

# **XBL 011**

## **X-DIAS Blind Module**

### **Instruction Manual**

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## **Translation of the Original Instructions**

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## X-DIAS Blind Module

## XBL 011

The X-DIAS Blind Module XBL 011 can be used as a placeholder for a later system expansion. The blind module is an active X-DIAS module on the bus.



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# 1 Introduction

## 1.1 Target Group/Purpose of this Operating Manual

This operating manual contains all information required for the operation of the product.

This operating manual is intended for:

- Project planners
- Technicians
- Commissioning engineers
- Machine operators
- Maintenance/test technicians

General knowledge of automation technology is required.

Further help and training information, as well as the appropriate accessories can be found on our website [www.sigmatek-automation.com](http://www.sigmatek-automation.com).

Our support team is happily available to answer your questions.  
Please see our website for our hotline number and business hours.

## 1.2 Important Reference Documentation

- X-DIAS Designguide

This and additional documents can be downloaded from our website or obtained through support.

## 1.3 Contents of Delivery

1x XBL 011

## 2 Basic Safety Directives

### 2.1 Symbols Used

The following symbols are used in the operator documentation for warning and danger messages, as well as informational notes.



#### DANGER

**Danger** indicates that death or serious injury **will occur**, if the specified measures are not taken.

→ To avoid death or serious injuries, observe all guidelines.

**Danger** indique une situation dangereuse qui, faute de prendre les mesures adéquates, **entraînera** des blessures graves, voire mortelles.

→ Respectez toutes les consignes pour éviter des blessures graves, voire mortelles.



#### WARNING

**Warning** indicates that death or serious injury **can** occur, if the specified measures are not taken.

→ To avoid death or serious injuries, observe all guidelines.

**Avertissement** d'une situation dangereuse qui, faute de prendre les mesures adéquates, **entraînera** des blessures graves, voire mortelles.

→ Respectez toutes les consignes pour éviter des blessures graves, voire mortelles.

**CAUTION**

**Caution** indicates that moderate to slight injury **can** occur, if the specified measures are not taken.

→ To avoid moderate to slight injuries, observe all guidelines.

**Attention** indique une situation dangereuse qui, faute de prendre les mesures adéquates, **peut** entraîner des blessures assez graves ou légères.

→ Respectez toutes les consignes pour éviter des blessures graves, voire mortelles.

**INFORMATION****INFORMATION**

→ Provides important information on the product, handling or relevant sections of the documentation, which require particular attention.



## 2.2 Disclaimer

### INFORMATION



The contents of this operating manual were prepared with the greatest care. However, deviations cannot be ruled out. This operating manual is regularly checked and required corrections are included in the subsequent versions. The machine manufacturer is responsible for the proper assembly, as well as device configuration. The machine operator is responsible for safe handling, as well as proper operation.

The current operating manual can be found on our website. If necessary, contact our support.

Subject to technical changes, which improve the performance of the devices. The following operating manual is purely a product description. It does not guarantee properties under the warranty.

Please thoroughly read the corresponding documents and this operating manual before handling a product.

**SIGMATEK GmbH & Co KG is not liable for damages caused through, non-compliance with these instructions or applicable regulations.**

## 2.3 General Safety Directives

The Safety Directives in the other sections of this operating manual must be observed. These instructions are visually emphasized by symbols.



### INFORMATION

According to EU Directives, the operating manual is a component of a product.

This operating manual must therefore be accessible in the vicinity of the machine since it contains important instructions.

This operating manual should be included in the sale, rental or transfer of the product, or its online availability indicated.

Regarding the requirements for Safety and health connected to the use of machines, the manufacturer must perform a risk assessment in accordance with machine directives 2006/42/EG before introducing a machine to the market.

Operate the unit with devices and accessories approved by SIGMATEK only.

**CAUTION**

Handle the device with care and do not drop or let fall.  
Prevent foreign bodies and fluids from entering the device.  
The device must not be opened!

Manipulez l'appareil avec précaution et ne le laissez pas tomber.  
Empêchez les corps étrangers et les liquides de pénétrer dans l'appareil.  
L'appareil ne doit pas être ouvert!

If the device does not function as intended or has damage that could pose a danger, it must be replaced!

En cas de fonctionnement non conforme ou de dommages pouvant entraîner des risques, l'appareil doit être remplacé !

The module complies with EN 61131-2.  
In combination with a facility, the system integrator must comply with EN 60204-1 standards.  
For your own safety and that of others, compliance with the environmental conditions is essential.

Le module est conforme à la norme EN 61131-2.  
En combinaison avec une équipement, l'intégrateur de système doit respecter la norme EN 60204-1.  
Pour votre propre sécurité et celle des autres, le respect des conditions environnementales est essentiel.

## 3 Standards and Directives

### 3.1 Directives

The product was constructed in compliance with the following European Union directives and tested for conformity.

#### 3.1.1 EU Conformity Declaration



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#### EU Declaration of Conformity

The product XBL 011 conforms to the following European directives:

- **2014/35/EU** Low-voltage Directive
- **2014/30/EU** Electromagnetic Compatibility (EMC Directive)
- **2011/65/EU** "Restricted use of certain hazardous substances in electrical and electronic equipment" (RoHS Directive)

The EU Conformity Declarations are provided on the SIGMATEK website. They can be found in the download area of the respective product.

---

4 Type Plate

|                                                                                  |                                     |                                                                                                                                                                           |
|----------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approbations                                                                     |                                     | Standards                                                                                                                                                                 |
|  | <b>Short Name</b><br>Specifications |  SIGMA TEK<br>Sigmatekstraße 1<br>A-5112 Lamprechtshausen<br>www.sigmatek-automation.com |
| Serial No.<br>XXXXXXXX                                                           | FW: XXX<br>LD: XX.X<br>HW: X.XX     |                                                                                                                                                                           |
| Article Number                                                                   |                                     | Product Name                                                                                                                                                              |

Exemplary nameplate (symbol image)

|                                                                                  |                                          |                                                                                                                                                                           |
|----------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approbations                                                                     |                                          | Standards                                                                                                                                                                 |
|  | <b>XAI 022</b><br>2x load cells<br>24bit |  SIGMA TEK<br>Sigmatekstraße 1<br>A-5112 Lamprechtshausen<br>www.sigmatek-automation.com |
| S/N<br>04522873                                                                  | FW: 3.00<br>LD: L1.4<br>HW: 1.00         |                                                                                                                                                                           |
| 21-009-022                                                                       |                                          | X-DIAS Analog Input                                                                                                                                                       |

HW: Hardware version  
SW: Software version  
FW: Firmware version  
LD: Logic Device version

# 5 Technical Data

## 5.1 Electrical Requirements

|                                                      |                                                    |               |
|------------------------------------------------------|----------------------------------------------------|---------------|
| Voltage supply from S-DIAS bus                       | +24 V DC $\pm 20\%$ (SELV/PELV)<br>UL: NEC Class 2 |               |
| Protection class                                     | III                                                |               |
| Current consumption on the S-DIAS bus (+24 V supply) | typically 11 mA                                    | maximum 15 mA |

### INFORMATION



For USA and Canada:

The supply must be limited to:

- a) max. 5 A at voltages from 0-20 V DC, or
- b) 100 W at voltages from 20-60 V DC

The limiting component (e.g. transformer, power supply or fuse) must be certified by an NRTL (Nationally Recognized Testing Laboratory).

If this X-DIAS module is used on an S-DIAS supply module with several S-DIAS and X-DIAS modules, the total currents of the S-DIAS and X-DIAS modules used must be determined and checked. The total current of the +24 V supply must not exceed 1.6 A! The specification for the current can be found in the module-specific documentation under "Electrical Requirements".

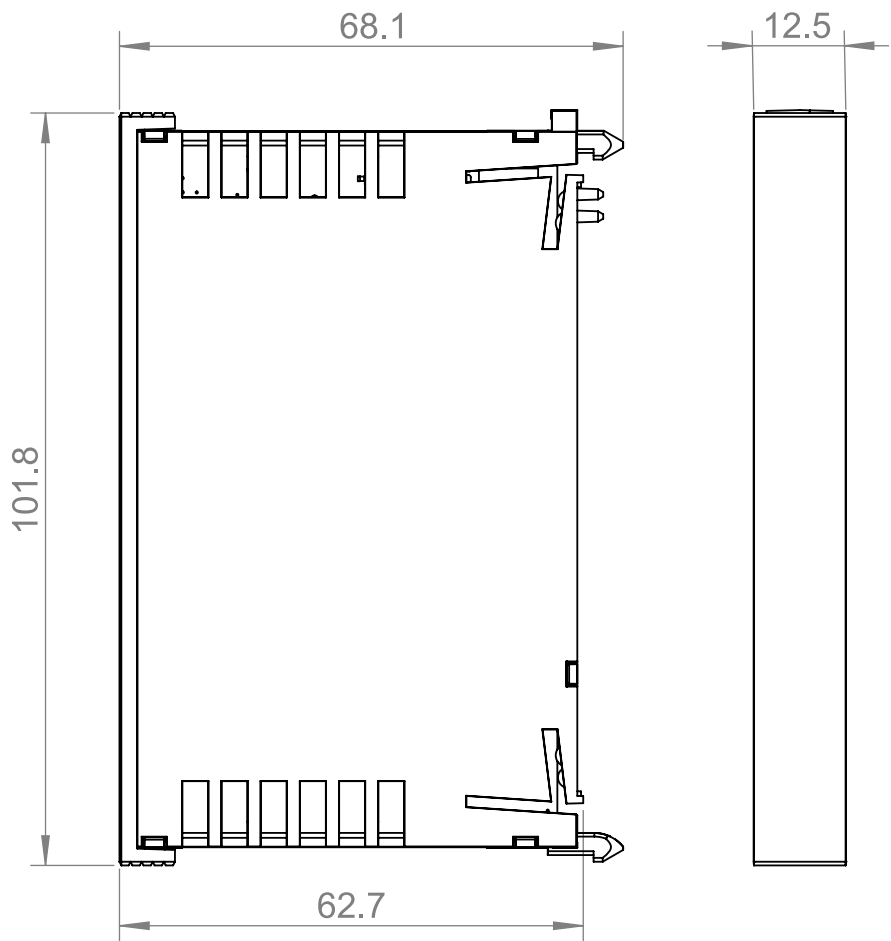
## 5.2 Environmental Conditions

|                                       |                                                                                                                                                |                                             |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Storage temperature                   | -40 ... +85 °C                                                                                                                                 |                                             |
| Environmental temperature             | -25 ... +60 °C                                                                                                                                 |                                             |
| Humidity                              | 0-95 %, non condensing                                                                                                                         |                                             |
| Installation altitude above sea level | 0-2000 m without derating<br><br>> 2000 m up to a maximum of 5000 m with derating of the maximum environmental temperature by 0.5 °C per 100 m |                                             |
| Operating conditions                  | pollution degree 2                                                                                                                             |                                             |
| Noise emission                        | ≤ 70 dB                                                                                                                                        |                                             |
| EMC resistance                        | EN 61000-6-2 (industrial area)                                                                                                                 |                                             |
| EMC noise generation                  | EN 61000-6-4 (industrial area)                                                                                                                 |                                             |
| Vibration resistance                  | EN 60068-2-6                                                                                                                                   | 3.5 mm from 5-8.4 Hz<br>1 g from 8.4-150 Hz |
| Shock resistance                      | EN 60068-2-27                                                                                                                                  | 15 g (147.15 m/s <sup>2</sup> )             |
| Protection type                       | EN 60529/NEMA 250                                                                                                                              | IP20/Type1                                  |

## 5.3 Miscellaneous

|                               |                          |  |
|-------------------------------|--------------------------|--|
| Article number                | 21-015-011               |  |
| Printed circuit board coating | no                       |  |
| Standard                      | designed according to UL |  |
| Approvals                     | CE                       |  |

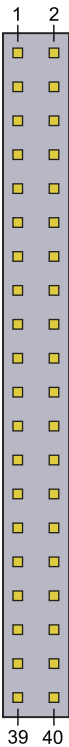
# 6 Mechanical Dimensions



|              |                                    |
|--------------|------------------------------------|
| Measurements | 12.5 x 101.8 x 62.7 mm (W x H x D) |
| Weight       | 0.2 kg                             |



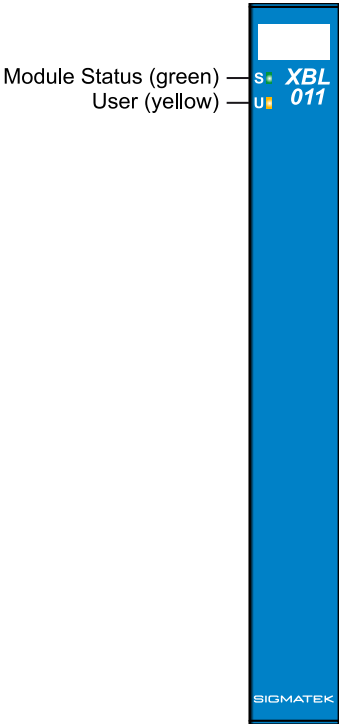
7 Connector Layout



| Pin |    | Signal   |          | Description                                                                                          |
|-----|----|----------|----------|------------------------------------------------------------------------------------------------------|
| 1   | 2  | 24 V     | 24 V     | S-DIAS bus<br>The +24 V voltage supply is provided by the S-DIAS CPU or the S-DIAS interface module. |
| 3   | 4  | GND      | GND      |                                                                                                      |
| 5   | 6  | RxD- OUT | RxD- IN  |                                                                                                      |
| 7   | 8  | RxD+ OUT | RxD+ IN  |                                                                                                      |
| 9   | 10 | GND      | GND      |                                                                                                      |
| 11  | 12 | TxD- IN  | TxD- OUT |                                                                                                      |
| 13  | 14 | TxD+ IN  | TxD+ OUT |                                                                                                      |
| 15  | 16 | GND      | GND      |                                                                                                      |
| 17  | 18 | n.c.     | n.c.     | I/O signals                                                                                          |
| 19  | 20 | n.c.     | n.c.     |                                                                                                      |
| 21  | 22 | n.c.     | n.c.     |                                                                                                      |
| 23  | 24 | n.c.     | n.c.     |                                                                                                      |
| 25  | 26 | n.c.     | n.c.     |                                                                                                      |
| 27  | 28 | n.c.     | n.c.     |                                                                                                      |
| 29  | 30 | n.c.     | n.c.     |                                                                                                      |
| 31  | 32 | n.c.     | n.c.     |                                                                                                      |
| 33  | 34 | n.c.     | n.c.     |                                                                                                      |
| 35  | 36 | n.c.     | n.c.     |                                                                                                      |
| 37  | 38 | n.c.     | n.c.     |                                                                                                      |
| 39  | 40 | n.c.     | n.c.     |                                                                                                      |

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## 7.1 Status LEDs

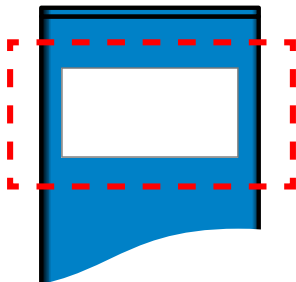


|               |        |                 |                                                                                                                                                               |
|---------------|--------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Module status | green  | ON              | module active                                                                                                                                                 |
|               |        | OFF             | no supply available                                                                                                                                           |
|               |        | BLINKING (5 Hz) | no communication                                                                                                                                              |
| User          | yellow | ON              | adjustable by application<br>(e.g. the module LED can be set to blinking through the visualization so that the module is easily found in the control cabinet) |
|               |        | OFF             |                                                                                                                                                               |
|               |        | BLINKING (2 Hz) |                                                                                                                                                               |
|               |        | BLINKING (4 Hz) |                                                                                                                                                               |

## 7.2 Applicable Connectors

Connector wiring board: Samtec SSQ-120-01-L-D

## 8 Label Field



The labeling field is printed directly on the module.

# 9 Module Coding

X-DIAS modules have module coding by means of coding pins on the module housing. In combination with coding holes on the wiring board, a mismating protection can be realized.

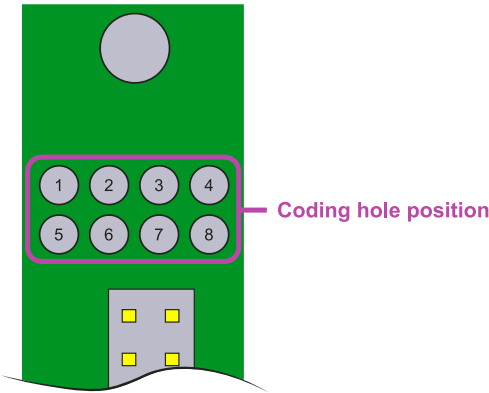
## 9.1 Module Coding XBL 011

The module has no coding pins, as it is intended to serve as a placeholder for each X-DIAS module.

| Position 1 | Position 2 | Position 3 | Position 4 | Position 5 | Position 6 | Position 7 | Position 8 |
|------------|------------|------------|------------|------------|------------|------------|------------|
| O          | O          | O          | O          | O          | O          | O          | O          |

- X ... Coding pin present on the module -> there must be a coding hole on the wiring board
- O ... No coding pin present on the module -> there must be no coding hole on the wiring board

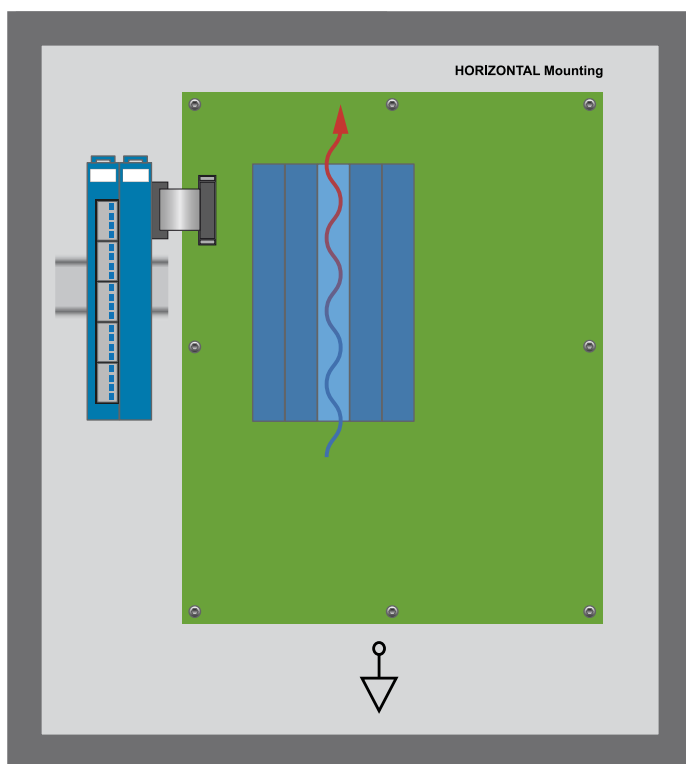
## 9.2 Coding Hole Positions on Wiring Board (TOP View)



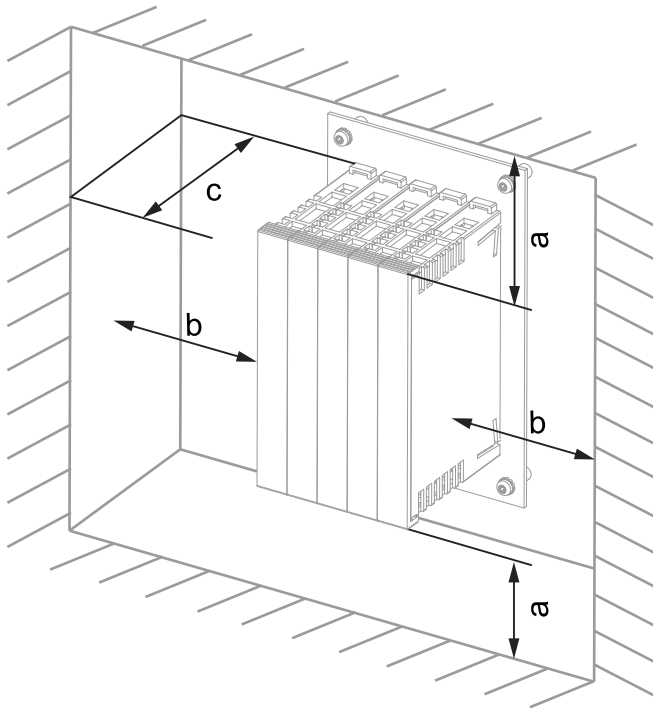
## 10 Assembly/Installation

### 10.1 Mounting

The S-DIAS modules are designed for installation into the control cabinet. To mount the modules, a DIN-rail is required. The DIN rail must establish a conductive connection with the back wall of the control cabinet. The individual S-DIAS modules are mounted on the DIN rail as a block and secured with latches. The functional ground connection from the module to the DIN rail is made via the grounding lug on the back of the S-DIAS modules. The modules must be mounted horizontally (module label up) with sufficient clearance between the ventilation slots of the S-DIAS module blocks and nearby components and/or the control cabinet wall. This is necessary for optimal cooling and air circulation to ensure proper function up to the maximum operating temperature.



Recommended minimum distances between the S-DIAS modules and the surrounding components or control cabinet wall:



| <b>a</b>             | <b>b</b>             | <b>c</b>             |
|----------------------|----------------------|----------------------|
| <b>30 mm (1.18")</b> | <b>30 mm (1.18")</b> | <b>90 mm (3.54")</b> |

a, b, c ... distances in mm (inches)

## 11 Transport/Storage

### INFORMATION



This device contains sensitive electronics. During transport and storage, high mechanical stress must therefore be avoided.

For storage and transport, the same values for humidity and vibration as for operation must be maintained!

Temperature and humidity fluctuations may occur during transport. Ensure that no moisture condenses in or on the device, by allowing the device to acclimate to the room temperature while turned off.

When sent, the device should be transported in the original packaging if possible. Otherwise, packaging should be selected that sufficiently protects the product from external mechanical influences. Such as cardboard filled with air cushioning.

## 12 Storage



### INFORMATION

When not in use, store the operating panel according to the storage conditions. See chapter 11 Transport/Storage.

During storage, ensure that all protective covers (if available) are placed correctly, so that no contamination, foreign bodies or fluids enter the device.



## 13 Maintenance

### INFORMATION



During maintenance as well as servicing, observe the safety instructions from chapter 2 Basic Safety Directives.

Lors de l'entretien et de la maintenance, respectez les consignes de sécurité du chapitre 2 Basic Safety Directives.

### 13.1 Service

This product was constructed for low-maintenance operation.

### 13.2 Repair

### INFORMATION



In the event of a defect/repair, send the device with a detailed error description to the address listed at the beginning of this document. For transport conditions, see chapter 11 Transport/Storage.

## 14 Disposal



### INFORMATION

Should you need to dispose of the device, the national regulations for disposal must be followed.

The device appliance must not be disposed of as household waste.



## Change History

| Change date | Affected page(s) | Chapter                      | Note                                          |
|-------------|------------------|------------------------------|-----------------------------------------------|
| 30.09.2024  |                  | Document                     | Revision                                      |
| 17.12.2024  |                  | Document                     | Layout changes                                |
| 03.02.2025  |                  | Document                     | Layout changes                                |
| 06.02.2025  | 13               | 5.2 Environmental Conditions | Environmental and storage temperature changed |