



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.

Description

The BARTEC Varnost Ex empty enclosure types 07-5180-.../.... may be used for fitting electrical and mechanical components.

The enclosure consists of Aluminium (AlSi 12). Lid and base are screwed together with stainless steel captive screws (+/- screw head). A groove-and-tongue system with inserted sealing cord between the lid and base assures the high protection class IP 66.

The enclosures are mounted by means of fixing holes outside of the sealed space.

Enclosures type 07-5180 can be used in hazardous areas of zone 1 and 2 with certified explosion subgroups II and also can be used in zone 21 and 22 with certified max. surface temperature.

Inspection glass can be installed in the enclosure lids, if required.

Explosion protection

ATEX

Ex type of protection

II 2G Ex e IIC Gb

II 2D Ex tb IIIC Db IP66

Certification

PTB 08 ATEX 1063U

IECEX

Ex type of protection

Ex e IIC Gb

Ex tb IIIC Db IP66

Certification

IECEX PTB 11.0032U

Working temperature ranges

Depending on the installed components; observe the specifications on the type label.

With EPDM gasket:

-28 °C to +95 °C (IP66)

-18.4 °F to +203 °F (IP66)

With inspection windows:

-25 °C to +95 °C

(-13 °F to +203 °F)

With silicone gasket:

-55 °C to +100 °C (IP66)

(-67 °F to +212 °F) (IP66)

Approved for zones

1 and 2

21 and 22

Technical data

Protection class

Max. IP66

Mechanical strength

Impact energy: 7 Joule

Enclosure material

- Aluminium, die or shell casting, (metal mould)
- ALSi 12, Mg < 6 thread -%

Colour/coating

- RAL 7001, silver grey
- special varnish and seawater-resistant varnish on request

Lid screws

Stainless Steel, cross-head (+/-)

Recommended tightening torque

M4 screw: ca. 1.2 Nm

M6 screw: ca. 1.4 Nm

Dimensions in mm (in)

From 58 x 64 x 36

(2.3 x 2.5 x 1.4)

to 600 x 310 x 180

(23.6 x 12.2 x 7.1),

see also Bartec catalogue

Safety instructions

The supplied Ex empty enclosures are U-certified components which serve as a basis for completely certified devices which then in their entirety must still be tested and approved by a specified agency for capability for use in potentially explosive areas.

The enclosure may be operated only if it is clean and not damaged in any way. Dust deposits > 5 mm (> 0.2 in) must be removed.

Utilization in areas other than those specified or the modification of the product by anyone other than the manufacturer is not permitted and will exempt BARTEC Varnost from liability for defects and any further liability.

The generally applicable statutory rules and other binding directives relating to workplace safety, accident prevention and environmental protection must be observed.

Observe the applicable laws and directives when commissioning or restarting operation.

Always follow the safety instructions on the operating equipment.

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.

Standards conformed to

2014/34/EU

as well as

EN 60079-0:2012/IEC 60079-0:2007-10

EN 60079-7:2007/IEC 60079-7:2006-07

EN 60079-31:2014/IEC 60079-31:2008

as well as

EN 61439-1:2011

EN 62208:2011

EN 60445:2010

EN 60529:1991 + A1:2000

Transport, storage

CAUTION

Risk of injury due to heavy loads.

- Use an appropriate carrying aid or an appropriate means of transport (e.g. a forklift) with an adequate load-carrying ability.
- Ensure that the lifted load will not tip over or slip off.

NOTICE

Damage through incorrect transport or incorrect storage.

- Transport the empty enclosure in original packaging, handle with care, and do not drop.
- Store the empty enclosures dry in original packaging.

Assembly, installation, and commissioning

WARNING

Risk of serious injury due to incorrect proceedings.

- Only qualified personnel who are authorized and trained to assemble electrical components in hazardous (potentially explosive) areas may do any of the assembly, disassembly, installation and commissioning work.
- For assembly and operation of explosion protected electrical equipment, relevant installation and operating regulations are to adhere (e.g. Betr.SichV, 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 are provided in the Bartec catalog and on the product itself.
- Do not open the enclosure when energized.
- Follow the components mounting instructions/operating instructions.

Assembly / disassembly

DANGER

Death or serious injury because of a missing protective earth connection.

- Metallic enclosures in hazardous areas require equipotential bonding with at least 4 mm².
- Protective earth connections have to be protected against self-loosening.

NOTICE

Damage to elements due to incorrect installation dimensions.

- The minimum spacing between the mounting holes must be observed, see manufacturer's instructions.

When processing the enclosures, attention must be paid to ensuring that there is suitable minimum spacing between individual boreholes and from the sealing edge of the enclosure so that enclosure with the fittings will be able to withstand an impact test.

The minimum spacing depends on the geometrical dimensions of the built-in components, a longer lever will require an increase in the minimum spacing and accordingly must be determined specially.

For accommodating use only components certified for the Ex areas such as terminals, switches, cable glands measuring instruments, control equipment and display units.

Check when assembling:

- Use suitable tools.
- Pay attention to the type of mounting required (for fitting into enclosure/attachment with junction box).
- For enclosures placed in outdoors, steps must be taken to ensure smooth operation, for example rain protected roofs, and if necessary, sufficient enclosure protection.

Note

Metallic enclosures for intrinsically safe facilities do not have to be attached to an equipotential bonding system, except if it is required by equipment documentation.

Installation

WARNING

Risk of injury due to incorrect proceedings.

- Extensions or modifications to the enclosure are only permissible if the manufacturer's approval is obtained first.
- The IEC/EN60079-14 must be observed.

Installations for the highly combustible range must exhibit an EEC design inspection certificate. Installation of these components must take place in such way, so that at least the enclosure 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, so that protection class of the enclosure remains at least IP54.

Take care when connecting conductors:

- Always use suitable crimping tools when crimping the wire-end ferrules to ensure a consistent quality of pressing each time.
 - CAUTION! Take care not to damage the individual wires.
- Tighten all terminal points securely (including those not in use).

Commissioning

Before commissioning, check that:

- The device has been installed in compliance with regulations.
- The device is not damaged.
- The connection has been established properly.
- The cables have been laid correctly.
- All screws have been tightened securely.
- The device functions perfectly.

Operation

DANGER

Death or serious injury through improper use.

- The device may be operated only within the technical limits that apply to it (see page 1).

Maintenance and fault clearance

WARNING

Risk of serious injury due to damaged parts.

- If any part of the equipment is damaged, it should be exchanged only with original parts (e.g. sealing gasket/cable glands/terminals).

WARNING

Risk of serious injury due to incorrect proceedings.

- Only authorized qualified personnel are allowed to do any of the work relating to maintenance and fault clearance.
- IEC/EN 60079-17 must be observed.
- Do not open the enclosure when energized.

Maintenance

WARNING

Risk of serious injury due to electrostatic charging.

- For windows with surface resistance of $>10^9 \Omega$, potential electrostatic charging hazard exist. Only wet cleaning is allowed.

The operator of the enclosure must keep it in good condition, monitor it and clean it regularly. He has to determine the maintenance intervals depending on the conditions of use.

Within the scope of maintenance:

- Check enclosure, actuating elements, cable entries, sealings, and cables regularly for cracks and damage.
- Make sure that they are properly established.

Fault clearance

The device is defective if the encapsulation is damaged and/or if one of the components does not function any longer.

In this case:

- Replace defective parts in the encapsulation with original parts immediately.
- Replace or repair the defective components with original parts.

Note

Follow the components mounting instructions/operating instructions to replace or repair the components.

Accessories, spare parts

For accessories and spare parts, see BARTEC catalogue.

Disposal

The enclosures and its components contain metal and plastic parts.

Therefore the statutory requirements for disposing of electronic scrap must be observed (e.g. disposal by an approved disposal company).

Note

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

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