

b.safe

Installation Manual **b.safe Mini-Display**



b.safe Mini-Display Wall

Cat.No.:

R 658-01 / R 658-02

R 658-03 / R 658-04



b.safe Mini-Display Table

Cat.No.:

R 659-01 / R 659-02

R 659-03 / R 659-04



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b.safe Mini-Display
Wall 1-channel
Cat. No.
R 658-01



b.safe Mini-Display
Table 1-channel
Cat. No.
R 659-01



b.safe Mini-Display
Wall 2-channel
Cat. No.
R 658-02



b.safe Mini-Display
Table 2-channel
Cat. No.
R 659-02



b.safe Mini-Display
DLC Wall 1-channel
Cat. No.
R 658-03



b.safe Mini-Display
DLC Table 1-channel
Cat. No.
R 659-03



b.safe Mini-Display
Splitter Wall, 2-channel
Cat. No.
R 658-04



b.safe Mini-Display
Splitter Table, 2-channel
Cat. No.
R 659-04

Scope of Delivery

b.safe Mini-Displays are delivered ready for installation in the variants built-in or stand-alone. Each variant is available with 1 channel or 2 channels. The suitable power plug and various primary plugs for EU, Australia, USA, Japan and UK are included in the delivery of each b.safe Mini-Display.

Functionality

In connection with b.safe Waste Caps and Sensors, the b.safe Mini-Display ensures a reliable optical and acoustic monitoring of filling levels in the lab. Automatic sensor

Compatibility

Our b.safe Mini-Display is compatible with all filling level monitoring devices we offer, including b.safe Isolated Amplifier. The b.safe Mini-Display enables the use of our Waste Caps with pre-alarm function! If filling level monitoring devices of other brands can be used, has to be checked individually.

Safety Information

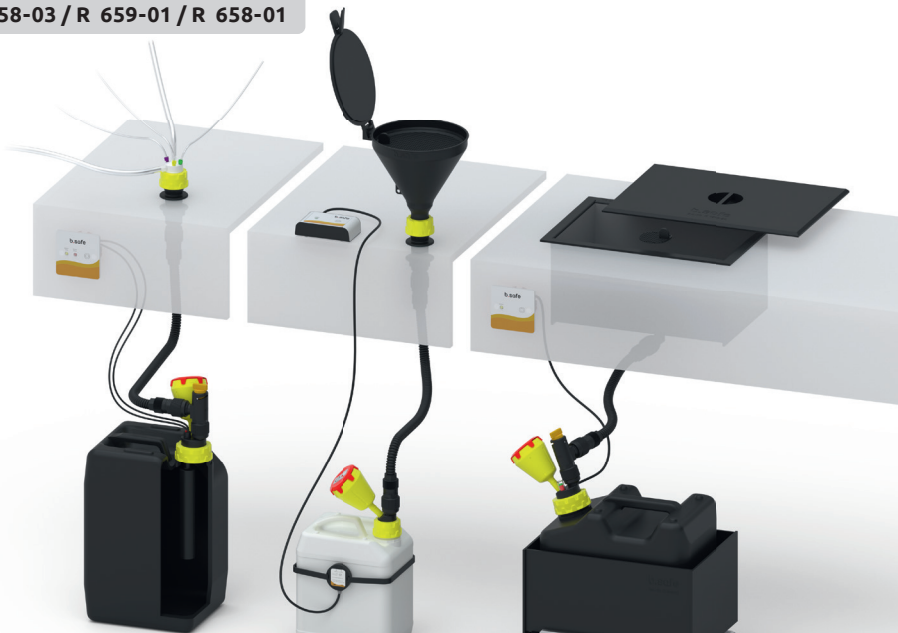
Sensors used in explosion-hazardous areas (EX zone) generally have to be secured with an additional isolated amplifier (Cat. No. R 660-01 or R 660-04).

All components that are connected, e.g. b.safe Mini-Display, b.safe Splitter and b.safe Isolated Amplifier, have to be installed outside of the explosion-hazardous area.

Make sure to use only sensors in this area that are explicitly approved for this purpose!

Generally, electronic components have to be installed by qualified personnel only, especially in explosion-hazardous areas.

Installation examples for
Cat. No. R 658-03 / R 659-01 / R 658-01



Taking into Operation

Power Supply

Connect the b.safe Mini-Display with the included power plug to a suitable socket.

Input

- AC 100 bis 240 V
- Alternating voltage 50-60 Hz

Output

- 24 V
- Direct current
- 1 A

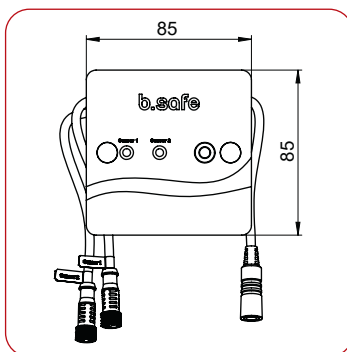
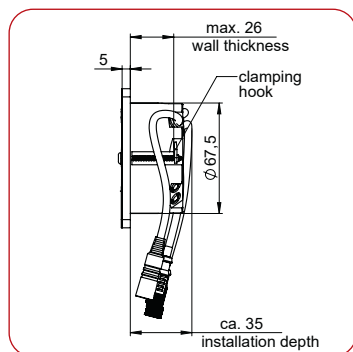


Option: Connection of sensors via isolated amplifier

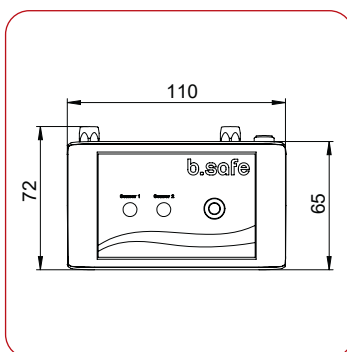
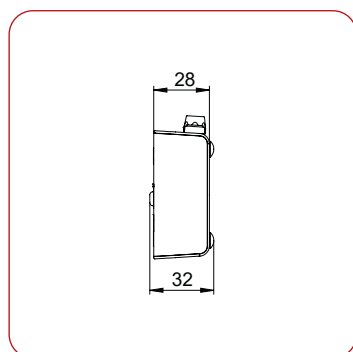
In explosion-hazardous areas (e.g. safety cabinet) the sensor and its signal cable (both in the safety cabinet) have to be connected via a suitable isolated amplifier to the b.safe Mini-Display. We recommend to use the b.safe Isolated Amplifier with Cat. No. R 660-01 or R 660-04.



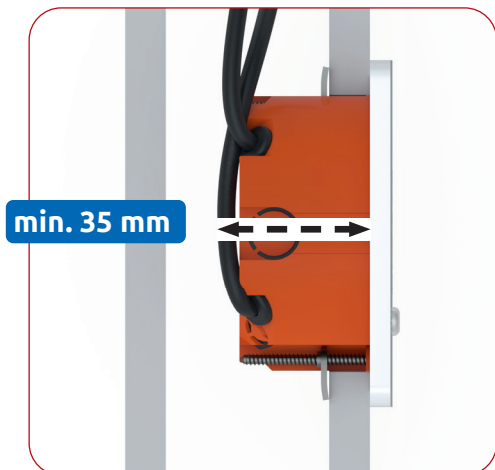
Dimensions b.safe Mini-Display Wall



Dimensions b.safe Mini-Display Table



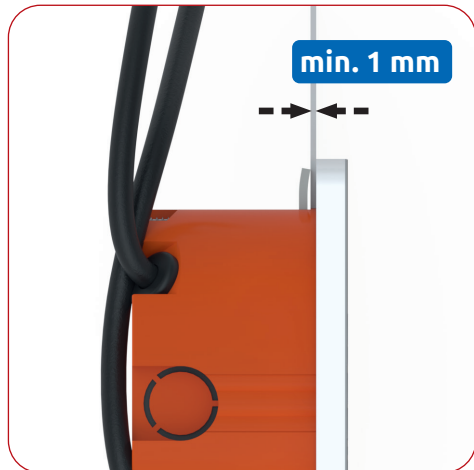
Installation information



For the installation of the b.safe Mini-Display a minimum installation depth of 35 mm is needed.



The mounting hole must have a diameter of 68 mm



You can install the b.safe Mini-Display in wall thicknesses between 1 mm and 26 mm



Installation instructions

Tools required: cavity wall drill, Phillips screwdriver, spirit level, pencil



1

Ø 68 mm



ATTENTION!
Note cable!

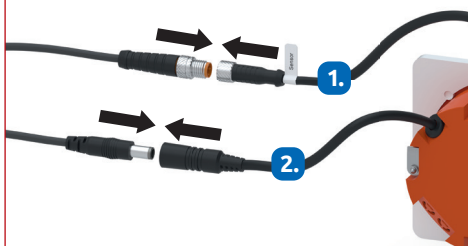
Mark the hole with a diameter of 68 mm and drill the hole using a cavity wall drill

2



Pull the cables that are ready behind the wall through the hole to the front.

3



ATTENTION!
insert carefully, then screw together.
Take care of the sensitive contacts.

First connect the sensor to the desired sensor input. Then connect the power cable. **Details about the different versions on following pages:**

b.safe Mini-Display-1-channel **page 8**

b.safe Mini-Display-2-channels **page 10**

b.safe Mini-Display with Pre- and Main-Alert **page 12**

b.safe Mini-Display Splitter 2-channel **page 14**

4



As a sign that there is mains voltage and the sensor connection is okay, the front LED lights up permanently green.

5



ATTENTION!
do not crush the cable!

Push the box of the b.safe Mini-Display into the hole until it rests on the wall

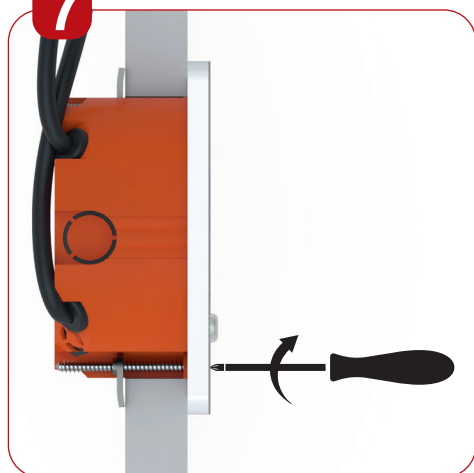
6



ATTENTION!
tighten the screws by hand!

Align the b.safe Mini-Display using a spirit level and carefully tighten the screws (hand-tight) using a hand screwdriver.

7



Tighten the screws until you feel resistance and the b.safe Mini-Display is fixed firmly on the wall.

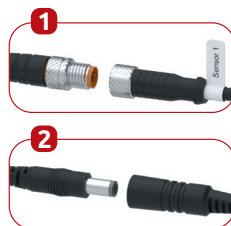
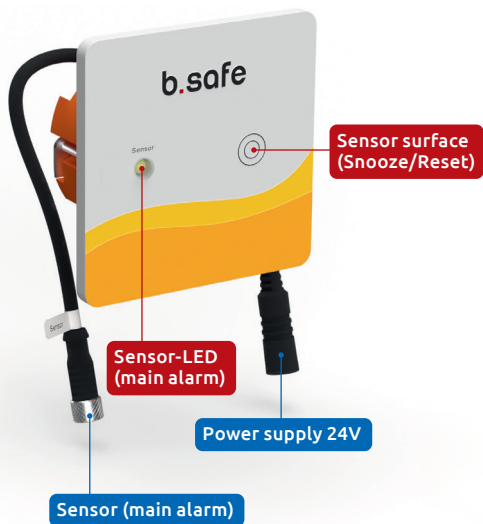
8



To cover the screw heads, stick the stickers onto the recesses provided.

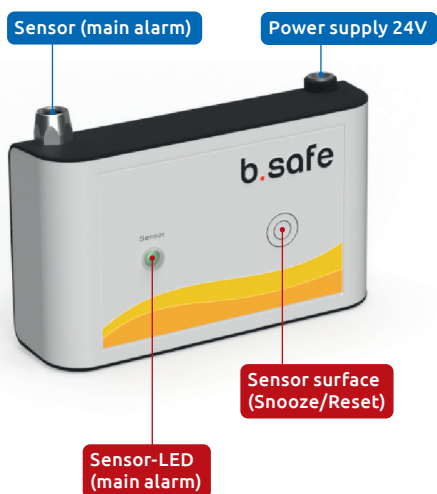
Connection of b.safe Waste Caps with Main alarm, 1-channel

b.safe Mini-Display Wall 1-channel (Cat. No. R 658-01)



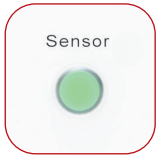
Insert carefully the sensor 1, then screw together. Next connect the power cable.

b.safe Mini-Display Table 1-Kanal (Cat. No. R 659-01)



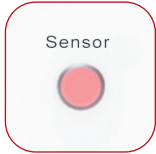
Insert carefully the sensor 1, then screw together. Next connect the power cable.

Main alarm (Cat. No. R 658-01, R 659-01)



Neutral state

As soon as the b.safe mini display is supplied with power and the sensors are connected, the respective sensor LED lights up in **GREEN**.



Alarm state

If a signal is recognized at sensor entry 1, the sensor LED changes from green to a flashing **RED**, a pulsating alarm tone sounds at the same time.

The alarm state can be released by the following incidents:

- fill level / vacancy level reached
- cable break
- defective sensor
- sensor not connected

Snooze/Reset function of the alarm state:



Snooze

The acoustic alarm can be turned silent for 5 minutes by briefly pressing the sensor surface. After the 5 minutes have elapsed, the acoustic signal sounds again.

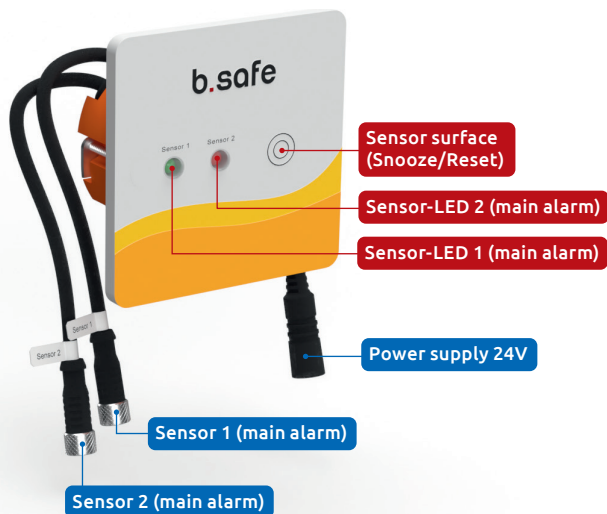


Reset

The alarm state remains until it is manually reset. (If only the canister is drained, the input signal remains stored and the alarm remains active). The alarm state is reset by removing the input signal Sensor Pre and/ or Sensor Main (for example by draining the monitored container) and by pressing the sensor surface for 3 seconds afterwards.

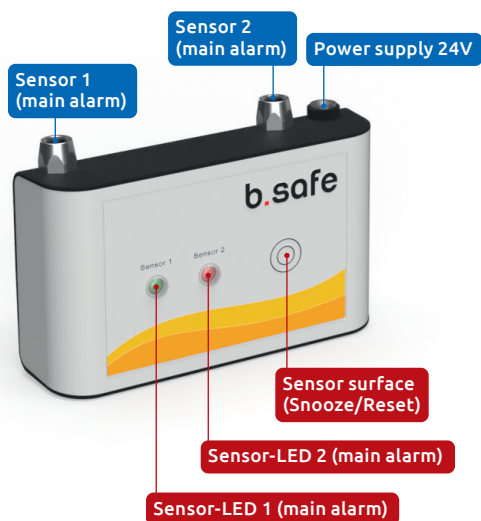
Connection of b.safe Waste Caps with main alarm, 2-channel

b.safe Mini-Display Wall 2-channel (Cat. No. R 658-02)



Insert carefully the sensor 1 + 2, then screw together. Next connect the power cable.

b.safe Mini-Display Table 2-channel (Cat. No.: R 659-02)



Insert carefully the sensor 1 + 2, then screw together. Next connect the power cable.

Main alarm (Cat.No. R 658-02, R 659-02)

Sensor 1



Neutral state

As soon as the b.safe mini display is supplied with power and the sensors are connected, the respective sensor LED lights up in **GREEN**.

Sensor 2



Alarm state

If a signal is recognized at sensor entry 1 and/or 2, the sensor LED changes from green to a flashing **RED**, a pulsating alarm tone sounds at the same time.

The alarm state can be released by the following incidents:

- fill level / vacancy level reached
- cable break
- defective sensor
- sensor not connected

Snooze/Reset function of the alarm state:

1 x pressing



Snooze

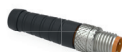
The acoustic alarm can be turned silent for 5 minutes by briefly pressing the sensor surface. After the 5 minutes have elapsed, the acoustic signal sounds again.

3 sec. pressing



Reset

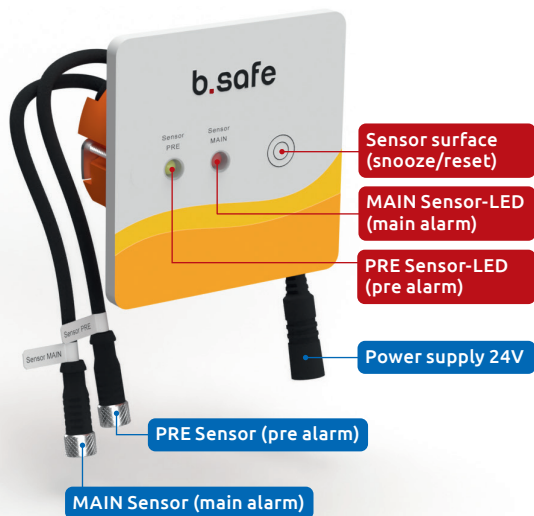
The alarm state remains until it is manually reset. (If only the canister is drained, the input signal remains stored and the alarm remains active). The alarm state is reset by removing the input signal Sensor Pre and/ or Sensor Main (for example by draining the monitored container) and by pressing the sensor surface for 3 seconds afterwards.



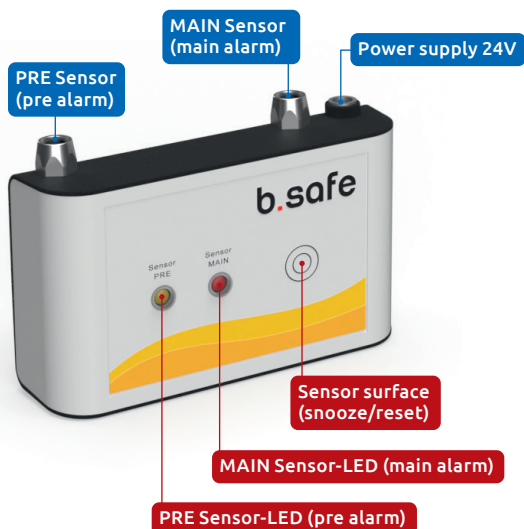
Note: If only one channel is used, a Blind Plug must be connected to the 2nd, unused sensor input to prevent a continuous alarm.
(Cat. No. **R 642-10**, not included in the scope of delivery)

Connection b.safe Waste Caps DLC with per- and main alarm

b.safe Mini-Display DLC Wall 1-channel (Cat. No. R 658-03)

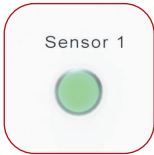


b.safe Mini-Display DLC Table 1-channel (Cat. No. R 659-03)



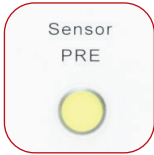
Insert carefully the sensor 1 + 2, then screw together. Next connect the power cable.

Pre- and main alarm (Cat. No. R 658-03, R 659-03)



Neutral state

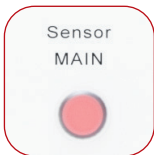
As soon as the b.safe mini display is supplied with power and the sensors are connected, the respective sensor LED lights up in **GREEN**.



Alarm state

Pre alarm:

If a signal is recognized at sensor entry PRE, the sensor LED changes from green to a flashing **YELLOW**, there is **NO** alarm tone.



Main alarm:

If a signal is present at sensor entry MAIN, the sensor LED changes from green to a flashing **RED**, a pulsating alarm tone sounds at the same time.

The alarm state can be released by the following incidents:

- fill level / vacancy level reached
- cable break
- defective sensor
- sensor not connected

Snooze/Reset function of the alarm state:



Snooze

The acoustic alarm can be turned silent for 5 minutes by briefly pressing the sensor surface. After the 5 minutes have elapsed, the acoustic signal sounds again.

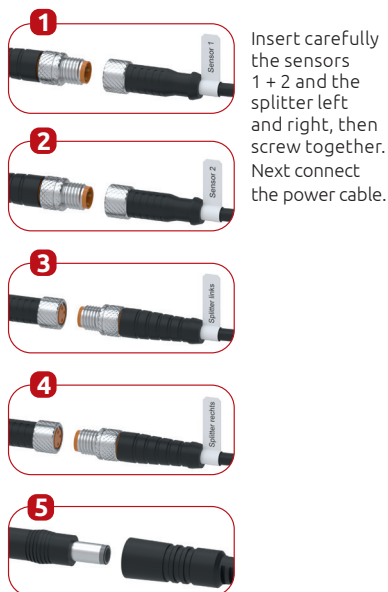


Reset

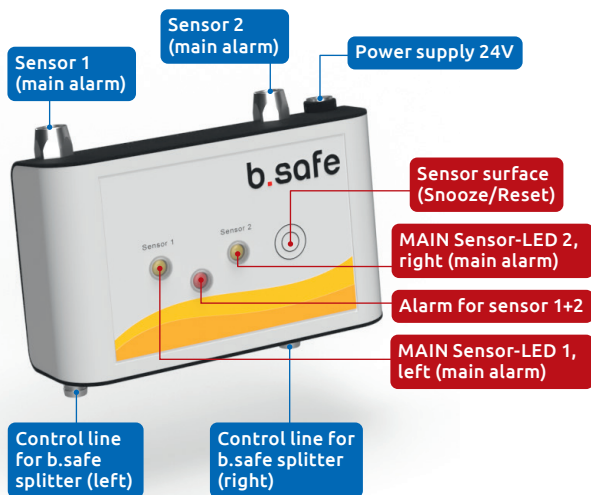
The alarm state remains until it is manually reset. (If only the canister is drained, the input signal remains stored and the alarm remains active). The alarm state is reset by removing the input signal Sensor Pre and/or Sensor Main (for example by draining the monitored container) and by pressing the sensor surface for 3 seconds afterwards.

Connection of b.safe Waste Caps with main alarm, 2-channel + splitter mode

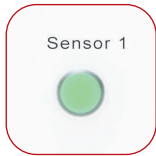
b.safe Mini-Display Splitter Wall 2-channel (Swivel left, swivel right) (Cat. No. R 658-04)



b.safe Mini-Display Splitter Table 2-channel (Cat. No. R 659-04)

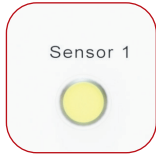


Main alarm in splitter mode (Cat.No. R 658-04, R 659-04)



Neutral state

As soon as the b.safe mini display is supplied with power and the sensors are connected, the respective sensor LED lights up in **GREEN**.



Alarm state

Main alarm sensor 1 (left)

If a signal is present at sensor entry Sensor 1, the sensor LED changes from green to a flashing **YELLOW**, there is NO alarm tone. At the same time, a potential-free contact is switched via the output socket on the left.



Main alarm sensor 2 (right)

If a signal is present at sensor entry Sensor 2, the sensor LED changes from green to a flashing **YELLOW**, there is NO alarm tone. At the same time, a potential-free contact is switched via the output socket on the right – this is used to control the Splitter-3-Way-Stopcock.



Main alarm sensor 1 and 2

If a signal is present at sensor entry 1 and 2, the sensor LED changes from green to a flashing **YELLOW**, and the center ALARM LED starts flashing **RED**, a pulsating alarm tone sounds at the same time.

The alarm state can be released by the following incidents:

- Fill level / vacancy level reached
- cable break
- defective sensor
- sensor not connected

Snooze/Reset function of the alarm state:



Snooze

The acoustic alarm can be turned silent for 5 minutes by briefly pressing the sensor surface. After the 5 minutes have elapsed, the acoustic signal sounds again.



Reset

The alarm state remains until it is manually reset. (If only the canister is drained, the input signal remains stored and the alarm remains active). The alarm state is reset by removing the input signal Sensor Pre and/or Sensor Main (for example by draining the monitored container) and by pressing the sensor surface for 3 seconds afterwards.

More b.safe Products

b.safe Signal Cables

Cat. No.

R 645-02 2 m length

R 645-03 3 m length

R 645-05 5 m length

R 645-10 10 m length

Cat. No.

R 644-07 0,3 m length

R 644-12 2 m length

Cat. No.

R 643-12 2 m length



b.safe Isolated Amplifier

Cat. No. R 660-01, 2-channel

Cat. No. R 660-04, 1-channel



b.safe Splitter

Cat. No. R 680-01

b.safe Blind Plug for b.safe Mini-Display

Cat. No. R 642-10



CE Declaration of Conformity

For the following products:

device :	Alarmbox for Filling Level Control	
type designation:	Mini Display Table	Cat. No. R 659-01/02/03/04
	Mini Display Wall	Cat. No. R 658-01/02/03/04

The manufacturer / distributor

Bohlender GmbH • Waltersberg 8 • 97947 Gruensfeld • Germany

declares that the products fulfil the provisions of **EMC Directive 2014/30EU Electromagnetic Compatibility**.

Low Voltage Directive 2006/95/EG has been complied with according to 2006/42/EG in view of its protection targets.

The products are **RoHs** compliant. They comply with **Directive 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, including amendment 2015/863**.

The following standards were used to assess the products:

EN61000-6-2 : 2019
EN61000-6-4 +A1 : 2011

Signed for and on behalf of
 Bohlender GmbH
 Waltersberg 8
 97947 Gruensfeld

Gruensfeld, den 20.03.2024



Ernst Schweitzer

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