



Extra robust, pressure-, saltwater- and corrosion-proof stainless steel housing for particularly harsh environments that is ATEX certified for compliance with the 2014/34/EU directive for equipment in potentially explosive atmospheres. The XB-ATEX housing can be configured with the same SEIKA sensors and electronics as the XB and SB housing series.



## Features

- ATEX certification for the use in potentially explosive atmospheres:  
[II 2G Ex db IIC T6 Gb \(zones 1, 2\)](#)  
[I M2 Ex db I Mb \(underground mining\)](#)  
[II 2D Ex tb IIIC T85°C Db \(zones 21, 22\)](#)
- tested according to:  
EN 60079-0:2012+A11:2013 for the use in potentially explosive atmospheres,  
EN 60079-1:2014 for protection against dust explosion, and  
EN 60079-1:2014 for electrical equipment in a flameproof enclosure 'd'
- cable gland AGRO EX1126.17.97.100 for increased safety in potentially explosive atmospheres
- extra robust, pressure-, saltwater- and corrosion-proof stainless steel housing
- twist-free 4-point fastening of rigid 3.2mm thick base PCB
- can be equipped equivalent to SB housings SB1I, SB2I, SBG3I, SB1U, SB2U, SBG3U, SB1S, SBS1U, and SB360
- all SEIKA sensors fit the housing and can be installed in different directions of operation
- sensors and sensor electronics electrically isolated from housing
- the output signals for each sensor are calibrated to customer's specifications in the required directions of operation
- for electrical characteristics, please see the datasheets of the corresponding SB sensor-boxes

## Description

The XB-ATEX sensorbox is an extra robust, pressure-, saltwater- and corrosion-proof stainless steel housing with integrated sensor or sensors and electronic systems as described for the SB series sensor casings. An impermeable cable gland and compact stainless steel housing size enable the use of this high quality measuring system in especially harsh operating conditions.

In these ATEX versions of the XB, the sensor(s) and most of the electronics are encapsulated with silicone potting, and a special cable gland is used. They are delivered with cable attached. Each XB-ATEX undergoes individual testing by an external service provider.

## Application

Like the XB, the XB-ATEX housing is used for taking precise inclination or acceleration measurements under harsh operating conditions. Additionally, it is used in environments with an increased risk of explosion from gases or dust, such as offshore, mining, in petrochemical and agricultural applications. 0.5V ... 4.5V and 4...20mA are among the possible output signals.

## Specifications

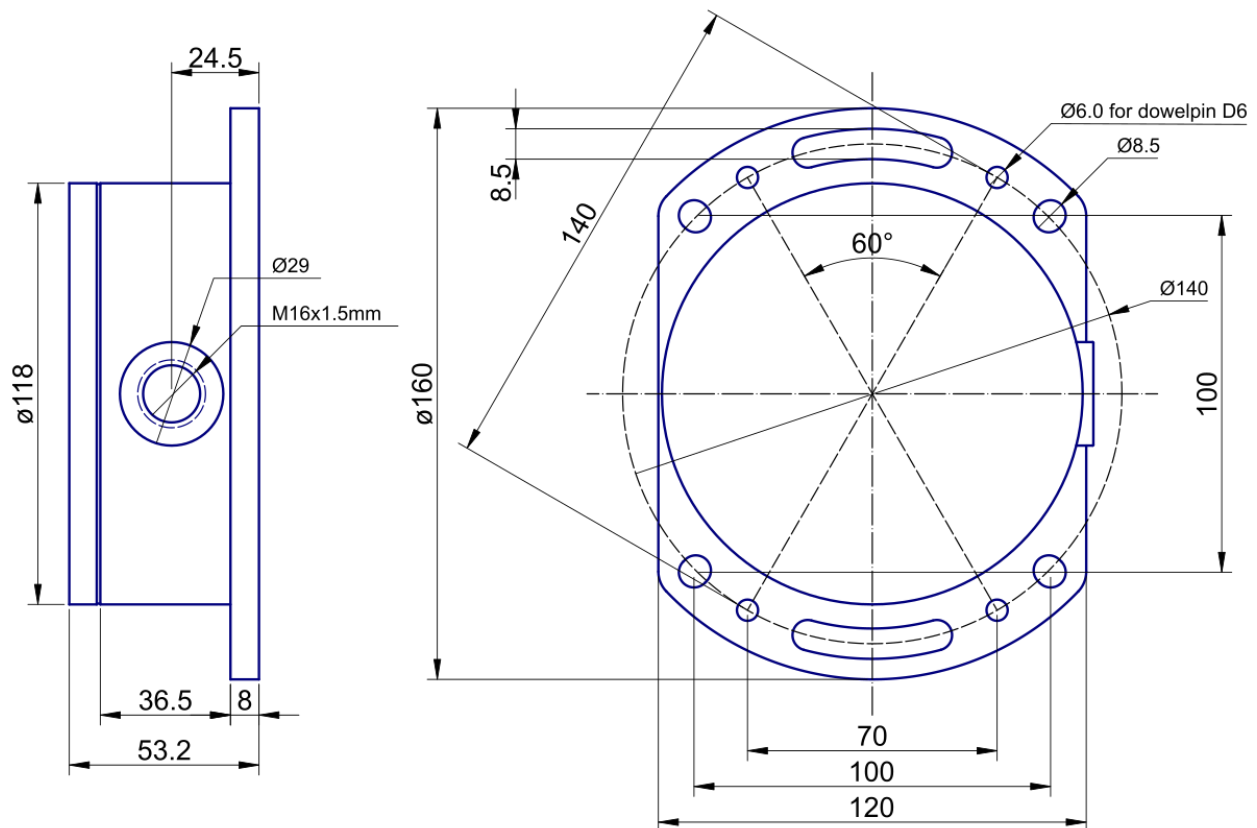
|                                         |                                                                               |
|-----------------------------------------|-------------------------------------------------------------------------------|
| Housing material                        | V4A (saltwater proof)                                                         |
| Cable gland                             | ATEX M16 x 1.5 cable gland<br>(stainless steel with integrated strain relief) |
| Cable                                   | ÖLFLEX® PETRO FD 865 CP, minimum length 1m                                    |
| Pressure resistance                     | 30 bar (3MPa)                                                                 |
| Terminals                               | depending on the built-in board                                               |
| Measuring range, resolution, etc.       | depending on the integrated sensor(s)                                         |
| Mounting position                       | any (standard: wall mounting, cable on the right)                             |
| Degree of protection                    | IP68                                                                          |
| Measuring planes (N.. sensor)           | 3 main housing planes                                                         |
| Measuring plane (NG.. sensor)           | parallel to housing bottom                                                    |
| Measuring directions (B.., BD.. sensor) | in X,Y,Z coordinates of housing                                               |
| Torque housing lid                      | 30Nm ... 50Nm                                                                 |
| Electrical values                       | please see datasheets of identically equipped SB sensorboxes                  |
| Operating temperature                   | -40°C ... +60°C                                                               |
| Weight                                  | 2.7kg ... 3.1kg depending on the configuration                                |

- The box is delivered with an individual calibration record that includes the precise offset and sensitivity values, the static characteristic curves and the linearity deviation curves.

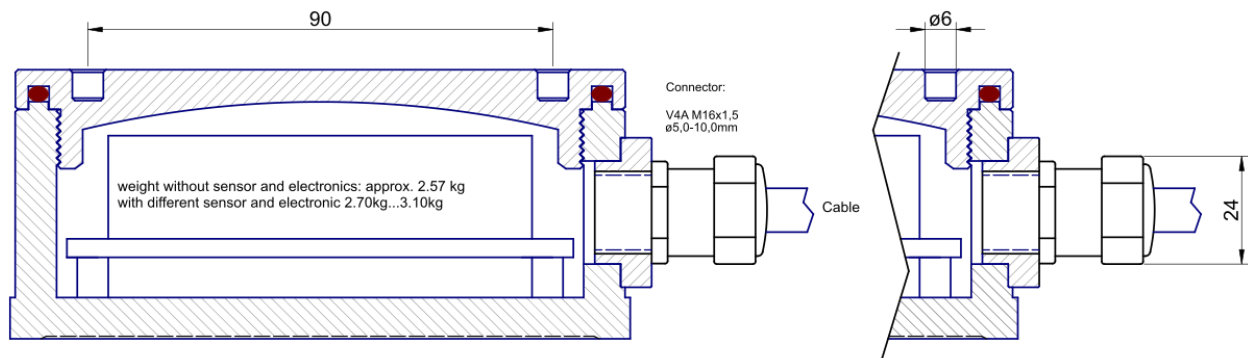
### Options:

- custom measuring ranges • custom wiring

## Dimensions (in mm)

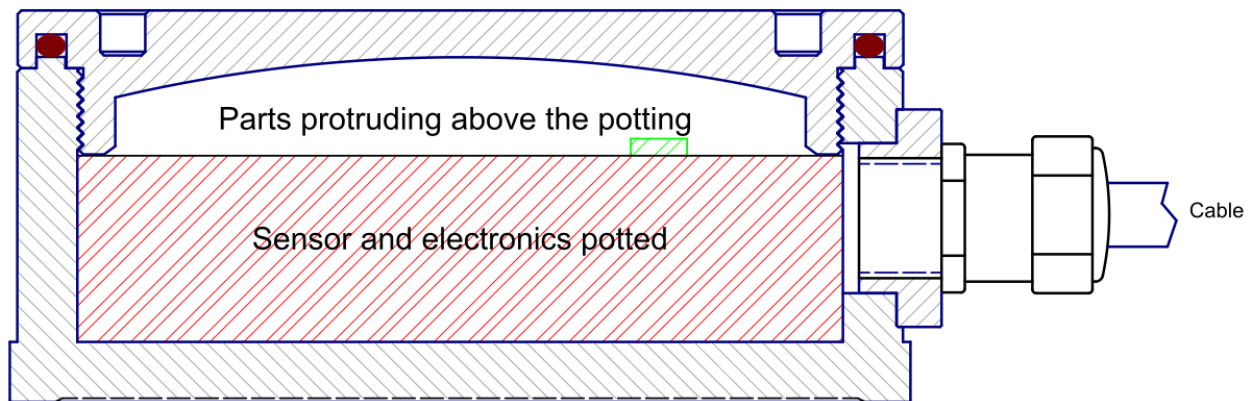


## Dimensions (in mm) with cable gland

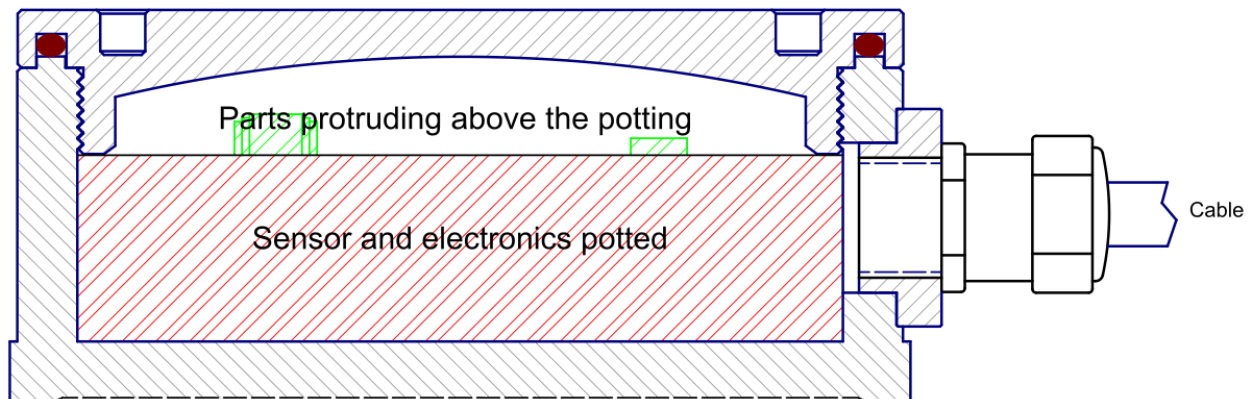


## Cross sections of the ATEX type XB with 1, 2, and 3 sensors

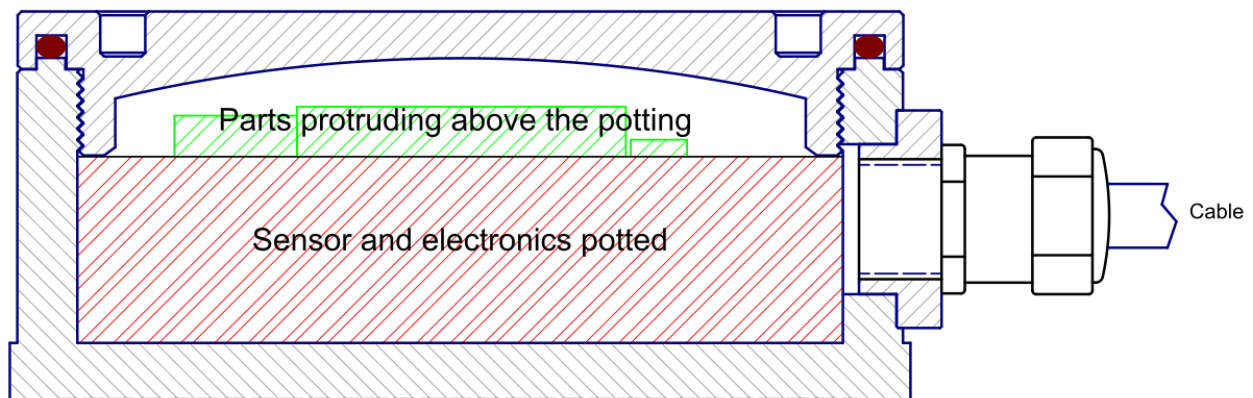
Cross section XB1



Cross section XB2



Cross section XB3



## Nomenclature

XB1I = XB Housing including electronic and sensor like in the Sensorbox SB1I

XB2I = XB Housing including electronic and sensors like in the Sensorbox SB2I

XB3I = XB Housing including electronic and sensors like in the Sensorbox SBG3I

XB1U = XB Housing including electronic and sensor like in the Sensorbox SB1U

XB2U = XB Housing including electronic and sensor like in the Sensorbox SB2U

XB3U = XB Housing including electronic and sensor like in the Sensorbox SBG3U

XB1S = XB Housing including electronic and sensor like in the Sensorbox SB1S

XBS1U = XB Housing including electronic and sensor like in the Sensorbox SBS1U

XB360 = XB Housing including electronic and sensor like in the Sensorbox SB360

**Accessory XBZ1 — special screw-top opener**



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**typical use****Description of the device**

The XB.. can be used as a sensorbox for inclination or acceleration sensors. It can be used in potentially explosive atmospheres due to gas or dust in Zone 1 (21) and 2 (22) as well as in underground mining (EPL Mb). The housing is pressure-resistant and dust-tight (IP6X), and is made of stainless steel. It is connected via an approved Ex-d cable gland.

**Electrical specifications**

Voltage: up to 30V

Max. power dissipation: 8W

**Special conditions**

Ambient temperature range: -40°C to +60°C

Only cables and cable glands specified by the manufacturer may be used.

For use in areas at risk of dust explosions, the device can be operated with a dust layer of up to 50 mm.

**Important general information**

This installation and operating manual is intended to provide you with the information you need for the proper installation and commissioning of the XB.. sensorbox in potentially explosive atmospheres in accordance with regulations.

Installation, commissioning, and testing may only be carried out by trained and qualified personnel with knowledge of the relevant national regulations regarding explosion protection.

These operating instructions must be read and followed carefully to ensure proper, failure-free, and safe operation of the sensor boxes. SEIKA is not liable for any damage resulting from failure to follow the

instructions in these operating instructions. Under no circumstances is it permitted to modify the device.

These operating instructions for the XB.. sensorbox must be stored in such a way that it can be read at any time by the authorized personnel. Individual chapters must not be removed from this manual under any circumstances. A missing manual or missing pages in the manual must be replaced immediately. SEIKA can supply you with new manuals if necessary. The manual must be provided to every subsequent user of this product.

### **Legal information**

SEIKA Mikrosystemtechnik GmbH makes no implied warranties regarding merchantability or fitness for a particular purpose.

If the device is opened, modified, or improperly connected to electrical circuits, the explosion-proof warranty is void, and therefore the warranty provided by SEIKA Mikrosystemtechnik GmbH for safe operation in potentially explosive atmospheres is void. SEIKA Mikrosystemtechnik GmbH shall not be liable in any way for personal injury or property damage resulting from improper installation or operation of the sensor.