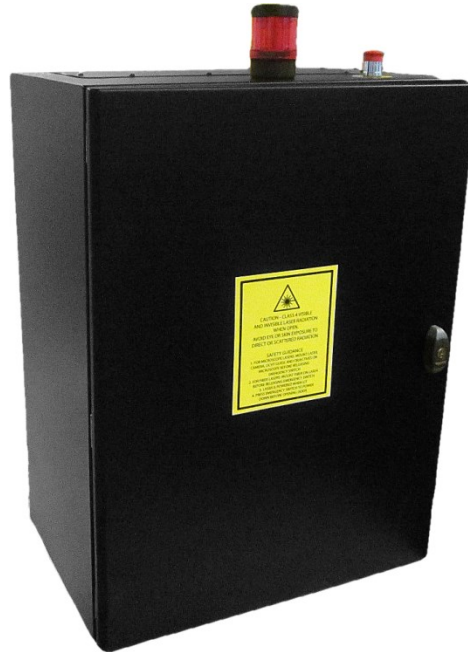


Safety Box

Quick Start Guide



What is in the box.....	2
What does it do.....	3
How to build a setup	4
Help and troubleshooting	8
Technical specifications	10
Declaration of conformity	13






What is in the box

The box has all the components to assemble the Safety Box.



Box content checklist

Qty [1]	Description		Identifier [2]
1	Safety Box 1 - case - warning light glass - LED-strip 12 V - 2 keys for door lock - PSU		
-	12V DC Power Supply Unit, input 100 - 240 V, AC 50 - 60 Hz with two connectors (5 pin PS2) for powering two Diode Lasers		PSU
-	Power cable (included wth PSU)	 Country specific	
-	This "Safety Box - Quick Start Guide"		

[1] The amount or number of administrative items (quantity, Qty)

[2] Identifier used in this document to refer to the item.

Manufactured by

Riscure BV

Delftechpark 49, 2628 XJ Delft, The Netherlands

Phone: +31 15 251 40 90, Fax: +31 15 251 40 99

Email: inforequest@riscure.com

Web: www.riscure.com

What does it do

The Safety Box is a protective enclosure for experiment setups used in Side Channel Analysis (SCA) and Fault Injection (FI).

The Safety Box is designed for containing laser-based experiments using the Diode Laser Station. It also provides excellent electromagnetic shielding.



Figure 1 Safety Box protective enclosure for laser experiments.

The Safety Box has an internal power supply, capable of powering two Diode Lasers. The warning light on top of the box signals if the lasers are powered.

The door can be locked with a key to prevent unauthorized access.

Opening the door disconnects the lasers from the power supply and activates the internal illumination.

How to build a setup

Install the power supply

Lead the power cable through the cable entry opening into the Safety Box, and connect it to the PSU.

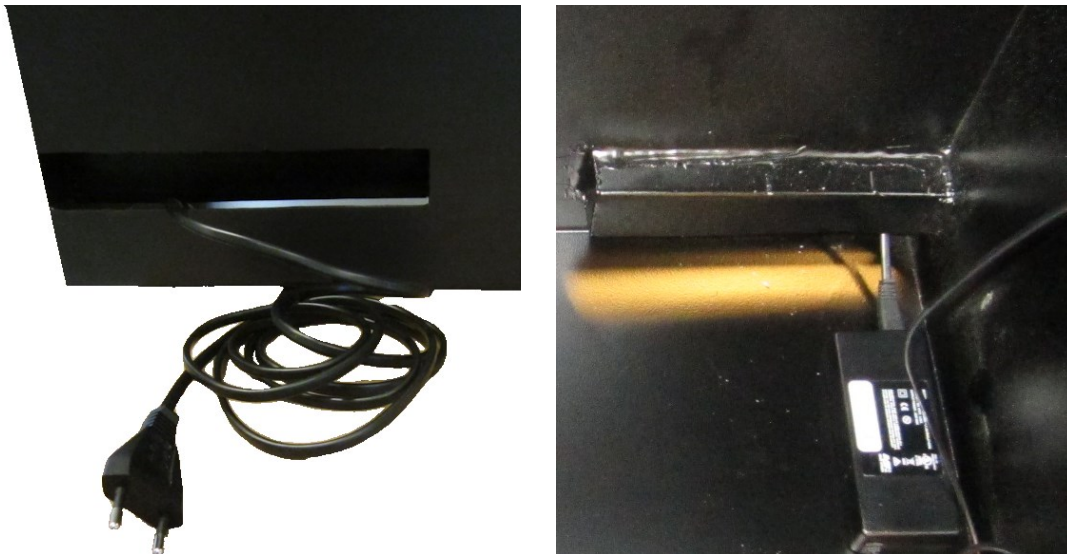


Figure 2 Backside view (left) and inside view (right) of the power cable entry.

You can leave the PSU on the bottom plate, or place it e.g. on top of the cable entry opening.

Install the warning light

The warning light is delivered disassembled. Before using the Safety Box, assemble it as follows:

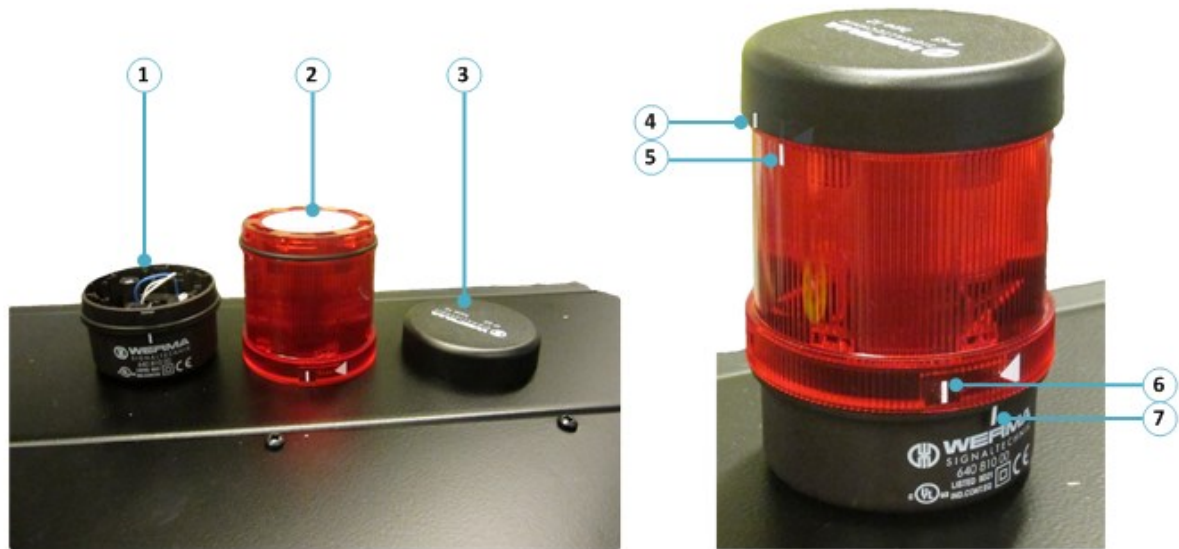


Figure 3 Use the different alignment marks to assemble the warning light.

1. Unscrew cap (3) from socket (1).
2. Place cap (3) on glass (2).
Align mark (4) with mark (5), and turn the cap clockwise (in arrow direction) until the cap locks.
3. Place glass (2) on socket (1).
Align mark (6) with mark (7), and turn the glass clockwise (in arrow direction) until the glass locks.



The 12 V light bulb of the warning light is pre-installed.

If the light bulb needs replacement, reverse step 3 to access the light bulb.

Install the laser experiment

1. Open the Safety Box door.
If required, use the key to unlock the door first.
2. Apply power to the Safety Box PSU.
This will activate the internal illumination.
3. Assemble the Diode Laser Station (DLS) in the Safety Box (Refer to the DLS Quick Start Guide)
4. Lead all outgoing cables through the cable entry opening.
5. Connect the PSU laser power connector(s) to the Diode Laser(s).
6. Close the Safety Box door.

The laser experiment setup is now finished.

Arm the laser setup



To enable execution of a laser experiment, the Safety Box **must be armed** by unlocking the emergency button.

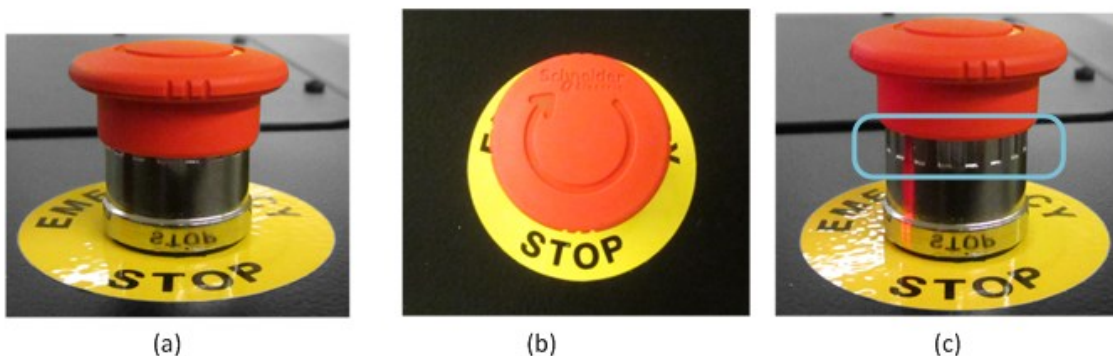


Figure 4 Emergency button pressed (a), turn to unlock (b), and button in unlocked state (c).



The expression 'arming' the Safety Box means **enabling** the power supply to the lasers. The **activation** of the laser itself is controlled by the Inspector application.



If the emergency button has been pressed, it locks itself.
You must resolve the cause of an emergency, before unlocking it.



It is safe to press the Emergency button any time, to disrupt an ongoing laser experiment, or if access to the experiment is required.



Opening the door will disconnect laser power **temporarily**. This power is reconnected if the door is closed again.

To permanently disconnect laser power, press the emergency button.



Figure 5 An active warning light means the lasers are powered.

Help and troubleshooting

Common problems

Laser does not respond to controls

CAUSE: Safety Box door not closed.

SOLUTION: Close and lock the door.

CAUSE 2: Safety Box is not armed.

SOLUTION 2: Unlock the emergency button by turning it clockwise.

CAUSE 3: Diode Laser not connected to the PSU.

SOLUTION 3: Connect PSU laser power (Figure 7: B3 or B5) to the Diode Laser

Warning light not ON:

CAUSE: Safety Box door not closed.

SOLUTION: Close and lock the door.

CAUSE 2: Safety Box is not armed.

SOLUTION 2: Unlock the emergency button by turning it clockwise.

CAUSE 3: Safety Box is not powered.

SOLUTION 3: Verify if the power cable of the Safety Box,

- is still connected to the PSU;
 - is connected to an active mains power group.
-

Internal illumination is not ON when door is open.

CAUSE: Safety Box is not powered.

SOLUTION: Verify if the power cord of the Safety Box,

- is still connected to the PSU;
 - is connected to an active mains power group.
-

Still have questions?

Visit the Riscure Support Portal: <http://support.riscure.com>.

Technical specifications

Operational conditions

- Room temperature 20 – 30 °C, (68 – 86 °F).



Do not block the ventilation gap on top of the box.

Power supply input

- 12 V DC, load max. 6.6 A, power max. 80 W.
- Two connectors (5 pin PS2) to power Riscure laser products.



Use of a PSU other than supplied by Riscure is not supported. Power spikes may cause internal damage and loss of accuracy.

Case

- Steel plating, 1.5 mm, painted black.
- Ventilation gap in top panel.
- Two cable entry openings in back panel.
- Door handle with key lock, two-point lock system.
- Internal illumination: LED-strip 12 V.

Product case

- Dimensions H x W x D: 800 x 590 x 400 [mm], 31.49 x 23.22 x 15.75 [inch].

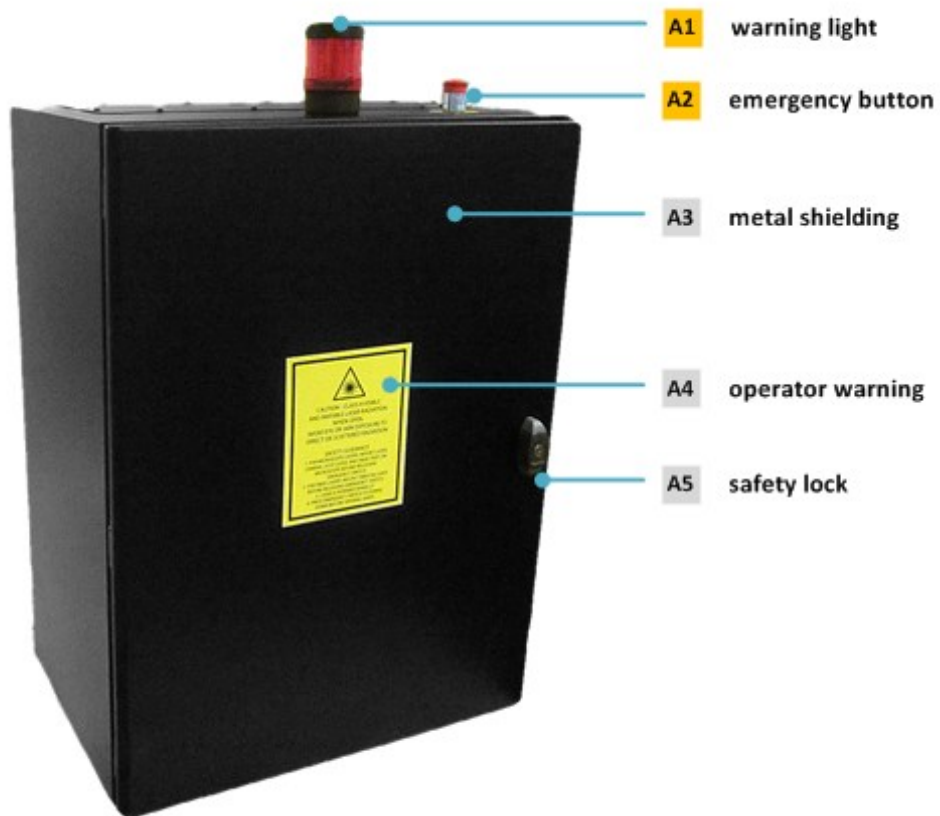


Figure 6 Safety Box outside case view.

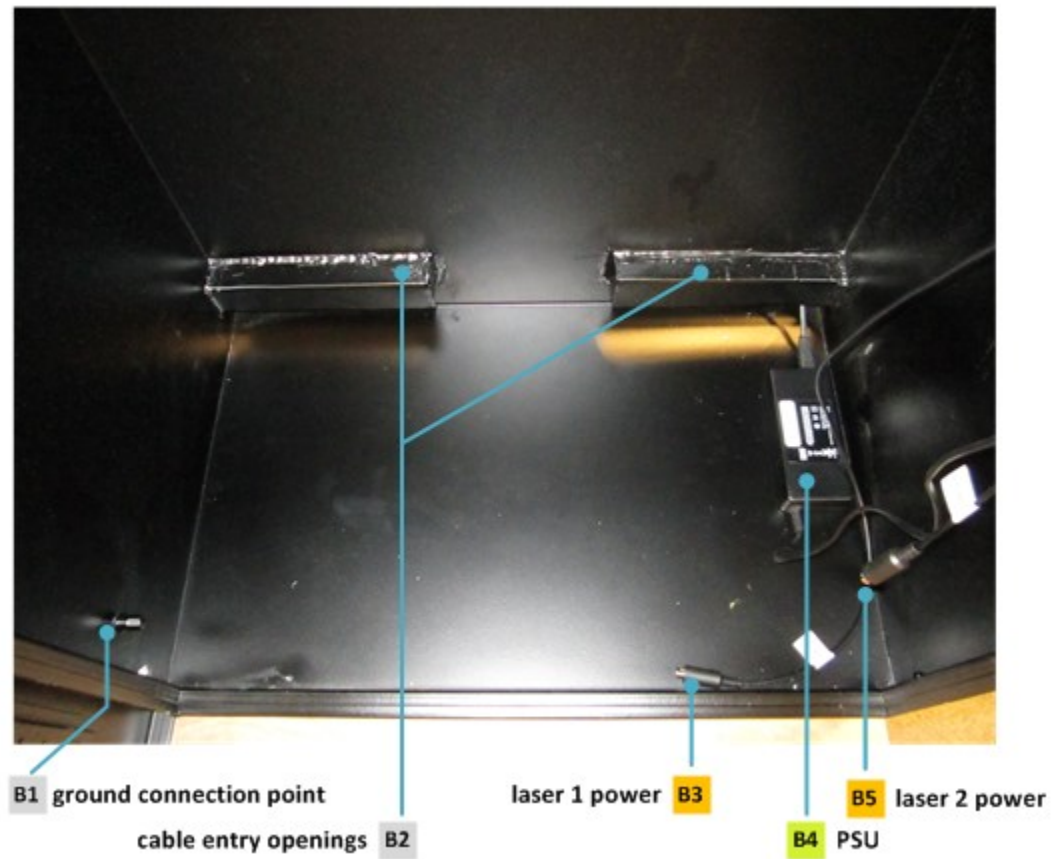


Figure 7 Safety Box inside case view.

Declaration of conformity

The Safety Box is part of the Diode Laser Station product. The Safety Box implementation complies to the directives and standards mentioned in the EC Declaration of Conformity of the Diode Laser Station.

EC-DECLARATION OF CONFORMITY

Suppliers Details

Name

Riscure B.V.

Address

Frontier Building, Delftechpark 49, 2628 XJ Delft, The Netherlands

Product Details

Product Name

Inspector

Model Name(s)

Diode Laser Station

Trade Name

Riscure

Applicable Standards Details

Directives:

- MD (2006/42/EC) - LVD (2006/95/EC) - EMC directive (2004/108/EC)

Standards:

- IEC 60825-1; IEC 320 C8; IEC 60950-1; 21 CFR 1040; ANSI/ESD S20.20:2007; BS EN 61340-5-1:2007; EN55022-B; EN61000-4-2, 4-5; EN-ISO 12100:2010; CISPR 11; CISPR22-B; UL 1950

Supplementary Information

The appliance fulfils the relevant requirements of the above mentioned directives according to our technical documentation TCD-Diode Laser Station. Riskassessment according to the EN-ISO 12100:2010.

Declaration

I hereby declare under our sole responsibility that the product(s) mentioned above to which this declaration relates complies with the above mentioned standards and Directives

Name

Issued Date

Dr.ir. F.G. de Beer /
Technical Director

02 / 05 / 2013



Signature of representative

Riscure B.V.
Frontier Building
Delftechpark 49
2628 XJ Delft
The Netherlands
Tel.nr.: +31 (0) 15 251 4090