



Note to instructions

When working in hazardous areas, the safety of personnel and equipment depends on compliance with the relevant safety regulations. Personnel in charge of installation and maintenance bear a special responsibility and must have required competence and knowledge of the applicable rules and regulations.

The instructions provide a summary of the most important safety measures and must be read by all personnel to ensure correct handling of the product.

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

Description

The Xbeam A EX is an ATEX and IECEx approved RF antenna for creating wireless networks and wireless telemetry systems in hazardous area. The antenna is optimized for use in steel and concrete structure environments where multipath effects and reflections are present.

The Xbeam A EX is a preferred solution where the access point can be placed in safe zone or safe area and where cable length does not exceed 30 meters.

The antenna must be mounted on the belonging bracket and the bracket has to be connected to earth. The antenna is constructed with a permanently connected, unterminated coax cable that must be properly protected and the connection must be carried out in an appropriate certified Ex-e or Ex-d enclosure, or in safe area. Additional clamping of the cable shall be installed, to ensure that pulling and twisting is not transferred to the terminations inside the antenna.

Type Xbeam A EX

Explosion protection

ATEX

Ex type of protection

CE 0470

II 2 G Ex eb IIC T6 Gb

II 2 D Ex tb IIIC T85°C Db, IP66 / IP67

EU Type Examination Certificate

Presafe 14 ATEX 4900 X

IECEx

Ex type of protection

Ex eb IIC T6 Gb

Ex tb IIIC T85°C Db, IP66 / IP67

Certificate of Conformity

IECEx PRE 14.0016X

Ambient temperature range

$-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

Ingress Protection

IP66 / IP67

Technical data

Supply data

U_n : Max 20 Vpp

P : 2 W

Frequency: 2,4 – 5,8 GHz

Production year

As stated on the marking label of the product

Serial number

As stated on the marking label of the product

Marking label

Please refer to notes on the marking label

Text label

'POTENTIAL ELECTROSTATIC
CHARGING HAZARD - SEE
INSTRUCTIONS'

Depending on the technical execution

Other applicable documents

Xbeam A EX Datasheet.

The retention of these documents is mandatory.

Increased Safety Product, BARTEC Technor Xbeam A EX

Read these installation instructions carefully before mounting, installation, commissioning and maintenance.

Notes on the marking label

Specific conditions of use which are important for the installation, the use or the maintenance of the product will be unabbreviated adopted into this manual.

In case of loss always mention the type and serial/batch number at BARTEC office.

Xbeam A EX F
| | | | Frequency
| | | EX version of the Xbeam antenna
| | Product version
| Product type

Typical type code: Xbeam A EX 2.4
means an Ex eb IIC / Ex tb IIIC antenna with 2.4 GHz frequency

Safety Instructions

The technical data, which are on the marking label need to be maintained just like all possible warning (caution) texts on the outside of the product.

On the basis of the Category or EPL marking you'll have to verify that the product is installed in the correct zone.

Zone	Category	EPL	Suitability
0	1G only	Ga only	✗
1	2G	Gb	✓
2	3G or 2G	Gc or Gb	✓
20	1D only	Da only	✗
21	2D	Db	✓
22	3D or 2D	Dc or Db	✓

This table gives only information about main Equipment Protection Level which is applicable for the product. The marking label is leading.

The table shows in which zone this product may be installed under application of the belonging EU-Type Examination Certificate or IECEx Certificate of Conformity.

Rebuilds and changes to the product are not permitted.

Use explosion proof products in good shape only, which means; undamaged, healthy maintenance condition.

Take care of all national applicable safety & work instructions and all safety instructions mentioned in this manual whenever work is necessary to Ex products.

For installation requirements we redirect you to: EN 60079-14: 2014 or IEC 60079-14: 2013.

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.

Conformity to standards

The explosion proof control panels have been examined according following standards (depending on technical execution and application more than one standard may be applicable).

Main standards

EN 60079-0:2018 / IEC 60079-0:2017 Ed 7.0

EN IEC 60079-7:2015+A1:2018 /
IEC 60079-7:2017 Ed 5.1

EN 60079-31:2014 / IEC 60079-31:2013 Ed 2.0
EN 60529:1991/A1:2000/A2:2013/AC:2016-12
EN 50581:2012, EN 50419:2006

Technical data

Page 1 of these installation instructions describes the exact technical execution. Below follows an overview of possible variants and the general technical data.

Marking according EN-IEC 60079-0

The marking on page 1 is leading.

Type(s) of Protection against ignition

Ex eb IIC T6 Gb

Ed tb IIIC T85°C Db, IP66 / IP67

Gas group

This product is certified for gas: IIC.

Dust group

This product is certified for dust: IIIC.

Temperature class or maximum surface temperature

The temperature class for this product is: T6.

Equipment Protection Level

The EPL for this product is: Gb and Db.

Ingress Protection degree

The product has an IP66 / IP67 rating according to EN / IEC 60529.

Ambient temperature range

-40°C to +60°C.

Maximum ambient temperature range

-40°C to +60°C.

Note

For deviating ambient conditions, please consult BARTEC.

Enclosure material

Acid resistant stainless steel SS316L alternatively brass.

Black PC (polycarbonate).

Max. input voltage

20 Vpp (peak to peak)

Max. input power

2 W

Impedance

50 Ω

Coax Cable Types

Contact Bartec Technor for further info

Transport, Storage

NOTICE

Damage to the control panel through incorrect transport or incorrect storage.

- Transport and storage are permissible in original packaging only.

Assembly / Disassembly

WARNING

Risk of injury due to incorrect proceedings.

- When installing and operating Ex equipment, take care of the applicable safety standards and generally known electrical safety standards.
- **WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD.**

Important Note:

- The Xbeam A EX Antenna cannot be opened and has no physical wiring terminals. The Coax Cable that must be properly protected and the connection must be carried out in an appropriate certified Ex-e or Ex-d enclosure or in safe area. Additional clamping of cable shall be installed to ensure that pulling and twisting is not transferred to the terminations inside the antenna.

Mounting and Installation

Mounting

The Xbeam A EX Antenna shall be mounted as a free standing component with a flying lead Coax Cable. It shall be mounted using the special bracket which it is delivered with. It may be mounted in any orientation. The bracket has got two $\varnothing 6$ mm holes that shall be used to fix it to the mounting surface by using for example 2 off M5 screws. Check and make sure that the M25 counter nut holding the antenna to the bracket is securely tightened.

Fig 1. Fixing holes for the Xbeam A EX Antenna (all dimensions in mm).

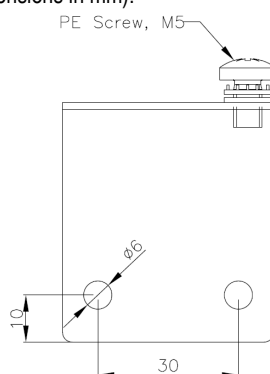
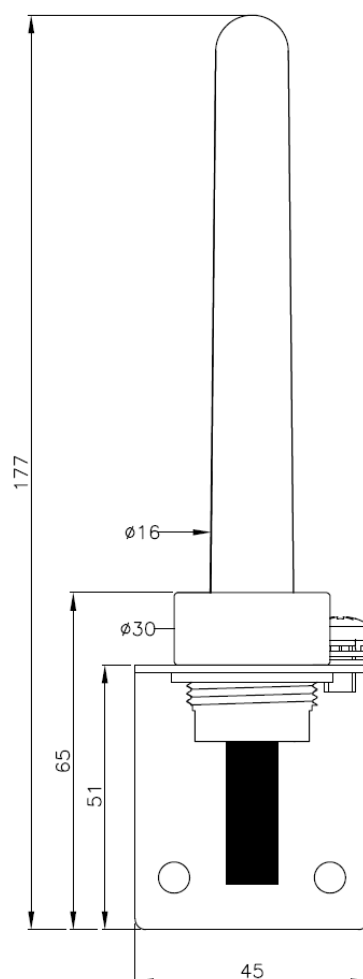
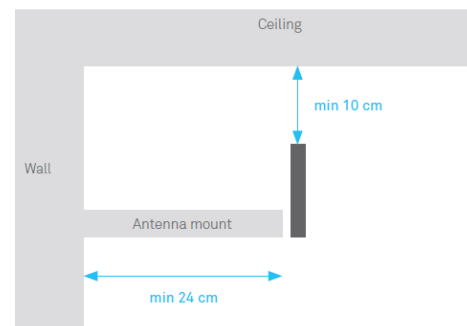


Fig 2. Physical dimensions of the Xbeam A EX Antenna (approx. dimensions in mm).



Installation

- Find an appropriate installation point where the radio waves can most freely reach and be transmitted from the antenna:



Checklist for Antenna / Wi-Fi Network Installation

01	Choose the shortest cable length possible.
02	Place antennas visible from several angles (corners etc).
03	Generally place the antenna as high on the wall as possible (10 cm clearance to ceiling).
04	Leave two wavelengths (24 cm) between wall and antenna.
05	Don't hide the antenna behind obstacles.
06	Don't place the antenna horizontally.
07	Angle the antenna slightly downward when placed above ceiling height (check pattern).
08	Use a site survey tool to determine coverage (Netstumbler etc).
09	Check for Wi-Fi channel interference (using Netstumbler etc).
10	We recommend max 30 meters antenna cable for unamplified configuration and maximum 50 meters cable for amplified configurations.

- On a rigid surface:
 - Use the two $\varnothing 6$ mm holes on the lower side of the bracket of the antenna and fix the bracket to a rigid surface.
- Connect a ≥ 4 mm² PE wire for equipotential bonding from the M5 earth bolt on the bracket to ground. A corrosion resistant Crimp Ring Terminal, $\varnothing 5$, and with a cross section that equals the PE wire must be used.
- Verify that the M25 counter nut securely fastens the antenna to the antenna bracket.
- Clamp the Coax Cable securely so that the Coax Cable is without tension as it enters the antenna and to avoid any pulling and twisting of the Coax Cable.
- Connect the Coax Cable in an appropriate certified Ex-e or Ex-d enclosure or in safe area.

Commissioning

Before commissioning, check that:

- The product has been installed in compliance with the manufacturer instructions.
- The product is not damaged.
- The device functions perfectly.
- Perform an 'Initial Inspection' according to EN IEC 60079-14.

Operation

DANGER

Death or serious injury through improper use.

- The Xbeam A EX may be operated only within the technical limits that apply to it (see page 1).
- The Xbeam A EX Antenna is a sealed device with a flying lead Coax Cable. It is not possible to take the antenna apart. If the antenna for some reason breaks, it must be replaced with a new antenna.
- Due to potential electrostatic charging hazard of the black polycarbonate housing of the antenna, cleaning must only be done with a clean, wet cloth.

Maintenance and Fault Clearance

WARNING

Risk of injury due to incorrect proceedings.

- The national valid regulatory for maintenance, inspection, and repair is applicable for electrical equipment for the use in hazardous areas.
- Damaged Ex components must be directly replaced by genuine BARTEC parts.

Maintenance cycles

The Xbeam A EX Antenna does not require any specific maintenance at regularly scheduled intervals. One must make sure that the antenna is kept free of dust.

In case of malfunction, it must be replaced with a new antenna.

Inspection of the Xbeam A EX Antenna is limited to ensuring that encapsulation, seals and mounting are tight and secure. There are no moving parts or adjustments possible, nor can the housing be opened.

NOTICE

Any attempts made to open the housing, may void the warranty.

Inspection

Follow the national law and regulatory for inspection of explosion proof equipment. This should be done by skilled and qualified personnel only.

Replacing the Xbeam A EX

- In case of a fatal error of a Xbeam A EX, the antenna must be replaced by a new unit. Repair or maintenance are not allowed by unauthorized personnel.

Troubleshooting

- Troubleshooting involves checking the functionality of the antenna. If you require assistance, contact your distributor.

Specific conditions

The Xbeam A EX Antenna shall be marked with the following warning text:

'POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS'

The use of the device in case of excessive deposits of dusts superior of 50mm according to EN / IEC 60079-31 is not allowed.

Disposal

The sensor contains metal, electronic components and plastic parts. Therefore, the statutory requirements for disposing of electronic scrap (WEEE) must be observed (e.g. disposal by an approved disposal company). The sensor is also marked with the wheeled bin symbol for WEEE:



Service Addresses

BARTEC TECHNOR AS

Vestre Svanholmen 24, N 4313 Sandnes
Norway

BARTEC Explosion Proof Appliances (Shanghai) Co., Ltd.

New Building 7, No. 188 Xinjun Ring Road
Caohejing Pujiang Hi-tech Park
CN 201114 Shanghai
China

BARTEC GmbH

Max-Eyth-Str. 16, D 97980 Bad Mergentheim
Germany

BARTEC Middle East FZE

RA-08, HB-01, Jebel Ali Free Zone, Dubai
United Arab Emirates

BARTEC NEDERLAND B.V.

Boelewerf 25, NL 2987 VD Ridderkerk
Netherlands

BARTEC Pte. Ltd.

63 Hillview Avenue, #07-20/23 Lam Soon Building, SG 669569 Singapore
Singapore

BARTEC US Corp.

650 Century Plaza Drive, Suite D120
Houston, TX 77073
USA

BARTEC Varnost d.o.o.

Cesta 9. Avgusta 59, SI 1410 Zagorje ob Savi
Slovenia