

BC 031

S-DIAS Gyroscope Sensor Module

Instruction Manual

Publisher: SIGMATEK GmbH & Co KG
A-5112 Lamprechtshausen
Tel.: +43/6274/4321
Fax: +43/6274/4321-18
Email: office@sigmatek.at
WWW.SIGMATEK-AUTOMATION.COM

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Translation of the Original Instructions

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S-DIAS Gyroscope Sensor Module

BC 031

1 Ethernet

1 RS485

The S-DIAS Gyroscope Sensor Module BC 031 provides rotation speeds and linear acceleration information in 3 axes. To filter the raw data, the module has a microcontroller. The BC 031 also enables data exchange between 2 S2 bus systems and an S-DIAS system. In addition, the gyroscope sensor module provides an Ethernet, as well as an RS485 interface. With the RS485 interface, is equipped with a line termination that can be enabled via software.

In the BC 031 the S2 connections are not terminated, the BC 031-R has terminating resistors.

The supply is provided from the S-DIAS bus.

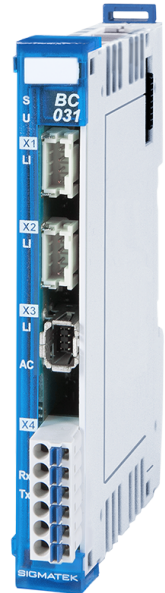


Table of Contents

1 Introduction	6
1.1 Target Group/Purpose of this Operating Manual	6
1.2 Important Reference Documentation	6
1.3 Contents of Delivery	6
2 Basic Safety Directives	7
2.1 Symbols Used	7
2.2 Disclaimer	8
2.3 General Safety Directives	9
2.4 Software/Training	10
3 Standards and Directives	11
3.1 Directives	11
3.1.1 EU Conformity Declaration	11
4 Type Plate	12
5 Technical Data	13
5.1 Bus Coupler	13
5.2 Controller Performance Data	13
5.3 MEMS Sensor Specifications	13
5.4 Electrical Requirements	14
5.5 Miscellaneous	16
5.6 Environmental Conditions	17
5.7 S-DIAS Protocol Version	17
6 Mechanical Dimensions	18
7 Connector Layout	19
7.1 Status LEDs	20
7.2 Connectors	20

7.2.1 X3: Ethernet (Industrial Mini I/O)	20
7.3 Applicable Connectors	21
7.4 Applicable Connector Cables	22
7.4.1 Ethernet	22
7.5 Label Field	23
8 Wiring	24
8.1 Wiring Example	24
8.2 Example BC 031 and BC 031-R	25
8.3 Note	26
8.4 Shielding	27
9 Strain Relief	28
10 Assembly/Installation	29
10.1 Check Contents of Delivery	29
10.2 Mounting	30
11 Transport/Storage	32
12 Storage	33
13 Maintenance	34
13.1 Service	34
13.2 Repair	34
14 Disposal	35
15 Hardware Class	37
BC031_Gyro	38

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.

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

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

1.3 Contents of Delivery

1x BC 031

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

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.

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.

INFORMATION



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 !

For your own safety and that of others, compliance with the environmental conditions is essential.

Pour votre propre sécurité et celle des autres, le respect des conditions environnementales est essentiel.

2.4 Software/Training

The application is created with the software LASAL CLASS 2 and LASAL SCREEN Editor.

Training for the LASAL development environment, with which the product can be configured, is provided. Information on our training schedule can be found on our website.

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



EU Declaration of Conformity







The product BC 031 conforms to the following European directives:

- 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

The type plate provides information about the product's features. The type plate shown here is only an example.

Approbations		Standards						
<table border="1"> <tr> <td style="text-align: center;">QR-Code</td> <td style="text-align: center;">Short Name Specifications</td> <td style="text-align: center;">Electrical Ratings</td> </tr> <tr> <td style="text-align: center;">  BJ: XXXX/XX S/N XXXXXXXX </td> <td style="text-align: center;"> FS: XXX.XX.XX FW: XXX LD: XX.X HW: X.XX </td> <td style="text-align: center;">  Sigmatekstraße 1 A-5112 Lamprechtshausen www.sigmatek-automation.com </td> </tr> </table>	QR-Code	Short Name Specifications	Electrical Ratings	 BJ: XXXX/XX S/N XXXXXXXX	FS: XXX.XX.XX FW: XXX LD: XX.X HW: X.XX	 Sigmatekstraße 1 A-5112 Lamprechtshausen www.sigmatek-automation.com	Article Number	Product Name
QR-Code	Short Name Specifications	Electrical Ratings						
 BJ: XXXX/XX S/N XXXXXXXX	FS: XXX.XX.XX FW: XXX LD: XX.X HW: X.XX	 Sigmatekstraße 1 A-5112 Lamprechtshausen www.sigmatek-automation.com						

- HW: Hardware version
- FS: Safety version number
- FW: Firmware version
- LD: Logic device version
- QR-Code: Serial number

5 Technical Data

5.1 Bus Coupler

Functional principle	Triple Buffer
Buffer size	500 bytes
Synchronization	RT start time
Clock master	selectable, S-DIAS, S2A or S2B ¹⁾

5.2 Controller Performance Data

Controller	LPC1112
Internal program memory (Flash-PROM)	128-Kbyte (Flash)

5.3 MEMS Sensor Specifications

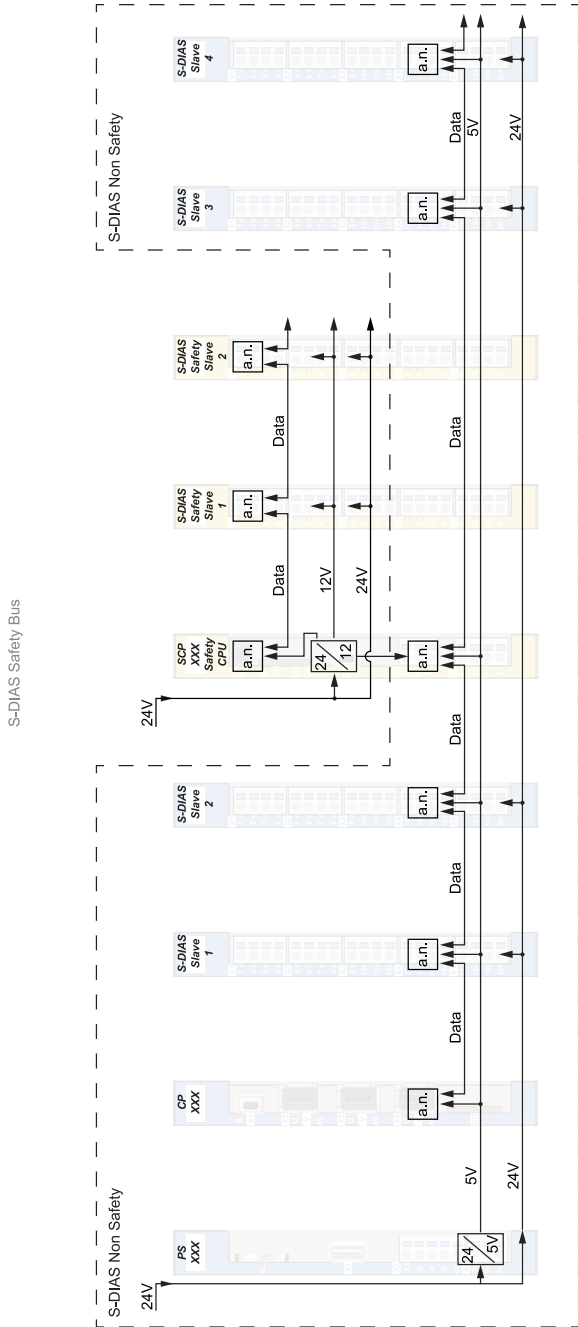
Sensor type	LSM6DSL (STMicro)
Number of linear axes	3
Number of rotational axes	3
Acceleration sensor measuring range	$\pm 2 g^2)$
Linear axis resolution	0.061 mg/LSB
Rotational axis resolution	4.375 mdps/LSB
Number of temperature sensors	1
Temperature resolution	0.1 °C
Temperature measuring range	-40 ... +85 °C

1) If a CP 101 or a CP 102 is used as S-DIAS CPU, it can be used as a clock master. Synchronizing these S-DIAS CPUs to a S2 CPU is not possible.

2) Observe restrictions on vibration and shock resistance in the section on 5.6 Environmental Conditions.

5.4 Electrical Requirements

Supply voltage +24 V	+18-30 V DC	
Supply from S-DIAS bus	+5 V	
Current consumption on the S-DIAS bus (+5 V supply)	typically 0 mA	maximum 0 mA
Supply from S-DIAS bus	+24 V	
Current consumption on the S-DIAS bus (+24 V supply)	typically 45 mA	maximum 55 mA



Wiring S-DIAS Safety in S-DIAS System

- each S-DIAS module is an active module (active node)
- Safety CPU is connected to the S-DIAS bus (incl. +5 V supply)
- Safety bus is independent and separated from the S-DIAS bus

a.n. = active node

5.5 Miscellaneous

Product variant	BC 031	BC 031-R
S2 termination	no	yes
Article number	20-054-031	20-054-031-R
Approvals		
CE	yes	yes
UL	designed according to UL	designed according to UL
Functional Safety	no	no
UKCA	no	no

INFORMATION



A firmware and FPGA update of the modules using a SIGMATEK system stick is only possible via the S-DIAS bus.

5.6 Environmental Conditions

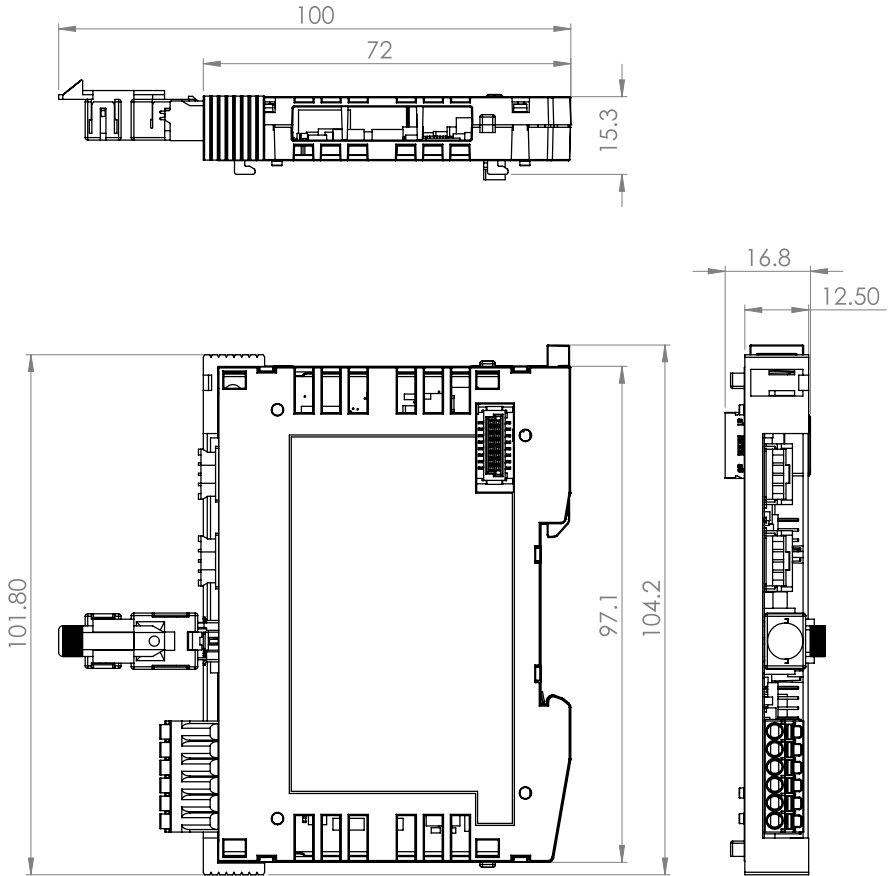
Storage temperature	-20 ... +85 °C	
Environmental temperature	0 ... +55 °C	
Humidity	0-95 %, non-condensing	
Installation altitude above sea level	0-2000 m without derating > 2000 m up to a maximum of 5000 m with derating of the maximum environmental temperature by 0.5 °C per 100 m	
Operating conditions	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 1 g from 8.4-150 Hz
Shock resistance	EN 60068-2-27	15 g (147.15 m/s ²)
Protection type	EN 60529/NEMA 250	IP20/Type1

5.7 S-DIAS Protocol Version

So that the BC 031 functions correctly, the Master/Manager must support an S-DIAS protocol version of v1.3.0. This is the case with:

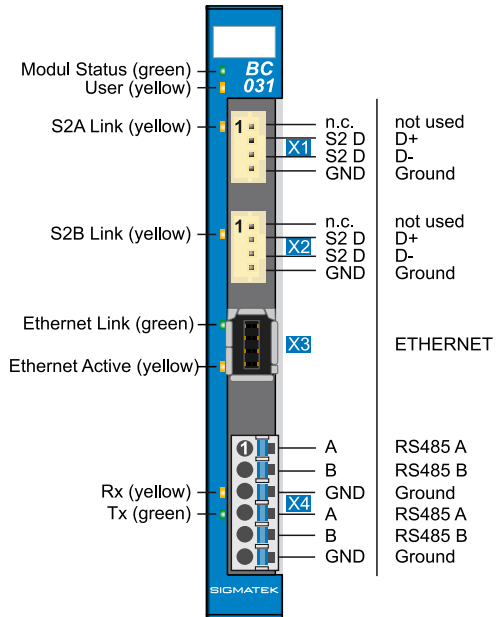
- CP 101 since FPGA version v1.2
- CP 102 since FPGA version v1.2
- CP 111 since FPGA version v1.4
- CP 112 since FPGA version v1.3
- CP 212 since FPGA version v1.4
- CP 311 since FPGA version v1.4
- CP 312 since FPGA version v1.3
- CP 731 since FPGA version v1.0

6 Mechanical Dimensions



Measurements	12.5 x 104 x 72 mm (W x H x D)
--------------	--------------------------------

7 Connector Layout

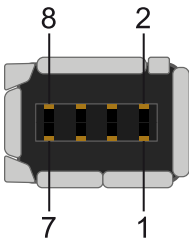


7.1 Status LEDs

Module status	green	ON	module active
		OFF	no supply available
		BLINKING (5 Hz)	no communication
User	yellow	ON	adjustable by application (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)	
Ethernet link	green	ON	connection between the two PHYs made
Ethernet active	yellow	ON	data is exchanged over the Ethernet bus
S2A, S2B link	yellow	ON	data is exchanged over the Ethernet bus
Rx	yellow	ON	data is received via the RS485 bus
Tx	green	ON	data is sent via the RS485 bus

7.2 Connectors

7.2.1 X3: Ethernet (Industrial Mini I/O)



Pin	Function
1	Tx/Rx+
2	Tx/Rx-
3	Rx/Tx+
4-5	n.c.
6	Rx/Tx-
7-8	n.c.

n.c. = do not use

7.3 Applicable Connectors

- X1, X2:** 4-pin plug JST PHR4
- X3:** Tyco Mini I/O Plug Type 1 Lock Extend Version (not included in delivery)
- X4:** Connectors with spring terminals (included in delivery)

The spring terminals are suited for the connection of ultrasonically compacted (ultrasonically welded) stranded wire.

Connection capacity:

Stripping length/sleeve length	10 mm
Mating direction	parallel to conductor axis or to circuit board
Conductor cross section rigid	0.2-1.5 mm ²
Conductor cross section flexible	0.2-1.5 mm ²
Conductor cross section, ultrasonically compacted	0.2-1.5 mm ²
Conductor cross section AWG/kcmil	24-16
Conductor cross section flexible with ferrule without plastic sleeve	0.25-1.5 mm ²
Conductor cross section flexible with ferrule with plastic sleeve	0.25-0.75 mm ² (reason for reduction d2 of the ferrule)

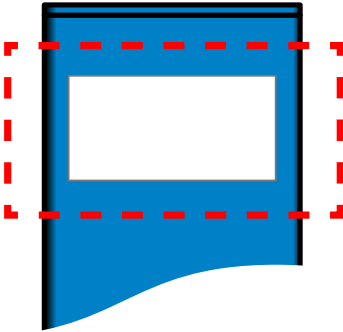


7.4 Applicable Connector Cables

7.4.1 Ethernet

Cable type	Length	Article number
RJ45 on industrial Mini I/O Type 1, drag chain capable	0.5 m	16-911-005
	1 m	16-911-010
	1.5 m	16-911-015
	2 m	16-911-020
	3 m	16-911-030
	5 m	16-911-050
	10 m	16-911-100
	20 m	16-911-200
	50 m	16-911-500
Industrial Mini I/O Type 1 on Industrial Mini I/O Type 1, drag chain capable	0.5 m	16-912-005
	1 m	16-912-010
	1.5 m	16-912-015
	2 m	16-912-020
	3 m	16-912-030
	5 m	16-912-050
	10 m	16-912-100
	20 m	16-912-200

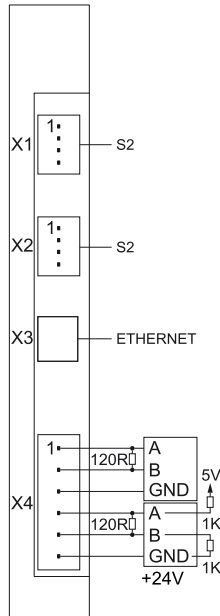
7.5 Label Field



Manufacturer	Weidmüller
Type	MF 10/5 CABUR MC NE WS
Article number Weidmüller	1854510000
Compatible printer	Weidmüller
Type	Printjet Advanced 230V
Article number Weidmüller	1324380000

8 Wiring

8.1 Wiring Example



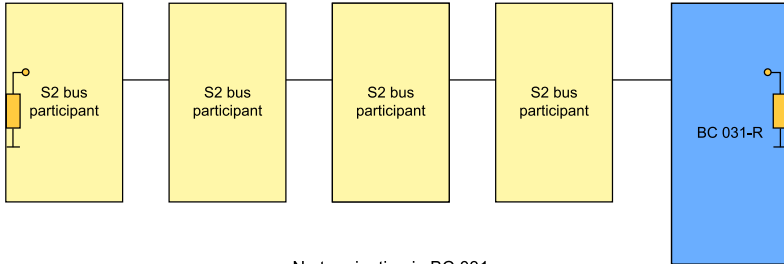
INFORMATION



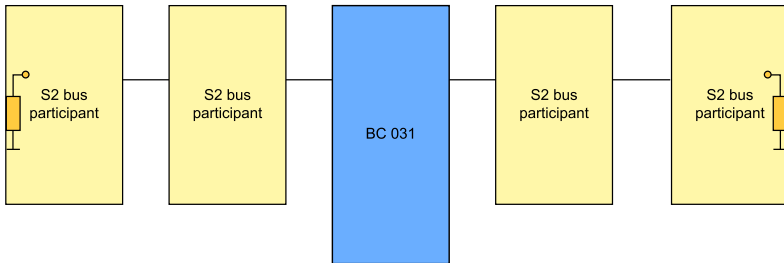
The module is designed to be installed after a S-DIAS CPU and cannot be placed after a VI module.

8.2 Example BC 031 and BC 031-R

Termination in BC 031-R



No termination in BC 031



8.3 Note

The input filters, which suppress noise signals, allow operation in harsh environmental conditions. A careful wiring method is also recommended to ensure error-free function.

The following installation guidelines should be observed:

- Avoid parallel connections between input lines and load-bearing circuits.
- Protective circuits for all relays (RC networks or free-wheeling diodes)
- Correct wiring to ground

INFORMATION



The ground bus should be connected to the control cabinet when possible!

The S-DIAS module CANNOT be connected/disconnected while voltage is applied!

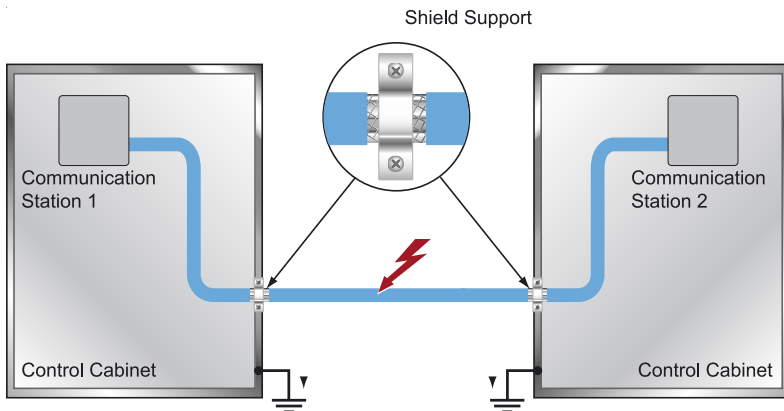
8.4 Shielding

The Ethernet wiring must be shielded.

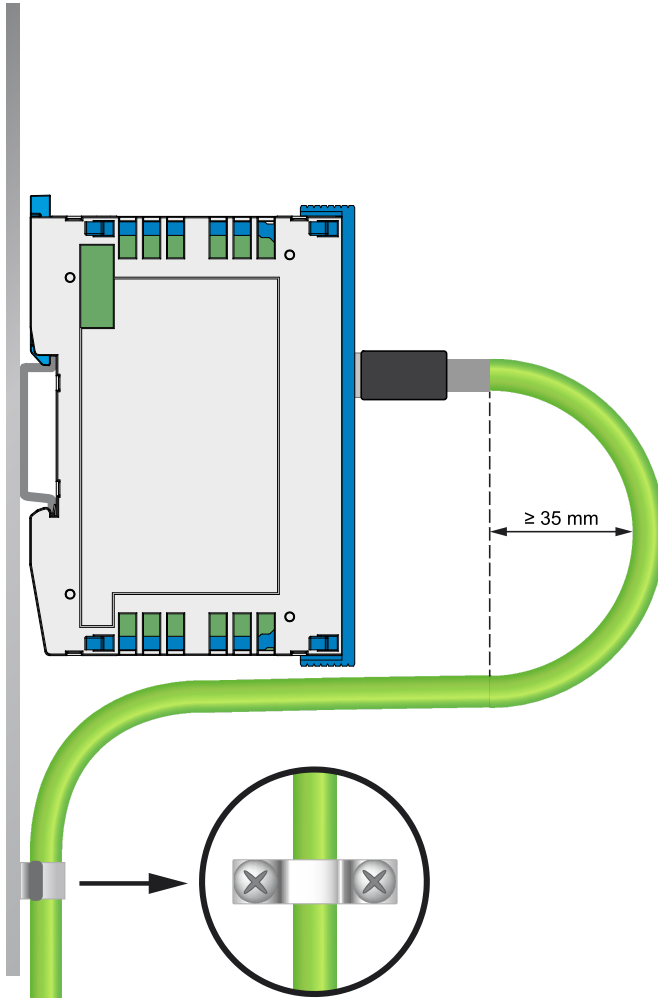
The low-ohm shielding must be either connected either at the entry to the control cabinet or directly before the BC 031 over a large surface (cable grommets, grounding clamps)!

Noise signals can therefore be prohibited from reaching the electronics and affecting the function.

To avoid compensating currents from the PE, which flow over the shielding the conductors, it is recommended that the system components have low Ohm and low impedance connections to one another.



9 Strain Relief



INFORMATION



The Ethernet cable must be mounted close to the module (e.g. using a clamp)!

No mechanical stress can be applied to the connection!

10 Assembly/Installation

10.1 Check Contents of Delivery

Ensure that the contents of the delivery are complete and intact. See chapter 1.3 Contents of Delivery.



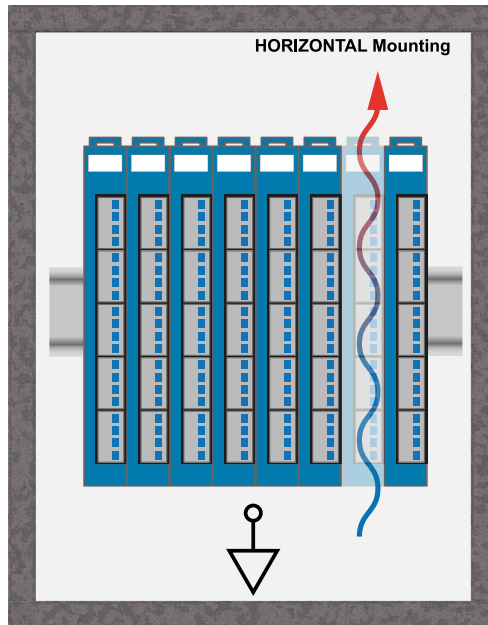
INFORMATION

On receipt and before initial use, check the device for damage. If the device is damaged, contact our customer service and do not install the device in your system.

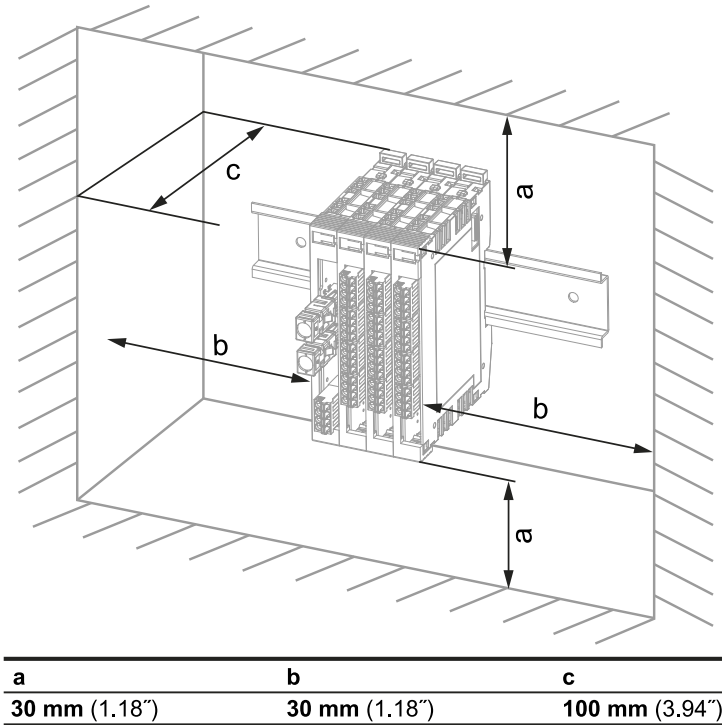
Damaged components can disrupt or damage the system.

10.2 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:



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

11 Transport/Storage

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

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

INFORMATION



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

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

13.1 Service

This product was constructed for low-maintenance operation.

13.2 Repair

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.



Changes Chart

Change date	Affected page(s)	Chapter	Note
04.04.2019	16	5.5 Miscellaneous	Product variant BC 031-R added
09.07.2019	17	5.7 S-DIAS Protocol Version	Chapter added
08.09.2020		7 Hardware Class BC 031	Chapter added
04.11.2020	29	10 Assembly/Installation	Expansion functional ground connection
30.11.2020	13	5.1 Bus Coupler	Chapter added
	25	8.2 Example BC 031 and BC 031-R	
07.04.2021	13	5.3 MEMS Sensor Specifications	Table extended
26.07.2023		Document	General chapters added, design
10.10.2025	13	5.3 MEMS Sensor Specifications	Acceleration sensor extension

15 Hardware Class

The HW classes are used to configure the module under LASAL CLASS and this document is available in the LASAL CLASS help.

BC031_Gyro

Hardware Class BC031_Gyro for the gyro sensor of the bus coupler module BC 031

This hardware class is used to control the gyro sensor of the hardware module BC 031. This class must be placed behind a BC031_Sdias or BC031_Varans2 hardware class. The class BC031_Gyro may only be connected in one of the 3 bus systems (SDIAS, Varans2_1, Varans2_2) per hardware module!

```

BC031, BC031_Gyro (BC031_Gyro1)
S Class Ok (ClassOk) <-[]-> (1)
S Firmware Version (FirmwareVersion) <-[]-> (16#00000110)
S Firmware State Bits (FirmwareStateBits) <-[]-> (2#00000000000000000000000000000000)
I Angular Rate X Axis (AngularRateX) <-[]-> (205)
I Angular Rate Y Axis (AngularRateY) <-[]-> (136)
I Angular Rate Z Axis (AngularRateZ) <-[]-> (62)
I Linear Acceleration X Axis (LinearAccelerationX) <-[]-> (632)
I Linear Acceleration Y Axis (LinearAccelerationY) <-[]-> (-1835)
I Linear Acceleration Z Axis (LinearAccelerationZ) <-[]-> (16543)
I Temperature (Temperature) <-[]-> (397)
O Start Zero Calibration (StartZeroCalib) <-[]-> (0)
O Start sensor test (StartSensorTest) <-[]-> (0)
I Sensor Test Ok (SensorTestOk) <-[]-> (1)
    
```

Properties	
Object of class BC031_Gyro	BC031_Gyro1
Comment	
Hardware lowpass filter	disabled
Hardware highpass filter	disabled
Firmware lowpass filter	0
Number of calibration samples	667
Accelerometer lowpass filter	3332 Hz
Settings for 'BC031_Gyro1'	

General

Class Ok	State	Status of the gyro sensor.
		1 Gyro sensor works OK
Firmware Version	State	The firmware version of the hardware module is shown in this server.
Firmware State Bits	State	In this server, the status bits of the FW are shown. The respective bits mean the following:
		Bit 1 DC not OK
		Bit 2 no Sync available
		Bit 3 flash Data CRC Error
		Bit 4 RAM Data CRC Error
		Bit 5 invalid EEPROM version
		Bit 6 bus cycle time not supported
		Bit 7 toggle bit Changes when new data is read from the module or before data is written to the module.
Rest reserved		

Sensor Data

<p>Hardware lowpass filter</p>	<p>Property</p>	<p>Cut-off frequency of the hardware low-pass filter for the rotation rate sensor.</p> <table border="1" data-bbox="400 316 1041 488"> <tr><td>0</td><td>deactivated</td></tr> <tr><td>1</td><td>173 Hz</td></tr> <tr><td>2</td><td>237 Hz</td></tr> <tr><td>3</td><td>351 Hz</td></tr> <tr><td>4</td><td>937 Hz</td></tr> </table> <p>as initialization value</p>	0	deactivated	1	173 Hz	2	237 Hz	3	351 Hz	4	937 Hz
0	deactivated											
1	173 Hz											
2	237 Hz											
3	351 Hz											
4	937 Hz											
<p>Hardware highpass filter</p>	<p>Property</p>	<p>Cut-off frequency of the hardware high-pass filter for the rotation rate sensor.</p> <table border="1" data-bbox="400 576 1041 748"> <tr><td>0</td><td>deactivated</td></tr> <tr><td>1</td><td>0,016 Hz</td></tr> <tr><td>2</td><td>0,065 Hz</td></tr> <tr><td>3</td><td>0,260 Hz</td></tr> <tr><td>4</td><td>1,040 Hz</td></tr> </table> <p>as initialization value</p>	0	deactivated	1	0,016 Hz	2	0,065 Hz	3	0,260 Hz	4	1,040 Hz
0	deactivated											
1	0,016 Hz											
2	0,065 Hz											
3	0,260 Hz											
4	1,040 Hz											
<p>Firmware lowpass filter</p>	<p>Property</p>	<p>Cut-off frequency of the firmware low-pass filter for the rotation rate sensor. [Hz]</p> <table border="1" data-bbox="400 836 1041 908"> <tr><td>0</td><td>deactivated</td></tr> <tr><td>1-3000</td><td>Hz</td></tr> </table> <p>as initialization value</p>	0	deactivated	1-3000	Hz						
0	deactivated											
1-3000	Hz											
<p>Number of calibration samples</p>	<p>Property</p>	<p>Number of measured values for zero adjustment Setting range 4-65535 measured values The duration of the zero adjustment is approx. 150 μs times the number of measured values. Ex.: 667 measured values, ~100 ms zero adjustment time. As an initialization value</p>										

Accelerometer lowpass filter	Property	Cut-off frequency of the hardware low-pass filter for the linear acceleration sensor. This hardware filter cannot be deactivated.										
		<table border="1"> <tr><td>1</td><td>17 Hz</td></tr> <tr><td>2</td><td>67 Hz</td></tr> <tr><td>3</td><td>133 Hz</td></tr> <tr><td>4</td><td>740 Hz</td></tr> <tr><td>5</td><td>1666 Hz</td></tr> <tr><td>6</td><td>3332 Hz</td></tr> </table> <p>default 3332 Hz as initialization value</p>	1	17 Hz	2	67 Hz	3	133 Hz	4	740 Hz	5	1666 Hz
1	17 Hz											
2	67 Hz											
3	133 Hz											
4	740 Hz											
5	1666 Hz											
6	3332 Hz											
Angular Rate X Axis	Input	Angular velocity in X direction [4.375 mdps]										
Angular Rate Y Axis	Input	Angular velocity in Y direction [4.375 mdps]										
Angular Rate Z Axis	Input	Angular velocity in Z direction [4.375 mdps]										
Linear Acceleration X Axis	Input	Linear velocity in X direction [0.061 mg]										
Linear Acceleration Y Axis	Input	Linear velocity in Y direction [0.061 mg]										
Linear Acceleration Z Axis	Input	Linear velocity in Z direction [0.061 mg]										
Temperature	Input	Sensor temperature [0.1 °C]										
Start Zero Calibration	Output	By writing "1" to this server, the zero adjustment of the sensor is started. At the end of zero adjustment, the hardware class resets this server to "0". Approx. 150 μ s times "Number of calibration samples" are required for the zero adjustment. The sensor (= entire BC031 module) must not be moved during zero adjustment.										
Start sensor test	Output	By writing "1" to this server, the sensor test is started. At the end of the sensor test, the hardware class resets this server to "0". As long as the sensor test is active, all sensor values (angular rate, linear acceleration) on the hardware class are set to "0". (A test signal is superimposed on the measured values during the sensor test.) The sensor (= entire BC031 module) must not be moved during the test. The result of the test is shown on "Sensor Test Ok".										

Sensor Test Ok	Input	<p>Result of the sensor test.</p> <table border="1"> <tr> <td data-bbox="400 220 501 280">0</td> <td data-bbox="501 220 1046 280">Test failed or test was never performed. Also displayed if the test is currently active.</td> </tr> <tr> <td data-bbox="400 280 501 319">1</td> <td data-bbox="501 280 1046 319">Test successful.</td> </tr> </table>	0	Test failed or test was never performed. Also displayed if the test is currently active.	1	Test successful.
0	Test failed or test was never performed. Also displayed if the test is currently active.					
1	Test successful.					

Axes-Arrangement

Accelerations or rotation rates in the direction of the arrow provide a positive value.

BC 031

