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Henry Williams

SafeBox
Class II
SIN119 Range

Operation & Maintenance Manual

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SafeBox™

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1 Introduction

This document is designed for use by the maintenance staff (technicians and their supervisors) to maintain (fault find, repair or replace) components of the SafeBox and associated components.

Throughout this document, references will be made to other essential information and documentation either prepared by HWL or provided from the equipment supplier/manufacturer.

After safety issues are discussed in Chapter 0 this manual follows a logical path from Description of the relevant components, equipment installation, repair/replacement, routine maintenance and finally a spare parts listing.

- **Chapter 2 Safety**
  Gives details of any relevant safety issues to be observed in the use and disposal of the equipment.
- **Chapter 3 Details of SafeBox Equipment**
  Shows details of the SafeBox enclosure and equipment.
- **Chapter 4 SafeBox Installation**
  Gives detail on the installation of the enclosure, the power cables, and functional circuit wiring.
- **Chapter 5 Maintenance**
  Details the recommended maintenance checks required to ensure the ongoing correct operation of the system.
- **Chapter 6 Part Numbers**
  List of main parts of the SafeBox System complete with Supplier and Part numbers to aid in the re-ordering of spare parts.

1.1 Maintenance Policy

The SafeBox system comprises highly reliable components. However should a fault occur, the unit can be completely replaced.

1.1.1 Complete Replacement

If the SafeBox is completely replaced, note the following:

Note that this is a Class II unit and must only be replaced by another Class II unit.

1.1.2 Component Repair

Repair of any functional electrical components on-site are not recommended as the unit will normally require disassembly to gain access to the internal components. After any dis-assembly a Class II insulation integrity test should be carried out. This test requires specialist High Voltage testing equipment to confirm that the Class II insulation is intact and undamaged

The testing should only be carried out by Henry Williams Ltd. who will also supply a product test report upon satisfactory values being obtained.

1.2 Competencies and Training Requirements

Staff with the responsibility for installation and maintenance of the SafeBox must hold the required Network Rail licenses.

The training will provide the skills and knowledge needed to identify faulty modules/components and the correct procedures for their replacement. Training for the repair of line replaceable units (modules) is not available. Line replaceable units, where appropriate will be returned to the manufacturer for repair or replaced from spares where repair is not practical.

1.3 Glossary of Terms and Abbreviations

- **EIC** Electrically Insulated Coating
- **Class II** See definition in Section 2.3
- **HWL** Henry Williams Limited
- **Loc** Location/Location Case
- **mm** millimetres
- **REB** Relocatable Equipment Building
- **SafeBox** Enclosure containing integrated electrical components
- **VAC** Voltage (AC) Alternating Current

1.4 Drawing References

The following table indicates which drawings should be used for each model in the SafeBox SIN119 range.

SafeBox Model	Wiring Schematic Drawing Ref.	General Arrangement Drawing Ref.
SafeBox SIN119/1SW50	SIN1191SW50	2017.036-A1-001
SafeBox SIN119/2SW50	SIN1192SW50	2017.037-A1-001
SafeBox SIN119/1SW50R	SIN1191SW50R	2017.040-A1-001
SafeBox SIN119/1SW95	SIN1191SW95	2017.035-A1-001
SafeBox SIN119/2SW95	SIN1192SW95	2017.034-A1-001
SafeBox SIN119/1SW95R	SIN1191SW95R	2017.041-A1-001
SafeBox SIN119/1SW120	SIN1191SW120	2017.038-A1-001
SafeBox SIN119/2SW120	SIN1192SW120	2017.039-A1-001
SafeBox SIN119/1SW120R	SIN1191SW120R	2017.042-A1-001
Safebox Mini 21 (40mm Holes)	SAFEBOX MINI 21 M40	2017.067-A1-001
Safebox Mini 21 (25mm Holes)	SAFEBOX MINI 21 M25	2017.067-A1-25-25
Safebox Mini 21 (32mm Holes)	SAFEBOX MINI 21 M32	2017.067-A1-32-32

Copies of the above drawings are available from:

Henry Williams Ltd.

Telephone: (01325) 462 722

Email: sales@hwilliams.co.uk

2 Safety

2.1 Isolation and Risk of Electrocution

The SafeBox is designed to work with voltages up to (and including) 650VAC and as such there is a danger of electrocution once the cover is removed.

All electrical power feeds to the SafeBox MUST be ISOLATED and LOCKED OFF BEFORE opening any doors or removal of the enclosure cover.

A 650VAC supply voltage is commonly used inside the signalling cubicles, and any personnel working inside these units should be appropriately trained. It should also be noted that the SafeBox units are designed to be mounted inside a locked enclosure, which is in a protective environment (Signalling Cubicle or REB) and have large caution labels clearly visible from the front.

Personnel working on the SafeBox should be appropriately trained to work with dangerous voltages and be fully conversant with the power circuitry. All connections are shrouded to prevent accidental contact with personnel (fingers etc.) however these voltage may be exposed when using tools such as screwdrivers etc.

Once Isolation has been carried out, it is essential that a proved* voltage indicator is used to recheck that all electrical equipment is dead prior to any works being undertaken.

***** It is recommended to use a proving device with the voltage indicator to check for correct operation both before and after checking that the equipment to be worked upon is dead.

2.2 Class II coating

The product is coated with a special Electrically Insulated Coating (EIC) which can withstand very high voltages. This coating must remain intact in order to ensure the integrity of the insulation properties of the enclosure. There must therefore be no further holes or other cut-outs made into the enclosure body post manufacture.

2.3 Class II Definition

A Class II or double insulated electrical appliance is one which has been designed in such a way that it does not require a safety connection to electrical earth.

The basic requirement is that no single failure can result in dangerous voltage becoming exposed so that it might cause an electric shock and that this is achieved without relying on an earthed metal casing.

This is usually achieved at least in part by having two layers of insulating material surrounding live parts or by using reinforced insulation.

2.4 Lifting & Trapping

The SafeBox units are fairly heavy (approx. 7Kg to 10Kg depending upon model) and extra care should be exercised when handling these units. The Manual Handling Regulations should be taken into account when lifting heavy items. Due to the obstructions underfoot in track areas, it is recommended that the removal and/or replacement of a SafeBox unit should be carried out with a minimum of two people.

There is a risk of trapping of fingers when the cover is repositioned over the body of the SafeBox unit. It is recommended that one person positions and holds the cover whilst a second person installs the fixing screws.

In order to assist with the local handling assessment the weight of each product is given on the attached ID label.

2.5 Disposal of Equipment

Due consideration must be given when disposing of equipment.

Environmental regulations and standards are continually being updated and therefore a risk assessment must be undertaken at the time of equipment disposal.

None of the SafeBox components contain batteries or other toxic materials.

Although the Class II coating and other materials used in the equipment are designed to release low smoke and less toxic fumes when burnt; burning of this equipment, as a means of disposal is not appropriate.

The equipment must be disposed of in accordance with the Waste Electrical and Electronic Equipment (WEEE) Regulations. Further information is available on the following website: http://www.hse.gov.uk/waste/waste-electrical.htm.

2.6 Fault Conditions leading to Electric Shock

Note that in order for conditions to exist where electric shock (with the box closed) to personnel is possible, the following simultaneous fault conditions must exist:

- The outer coating must be penetrated/damaged (at least to bare metal).
- The inner coating must be penetrated/damaged (at least to bare metal).
- An internal electrical fault must occur so that a live conductor touches exactly the same area where the inner coating is exposed to bare metal.
- The person must make contact with exactly the same area where the outer coating is exposed to bare metal.

3 Details of the SafeBox Equipment

3.1 General Information

The SafeBox SIN119 range of products are Class II 650VAC distribution systems in single enclosures. Each of these enclosures provides a rugged and safe termination point for the mains 650V incoming and outgoing cables. Isolation and fusing for the local functional power supplies are also provided within the same enclosure.

These enclosures are designed to be installed into existing location cases to help bring the power system arrangement up to current regulations.

The old power components (BS88 fuse holders etc.) will typically be removed during the installation process.

The SIN119 range can also be used in new cases where a Class II power system is specified.

The enclosures are designed to be fixed to either standard BRS SM 440 rails or a wooden backboard, as found in location cases, REBs and other railway enclosures. They can also be fitted to any flat surface if required using standard M8 fixings.

The unit is designed to have the smallest footprint possible to enable incorporation into an existing location case.

The SafeBox SIN119 range of enclosures contains fused outgoing ways which can be used to feed 650VAC to the local transformers which in turn feed the signalling system.

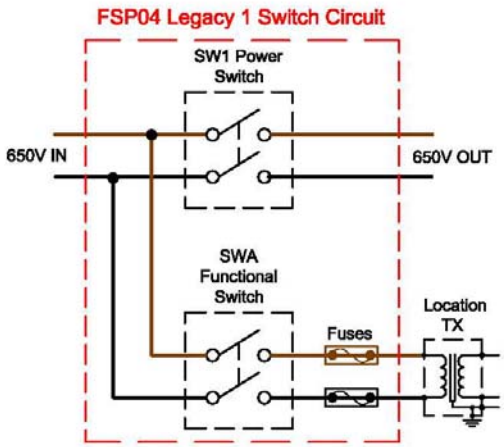
The enclosures are manufactured from stainless steel which is completely covered in a special insulated coating. This insulation gives the enclosure its Class II protection properties. Each enclosure is factory tested to 3,500V to check that the di-electric strength of the insulating coating is intact.

Note that, due to size constraints, the SafeBox SIN119 range does not house any 650VAC suppression modules.

3.2 SIN119 Models (circuit type/function)

There are three types of SafeBox enclosure models in the SIN119 range. The circuit wiring schematic for each type is shown under the headings below:

3.2.1 FSP04 Legacy with 1 functional switch

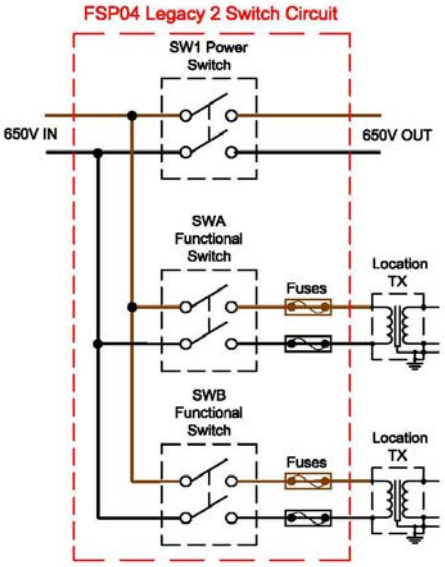


This type is usually used where:

a) The power system is legacy type with a single isolation point (typically fuses) which disconnects all downstream location cases.

b) There is only one functional 650Vac supply required in this location case.

3.2.2 FSP04 Legacy with 2 functional switches

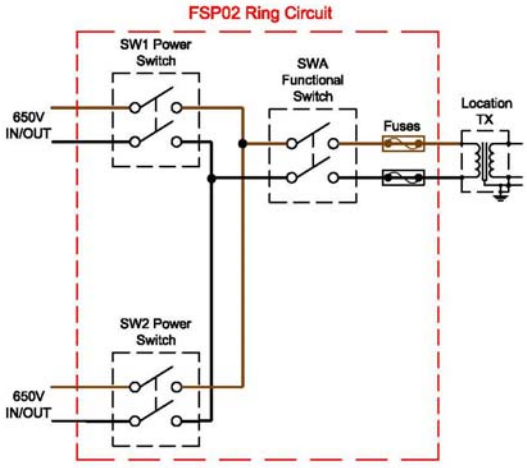


This type is usually used where:

c) The power system is legacy type with a single isolation point (typically fuses) which disconnects all downstream location cases.

d) There are two functional 650Vac supplies required in this location case.

3.2.3 FSP02 Ring with 1 functional switch



This type is usually used where:

e) The power system is a ring feed with two isolation points (typically fuses) which can disconnect the supplies from each feeder cable.

f) There is only one functional 650VAC supply required in this location case.

3.3 SIN119 Models (type/cable sizes)

Each model accepts a range of wire sizes into the main connection terminals. The table below shows each model and gives the range of wire sizes accommodated by both the mains terminals and the maximum wire size for the functional terminals:

SafeBox Model	Circuit Type (See 3.2)	Functional Outputs	Power Cable Wire Size	Functional Wire Size
SIN119/1SW50	FSP04 (Legacy)	1	2.5(Cu)/6.0(Al) to 50mm²	25.0mm² (max)
SIN119/2SW50	FSP04 (Legacy)	2	2.5(Cu)/6.0(Al) to 50mm²	25.0mm² (max)
SIN119/1SW50R	FSP02 (Ring)	1	2.5(Cu)/6.0(Al) to 50mm²	25.0mm² (max)
SIN119/1SW95	FSP04 (Legacy)	1	16.0 to 95.0mm²	25.0mm² (max)
SIN119/2SW95	FSP04 (Legacy)	2	16.0 to 95.0mm²	25.0mm² (max)
SIN119/1SW95R	FSP02 (Ring)	1	16.0 to 95.0mm²	25.0mm² (max)
SIN119/1SW120	FSP04 (Legacy)	1	35.0 to 150.0mm²	25.0mm² (max)
SIN119/2SW120	FSP04 (Legacy)	2	35.0 to 150.0mm²	25.0mm² (max)
SIN119/1SW120R	FSP02 (Ring)	1	35.0 to 150.0mm²	25.0mm² (max)
Mini 21	FSP02 (Ring)	1	2.5(Cu)/6.0(Al) to 50mm²	25.0mm² (max)

All models denoted SIN119/1SW** have one functional circuit Isolator and two functional fuse holders installed. Where ** = the maximum cable size.

All models denoted SIN119/2SW** have two functional circuit Isolators and four functional fuse holders installed. Where ** = the maximum cable size.

3.4 SafeBox SIN119 Layout/General Arrangement

The photograph below shows the general layout of the SafeBox SIN119 enclosure. This general layout is similar for all of the models in the SIN119 range.

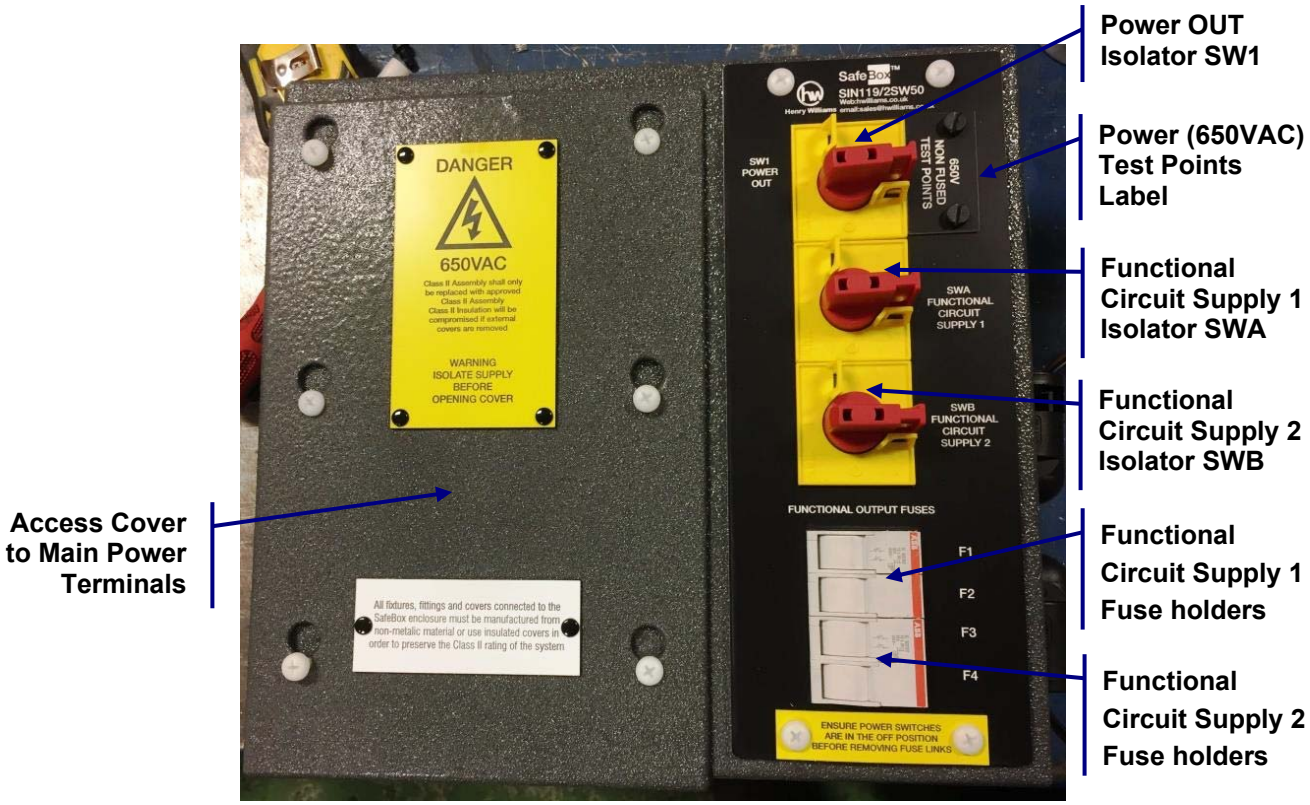


Figure 1: SafeBox SIN119/2SW50 Front Layout Arrangement

Figure 1 shows the general layout applicable to the SafeBox SIN119 range products.

Note that the model shown in figure 1 is a SIN119/2SW50 which only has one “mains” isolator (legacy FSP04 circuit). The Isolator (SW1) on this model therefore only isolates the power from the IN terminals to the OUT terminals. See the schematic electrical circuit diagram in Section 3.2.2.

The Ring version (ring FSP02 circuit) has both a Power IN and a Power OUT isolator switch. See electrical circuit diagram in Section 3.2.3.

In order to ensure the correct connections, refer to the particular model drawings given in the table in Section 1.4.

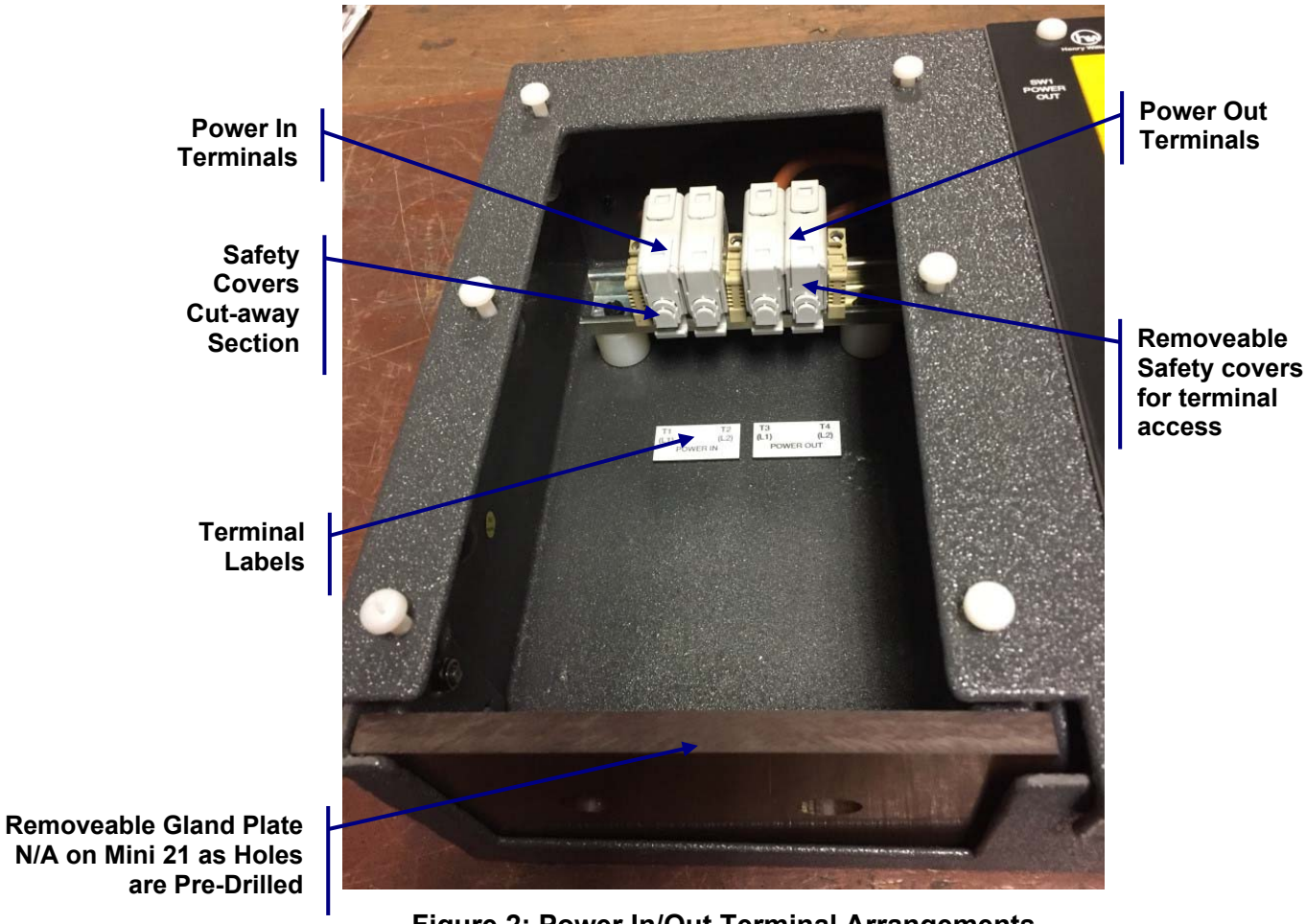


Figure 2: Power In/Out Terminal Arrangements

Figure 2 shows the main terminal chamber once the cover is removed. The terminals installed will be sized to accommodate the range of cables depending upon model. Options are; 50mm², 95mm², and 120mm².

Each terminal is fitted with safety covers. These are shown on the photograph in Figure 2. The safety covers are fitted to both the top and bottom of the main terminals to prevent accidental contact with any live parts.

In order to access the connections into the bottom of each of the terminals, the safety cover must be removed. This is accomplished by pulling the bottom down slightly (to unlatch it), then sliding the cover upwards (toward the user).

Once the cables are connected into the terminals, each safety cover should be cut around the cable (see Cut-away Section in Figure 2), and then refitted by sliding down over the terminal body.

All products in the SafeBox SIN119 range feature removable gland plates (Except for Mini 21, which comes with pre-drilled holes). The gland plate is easily accessible once the main terminal cover is removed. The gland plate can be removed from the enclosure by sliding it forward toward the user. The gland plate is held in place once the main terminal cover is refitted.

Note that the gland plates can be pre-drilled and/or threaded to accommodate a variety of cable glands or conduit fittings as per the user requirements. This should be stated at time of order placement.

Figure 3: Functional Circuits/Transformer Wiring Outlets

Figure 3 shows the pre-installed conduit outlets and wiring which are supplied with the product.

The conduit is supplied not fitted as this will be required to be cut to length depending on the situation (transformer position/distance etc.).

All electrical power feeds to the SafeBox

MUST be ISOLATED and LOCKED OFF

prior to the opening or removal of any covers.

4 SafeBox SIN119 Range Installation

The following sub-sections detail the instructions for installation of the SafeBox into a variety of enclosures.

The SafeBox can be installed into the following:

- Railway location case
- REB racking
- Marine ply backboard

4.1 SafeBox Mounting

All SafeBox enclosures have mounting tabs fitted to the top/bottom or left/right sides. Each tab mounting hole contains a nylon insert to protect the edges. These are then over coated with the EIC material to enhance the insulation properties in the fixing areas.

These pre-drilled holes are designed to accept M8 fixings.

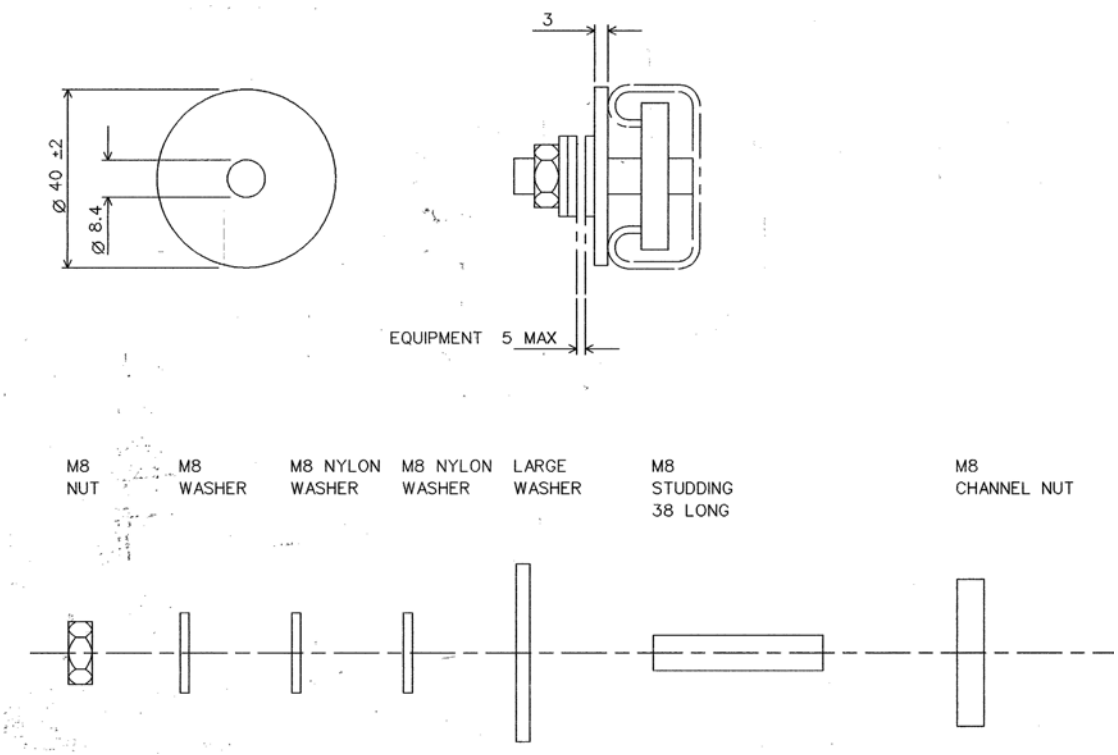


Figure 4: BRS-SM 440 Fixing Kit [M4]

For BRS-SM 440 fixings use an M4 fixing kit which is shown in Figure 4.

- M4 fixing kit : CAT No. 086/43556.

The SafeBox model series can be rear mounted directly onto the BRS-SM440 mounting rails.

4.2 Installation of Incoming/Loop Power Cables (with Power OFF)

It is essential that the SafeBox is fully isolated and locked off from all supplies before any work is carried out or covers removed.

The SafeBox SIN119 range has been designed to accommodate power cables of various sizes depending upon the model. The main terminals are suitable for both copper and aluminium power cables.

To ensure the correct wire size is accommodated, refer to the table in Section 3.3.

4.2.1 Power Terminals and Tightening Torque Values

The power terminals fitted into the enclosures are of the tunnel type and are tightened using a hexagonal (allen key) type tool, see table below for size.

Each model range (50mm², 95mm², and 120mm²) have different terminal sizes and each has a different tightening torque setting – see table below:

SafeBox Models	Hexagon Tool	Tightening Torque
SIN119/1SW50 SIN119/2SW50 SIN119/1SW50R	5 mm	4 Nm (2.5 - 4.0mm²) 12 Nm (6.0 – 50.0mm²)
SIN119/1SW95 SIN119/2SW95 SIN119/1SW95R	5 mm	20 Nm (16.0 – 95.0mm²)
SIN119/1SW120 SIN119/2SW120 SIN119/1SW120R	8 mm	20 Nm (35.0 – 95.0mm²) 30 Nm (120.0 – 150.0mm²)
Mini 21 (M40) Mini 21 (M25) Mini 21 (M32)	5 mm	4 Nm (2.5 - 4.0mm²) 12 Nm (6.0 – 50.0mm²)

The main power cables should be installed into the terminals using the relevant tightening torques as given in the table above.

Note that the power terminals are pre-fitted with terminal shrouds (see picture right). These shrouds should be cut to accommodate the wire size then replaced on to the terminal to cover any exposed conductive parts.

4.2.2 Power Cables and use of Ferrules

Note: The use of ferrules is recommended for installations with flexible conductors with the following cross-sections (single conductor installation):

- SIN119/1SW50, 2SW50, 1SW50R: 2.5 – 16.0 mm2
- SIN119/1SW95, 2SW95, 1SW95R: 16.0 – 35.0 mm2
- SIN119/1SW120, 2SW120, 1SW120R: 35.0 – 70.0 mm2
- Mini 21: 2.5 – 16.0 mm2

4.2.3 Installation Sequence

1. Release the main terminal cover by untightening the cross-head screws then pushing the cover down. **Due to the keyholes punched into the cover, the retaining screws do not need to be completely removed.**
2. Pull to slide out the gland plate from the bottom of the terminal chamber. (N/A for Mini 21 as holes are already pre-drilled)
3. Install the stripped cables into the cable glands or conduit fittings (not supplied).
4. Push to slide the gland plate back onto the bottom of the terminal chamber. (N/A for Mini 21 as holes are already pre-drilled)
5. Push cable up until each wire end is sufficiently into each of the terminals, then mark on the insulation the amount requiring removal.
6. Pull the gland plate forward for easier access to strip the wire ends to the marked lengths. (N/A for Mini 21 as holes are already pre-drilled)
7. Crimp wires with suitable ferrule – note also Section 4.2.2
8. Locate the crimped wire ends into the bottom of the terminals whilst sliding the gland plate into position. (N/A for Mini 21 as holes are already pre-drilled)
9. Once the wire ends are fully home into the terminals, the lower screw can be fully tightened. Use the correct tool and torque – see Section 4.2.1.
10. Cut and refit the terminal protective covers by sliding each over the terminal body – see Section 4.2.1.

It is recommended to use a proving device with the voltage indicator to check for correct operation both before and after checking that the equipment to be worked upon is dead.

4.3 Functional Circuits Wiring and Conduit

The SafeBox SIN119 series of enclosures are supplied with the functional circuits equipment pre-fitted (except conduit). This consists of the following items (per output):

- 2m length of 25mm Class II conduit (to be cut to length by end user).
- 2m length of Brown & black 2.5mm² Tri-rated wiring (prewired into enclosure fuse holders – free ends ready to be pushed through the required length of conduit, suitable for connecting to the primary terminals of a transformer).
- Right-angle 25mm Class II conduit fitting (pre-installed into enclosure).
- Straight 25mm Class II conduit fitting (free end for fitting into a transformer or transformer/rectifier housing).

The factory fitting of the above equipment is designed to enable a more efficient installation for the end user.

The electrical schematic diagram (which matches the model being installed) must be consulted before terminations are carried out to ensure the correct connections are made. See Section 1.4 for the correct drawings to be used for each model in the range.

The installed functional circuits' equipment uses the pre-made access holes (25mm Clearance Diameter) which are provided in the top and the right hand side of each enclosure. These are installed during the manufacturing process for the fitting of conduit or glands for the securing and protection of the functional circuits wiring. If not used these must be blocked using the plastic plugs provided.

Figure 3 shows the pre-installed 25mm Class II conduit fittings installed into two of the SafeBox side outlets.

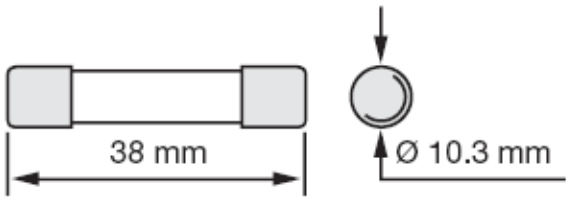
All conduit and corresponding glands used in a Class II system must comply with Network Rail Specifications NR/L2/SIGELP/27422 (Conduit Glands) and NR/L2/SIGELP/27421 (Flexible Conduit).

If any functional circuits are unused, then the wiring must be removed or otherwise made safe.

Any unused apertures in the enclosure body must be plugged using the plugs provided.

4.4 Functional Fuses and Recommended Type

The functional circuits fuse holders are to be fitted with fuses of the following dimensions:



All fuses installed into the SafeBox fuse carriers must be rated to 690VAC.

The following table shows recommended functional fuses from the Mersen range:

Size	Rated Voltage (V)	Nominal Current (A)	Class	Catalog Number w/o indicator	Reference Number w/o indicator
10x38	690	1	aM	FR10AM69V1	H302779
10x38	690	2	aM	FR10AM69V2	J302780
10x38	690	4	aM	FR10AM69V4	K302781
10x38	690	6	aM	FR10AM69V6	L302782
10x38	690	8	aM	FR10AM69V8	M302783
10x38	690	10	aM	FR10AM69V10	N302784
10x38	690	12	aM	FR10AM69V12	P302785

The above are Class aM type fuses which are recommended for the protection of motors, transformers, and other loads with in-rush currents.

4.5 Load/Transformer Feed Wiring

Once the conduit is cut to length and secured to the SafeBox fitting, the pre-installed wires can be fed through.

The free end of the conduit can then be secured to the transformer housing using the conduit fitting supplied.

The wiring is fed into the transformer housing and terminated into the primary supply terminals provided inside the transformer enclosure. See Figure 5 below.

Figure 5: Final Installation

Figure 5 shows a complete installation carried out on a Legacy installation. The photo shows the inside of a location case with a wooden backboard.

A SafeBox SIN119/1SW50 and a 500VA Class II Hybrid transformer were installed after the old-style BS88 fuse carriers in metal enclosure and associated equipment were removed.

5 Maintenance

These enclosures are usually connected to 650VAC and can be powered from more than one source. It is therefore essential that all safety procedures are strictly followed.

All electrical power feeds to the SafeBox
MUST be ISOLATED and LOCKED OFF
prior to the opening or removal of any covers.

5.1 Replacement of Components

Replacements of any of the functional electrical components on-site are not recommended as the unit will normally require disassembly to gain access to the internal components. After any dis-assembly a Class II insulation integrity test should be carried out. This test requires specialist High Voltage testing equipment to confirm that the Class II insulation is intact and undamaged.

This testing should only be carried out by Henry Williams Ltd. who will also supply a product test report upon satisfactory values being obtained.

5.2 Annual Procedure

It is recommended that the following be carried out yearly:

- General visual inspection as to the condition of the enclosure and components (including wiring where visible).
- Check that the Electrically Insulated Coating (EIC) does not show any signs of damage and in particular any exposure of the metal base material. See guidance given in Section 5.3.
- Check presence & legibility of all I.D. labelling and warning notices.
- Check all cable connections and crimps are secure and do not show any sign of heat/burning.
- Check that all fuses are present and of the correct size (and voltage rated to 650VAC) as detailed on the electrical schematic diagrams.
- Remove, inspect, and re-insert fuses. Check carrier for tightness and for signs of burning.
- Ensure all fixing nuts, washers; nut/bolt covers etc. are present, correct, and tight.
- Check cables and gland plate area (Where applicable) for damage or evidence of water ingress.
- Give the equipment a general clean and remove any build-up of dust/debris using a brush or small nozzle vacuum.
- Before being returned to service, it is recommended to carry out an operational check of the isolation switches.

Note that this is a Class II unit and if completely replaced, it must

only be replaced by another Class II unit.

5.3 EIC Coating Damage Guidance

As the coating is applied to both the inside and the outside of the inner stainless steel enclosure body, the outer coating can take some acceptable damage before the unit requires replacing.

Note that in order for a person to receive an electric shock (with the box closed) the following simultaneous fault conditions must exist:

- The outer coating must be penetrated/damaged (at least to bare metal).
- The inner coating must be penetrated/damaged (at least to bare metal).
- An internal electrical fault must occur so that a live conductor touches exactly the same area where the inner coating is exposed to bare metal.
- The person must make contact with exactly the same area where the outer coating is exposed to bare metal.

Figure 6 shows a practical guide which has been developed by Henry Williams to help maintenance personnel understand what levels of damage are acceptable and which are not.

As can be seen below the damage guide is split up into three action levels:

Action Level 1
The amount of damage is superficial and does not completely penetrate the outer coating. This level of damage should be noted on the maintenance sheet along with its location. The damage can then be monitored during future inspections to ensure that no further worsening occurs.

It is not recommended to increase the frequency of visual inspections for this level of damage.

Action Level 2
The amount of damage is worse than that in action level 1 in that it does completely penetrate the outer coating. This level of damage should be noted on the maintenance sheet along with its location. The damage can then be monitored during future inspections to ensure that no further worsening occurs.

The unit can be put back into service with an affixed label/notice indicating what damage has been observed.

It is recommended to increase the frequency of visual inspections for this level of damage to ensure that there is no further degradation in the coating.

Action Level 3
The amount of damage is much worse than that in action level 2 in that the enclosure is completely penetrated through both the inner & outer coatings and the stainless steel body. This level of damage should be noted on the maintenance sheet along with its location.

The unit can be put back into service with an affixed warning label/notice indicating what damage has been observed.

It is recommended to replace the unit at the next available opportunity.

Note that the EIC Coating is a NON-REPAIRABLE item

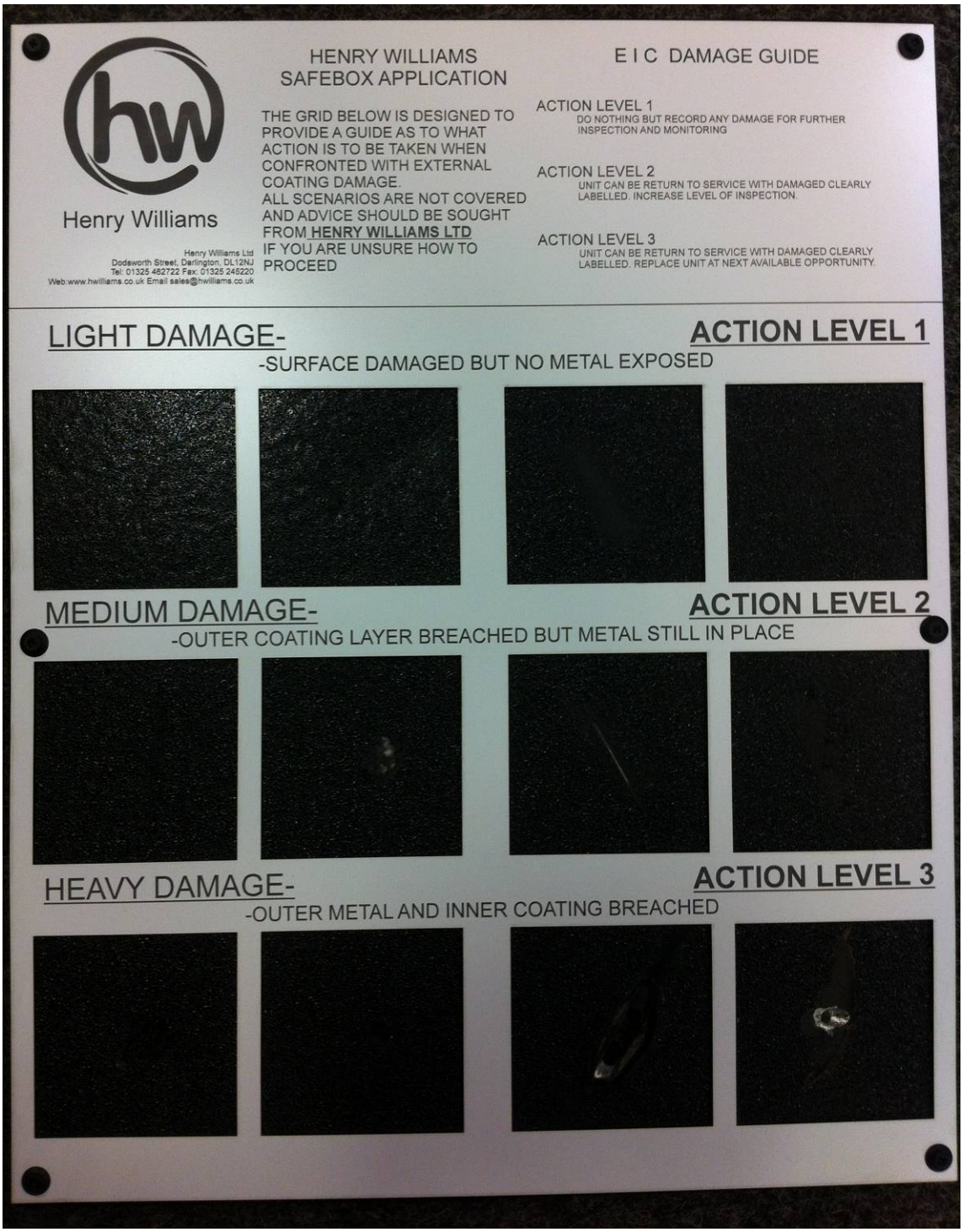


Figure 6: EIC Damage Guide

5.4 Flooding Guidance

All models in the SafeBox range are designed to allow the natural drainage of water after flooding. There are small gaps built into the joins between the partition sections and also between the gland plate (where applicable) and the door bottom flange.

Should flooding occur, we would recommend that the unit not be put back into service unless completely dry. Failing this the unit should be replaced and returned to Henry Williams for repair and retesting.

6 Part Numbers

The table below details the part numbers for the replaceable items used in the SafeBox SIN119 range along with a description and supplier for each item.

Description	**Supplier**	**Part Number**
Isolating Switch Red/Yellow Handle & Yellow Shroud	Henry Williams Ltd.	HWE-SAFEBOX-001
Terminal Covers (SIN119/50mm² Range)	Henry Williams Ltd.	HWE-SINBOX-004
Terminal Covers (SIN119/95mm² Range)	Henry Williams Ltd.	HWE-SINBOX-002
Terminal Covers (SIN119/120mm² Range)	Henry Williams Ltd.	HWE-SINBOX-006
25mm Hole Blanking Plug	Henry Williams Ltd.	HWE-SAFEBOX-031
25mm Blanking Plug Locknut	Henry Williams Ltd.	HWE-SAFEBOX-032
BRSSM440 M4 Rail Fixing Kit	Henry Williams Ltd.	086/43556

* Other spares & Labels may be available upon request.

7 UKCA Declaration of Conformity

Henry Williams

UK CA

DECLARATION OF CONFORMITY

SI 2016 No. 1101 "The Electrical Equipment (Safety) Regulations 2016"

Name of Manufacturer or Supplier: **Henry Williams Ltd.**

Full Postal Address (including country of origin):

Dodsworth Street,
Darlington,
County Durham,
DL1 2NJ, UK.
Tel: (01325) 462722
Web: hwilliams.co.uk

Description of Product Range: SafeBox (Class I/II switch enclosures)

Name, Type or Model, Batch or Serial Numbers:

SafeBox models: 12, 13, 22, 32, 35, 105, 105L, 100+5, Blue 32, Blue 105, Blue 100+5.
SafeBox Compact models: C11, C12, C13, C22, C32.
SafeBox Legacy models: SL11/A, SL11/B, SL11/C, SL22A4C.
SafeBox Terminal Enclosures: HW/T1, HW/T2, HW/T3.
SafeBox Legacy Split LSP11.
SafeBox (FSP03 System) 3004, 3008 (+ Aux modules).
Safebox (Modular FSP03 System): FSP FARS, FSP F, FSP 2FS, FSP 4FS, FSP 4FSREB, FSP SPM1.
SafeBox Legacy Connect: LC&LCS versions (0.51, 1.01, 1.51, 2.01, 3.01, 40.51. 41.01,41.51,42.01,43.01).
SafeBox SIN119 models: 1SW50, 2SW50, 1SW50R, 1SW95, 2SW95, 1SW95R, 1SW120, 2SW120, 1SW120R, MINI21, 2SW120R/V/RH, 2SW50-230V
Also model variants: Marine (prefixed with M/) & Optional Surge Arrestor (Postfixed with /SA).

Standards Used Including Number, Title, Issue Date, and Other Relevant Documentation:

- BS EN 60947-3:2009 + A2:2015 Low Voltage Switch gear & Control Gear
- BS 7671:2018+A1:2020 Requirements for Electrical Installations
- BS EN 61439-1:2011 Low-voltage switchgear and control gear assemblies, General Rules
- BS EN 61439-2:2011 Power switchgear and control gear assemblies
- BS EN 60529:1992 + A2:2013 Degrees of Protection provided by Enclosures
- BS EN 50121-5:2017+A1:2019 Railway applications. Electromagnetic Compatibility. Emission and immunity of fixed power supply installations and apparatus
- BS EN 62262:2002 Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

All products are suitable for a 2 wire 690VAC (max) supply at 50/60Hz, with the exception of:

- Safebox Blue Range suitable for 230-690VAC (max) supply at 50/60Hz
- Safebox 2SW50-230V suitable for 230VAC (max) supply at 50/60Hz

Place of Issue: **Henry Williams Limited**

Name of Manufacturers Representative: **Calvin Stephenson**

Position of Manufacturers Representative: **EP Production Director**

DECLARATION

I declare that as the authorised representative, the above information in relation to the supply/manufacture of this product is in conformity with the stated standards.

Signature of Authorised Representative:

V1.0 – February 2021