III) chloride, saturated/aqueous solution	+	+
Potassium hydroxide, 1 % in water	–	
Sodium hydroxide (caustic soda), 1 % in water	–	
Ammonia, 0.1 % in water	–	
Acetone	swells	
Benzine (free from aromatic compounds)	+	+
Benzene	swells	
Butyl acetate	–	
Chloroform	dissolves	
Dibutyl phthalate	–	
Diethyl ether	–	
Dimethylformamide	dissolves	
Dioctyl phthalate	–	
Dioxane	dissolves	
Ethanol (pure)	+	+
Ethylene glycol, 1:1 with water	+	+
Ethylene chloride	swells	
Ethyl acetate	swells	
Ethylamine	–	
Glycerin	reacts	
Isooctane (2,2,4-trimethyl pentane), pure	+	+ (40 °C)
Isopropanol (pure)	+	
Hexane	+	+
Methanol	–	
Methylamine	reacts	
Methylene chloride	dissolves	
Methyl ethyl ketone	swells	
Ozone, 1 % in air	–	
Paraffin, paraffin oil, (Vaseline), pure/free from aromatic compounds	+	+
Perchloroethylene	–	
Perhydrol (hydrogen dioxide), 30 % in water	+	
Propane	+	+
n-propanol	– (30 °C)	
Styrene	–	
Silicone oil	+	+
Carbon tetrachloride	swells	
Tetrachloroethane	swells	
Trichloroethylene	swells	
Tricresyl phosphate	–	
Triethylene glycol	+	+
Xylene	swell	

Disclaimer:
The above information and data have been provided by the manufacturer. thuba has not examined the statements made by the manufacturer and does not accept any responsibility for the accuracy of the statements made by the manufacturer. thuba only accepts responsibility for the quality of its products in accordance with its own standard terms and conditions.

THE EXPLOSIONPROOFING COMPANY

EU-Konformitätserklärung
Déclaration UE de conformité
EU-Declaration of conformity

BVS 20 ATEX E 082

Wir / *Nous /* We,

thuba Ltd.
PO Box 4460
CH-4002 Basel

Production
Stockbrunnenrain 9
CH-4123 Allschwil

erklären in alleiniger Verantwortung, dass die

déclarons de notre seule responsabilité que les

bearing sole responsibility, hereby declare that the

Explosionsgeschützte LED-Rohrleuchte
Luminaires tubulaires antidéflagrants
Explosionproof LED tube light
Typ / *Type* Gb34 ** ****

den grundlegenden Sicherheits- und Gesundheitsschutzanforderungen nach Anhang II der untenstehenden Richtlinie entspricht.
répond aux exigences essentielles en ce qui concerne la sécurité et la santé fondamentales selon l'annexe II des directives suivantes.
satisfies the fundamental health and safety protection requirements according to Annex II of the directive named below.

Bestimmungen der Richtlinie *Désignation de la directive* Provisions of the directive	Titel und/oder Nummer sowie Ausgabedatum der Normen *Titre et/ou No ainsi que date d'émission des normes* Title and/or No. and date of issue of the standards
2014/34/EU: Geräte und Schutzsysteme zur bestimmungsgemässen Verwendung in explosionsgefährdeten Bereichen *2014/34/UE: Appareils et systèmes de protection destinés à être utilisés en atmosphère explosible* 2014/34/EU: Equipment and protective systems intended for use in potentially explosive atmospheres	EN IEC 60079-0:2018-07 EN 60079-1:2014-10 EN 60079-14:2014-03 EN 60079-17:2014-03 EN 60529:1991-10+A1:2000-02+A2:2013-10 EN 62560:2012-12+A1:2015-07+A11:2019-03
2014/30/EU: Elektromagnetische Verträglichkeit *2014/30/UE: Compatibilité électromagnétique* 2014/30/EU: Electromagnetic compatibility	EN 61000-3-3:2009-06 EN 61000-6-2:2005 EN 61000-6-4:2007+A1:2011
2011/65/EU: RoHS Richtlinie *2011/65/UE: Directive RoHS* 2011/65/EU: RoHS Directive	EN IEC 63000:2018
Folgende benannte Stelle hat das Konformitätsbewertungsverfahren nach der Richtlinie 2014/34/EU Anhang III durchgeführt: *L'organe reconnu ci-après a procédé à l'évaluation de la conformité prescrite par la directive 2014/34/UE de l'annexe III:* The following notified body has carried out the conformity assessment procedure according to Directive 2014/34/EU, Annex III:	DEKRA Testing and Certification GmbH 0158 Dinnendahlstrasse 9 DE 44809 Bochum
Folgende benannte Stelle hat die Bewertung des Moduls «Qualitätssicherung Produktion» nach der Richtlinie 2014/34/EU Anhang IV durchgeführt: *L'organe reconnu ci-après a procédé à l'évaluation de la conformité prescrite par la directive 2014/34/UE de l'annexe IV:* The following notified body has carried out the conformity assessment procedure according to Directive 2014/34/EU, Annex IV:	DEKRA Testing and Certification GmbH 0158 Dinnendahlstrasse 9 DE 44809 Bochum

Basel, 2. August 2022
Ort und Datum
Lieu et date
Place and date

Peter Thurnherr
Geschäftsführender Inhaber, Elektroingenieur FH
Administrateur délégué, ingénieur HES
Managing Proprietor, B. Sc. Electrical Engineer

THE EXPLOSIONPROOFING COMPANY

UKCA-Konformitätserklärung
Déclaration UKCA de conformité
UKCA-Declaration of conformity

Wir / *Nous* / We,

thuba Ltd.
PO Box 4460
CH-4002 Basel

Production
Stockbrunnenrain 9
CH-4123 Allschwil

bearing sole responsibility, hereby declare that the

Explosionproof LED tube light
Type Gb34 ** **

satisfies the fundamental health and safety protection requirements according to the regulation named below.

Provisions of the directive	Title and/or No. and date of issue of the standards
Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016 No. 1107	EN IEC 60079-0:2018-07 EN 60079-1:2014-10 EN 60079-14:2014-03 EN 60079-17:2014-03 EN 60529:1991-10+A1:2000-02+A2:2013-10 EN 62560:2012-12+A1:2015-07+A11:2019-03
Electromagnetic Compatibility Regulations 2016 No. 1091	EN 61000-3-3:2009-06 EN 61000-6-2:2005 EN 61000-6-4:2007+A1:2011
RoHS – – Electrical and Electronic Equipment Regulations 2012 No. 3032	EN IEC 63000:2018

Basel, 2. August 2022
Place and date

Peter Thurnherr
Managing Proprietor, B. Sc. Electrical Engineer

Translation

1 # EU-Type Examination Certificate

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 20 ATEX E 082**

4 Product: **LED tube light type Gb34 ** ****

5 Manufacturer: **thuba Ltd.**

6 Address: **Stockbrunnenrain 9, 4123 Allschwil, Switzerland**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, 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 Report No. BVS PP 20.2132 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018	**General requirements**
EN 60079-1:2014	**Flameproof enclosure "d"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix 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 the following:

 **II 2G Ex db IIC T6 Gb**

DEKRA Testing and Certification GmbH
Bochum, 2020-09-23

Signed: Jörg-Timm Kilisch

Managing Director

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 20 ATEX E 082

15 **Product description**

15.1 **Subject and type**

LED tube light type Gb34 aa bbbb
aa Nominal power [W] (max. 36 W)
bbbb Length of the tube [mm] (max. 1000 mm)

15.2 **Description**

The LED tube light type Gb34 ** **** is designed in type of protection Flameproof Enclosure "d" for use in areas with potentially hazardous gas atmospheres.

It consists of a tube made of polycarbonate with a maximum length of 1000 mm. Both ends are closed by use of polycarbonate plugs which are welded into the tube.

One end-plug is prepared with a metric thread for installation of a separately certified cable gland. Additionally the cable gland with the used supply line is cemented into the threaded hole by use of a potting compound.

15.3 **Parameters**

15.3.1 Electrical parameters

Rated voltage	85 up to 265	VAC
	12 up to 370	VDC
Rated Frequency	50/60	Hz
Rated power	36	W/m

15.3.2 Thermal parameters

Ambient temperature range	-20 °C ≤ T_{amb} ≤ 50 °C	
Temperature class	T6	

16 **Report Number**

BVS PP 20.2132 EU, as of 2020-09-23

17 **Special Conditions for Use**

None

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18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2020-09-23
BVS-Kir/Mu A 20200872

Managing Director

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1

Production Quality Assurance Notification

2 Equipment and Protective Systems intended for use in potentially explosive atmospheres
Directive 2014/34/EU
Annex IV - Module D: Conformity to type based on quality assurance of the production process
Annex VII - Module E: Conformity to type based on product quality assurance

3 Notification number: **BVS 22 ATEX ZQS/E364**

4 Product category: **Equipment and components as well as safety devices equipment-groups I and II, categories 1G, 2G, 1D, 2D, M2: Heating devices, Switchgear assemblies, Controlling units, Empty enclosures, Junction boxes, Motors, Luminaires**

5 Manufacturer: **thuba AG**

6 Address: **Stockbrunnenrain 9, 4123 Allschwil, Switzerland**

Site(s) of manufacture: **Stockbrunnenrain 9, 4123 Allschwil, Switzerland**

7 The certification body of DEKRA Testing and Certification GmbH, Notified Body No 0158 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014 notifies that the manufacturer has a production quality system, which complies with Annex IV of the Directive.
This quality system in compliance with Annex IV of the Directive also meets the requirements of Annex VII.
In the updated annex all products covered by this notification and their type examination certificate numbers are listed.

8 This notification is based on audit report ZQS/E364/22 issued 2022-08-03.
Results of periodical re-assessments of the quality system are a part of this notification.

9 This notification is valid from 2022-07-31 until 2025-07-31 and can be withdrawn if the manufacturer does not satisfy the production quality assurance surveillance according to Annex IV and VII.

10 According to Article 16 (3) of the Directive 2014/34/EU the CE marking shall be followed by the identification number 0158 of DEKRA Testing and Certification GmbH as notified body involved in the production control phase.

DEKRA Testing and Certification GmbH
Bochum, 2022-08-03

Managing Director

This is a translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx BVS 20.0066**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2020-09-25		
Applicant:	**thuba Ltd.** Stockbrunnenrain 9 4123 Allschwil **Switzerland**		
Equipment:	**LED Tube light type Gb34 ** ******		
Optional accessory:			
Type of Protection:	**Flameproof Enclosures "d"**		
Marking:	Ex db IIC T6 Gb		

Approved for issue on behalf of the IECEx Certification Body: **Jörg Koch**

Position: **Head of Certification Body**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0066** Page 2 of 3

Date of issue: 2020-09-25 Issue No: 0

Manufacturer: **thuba Ltd.**
Stockbrunnenrain 9
4123 Allschwil
Switzerland

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0 Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-1:2014-06 Edition:7.0 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/BVS/ExTR18.0056/01

Quality Assessment Report:

DE/BVS/QAR13.0010/08

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0066** Page 3 of 3

Date of issue: 2020-09-25 Issue No: 0

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Subject and type

LED Tube light type Gb34 aa bbbb

aa	Nominal power [W] (max. 36 W)
bbbb	Length of the tube [mm] (max. 1000)

Description

The LED Tube light type Gb34 ** **** is designed in type of protection Flameproof Enclosure "d" for use in areas with potentially hazardous gas atmospheres.

It consists of a tube made of polycarbonate with a maximum length of 1000 mm. Both ends are closed by use of polycarbonate plugs which are welded into the tube.

One end-plug is prepared with a metric thread for installation of a separately certified cable gland. Additionally the cable gland with the used supply line is cemented into the threaded hole by use of a potting compound.

Parameters

Electrical parameters

Rated voltage	85 up to 265	VAC
	12 up to 370	VDC
Rated frequency	50/60	Hz
Rated power	36	W/m

Thermal parameters

Ambient temperature range	-20 °C ≤ T_{amb} ≤ 50 °C	
Temperature class	T6	

SPECIFIC CONDITIONS OF USE: NO

Your partner for internationally certified solutions in explosion protection

Design and Production

Explosionproof switchgear assemblies

Equipment protection level EPL Gb
– flameproof enclosure ‘db’
– increased safety ‘eb’
– pressurized enclosure ‘pxb’

Equipment protection EPL level Gc
– increased safety ‘ec’
– restricted breathing enclosure ‘nR’
– pressurized enclosure ‘pzc’

Equipment protection level EPL Db and Dc for areas at risk of dust explosions
– protection by enclosure ‘tb’, ‘tc’
– pressurized enclosure ‘pxb’, ‘pzc’

Accessories
– digital displays
– disconnect amplifiers
– transmitter power packs
– safety barriers
– keyboard and mouse
– monitor
– industrial PC

Lamps

Equipment protection level EPL Ga, Gb, Gc and EPL Da, Db, Dc
– LED hand lamps and tube lights 6 to 80 W
– LED tube lights for switchgear assemblies
– LED linear luminaires 18 to 58 W (also with integrated emergency lighting)
– flameproof LED-tubes (Replacement for fluorescent tubes)
– signal towers
– reflector lamps
– safety lighting
– flashing lamps
– boiler flange lamps

Electric heaters for industrial applications

– heating of air and gases (up to 100 bar)
– heating of liquids
– reactor heating systems (HT installations)
– heating of solids
– special solutions

Pipe and tank trace heating systems

– heating cables
  · heating cables with fixed resistors
  · mineral-insulated heating cables
  · self-limiting heating cables
– site installation
– temperature monitoring systems
  · thermostats and safety temperature limiters
  · electronic temperature controllers and safety cutouts
  · remote controls for temperature controller
– resistance temperature detectors Pt-100
  Equipment protection level EPL Ga and Gb

Installation material

– temporary bonding
– earth monitoring systems
– terminals and junction boxes
– motor protecting switches up to 63 A
– safety switches 10 to 180 A (indirect and direct tripping)
– plug-and-socket devices
– clean room power outlets
– control and indicating devices
– signalling device
– customized control stations
– cable reels (max. 3 flange sockets)
– cable glands
– fastening material

Accredited inspection body (SIS 0145)

Extremely strict inspections are carried out to guarantee the correct operation and safety of installations in hazardous areas. We carry out both professional initial inspections and periodic inspections. These consist of a documentation and organisation check and a technical inspection.

Service Facilities according to IECEx Scheme

As an IECEx Scheme service facility we are qualified to carry out repairs, overhauling and regeneration work all over the world – even on equipment from other manufacturers.

THE EXPLOSIONPROOFING COMPANY

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CH-4002 Basel

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