

EX e Termination box fiber

Installation Manual



Note: To ensure proper operation, please read this manual thoroughly before using the product and retain the information for future reference.

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EX e Termination box fiber
Installation Manual v1 (162112-1)
AIT55

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Although considerable care has been taken to ensure a correct and suitably comprehensive description of all relevant product components, this manual may nonetheless contain errors and inaccuracies. We invite you to offer your suggestions and comments by email via t.writing@tkhsecurity.com. Your feedback will help us to further improve our documentation.

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1 EX e Termination box fiber - Installation manual

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1.1 Note on instructions

When working in hazardous areas, the safety of personnel and equipment depends on compliance with the relevant safety regulations. The people in charge of installation and maintenance bear a special responsibility. It is essential that they have an exact knowledge of the applicable rules and regulations.

The instructions provide a summary of the most important safety measures and must be read by everyone working with the product so that they will be familiar with the correct handling of the product.

The instructions have to be kept for future reference and must be available throughout the expected life of the product.

1.2 Description

The metallic enclosure and cabinet distribution boxes with flange Type 07-56..-..../.... are used for connections and distribution of incoming and outgoing cables and wires with certified connecting and/or rail-mounted terminals.

The walls of the Enclosure, lid/door and base consist of several edged and welded high-grade stainless steel of at least 1 mm thickness.

The flange plates with tapped holes for the cable and conduit entries are at least 3 mm thick. The cover is made of a lid and/or a door, which is fixed with hinges, under the span of sealing elements. The box cover is then tightened with screws with sealing elements. The enclosures are mounted with mounting brackets found outside of the enclosure wall.

The distribution boxes are used for connection with lights, devices and sensors.

The boxes meet the relevant standards EN 60079-0:2009, EN 60079-7:2007 and EN 60079-11:2007, EN 60079-31:2009 and are developed, manufactured and examined in accordance with EN ISO 9001 and EN 60999.

The distribution boxes are also suitable for intrinsically safe electric circuits connection. For this application, special marking is required.

The distribution boxes can be used in hazardous areas of both zone 1 and 2 with certified explosion subgroups II and the temperature class T5/T6 and as well as in zone 21 and 22 with certified max. surface temperature.

1.3 Explosion protection

ATEX

Ex protection type -Typ 07-56.2 -..../....



II 2G Ex e IIC T6, T5 Gb

II 2D Ex tb IIIC T80°C, T95°C Db

Certification

IBExU 99 ATEX 1096

IECEx

Ex protection type -Typ 07-56.2 -..../....

Ex e IIC T6, T5 Gb

Ex tb IIIC T80°C, T95°C Db

Certification

IECEx IBE 09.0017

Ambient temperature ranges

EPDM-Seal $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$ (T5)

$-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ (T6)

Approved for zones

1 and 2

21 and 22

1.4 Technical data

Protection class

Max. IP 66 for enclosures with lid

Max .IP 65 for enclosures with doors

Rated voltage (U_e)

AC/DC 1000 V

Enclosure material / manufacturing process

1.4301, AISI 304 high-quality stainless steel

optional: 1.4404, AISI 316 L high-quality stainless steel

Surface: brushed, painted or electro-polished on request

Lid screws

Stainless Steel, captive

Mechanical strength

Impact energy 7 Joule

Terminals

Weidmüller

WDU 4 for power connections

WDU 2.5 for others

1.5 Safety precautions

With electrical equipment, the installation and operating regulations are to be adhered to (for example, RL 1999/92/EG, RL94/9EG, IEC/EN 60079-14, IEC/EN 61241-14 and series DIN VDE0100). The operator of the electrical equipment in hazardous area has to operate, supervise and maintain the equipment in good condition (EN 60079-14).






If any part of the equipment is damaged, it should be exchanged only with original parts (e.g. sealing gasket/cable glands). Assembly/disassembly, operation and maintenance work should be done only by trained technical personnel.

As for distribution boxes used in flammable dust, the ignition temperature of the dust/air mixture and the glowing temperature of the dust concerned must be greater than the maximum surface temperature of the distribution box taking into account of the given safety factor specified in EN 60079-0.

All generally accepted legal rules and the other obligatory guidelines of industrial safety, accident prevention and environmental protection must be observed.

1.6 Marking

Particularly important points in these instructions are marked with a symbol:

 DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
 NOTICE	NOTICE is used to address practices not related to personal injury.
 Note	Important instructions and information on effective, economical and environmentally compatible handling.

1.7 Standards conformed to

IEC 60079-0:2007 / EN 60079-0:2009

IEC 60079-11:2006 / EN 60079-11:2007

IEC 60079-7:2006 / EN 60079-7:2007

IEC 60079-31:2008 / IEC 60079-31:2007

1.8 Assembly, installation, and commissioning

WARNING

Before performing any operation, turn off the power. The installation of the unit can be performed only by qualified personnel in accordance with the relevant code of practice (e.g., EN60079-14) and with all the relevant local and national standards including but not limited to the use of special pipes, tapes, sealants, cables and glands. Do not connect the unit to a supply circuit unless the installation is completed.

1.8.1 Assembly

WARNING

Risk of injury due to incorrect proceedings

- Only authorised and qualified personnel may do any of the assembly, disassembly, installation and commissioning work.
- Pay attention to the type of mounting required (for fitting into enclosure/attachment with junction box).
- Use suitable tools.
- For assembly and operation of explosion-protected electrical equipment, relevant installation and operating regulations are to be adhered to (for example, IEC/EN 60079-14 and series DIN VDE 0100).
- The data on the label and the EEC design test data are to be observed. Further technical information of the Ex distribution boxes are provided on the product itself.
- The assembly with connecting and/or rail-mounted terminals may be implemented under the consideration of the EEC design inspection certificate.

Take care when connecting conductors:

- 1 Remove approx. 6 mm (0.236 in) conductor insulation from the cores.
 - 2 Prepare the ends of fine-stranded and multistranded conductors.
Crimp wire end sleeves with suitable crimping tools in order to achieve a constant pressure quality.
 - 3 Release terminals.
 - 4 Insert the wires into the terminals.
 - 5 Tighten the terminals with a maximum permissible torque depending on the size of the screws.
-
- An all-pole mains switch with an opening distance between the contacts at least 3 mm in each pole must be incorporated in the electrical installation. The switch must be equipped with protection against the fault current towards the ground (differential) and the overcurrent (magnetothermal, maximum 5 A). It must be very quickly recognisable and readily accessible. Install a suitable overcurrent protection.
 - The cable connection is to be accomplished carefully, so that the single wires are not damaged.
 - All terminal positions, including the unused ones, are to be tightened firmly.
 - The connections must be secured against self-loosening.
 - In hazardous areas, an **equipotential bonding of at least 4 mm² is necessary**.

1.8.2 Installation

CAUTION

- For enclosures placed outdoors, steps must be taken to ensure smooth operation, by using rain protected roofs for example, and if necessary, sufficient enclosure protection.
- Installations for the highly combustible range must exhibit an EEC design inspection certificate. Installation of these components must take place in such way that the enclosure at least remains IP54.
- Connection of cables and conductors to equipment in hazardous areas require Ex-certified entries, which are suitable for respective cable and conductor types. They must possess the protection type e" and contain a suitable sealing gasket.
- Unused holes for cable entries must be sealed with Ex-certified plugs. Connection of cables and conductors of zone 21 and 22 equipment require at least the protection class IP65.
- Make sure that the installation surface can support at least four times the weight of the unit in normal operating conditions. In case of excessive external stress (for example, vibration, strong winds or impact), the equipment may need additional means of protection.

1.8.3 Commissioning

CAUTION

Before commissioning, check that:

- The device has been installed in compliance with regulations.
- The device is not damaged.
- The connection has been established properly (make sure the cores are secure).

1.9 Operation, maintenance, and repair

For maintenance and/or repair the provided safety regulations are to be adhered to.

1.9.1 Operation

 CAUTION

Electrical equipment for a hazardous area must be selected according to the individual installation conditions. The operation of the equipment is to take place only in intact and clean condition. Electrical equipment, before putting into operation, and at certain time intervals, is to be subjected to examination by an electrical expert.

1.9.2 Maintenance and repair

 CAUTION

- **Maintenance and repair work may be accomplished only by the technical experts.**
- Check distribution box, actuating elements, cable entries, gaskets and cables regularly for cracks and damage. Make sure that they are properly established.

! Risk of serious accidents due to damaged parts

- If any part of the equipment is damaged, it should be exchanged only with original parts (for example, sealing gasket / cable glands / terminals).
- Before restarting the equipment, the applicable regulations and guidelines must be observed.

! Dust deposits > 5 mm must be removed.

1.10 Warning marks

 WARNING

DO NOT OPEN WHEN ENERGISED!

1.11 Transport, storage, and disposal

! Damage through incorrect transport or incorrect storage.

- Transport and storage is permissible in original packaging only.
- Store in a dry place in original packaging.



Disposal

! Ensure environmentally friendly disposal of all components according to legal regulations.

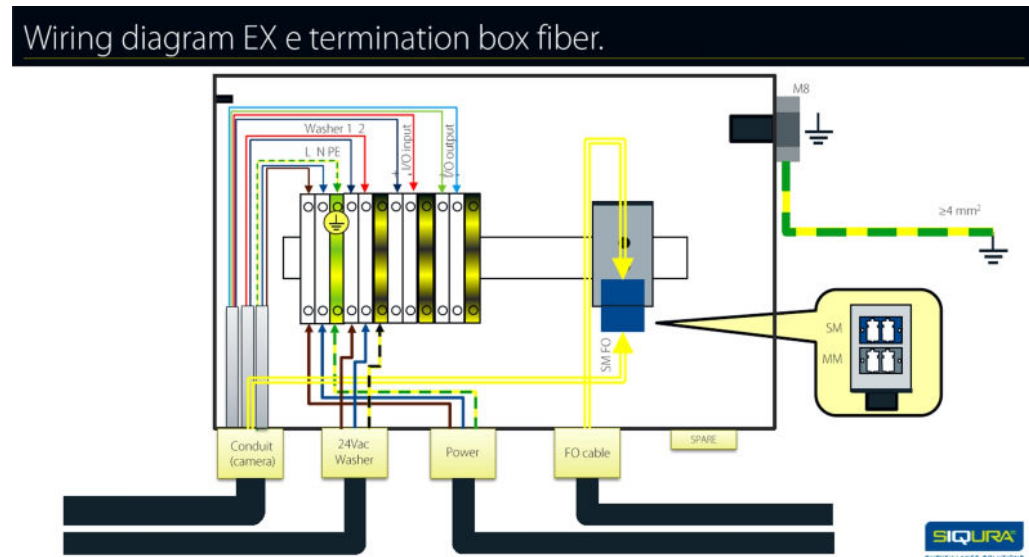
The components in the distribution box contain metal and plastic parts. Therefore, the statutory requirements for disposing of electronic scrap must be observed (for example, disposal by an approved disposal company).

1.12 Accessories and spare parts



For accessories and spare parts, contact Siquira.

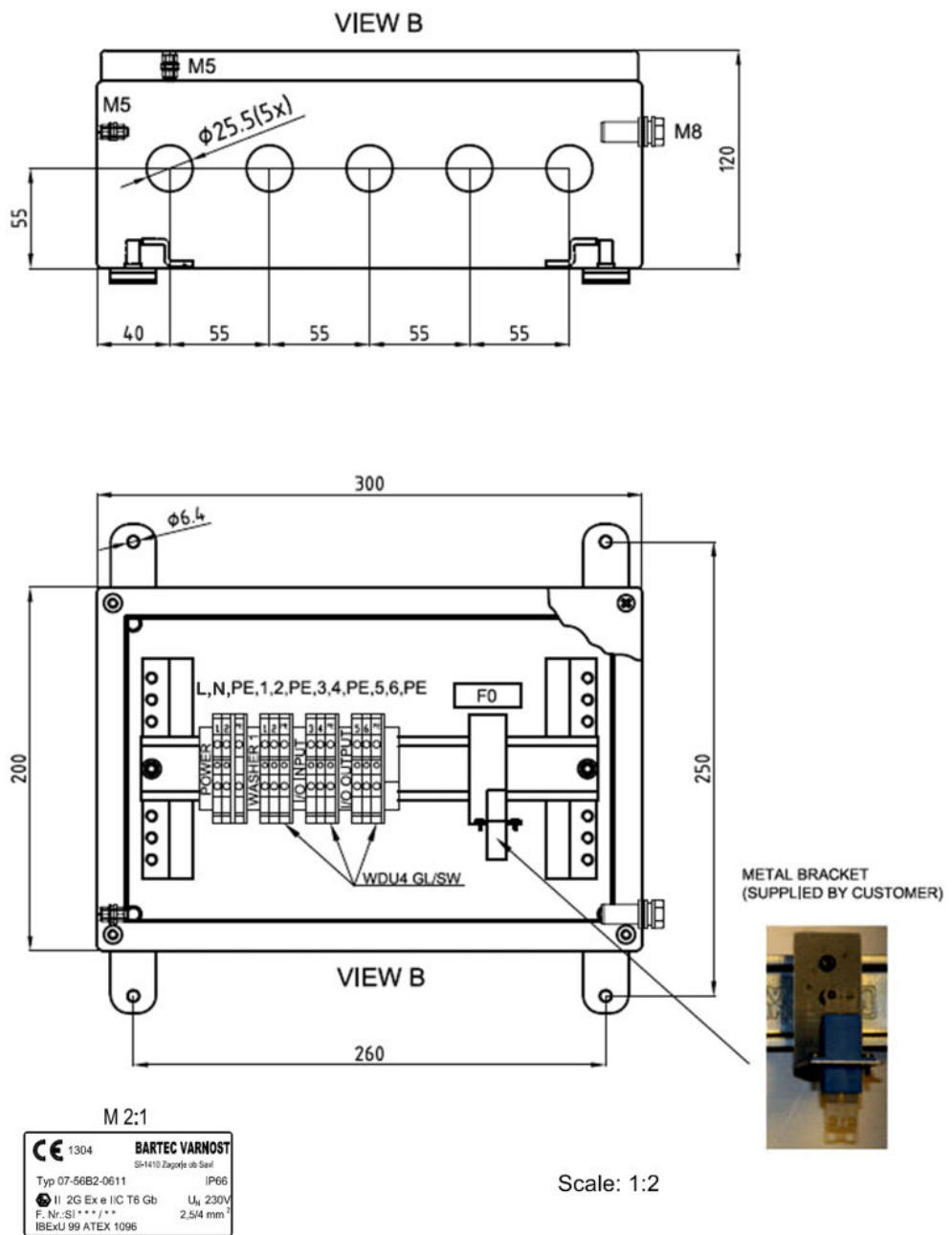
1.13 Wiring diagram Ex e Termination box fiber



⚠ WARNING

For potential equalisation, the EARTH of the Ex e Termination box fiber must be connected to the same "EARTH" used for the camera and washer tank. The connection can be performed using a wire, a mast, a bar or any other device having a minimum section of 4 mm². Materials used should be chosen taking care of avoiding any electrochemical corrosion effect.

1.14 Layout/Dimensions EX e Termination box fiber



1.15 CE Declaration of Conformity

Erklärung der EG-Konformität
Declaration of EC-Conformity
Attestation de conformité CE

BARTEC VARNOST
BARTEC VARNOST d.o.o.
Cesta 9. avgusta
SI-1410 Zagorje ob Savi

Wir We Nous

BARTEC Varnost d.o.o.

erklären in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that the product
attestons sous notre seule responsabilité que le produit



Gehäuse- und Schrankverteiler

Enclosure and Distribution Cubicle made of metal with flange

Coffret à boîtier et à armoire en métal à collerette

Typ: 07-56.-.../....

auf das sich diese Erklärung bezieht den Bestimmungen der folgenden Richtlinien entspricht

to which this declaration relates is in accordance with the provision of the following directives

se référant à cette attestation correspond aux dispositions des directives suivantes

94/9/EG

94/9/EC

94/9/CE

und mit folgenden Normen oder normativen Dokumenten übereinstimmt

and is in conformity with the following standards or other normative documents

et est conforme aux normes ou documents normalifs ci-dessous

EN 60079-0:2009 / IEC 60079-0:2007
EN 60079-7:2007 / IEC 60079-7:2006
EN 60079-11:2007 / IEC 60079-11:2006
EN 60079-31:2009 / IEC 60079-31:2008

Kennzeichnung

Marking

Marquage

Typ 07-56.2.../....

II 2G Ex e IIC T6, T5 Gb
II 2D Ex tb IIIC T80°C, T95°C Db

Typ 07-56.3.../....

II 2G Ex e ia/ib IIC T6, T5 Gb
II 2D Ex tb IIIC T80°C, T95°C Db

Typ 07-56.4.../....

II 2G Ex ia/ib IIC T6 Gb (Ta≤55°C)
II 2D Ex tb IIIC T80°C Db (Ta≤55°C)
II 2D Ex ia/ib IIIC T80°C Db (Ta≤55°C)

Verfahren der EG Baumusterprüfung/ Benannte Stelle

Procedure of EC - Type Examination / Notified Body

Procédure d'examen CE de type / Organisme Notifié

IBExU 99 ATEX 1096

IECEX IBE 09.0017

1304

Zagorje, den 25.7.2012

Janez Gajski
Technische Leiter