



1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 EC - Type Examination Certificate Number: **Baseefa07ATEX0140X**

4 Equipment or Protective System: **GB Range of Terminal Boxes**

5 Manufacturer: **Bartec GmbH**

6 Address: **Max-Eyth-Stasse 16, D-97980, Bad Mergentheim, Germany**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa, Notified Body number 1180, 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 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 confidential Report No. **GB/BAS/ExTR08.0054/00**

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

EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

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 equipment or protective system 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 or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

⊕ II 2 GD Ex e II Ex tD A21 T6 T85°C

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0112

Project File No. 07/0255

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.


Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com

Baseefa is a trading name of Baseefa Ltd

Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

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Certificate Number Baseefa07ATEX0140X

15 Description of Equipment or Protective System

The GB Range of polyester terminal boxes consists of a two part glass reinforced polyester resin box with either NMSFE400 or AD24 silicone seals. The ambient temperature range of the enclosures is -55°C to +65°C. When the enclosures are fitted with the AD24 gasket the ambient temperature range is reduced to -50°C to +65°C. The range includes the following:

Box Type	Dimensions
GB-5195-0800/7555 (GB-80)	80 x 75 x 55mm
GB-5195-1100/7555 (GB-110)	110 x 75 x 55mm
GB-5195-1221/2090 (GB-122)	122 x 120 x 90mm
GB-5195-1601/6090 (GB-160)	160 x 160 x 90mm
GB-5195-2201/2090 (GB-220)	220 x 120 x 90mm
GB-5195-2601/6090 (GB-260)	260 x 160 x 90mm
GB-5195-2552/5012 (GB-255)	255 x 250 x 120mm
GB-5195-4002/5012 (GB-400/2)	400 x 250 x 120mm
GB-5195-4004/0512 (GB-400)	400 x 405 x 120mm

The silicone 'O' ring gasket is fitted into a groove in the lid which mates up with a raised rib around the top of the base and forms an IP66 seal.

The lid is secured to the base by means of four stainless steel M6 slotted head or four stainless steel M6 hexagon socket head cap screws. These locate into M6 threaded stainless steel or brass inserts that are moulded into the base. Stainless steel or brass M6 threaded inserts are fitted into a raised section in the floor of the body to allow for fixing of terminal rails and earth continuity plates.

The enclosure is moulded with a fixing point situated on each corner of the enclosure which is accessible with the lid removed.

Additional inserts may be fitted in the underside of the lid to provide fixings for components or optional flexible hinge or retaining strap arrangements. The enclosure is moulded with a fixing point situated on each corner of the enclosure.

Various entries can be put into the enclosures these can be tapped or clearance holes; each enclosure has permitted entry sizes and positions for each face. The terminal boxes may also be supplied with un-drilled walls and earth continuity plate. When any face of the GB-400 is fitted with 2x M50 entries the ambient temperature range is reduced to -20°C to +65°C.

The following components below are permitted to be installed in the terminal boxes. The corresponding operating temperature range and IP rating of the components is taken into account when marking the certification plate of the equipment and thus affects the overall IP rating and ambient temperature range of the terminal boxes accordingly.



Component Description / Manufacturer	Component Type	Certificate No.	Operating Temperature Range / IP rating
Terminal Block / Weidmuller	SAK 2.5 SAK 4 SAK 6N SAK 10 SAK 16 SAK 35	IECEX KEM 06.0014U	-50°C to +130°C (Melamine, KrG) -50°C to +80°C (Polyamide, PA 66)
	Protective conductor Terminal Block / Weidmuller		
Terminal Block / Weidmuller	WDU 2.5N WDU 2.5 WDU 4 WDU 6 WDU 10 WDU 16 WDU 35 WDU 70N	IECEX ULD 05.0008U	-50°C to +100°C
	Protective conductor Terminal Block / Weidmuller		
Terminal Block / Weidmuller	BK 3 BK 4 BK 6 BK 12	IECEX SIR 05.0035U	-50°C to +130°C
Terminal Block / Weidmuller	MK 6/6	IECEX SIR 05.0037U	-50°C to +130°C
Terminal Block / Weidmuller	AKZ4	IECEX SIR 05.0038U	-50°C to +130°C (Melamine, KrG) -50°C to +90°C (Polyamide, PA 66)
Protective conductor Terminal Block / Weidmuller	AKE		
Terminal Block / Weidmuller	DK4Q	IECEX SIR 05.0041U	-50°C to +90°C
Secured Mantle Terminal * / WECO	DFG-1 DFG-2 DFG-3 DFG-5	PTB 03 ATEX 1117U	-20°C to +130°C
Stopping Plug / Hummel	V-Ex 1.297.****.**	IECEX BVS 07.0021	-20°C to +90°C / IP68
Blanking Element / CEAG	GHG 960 663.P....	IECEX PTB 03.0000	-55°C to +95°C / IP66

* This terminal has a component certificate and is assessed to EN 50014:1997+A1+A2 & EN 50019:2000. The terminal has been assessed against the differences to IEC 60079-0:2004 Edition4 and IEC 60079-7:2006 Edition4 within this report.



Terminal types SAK, EK, WDU, WPE and DK4Q fit on type TS32 and TS35 rail. Terminal types AKZ4 and AKE fit onto TS15 rail. These rails can be mounted horizontal or diagonally, these are then in turn mounted to the base of the enclosure via either an earth continuity plate, base plate or directly to enclosure base fixing points.

Terminal types BK and MK are mounted either horizontal or diagonally directly to an earth continuity plate or base plate mounted to the base of the enclosure.

Various combinations of the terminals listed may be fitted within the terminal box, subject to calculation of the power dissipated within the enclosure. Power dissipated is calculated based on the actual rated currents, actual cable and terminal resistance values listed on the terminal schedule and with a cable length equal to the maximum diagonal length of the enclosure per terminal. These values are then used in the following formula:

$$\text{Power} = I^2 \times N (R_t + R_c) \text{ Watts}$$

Where:

I = Actual current through the conductor up to the maximum permitted certified de-rated current of the terminal(Amps).

N = Number of terminals

R_t = Terminal resistance (Ohms at 20°C)

R_c = Resistance of one conductor (Ohms at 20°C) when using the maximum diagonal cable length

The maximum allowed power dissipation (Watts) within the GB Range of terminal boxes is as follows:

Enclosure Type	+40°C Ambient Temperature	+55°C Ambient Temperature	+65°C Ambient Temperature
GB-80	1.5	0.9	0.5
GB-110	1.98	1.2	0.7
GB-122	3.9	2.4	1.4
GB-220	6.1	3.8	2.2
GB-160	4.5	2.8	1.6
GB-260	8.6	5.3	3.2
GB-255	13.5	8.4	5
GB-400/2	19.2	12	7.2
GB-400	28	17.5	10.5

When more than one type or size of terminal is fitted (i.e. terminals of different rated currents) then an adhesive label is fixed to the inside of the terminal box which states each type of terminal fitted with its corresponding maximum current allowed. When this optional label is fitted the current rating on the main certification plate is replaced with a '-' marking.

In addition to the power terminals at least one earth terminal is fitted of a size equal to or greater than the largest size of live terminals.

The following enclosure options are available:-

- earth continuity plates or bases may be fitted to the enclosure to provide continuity between cable glands. These can be moulded into the interior of the enclosure or retro-fitted after the enclosure has been moulded, when these optional earth continuity plates are used they can only be fitted into enclosures manufactured from the Menzolit material. Earth continuity plates are fitted with anti-rotation dimples. If these dimples are not fitted then a shake proof washer or similar device must be fitted between the gland locknut and the earth continuity plate.



- a Baretc QS earth bar may optionally be fitted to the enclosure. When the QS3 earth bar is fitted this must not be used in conjunction with the BK12 terminal block and can only be used with a horizontal rail. When insulated support pillars are used the temperature range of these pillars must be taken into account for the overall terminal box temperature range. The ambient range of the insulated pillars is -20°C to +65°C.

- RFI shielding material may be used to coat the inside and outside of the empty enclosure.

- internal/external M6 earth connection facilities can be fitted through any side face of the enclosure.

- label fixing holes may be mounted or drilled into the lid to suit customer requirements.

- a decorative paint finish (RFS27) may be applied to the external faces of the enclosure.

- Trade Agency markings can be incorporated into the certification plate, as per the relevant scheduled drawing.

- an electrostatic warning label can be fitted to the enclosure at the manufactures discretion.

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17 Special Conditions for Safe Use

1. All unused cable entries shall be fitted with a blanking element. The permitted blanking elements for this terminal box are listed on this certificate above.
2. The terminal box shall be limited to the temperature range of the terminal, blanking element or insulated pillar fitted. The component temperature ranges are listed in the equipment description of this certificate.
3. The end user must ensure that a minimum ingress protection of IP66 is achieved at each entry to the enclosure by use of a suitable certified blanking element or cable entry device.
4. When used in dust atmospheres any dust layers occurring shall have a maximum depth of no greater than 50mm.
5. The user may only drill entry holes into the terminal box faces and the earth continuity plate in the permitted positions according to the general arrangement drawings listed in this schedule. When the earth continuity plate is drilled with a clearance hole and thus the plate is provided with no anti-rotation dimples, the end user shall be responsible for ensuring that a shake proof washer or similar device is fitted between the earth plate and locknut.
6. All terminal screws, used or unused, shall be fully tightened down by the end user.
7. The insulation of installed conductors must extend to within 1mm of the metal part of the given terminal throat, unless otherwise specified on the terminal component certificate.
8. All terminals and associated accessories i.e. cross-connectors shall be installed in accordance with the instructions of the terminal manufacturer and the terminal box.
9. Only one single or stranded conductor shall be connected to either side of any terminal fitted within the terminal box, unless otherwise indicated on the relating terminal component certificate.
10. The maximum current, voltage and dissipated power specified on the rating label must not be exceeded for the terminal box. When there is more than one type of terminal fitted the maximum current and voltage given for each terminal must not be exceeded.
11. If a conductor is installed with a cross-sectional-area less than the rated cross-sectional-area for the given terminal (as shown on the terminal component certificate) then the maximum current value for the terminal shall be de-rated accordingly.
12. When the terminal box GB-220 utilises its special lid entry arrangement then the terminal box must be protected from mechanical impact by a suitable enclosure.



18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Document No.	Sheets	Document Title	Issue	Date
1188/A4	1	Simple Base Plate for the GB-5103-4004/0512 Box	D	19/12/07
1293/A4*	1	Electrostatic Hazard Warning Label	C	22/06/07
1356/A4*	1	General Arrangement of Bartec QS Earth Terminal	C	17/12/07
1633/A4	1	Terminal Rails for GB-80 & GB-110 Terminals Boxes	B	14/02/08
1634/A3	1	Base Plate and Earth Continuity Plate Designs for GB-80 Terminal Box	D	14/04/08
1635/A3	1	Base Plate and Earth Continuity Plate Designs for GB-110 Terminal Box	D	14/04/08
1636/A4	1	Terminal Rails for the GB-220 Terminal Box	B	14/02/08
1637/A3	1	Base Plate and Earth Continuity Plate Designs for GB-220 Terminal Box	D	17/12/07
1638/A3	1	Base Plate and Earth Continuity Plate Designs for GB-22 Terminal Box	D	17/12/07
1639/A4	1	TS 32 and TS 35 Terminal Rails for the GB-400/2 Terminal Box	C	14/02/08
1640/A3	1	Base Plate and Earth Continuity Plate Designs for GB-400/2 Terminal Box	C	17/12/07
1697/A3	1	Earth Continuity Plate Designs for GB-255 Terminal Box	C	17/12/07
1776/A3	2	General Arrangement GB-80 Polyester Terminal Box	C	14/04/08
1777/A3	2	General Arrangement GB-110 Polyester Terminal Box	C	14/04/08
1778/A3	2	General Arrangement GB-120 Polyester Terminal Box	B	07/04/08
1779/A3	2	General Arrangement GB-220 Polyester Terminal Box	B	07/04/08
1780/A3	2	General Arrangement GB-160 Polyester Terminal Box	B	07/04/08
1781/A3	1	General Arrangement GB-260 Polyester Terminal Box	B	07/04/08
1782/A3	1	General Arrangement GB-255 Polyester Terminal Box	B	07/04/08
1783/A3	1	General Arrangement GB-400/2 Polyester Terminal Box	B	07/04/08
1784/A3	1	General Arrangement GB-400 Polyester Terminal Box	C	07/04/08
1785/A4	1	TS 32 and TS 35 Terminal Tails for the GB-122 Terminal Box	B	14/02/08
1786/A4		TS 32 and TS 35 Terminal Tails for the GB-160 Terminal Box	B	14/02/08
1787/A4	1	TS 32 and TS 35 Terminal Tails for the GB-260 Terminal Box	B	14/02/08
1788/A4	1	TS 32 and TS 35 Terminal Tails for the GB-255 Terminal Box	B	14/02/08



Document No.	Sheets	Document Title	Issue	Date
1789/A4	1	TS 32 and TS 35 Terminal Tails for the GB-400 Terminal Box	B	14/02/08
1790/A3	1	4 Way Earth Continuity Plate for the GB-122 Terminal Box	C	28/03/08
1791/A3	1	4 Way Earth Continuity Plate for the GB-122 Terminal Box	B	18/12/07
1792/A3	1	4 Way Earth Continuity Plate for the GB-160 Terminal Box	C	28/03/08
1793/A3	1	4 Way Earth Continuity Plate for the GB-160 Terminal Box	B	28/03/08
1794/A3	1	4 Way Earth Continuity Plate for the GB-260 Terminal Box	B	18/12/07
1796/A4	1	Baseefa Approval Label for the GB Range of Terminal Boxes	F	18/12/07
1797/A4	1	Earth Connection Facility Type XE-2 for use in Polyester Enclosures with or without Earth Continuity Plate	B	14/02/08
1798/A4	1	Earth Connection Facility Type XE-1 for use in Polyester Enclosures with or without Earth Continuity Plate	B	14/02/08
1799/A3	1	Earth Continuity Plate Design for GB-255 Terminal Box	B	18/12/07
1804/A4	1	Approval Label for FEEL Trade Agency Markings	C	19/12/07
1808/A3	1	Earth Continuity Plate Design for GB-260 Terminal Box	D	18/12/07
1809/A3	1	Earth Continuity Plate Design for GB-400 Terminal Box	D	18/12/07
1810/A3	1	Earth Continuity Plate Design for GB-400/2 Terminal Box	C	18/12/07
1829/A4	1	Approval Label for GB-122 Terminal Box (ATEX) – Thermon Trade Agency Markings	D	18/12/07
1830/A3*	3	Special Mounting Arrangements for QS Earth Bars	B	18/12/07
1837/A4	1	Approval Label for GB Terminal Box Range (ATEX) – GMI Ltd. Trade Agency Markings	G	18/12/07
1844/A4	1	Approval Label for GB Terminal Box Range (ATEX) – Draeger Trade Agency Markings	D	18/12/07
1867/A3	2	Special Lid Entry Arrangement for Bartec GB-220 Terminal Box	B	14/02/08
1868/A3	1	Special Earth Continuity Plate for GB-220 Terminal Box with Lid Mounted Entries	B	18/12/07
1869/A3	1	Special Earth Continuity Plate for GB-220 Terminal Box with Lid Mounted Entries	B	18/12/07
1882/A4	1	GB 220 Special Terminal Arrangement 8 SAK4 (Linked 4 groups of 2 + 5 EK4 Earths.	B	18/12/07
1963/A4	1	Adhesive Approval Label for the GB Range of Terminal Boxes	C	18/12/07
2016/A4*	1	Range of Stopping Plugs available for the GB and OTB Terminal Boxes	A	14/04/08
2017/A3*	8	Terminal Schedule for GB and OTB Terminal Boxes	1	16/04/08
2018/A3*	6	Terminal Schedule for GB and OTB Terminal Boxes	1	16/04/08
2019/A3*	8	Terminal Schedule for GB and OTB Terminal Boxes	1	16/04/08

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Document No.	Sheets	Document Title	Issue	Date
2020/A4*	3	Terminal Assembly Instructions for GB and OTB Terminal Boxes	1	14/04/08
2021/A4*	1	Internal Label for use on Terminal Boxes with mixed Terminals	A	14/04/08

The above drawings are common to, and held on, IECEX BAS 07.0033X.

The drawings marked with * are common to and held on IECEX BAS 07.0034X.



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa07ATEX0140X/2**

4 Equipment or Protective System: **GB Range of Terminal Boxes**

5 Manufacturer: **Bartec Varnost d.o.o.**

6 Address: **Cesta 9. Avgusta 59, 1410 Zagorje ob Savi, Slovenia.**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa07ATEX0140X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.



Baseefa Customer Reference No. **6609**

Project File No. **10/0980**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR 
DIRECTOR
On behalf of
Baseefa



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Schedule

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Certificate Number Baseefa07ATEX0140X/2

15 Description of the variation to the Equipment or Protective System

Variation 2.1

To permit the use of the Redapt PD-E-4 range of blanking elements with the terminal boxes. The blanking elements have an operating temperature range of -20°C to +40°C or -5°C to +40°C when using the Viton seals.

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17 Special Conditions for Safe Use

None additional to those listed previously.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
2016/A4	1 of 1	B	06/01/11	Range of Stopping Plugs available for GB and OTB Terminal Boxes