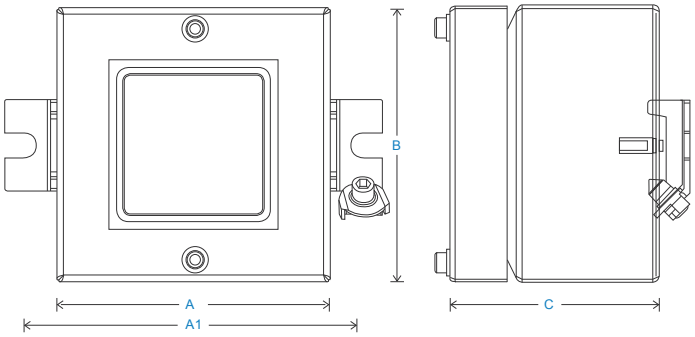
# HS-IJE ATEX Junction Enclosure
**Stainless Steel**

## Key Features

- Intrinsically Safe
- Accelerometer cable glanding
- Ease of installation
- Flexible combinations




## Technical Performance

| | | | |
|---|---|---|---|
| Inputs | Accelerometer cabling | Glanding | Glands supplied but not fitted |
| Output | Multi-core glanding | | Holes are punched for: |
| Material | 316L Stainless Steel | | Single input M12 - ø3.5-7mm cable |
| Dimensions | see: 'How To Order' table | | Single input M20 - ø7-13mm multi-core cable |
| Sealing | IP66 | | Multi input M20 - 3 x ø5.3mm |
| Door | Screw captive slotted | Mounting | supplied are 4 x Brackets |
| Certifications | Baseefa12ATEX0022X, IECEx BAS 12.0012X | EMC | EN61326-1:2013 |

## How To Order

**Product Prefix**
HS - Hansford Sensors

**Product Series**
JE - Junction Enclosure

| H | S | I | J | E | X | X | X | S | S |
|---|---|---|---|---|---|---|---|---|---|

**Intrinsically Safe**
I - ATEX Intrinsically Safe

**Channels** **Dimensions (in mm)**

| | A | B | C | A1 |
|---|---|---|---|---|
| 001-004 | 150 x | 150 x | 80 | (180) |

(others available on request)

**Options** (if required)
S - Material: Stainless Steel

Hansford Sensors
*Excellence in Vibration Monitoring*

www.hansfordsensors.com
sales@hansfordsensors.com

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: | **Baseefa12ATEX0022X** |
| 4 | Equipment or Protective System: | **Range of Stainless Steel Terminal Boxes** |
| 5 | Manufacturer: | **iLECSYS** |
| 6 | Address: | **Unit 4, Tring Industrial Estate, Upper Ickenfield Way, Tring, HP23 4JX. UK** |

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/ExTR12.0075/00**

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

**EN 60079-0:2009 EN 60079-7:2007 EN 60079-31:2009**

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 2G Ex e IIC T6 Gb (-20°C ≤ Ta ≤ +**°C) * See equipment description**
**II 2D Ex tb IIIC T85°C Db IP66**



Baseefa Customer Reference No. **6166**

Project File No. **08/0801**

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.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

**Baseefa**
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
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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.

13 **Schedule**

14 **Certificate Number Baseefa12ATEX0022X**

15 **Description of Equipment or Protective System**

The range of stainless steel terminal boxes consists of a range of empty enclosures that are component certified under certificates IECEx DNV 11.0005U/DNV11ATEX98909U. The range of terminal boxes is listed in the table below;

| Box Type | Dimensions |
|---|---|
| CuboX 121209 | 120 x 120 x 90mm |
| CuboX 151509 | 150 x 150 x 90mm |
| CuboX 152010 | 150 x 200 x 100mm |
| CuboX 202010 | 200 x 200 x 100mm |
| CuboX 252512 | 250 x 250 x 120mm |
| CuboX 203012 | 200 x 300 x 120mm |
| CuboX 204015 | 200 x 400 x 150mm |
| CuboX 303015 | 300 x 300 x 150mm |
| CuboX 403015 | 400 x 300 x 150mm |
| CuboX 404020 | 400 x 400 x 200mm |
| CuboX 406020 | 400 x 600 x 200mm |
| CuboX 508020 | 500 x 800 x 200mm |

The ambient temperature range of the terminal boxes is -55°C to +40°C....+65°C dependant on the wattage rating, see below. The terminal boxes are rated IP66/67. When the enclosures are fitted with gland plates the boxes are rated IP66.

The enclosure is constructed with mounting feet on each side of the enclosure which are accessible with the lid in place.

Various entries can be put into the enclosures these can be 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 gland plates.

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<br>SAK 4<br>SAK 6N<br>SAK 10<br>SAK 16<br>SAK 35 | IECEx KEM 06.0014U / KEMA97ATEX1798U | -50°C to +130°C (Melamine, KrG)<br>-50°C to +80°C (Polyamide, PA 66) |

| | | | |
|---|---|---|---|
| Protective conductor Terminal Block / Weidmuller | EK 4<br>EK 10<br>EK 35 | IECEx KEM 06.0014U / KEMA97ATEX1798U | 50°C to +130°C (Melamine, KrG)<br>-50°C to +80°C (Polyamide, PA 66) |
| Terminal Block / Weidmuller | WDU 2.5<br>WDU 4<br>WDU 6<br>WDU 10<br>WDU 16<br>WDU 35<br>WDU 50N<br>WDU 70N | IECEx ULD 05.0008U / KEMA98ATEX1683U | -50°C to +100°C |
| Protective conductor Terminal Block / Weidmuller | WPE 2.5<br>WPE 4<br>WPE 6<br>WPE 10 | | |
| Terminal Block / Weidmuller | WDK 2.5<br>WDK 2.5V<br>WDK 2.5N<br>WDK 2.5N V<br>WDK 4N<br>WDK 4N V | IECEx ULD 05.0008U / KEMA00ATEX2061U | -40°C to +80°C |
| Protective conductor Terminal Block / Weidmuller | WDK 2.5DU/PE<br>WDK 2.5N DU/PE<br>WDK 4N DU/PE | | |
| Terminal Block / Wieland | WK 4/D 1/2U<br>WK 4/D 2/2U<br>WK 4/D E/U<br>WK 4 E/U<br>WK 4 E/U V/B | KEMA02ATEX2114U | |
| Protective conductor Terminal Block / Wieland | WK 4/D 2/2 SL U | | |
| Terminal Block / Wieland | WK 2.5/U<br>WK 4/U<br>WK 6/U<br>WK 10/U<br>WK 16/U<br>WKN 35/U<br>WKN 70/U<br>WKN 150/U | | |

| | | | |
|---|---|---|---|
| Protective conductor Terminal Block / Wieland | WK 4 SL/U | KEMA02ATEX2114U | -40°C to +80°C |
| | WK 6 SL/U | | |
| | WK 10 SL/U | | |
| | WK 16 SL/U | | |
| | WK 35 SL/U | | |
| | WK 70 SL/U | | |
| Terminal Block / Weidmuller | BK 2/E<br>BK 3/E<br>BK 4/E<br>BK 6/E<br>BK 12/E | IECEx SIR 05.0035U / SIRA01ATEX3247U | -50°C to +130°C |
| Terminal Block / Weidmuller | MK 6 | IECEx SIR 05.0037U / SIRA01ATEX3249U | -50°C to +130°C |
| Terminal Block / Weidmuller | AKZ 1.5 | IECEx SIR 05.0038U / SIRA02ATEX3001U | -50°C to +130°C (Melamine, KrG)<br>-50°C to +90°C (Polyamide, PA 66)<br>-50°C to +110°C (Wemid)<br>-50°C to +130°C (Stamin, KrS) |
| | AKZ 2.5 | | |
| | AKZ 4 | | |
| Protective conductor Terminal Block / Weidmuller | AKE | | |
| Terminal Block / Weidmuller | DK 4 | IECEx SIR 05.0041U / SIRA02ATEX3316U | -50°C to +90°C |
| | DK 4Q | | |
| | DK 4QV | | |
| Protective conductor Terminal Block / Weidmuller | DK 4Q / EN | | |
| | DK 4QV / EN | | |
| Terminal Block / Weidmuller | WFF 35 | IECEx KEM 07.0053U / KEMA98ATEX1684U | -50°C to +80°C |
| | WFF 70 | | |
| | WFF 120 | | |
| | WFF 185 | | |
| | WFF 300 | | |
| *Protective conductor Secured Mantle Terminal * / WECO* | DFG-1-E-EN<br>DFG-2-E-EN<br>DFG-3-E-EN<br>DFG-5-E-EN | PTB 03 ATEX 1117U | -20°C to +130°C |
| Breather Drains / Raxton | CT range | IECEx SIR 08.0127U / Sira08ATEX1288U | -30°C to +80°C (Nitrile o-ring) / IP66 |
| Breather Drains / Raxton | CV type | IECEx SIR 09.0096U / Sira10ATEX3279U | -20°C to +40°C / IP66 |

| | | | |
|---|---|---|---|
| Blanking elements / Redapt | PD-U and PD-E-4 type | IECEx SIR 05.0042U | PD-U<br>-30°C to +180°C/<br>IP66<br><br>PD-E<br>-20°C to +40°C<br>(Nitrile o-ring) /<br>IP66 |
| Adaptors and reducers / Redapt | AD-E-4 and RD-E-4 | Sira99ATEX3116U | -20°C to +40°C /<br>IP66 |
| Breather Drains / Redapt | DP-E range | Sira99ATEX3050U | -50°C to +85°C /<br>IP66 |
| Reducer and adaptors / R.Stahl | Type 8295 | PTB02ATEX1067U | -55°C to +130°C /<br>IP54<br>(Gas atmospheres only) |
| Reducer and adaptors / Raxton | Type AR and BR, and AU and AX | Sira10ATEX1226U | -20°C to +40°C /<br>IP66 |

** This terminal has a component certificate and is assessed only to EN 60079-0:2006 and EN 60079-7:2007. The terminal is only used as an earth connection facility.*

Terminals can be mounted on horizontal rails, these are then in turn mounted to the base of the enclosure via a base plate secured to standoff pillars welded to the enclosure wall.

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:

Power = $I^2 \times N (R_t + R_c)$ 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 within the range of terminal boxes is as follows:

| | Maximum Wattage (W) | | |
|---|---|---|---|
| Enclosure Type | Ta +40°C | Ta +55°C | Ta +65°C |
| CuboX 121209 | 2.5 | 1.5 | 0.9 |
| CuboX 151509 | 3.7 | 2.3 | 1.3 |
| CuboX 152010 | 4.8 | 3.0 | 1.8 |
| CuboX 202010 | 5.9 | 3.6 | 2.2 |
| CuboX 252512 | 9.0 | 5.6 | 3.3 |
| CuboX 203012 | 8.9 | 5.5 | 3.3 |
| CuboX 204015 | 12.5 | 7.8 | 4.6 |
| CuboX 303015 | 13.3 | 8.3 | 4.9 |
| CuboX 403015 | 16.6 | 10.3 | 6.2 |
| CuboX 404020 | 23.6 | 14.7 | 8.8 |
| CuboX 406020 | 32.5 | 20.3 | 12.1 |
| CuboX 508020 | 23.9 | 14.9 | 8.9 |

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:-

- internal/external M6 or M10 earth connection facilities can be fitted through any side face of the enclosure.

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

- the enclosures can be constructed from mild steel and painted.

## 16 Report Number

GB/BAS/ExTR12.0075/00

## 17 Specific Conditions of Use

1. All unused cable entries shall be fitted with a blanking element. The permitted component certified blanking elements for this terminal box are listed on this certificate above.
2. The end user must ensure that a minimum ingress protection of IP66/67 is achieved at each entry to the enclosure by use of a suitable IECEx/ATEX certified blanking element or cable entry device. The blanking element or cable entry device must be fitted with a sealing washer. If the ingress protection of the device fitted has a rating lower then IP66/67, then the overall rating of the enclosure will be restricted to the lowest rating. A minimum rating of IP54 is required for gas applications and a minimum of IP6X is required for dust applications.
3. When used in dust atmospheres any dust layers occurring shall have a maximum depth of no greater than 5mm.
4. The user may only drill entry holes into the terminal box faces and gland plates in the permitted positions verified by the manufacturer.
5. All terminal screws, used or unused, shall be fully tightened down by the end user.
6. 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.
7. 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.
8. 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.
9. The maximum current, voltage and dissipated power specified on the rating label must not be exceeded for the terminal box. When there is more then one type of terminal fitted the maximum current and voltage shown on the internal label given for each terminal must not be exceeded.
10. If a conductor is installed with a cross-sectional-area less then 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. Guidance should be taken from the manufacturer in this situation.

## 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

| Number | Sheet | Issue | Date | Description |
|---|---|---|---|---|
| iLECSYS ATEX Label for Stainless Steel Terminal Boxes | 1 | A | 13/01/12 | ATEX Equipment Label for Stainless Steel Terminal Boxes |
| * Labels GA | 1 | A | 24/01/12 | General Arrangement for Electrostatic and Entry Labels |
| CuboX121209-Equipment | 1 | A | 10/01/12 | CuboX 121209 Terminal Enclosure Equipment Drawing |
| CuboX151509-Equipment | 1 | A | 01/02/12 | CuboX 151509 Terminal Enclosure Equipment Drawing |
| CuboX152010-Equipment | 1 | A | 01/02/12 | CuboX 152010 Terminal Enclosure Equipment Drawing |
| CuboX202010-Equipment | 1 | A | 01/02/12 | CuboX 202010 Terminal Enclosure Equipment Drawing |
| CuboX203012-Equipment | 1 | A | 01/02/12 | CuboX 203012 Terminal Enclosure Equipment Drawing |
| CuboX204015-Equipment | 1 | A | 01/02/12 | CuboX 204015 Terminal Enclosure Equipment Drawing |
| CuboX252512-Equipment | 1 | A | 01/02/12 | CuboX 252512 Terminal Enclosure Equipment Drawing |
| CuboX303015-Equipment | 1 | A | 01/02/12 | CuboX 303015 Terminal Enclosure Equipment Drawing |
| CuboX403015-Equipment | 1 | A | 01/02/12 | CuboX 403015 Terminal Enclosure Equipment Drawing |
| CuboX404020-Equipment | 1 | A | 01/02/12 | CuboX 404020 Terminal Enclosure Equipment Drawing |
| CuboX406020-Equipment | 1 | A | 04/02/12 | CuboX 406020 Terminal Enclosure Equipment Drawing |
| CuboX508020-Equipment | 1 | A | 04/02/12 | CuboX 508020 Terminal Enclosure Equipment Drawing |
| * Earth Stud GA | 1 | A | 09/12/11 | General Arrangement for the XE-1 & XE-2 Earth Studs |
| * Weidmuller SAK Terminal Schedule | 1 | A | 25/01/12 | Terminal Schedule for Weidmuller SAK Range |
| * Weidmuller WDK Terminal Schedule | 1 | A | 25/01/12 | Terminal Schedule for Weidmuller WDK Range |
| * Weidmuller WDU Terminal Schedule | 1 | A | 25/01/12 | Terminal Schedule for Weidmuller WDU Range |
| * Weidmuller AKZ Terminal Schedule | 1 | A | 31/03/10 | Terminal Schedule for Weidmuller AKZ Range |
| * Weidmuller BK Terminal Schedule | 1 | A | 31/03/10 | Terminal Schedule for Weidmuller BK Range |
| * Weidmuller DK4 Terminal Schedule | 1 | A | 31/03/10 | Terminal Schedule for Weidmuller DK4 Range |
| * Weidmuller MK6 Terminal Schedule | 1 | A | 31/03/10 | Terminal Schedule for Weidmuller MK6 Range |
| * Weidmuller WFF Terminal Schedule | 1 | A | 31/03/10 | Terminal Schedule for Weidmuller WFF Range |

| Number | Sheet | Issue | Date | Description |
|---|---|---|---|---|
| * Wieland WK4 Terminal Schedule | 1 | A | 25/01/12 | Terminal Schedule for Wieland WK4 Range |
| * Wieland WK Terminal Schedule | 1 | A | 25/01/12 | Terminal Schedule for Wieland WK Range |
| * WECO DFG Terminal Schedule | 1 | A | 14/12/11 | Terminal Schedule for WECO DFG Earth Pillars |

The above drawings are common to, and held on, IECEx BAS 12.0012X.

* These drawings are also common to, IECEx BAS 12.0014X and Baseefa12ATEX0021X

# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION
## IEC Certification Scheme for Explosive Atmospheres

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

| | | |
|---|---|---|
| Certificate No.: | IECEx BAS 12.0012X issue No.:0 | Certificate history: |
| Status: | **Current** | |
| Date of Issue: | **2012-05-16** | Page 1 of 3 |

Applicant:

**iLECSYS**
Unit 4 Tring Industrial Estate
Upper Ickenfield Way
Tring
HP23 4JX
**United Kingdom**

Electrical Apparatus: **Range of Stainless Steel Terminal Boxes**
*Optional accessory:*

Type of Protection: **Increased safety 'e', Protection by enclosure 't'**

Marking: **Ex e IIC T6 Gb**
**Ex tb IIIC T85°C Db**
**IP66**

*Approved for issue on behalf of the IECEx Certification Body:* R S Sinclair

*Position:* General Manager

*Signature:*
*(for printed version)*

*Date:* 16/5/12

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 the Official IECEx Website.

Certificate issued by:

**Baseefa**
**Rockhead Business Park**
**Staden Lane**
**Buxton**
**Derbyshire**
**SK17 9RZ**
**United Kingdom**

Baseefa

# IECEx Certificate of Conformity

Certificate No.: IECEx BAS 12.0012X

Date of Issue: **2012-05-16** Issue No.: **0**



Manufacturer: **iLECSYS**
Unit 4 Tring Industrial Estate
Upper Ickenfield Way
Tring
HP23 4JX
**United Kingdom**

Manufacturing location(s):

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 electrical apparatus 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 : 2007-10**<br>Edition: 5 | Explosive atmospheres - Part 0:Equipment - General requirements |
| **IEC 60079-31 : 2008**<br>Edition: 1 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't' |
| **IEC 60079-7 : 2006-07**<br>Edition: 4 | Explosive atmospheres - Part 7: Equipment protection by increased safety "e" |

*This Certificate **does not** indicate compliance with electrical 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:
GB/BAS/ExTR12.0075/00

Quality Assessment Report:

GB/BAS/QAR12.0007/00

# IECEx Certificate of Conformity

Certificate No.: IECEx BAS 12.0012X

Date of Issue: **2012-05-16** Issue No.: **0**



**Schedule**

**EQUIPMENT:**
*Equipment and systems covered by this certificate are as follows:*

The range of stainless steel terminal boxes is full described in the Annex to this certificate.

**CONDITIONS OF CERTIFICATION: YES as shown below:**

1. All unused cable entries shall be fitted with a blanking element. The permitted component certified blanking elements for this terminal box are listed on this certificate above.

2. The end user must ensure that a minimum ingress protection of IP66/67 is achieved at each entry to the enclosure by use of a suitable IECEx/ATEX certified blanking element or cable entry device. The blanking element or cable entry device must be fitted with a sealing washer. If the ingress protection of the device fitted has a rating lower then IP66/67, then the overall rating of the enclosure will be restricted to the lowest rating. A minimum rating of IP54 is required for gas applications and a minimum of IP6X is required for dust applications.

3. When used in dust atmospheres any dust layers occurring shall have a maximum depth of no greater than 5mm.

4. The user may only drill entry holes into the terminal box faces and gland plates in the permitted positions verified by the manufacturer.

5. All terminal screws, used or unused, shall be fully tightened down by the end user.

6. 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.

7. 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.

8. 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.

9. The maximum current, voltage and dissipated power specified on the rating label must not be exceeded for the terminal box. When there is more then one type of terminal fitted the maximum current and voltage shown on the internal label given for each terminal must not be exceeded.

10. If a conductor is installed with a cross-sectional-area less then 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. Guidance should be taken from the manufacturer in this situation.

**Annexe:** IECEx BAS 12.0012X Annex.pdf

**Baseefa**
Rockhead Business Park
Staden lane, Buxton, Derbyshire
SK17 9RZ
United Kingdom

ANNEX to IECEx BAS 12.0012X Issue No. 0 Date: 15/05/2012

The range of stainless steel terminal boxes consists of a range of empty enclosures that are component certified under certificates IECEx DNV 11.0005U/DNV11ATEX98909U. The range of terminal boxes is listed in the table below;.

| Box Type | Dimensions |
|---|---|
| CuboX 121209 | 120 x 120 x 90mm |
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The ambient temperature range of the terminal boxes is -55°C to +40°C....+65°C dependant on the wattage rating, see below. The terminal boxes are rated IP66/67. When the enclosures are fitted with gland plates the boxes are rated IP66.

The enclosure is constructed with mounting feet on each side of the enclosure which are accessible with the lid in place.

Various entries can be put into the enclosures these can be 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 gland plates.

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 | IECEx KEM 06.0014U / KEMA97ATEX1798U | -50˚C to +130˚C (Melamine, KrG)<br>-50˚C to +80˚C (Polyamide, PA 66) |
| | SAK 4<br>SAK 6N<br>SAK 10<br>SAK 16<br>SAK 35 | | |

| | | | |
|---|---|---|---|
| Protective conductor Terminal Block / Weidmuller | EK 4<br>EK 10<br>EK 35 | IECEx KEM 06.0014U / KEMA97ATEX1798U | -50˚C to +130˚C (Melamine, KrG)<br>-50˚C to +80˚C (Polyamide, PA 66) |
| Terminal Block / Weidmuller | WDU 2.5<br>WDU 4<br>WDU 6<br>WDU 10<br>WDU 16<br>WDU 35<br>WDU 50N<br>WDU 70N | IECEx ULD 05.0008U / KEMA98ATEX1683U | -50˚C to +100˚C |
| Protective conductor Terminal Block / Weidmuller | WPE 2.5<br>WPE 4<br>WPE 6<br>WPE 10 | | |
| Terminal Block / Weidmuller | WDK 2.5<br>WDK 2.5V<br>WDK 2.5N<br>WDK 2.5N V<br>WDK 4N<br>WDK 4N V | IECEx ULD 05.0008U / KEMA00ATEX2061U | -40°C to +80°C |
| Protective conductor Terminal Block / Weidmuller | WDK 2.5DU/PE<br>WDK 2.5N DU/PE<br>WDK 4N DU/PE | | |
| Terminal Block / Wieland | WK 4/D 1/2U<br>WK 4/D 2/2U<br>WK 4/D E/U<br>WK 4 E/U<br>WK 4 E/U V/B | KEMA02ATEX2114U | |
| Protective conductor Terminal Block / Wieland | WK 4/D 2/2 SL U | | |
| Terminal Block / Wieland | WK 2.5/U<br>WK 4/U<br>WK 6/U<br>WK 10/U<br>WK 16/U<br>WKN 35/U<br>WKN 70/U<br>WKN 150/U | | |

| | | | |
|---|---|---|---|
| Protective conductor Terminal Block / Wieland | WK 4 SL/U | KEMA02ATEX2114U | -40°C to +80°C |
| | WK 6 SL/U | | |
| | WK 10 SL/U | | |
| | WK 16 SL/U | | |
| | WK 35 SL/U | | |
| | WK 70 SL/U | | |
| Terminal Block / Weidmuller | BK 2/E<br>BK 3/E<br>BK 4/E<br>BK 6/E<br>BK 12/E | IECEx SIR 05.0035U / SIRA01ATEX3247U | -50˚C to +130˚C |
| Terminal Block / Weidmuller | MK 6 | IECEx SIR 05.0037U / SIRA01ATEX3249U | -50˚C to +130˚C |
| Terminal Block / Weidmuller | AKZ 1.5 | IECEx SIR 05.0038U / SIRA02ATEX3001U | -50°C to +130°C (Melamine, KrG)<br>-50˚C to +90˚C (Polyamide, PA 66)<br>-50˚C to +110˚C (Wemid)<br>-50˚C to +130˚C (Stamin, KrS) |
| | AKZ 2.5 | | |
| | AKZ 4 | | |
| Protective conductor Terminal Block / Weidmuller | AKE | | |
| Terminal Block / Weidmuller | DK 4 | IECEx SIR 05.0041U / SIRA02ATEX3316U | -50˚C to +90˚C |
| | DK 4Q | | |
| | DK 4QV | | |
| Protective conductor Terminal Block / Weidmuller | DK 4Q / EN | | |
| | DK 4QV / EN | | |
| Terminal Block / Weidmuller | WFF 35 | IECEx KEM 07.0053U / KEMA98ATEX1684U | -50°C to +80°C |
| | WFF 70 | | |
| | WFF 120 | | |
| | WFF 185 | | |
| | WFF 300 | | |
| *Protective conductor Secured Mantle Terminal * / WECO* | DFG-1-E-EN<br>DFG-2-E-EN<br>DFG-3-E-EN<br>DFG-5-E-EN | PTB 03 ATEX 1117U | -20˚C to +130˚C |
| Breather Drains / Raxton | CT range | IECEx SIR 08.0127U / Sira08ATEX1288U | -30°C to +80°C (Nitrile o-ring) / IP66 |
| Breather Drains / Raxton | CV type | IECEx SIR 09.0096U / Sira10ATEX3279U | -20°C to +40°C / IP66 |

| | | | |
|---|---|---|---|
| Blanking elements / Redapt | PD-U and PD-E-4 type | IECEx SIR 05.0042U | PD-U<br>-30°C to +180°C/<br>IP66<br><br>PD-E<br>-20°C to +40°C<br>(Nitrile o-ring) /<br>IP66 |
| Adaptors and reducers / Redapt | AD-E-4 and RD-E-4 | Sira99ATEX3116U | -20°C to +40°C /<br>IP66 |
| Breather Drains / Redapt | DP-E range | Sira99ATEX3050U | -50°C to +85°C /<br>IP66 |
| Reducer and adaptors / R.Stahl | Type 8295 | PTB02ATEX1067U | -55°C to +130°C /<br>IP54<br>(Gas atmospheres only) |
| Reducer and adaptors / Raxton | Type AR and BR, and AU and AX | Sira10ATEX1226U | -20°C to +40°C /<br>IP66 |

** This terminal has a component certificate and is assessed only to EN 60079-0:2006 and EN 60079-7:2007. The terminal is only used as an earth connection facility.*

Terminals can be mounted on horizontal rails, these are then in turn mounted to the base of the enclosure via a base plate secured to standoff pillars welded to the enclosure wall.

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:

Power = $I^2 \times N (R_t + R_c)$ 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 within the range of terminal boxes is as follows:

| | Maximum Wattage (W) | | |
|---|---|---|---|
| Enclosure Type | Ta +40˚C | Ta +55˚C | Ta +65˚C |
| CuboX 121209 | 2.5 | 1.5 | 0.9 |
| CuboX 151509 | 3.7 | 2.3 | 1.3 |
| CuboX 152010 | 4.8 | 3.0 | 1.8 |
| CuboX 202010 | 5.9 | 3.6 | 2.2 |
| CuboX 252512 | 9.0 | 5.6 | 3.3 |
| CuboX 203012 | 8.9 | 5.5 | 3.3 |
| CuboX 204015 | 12.5 | 7.8 | 4.6 |
| CuboX 303015 | 13.3 | 8.3 | 4.9 |
| CuboX 403015 | 16.6 | 10.3 | 6.2 |
| CuboX 404020 | 23.6 | 14.7 | 8.8 |
| CuboX 406020 | 32.5 | 20.3 | 12.1 |
| CuboX 508020 | 23.9 | 14.9 | 8.9 |

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:-

- internal/external M6 or M10 earth connection facilities can be fitted through any side face of the enclosure.

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

- the enclosures can be constructed from mild steel and painted.

Date: 08/08/12

# EC Declaration of Conformity

Manufacturer:

iLECSYS, Unit 4, Tring Industrial Estate, Upper Icknield Way, Tring, HP23 4JX

Equipment Type:

Range of Stainless Steel Terminal Boxes

EC - Type Examination Certificate:

Baseefa12ATEX0022X

Equipment Marking:

II 2G Ex e IIC T6 Gb
II 2D Ex tb IIIC T85°C Db IP66

The stated EC Type Examination Certificate and Equipment Markings have been assessed by the Notified Body:

Baseefa 1180 Buxton UK

On behalf of iLECSYS, I declare that the equipment defined by this declaration is in conformity with the essential requirements of the Atex directive

94/9/EC

In accordance to the following Harmonised Standards

EN 60079-0:2009 / IEC 60079-0: 2007-10 Edition: 5
EN 60079-7:2007 / IEC 60079-7: 2006-07 Edition: 4
EN 60079-31:2009 / IEC 60079-31: 2008 Edition: 1

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