

SmartCell



Wireless Dual Input / Output Device Installation Guide

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Part number

Product description

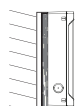
EMS-41-0202-0001

Wireless Dual Input / Output Device

Pre installation



Installation must conform to applicable local installation codes and should only be installed by a fully trained and competent person.



The use of a non-metallic spacer should be considered if mounting the device on to a metal surface.



This device contains electronics that may be susceptible to damage from Electrostatic Discharge (ESD). Take appropriate precautions when handling electronic boards.



Two resistor monitored inputs are available. If both inputs enter an active condition, only the first activated input will be shown at the control panel.



To ensure correct operation, products must be used within the specified environmental operating conditions.

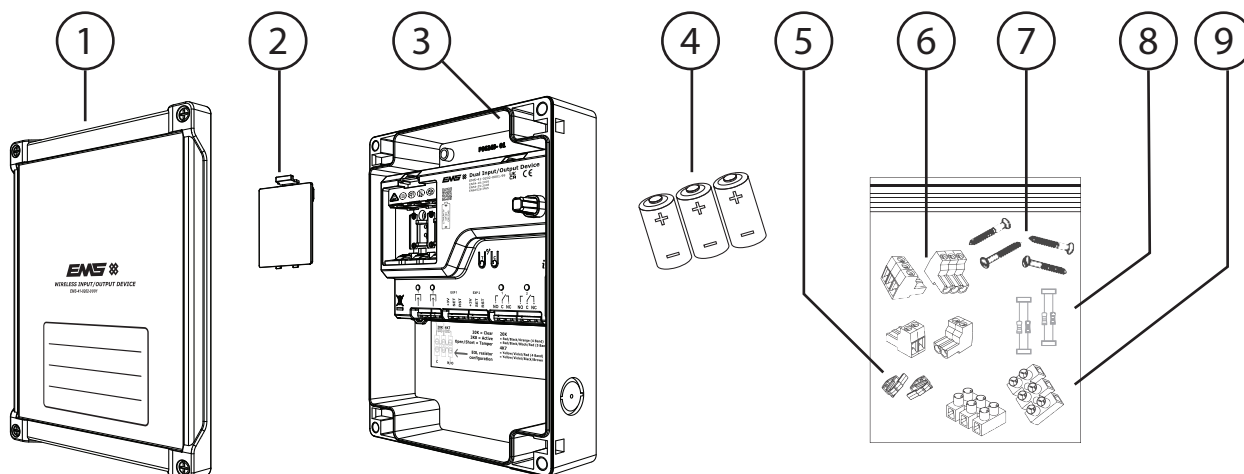


To retain an IP65 rating, ensure that the device is installed as outlined in these instructions, e.g. by using the correct fixing holes, fixings and suitable cable glands.



You can test the device's inputs and outputs on the device itself before logging it onto the system. Refer to the [Status indications](#) and [Local testing](#) sections for more information.

Components



1 Lid

2 Battery cover

3 Back box

4 Batteries*

5 Door hinges

6 Terminal blocks

7 4x Lid screws

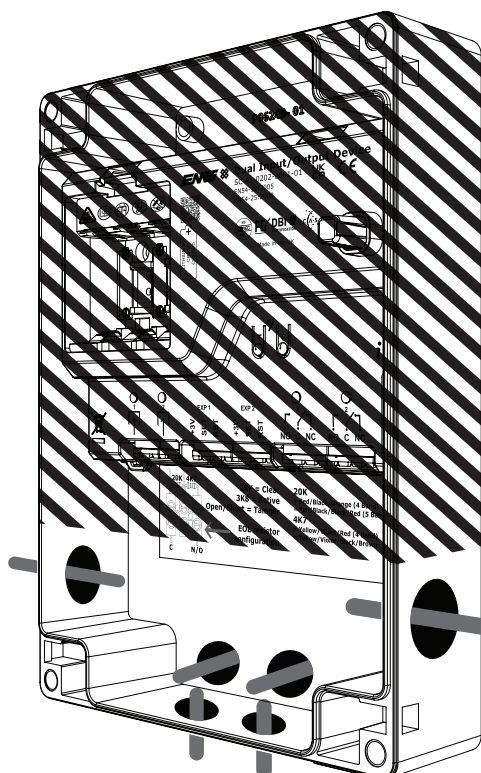
8 2 x Resistor packs

9 Connector blocks

* Not included in some regions. When batteries are not included, only fit specified batteries. See MK298 for specified batteries.

Prepare back box

- Remove the lid.
- Drill through the marked cable entry points as necessary.
- Suitable cable glands should be used.
- It is possible to remove the PCB and its casing from the back box. Refer to the [Optional PCB and casing removal](#) section for details.

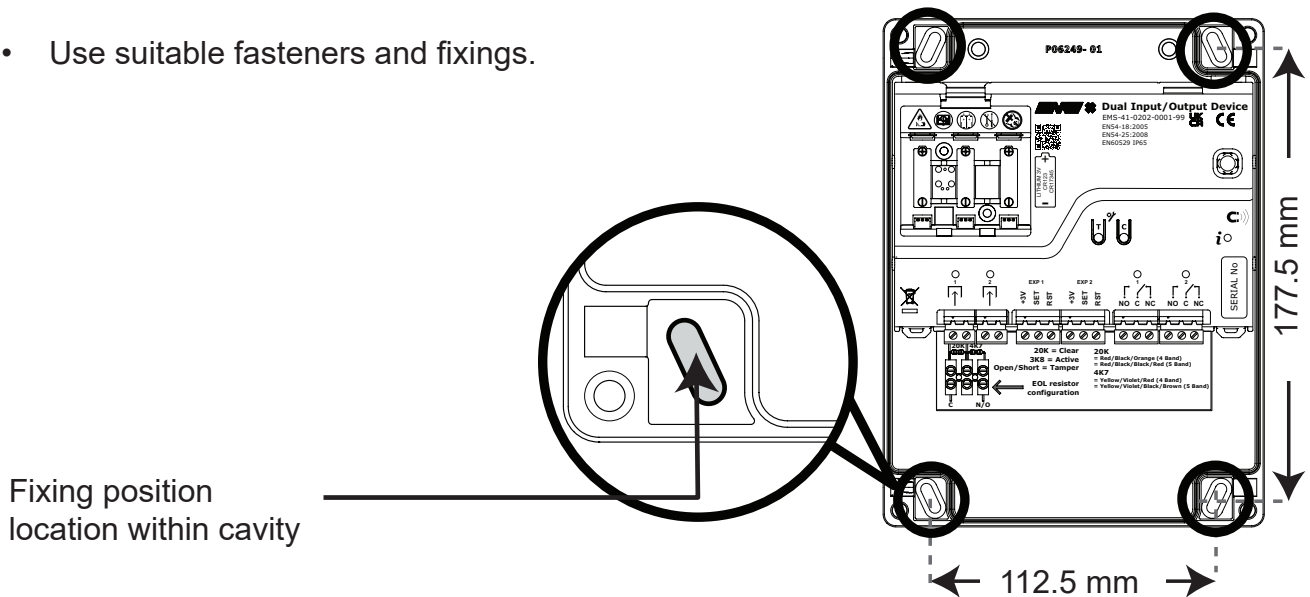


X
DO NOT
use the
shaded
area

✓
The unshaded
area is available
for cable entry

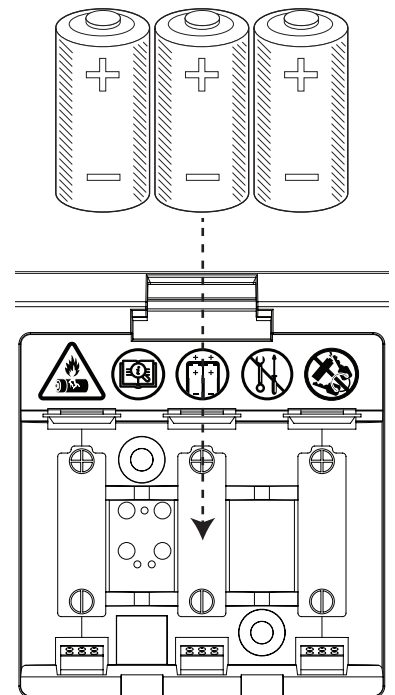
Fix back box to wall

- Use all four corner fixing positions to ensure a firm fixing.
- Use suitable fasteners and fixings.



Fit batteries

- Unclip the battery cover.
- Observe correct polarity, using only specified batteries. Insert the negative side of each battery first.
- Do not mix batteries of different type or age.
- Re-fit the battery cover once all batteries are correctly in place.



Battery care & management



WARNING: Risk of venting or ignition if ruptured



OBSERVE battery polarity



DO NOT remove batteries with a sharp or metallic object

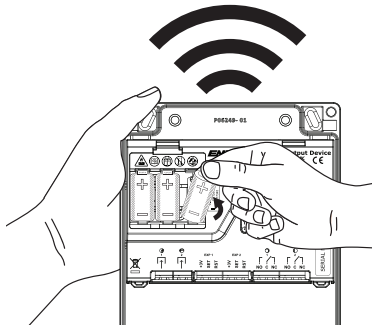


DO NOT short circuit

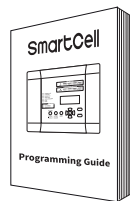
Configuration

The device must now be added (programmed) to the control panel.

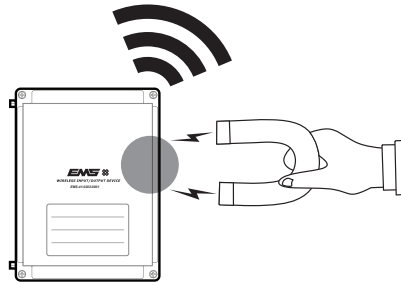
Method 1 Device powering



Refer to the SmartCell Wireless Control Panel (TSD155) [Programming Guide](#) for full details.

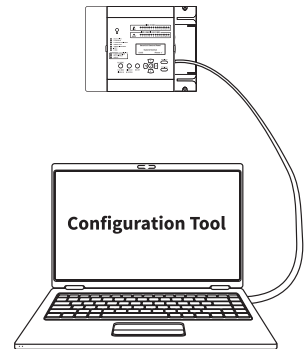


Method 2 Magnet application



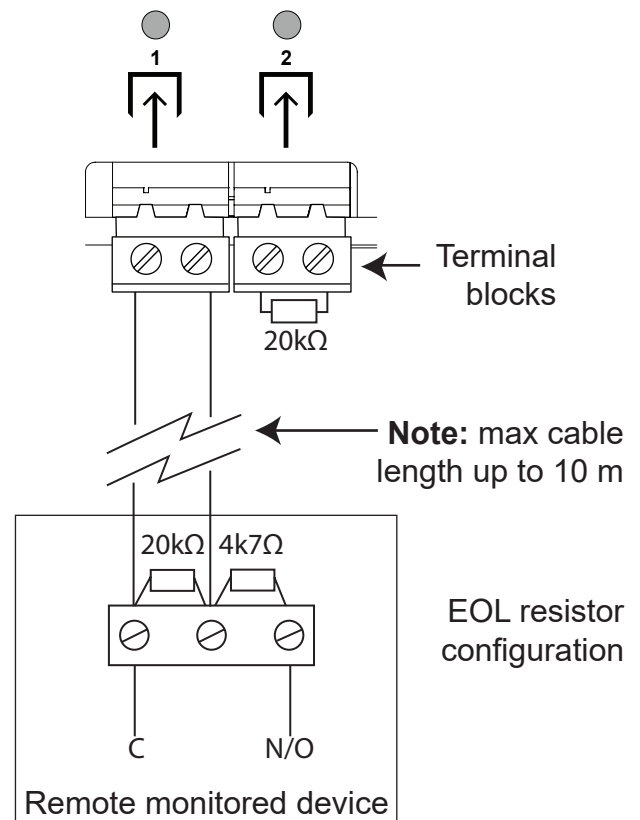
SmartCell Wireless Control Panel = TSD155
SmartCell Wireless Gateway = MK407
SmartCell iWZM = MK067

Method 3 Via computer



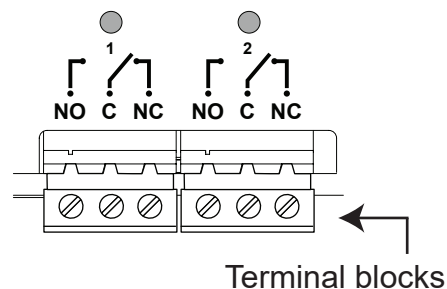
Input wiring

- Fit the supplied terminal blocks.
- Two resistor monitored inputs are available.
- Both inputs monitor; normal, active, open circuit and short circuit conditions.
- To connect inputs to external devices, wire as shown, using the resistors provided.
- Minimum input detection time is 2 seconds.
- If an input is not being used, fit the supplied 20 k Ω resistor.



Output wiring

- Fit the supplied terminal blocks.
- Two outputs are available.
- Both outputs are voltage free, with a maximum switching capacity of 1 A at 30 VDC.



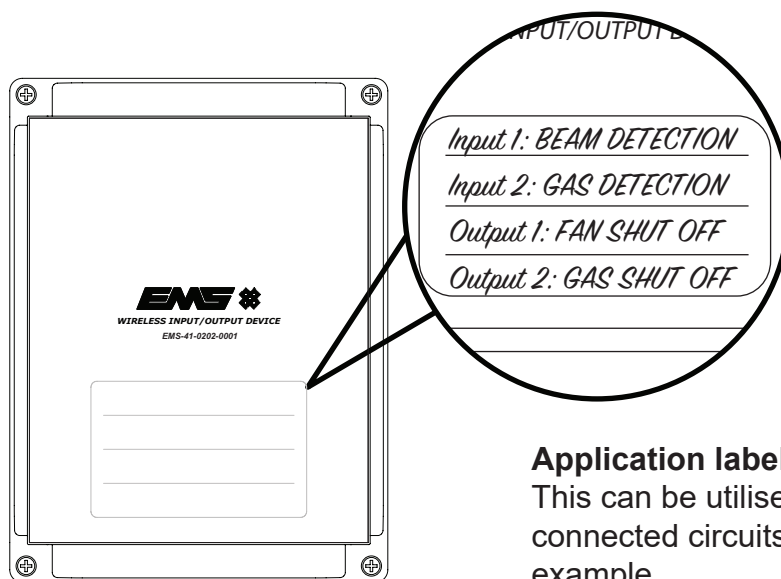
WARNING: DO NOT CONNECT TO MAINS.

This product contains relays which when subjected to severe mechanical shock may cause momentary transitions from the currently active state. The transitions will be less than 1 second and any equipment connected must not respond to such momentary changes of the relay. This product should be fixed to a stable and secure structure that is not subject to severe mechanical shock.

Completing the installation

The front lid must now be fitted to the device using all four provided fixing screws. This will clear the device tamper fault.

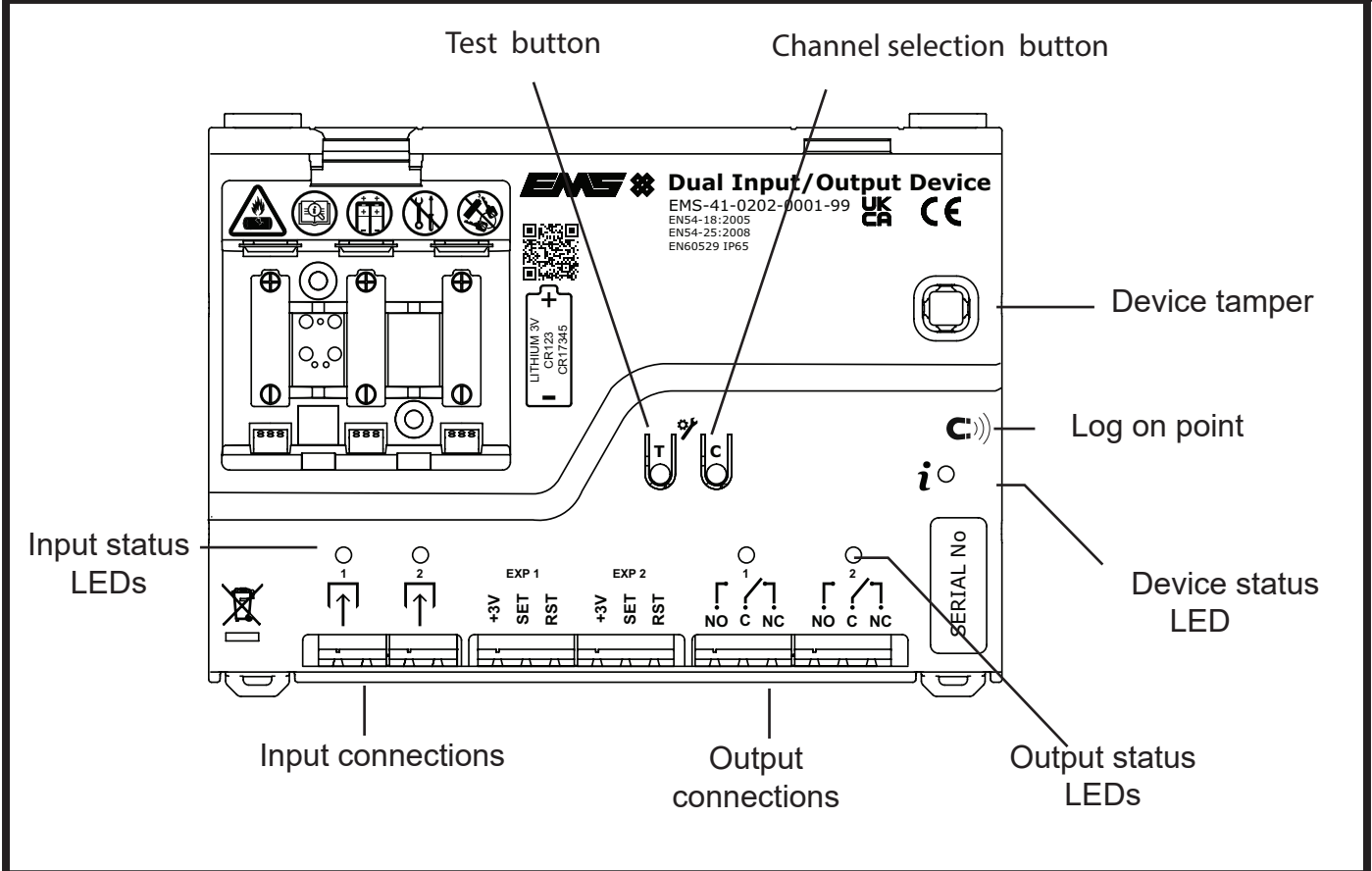
Caution: Do not overtighten the screws. Max torque setting = 0.5 Nm.



Application label

This can be utilised to identify connected circuits as per the above example

Device overview



Status indications

Device status

The device status is indicated by the Device status LED (Device Overview section), as shown in the table below.

Device status LED indications ^[1]	
State	LED indication
Device power up/log on (not on system)	Yellow flash » steady red
Device power up (already on system)	Yellow flash » steady green
Device fault	Yellow flash (2 secs, every 2 mins)
Communicating	Green flash (2 secs, every 2 mins)
Signal level test - LOW signal (<20dB) ^[2]	Red flash
Signal level test -GOOD signal (≥20dB) ^[2]	Green flash
Test mode	Fast red flash
Device identifier ^[2]	Various (device address specific)
Walk test mode ^[2]	Various (input specific)

[1] Requires device in tamper fault (front lid removed).

[2] Requires command from panel. Refer to the [SmartCell Wireless Control Panel Programming Guide \(TSD155\)](#) for full details.

Status indications *continued*

Input status

The input status is indicated by the Input status LED ([Device overview](#) section), as shown in the table below.

Input status LED indications ^[1]	
State	LED indication
Active	Steady red
Fault	Steady yellow
Normal	Off
Test mode ^[2] Normal Fault ^[3] Selected for test ^[4] Test activation	 Steady green Steady yellow Green flash Slow red flash

[1] Requires device in tamper fault (front lid removed).

[2] These indications are only visible when the device is in Test mode. See [Local testing](#) for details.

[3] This is only shown if in a fault state prior to entering test mode.

[4] Not activated.

Output status

The output status is indicated by the Output status LED ([Device overview](#) section), as shown in the table below.

Output status LED indications ^[1]	
State	LED indication
Active	Steady red
Normal	Off
Test mode ^[2] Normal Selected for test ^[3] Test activation	 Steady green Green flash Slow red flash

[1] Requires device in tamper fault (front lid removed).

[2] These indications are only visible when the device is in Test mode. See [Local testing](#) for details.

[3] Not activated.

Local testing

Local testing feature overview

This feature allows each channel (input and output) to be individually operated from the device. This enables testing without changing wiring or returning to the panel.

The local test also includes LED indication for each of the channels (inputs and outputs) to visually show the test state.

Refer to the [Device overview](#) section for referenced device features and the [Status indications](#) section for LED operation.

To perform the test:

1. Press and hold the Test (T) button for at least 3 seconds (long press) until the Device status LED flashes red (fast flashing), and then release the button.

The device enters Test mode.

The Device status LED flashes red for the duration of the test.

The Input/Output status LEDs indicate the input/output state on entering Test mode. For more information, see [Input and Output test](#) tables.

Note: Inputs can only be tested when the input state is normal. If the LED indicates an active or fault state exit the test. [See Local testing](#). Outputs can be tested in any state.

2. Press the Channel selection (C) button (short press).

The selected input/output status LED flashes to indicate the selection.

Input 1 is the first channel selected. To test a different input/output, press the Channel selection (C) button repeatedly until the required Input/Output status LED flashes.

3. Press the Test (T) button (short press) to start the test.

The selected input or output test activates.

See [Input and output tests table](#) for details.

4. To exit Test mode, use one of the following methods:

- Press and hold the Test (T) button for at least 3 seconds (long press).
- Press the Channel Selection (C) button (short press) when the last channel available is selected.
- Close the device tamper switch.

The device also exits Test mode automatically if:

- No action is taken for 5 minutes.
- The control panel sends a command to operate an output (for example, during an alarm condition).

Once Test mode has ended, the input or output returns to its pre-test state.

Local testing *continued*

Device status LED

FLASHES RED  Indicates test mode has been enabled

Input/Output test LEDs indication

When test mode starts, the Input/Output LED indicates the current state:

Input/Output test LEDs

STEADY GREEN  Input/Output channel in non-active state and not currently selected for Test

STEADY RED  Input/Output channel in active state prior to entering test mode

FLASHES GREEN  Input/Output channel selected for Test

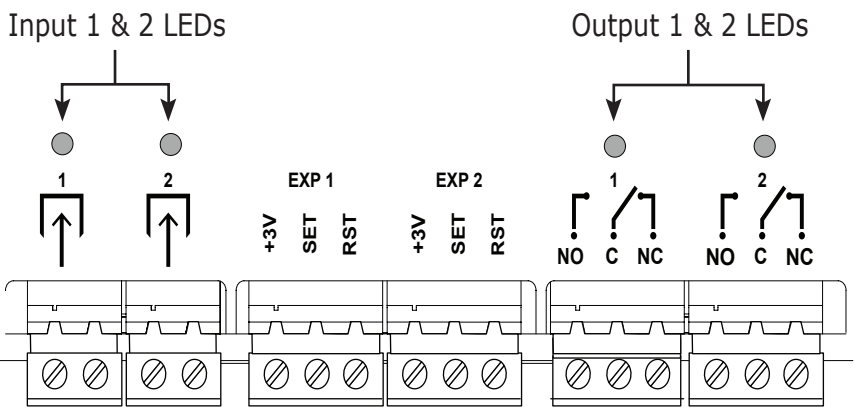
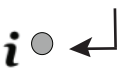
FLASHES RED  Input channel activated. **Note:** The input activates for 30 seconds and the activation status is sent to the control panel.

Press the Test (T) button again to extend the input activation test for another 30 seconds, if required.

Output channel activated.

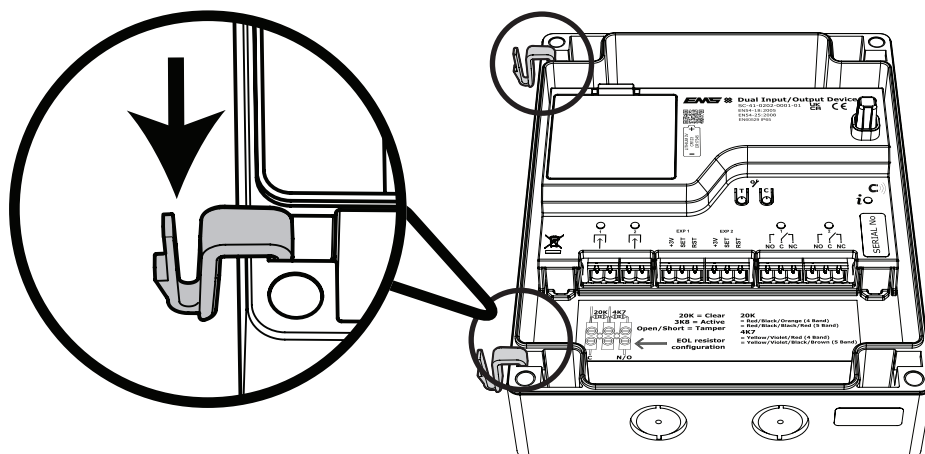
Press the Test (T) button again to change the output state, if required.

Device status LED

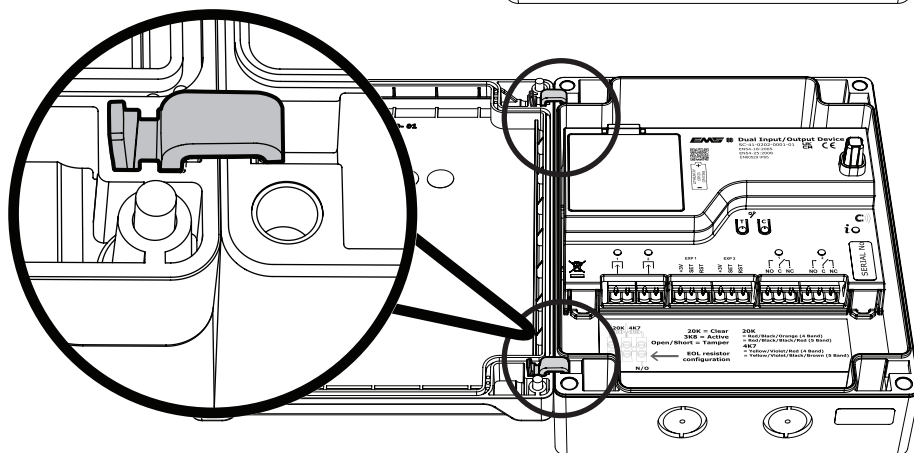


Optional door hinge fitting

Insert the hinges into the hinge recesses on the back box, as shown.



For each hinge, place the other side into the hinge recess in the door as shown. The hinges will then click into place.

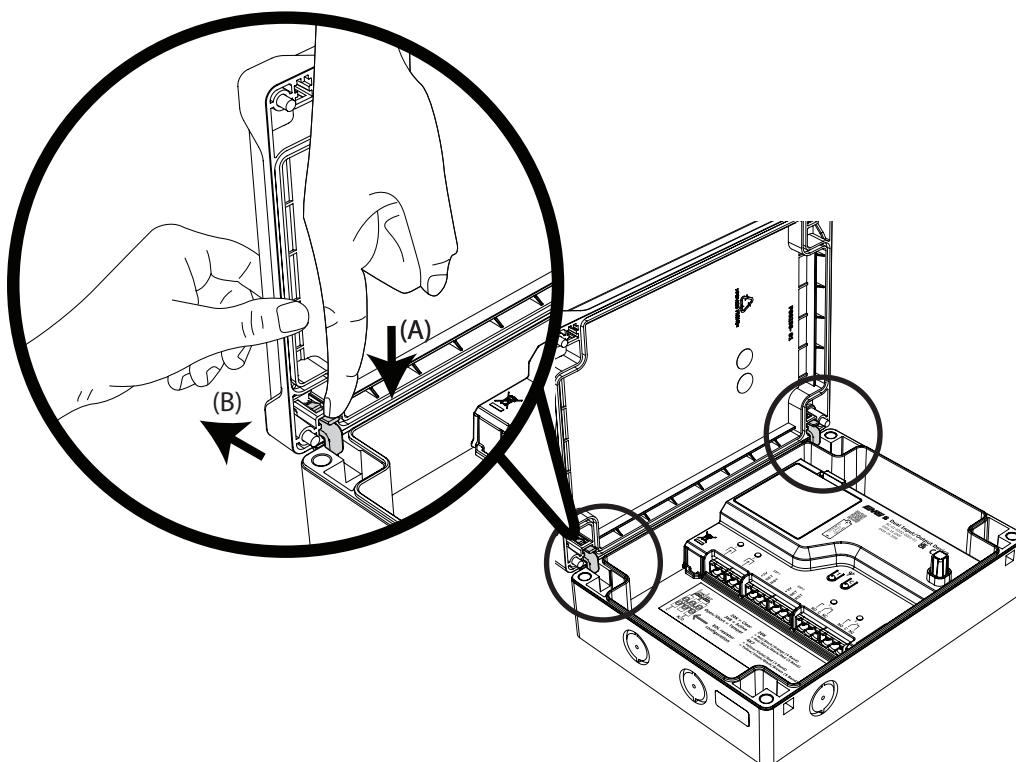


Removing the door hinges

Press the release tab on the hinge (A) while simultaneously pulling the door away from the hinge (B).

Do the same for the second hinge.

The hinges can then be removed from the back box hinge recesses.



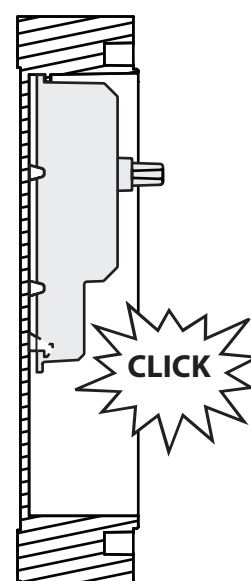
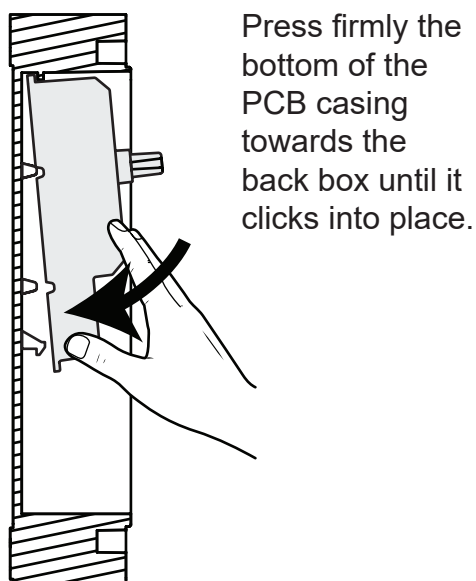
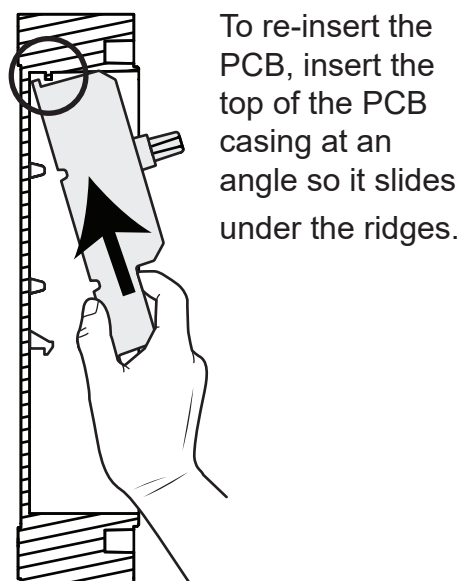
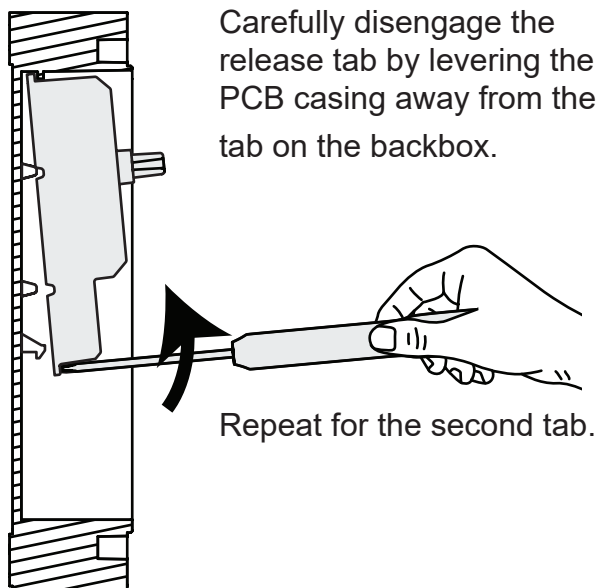
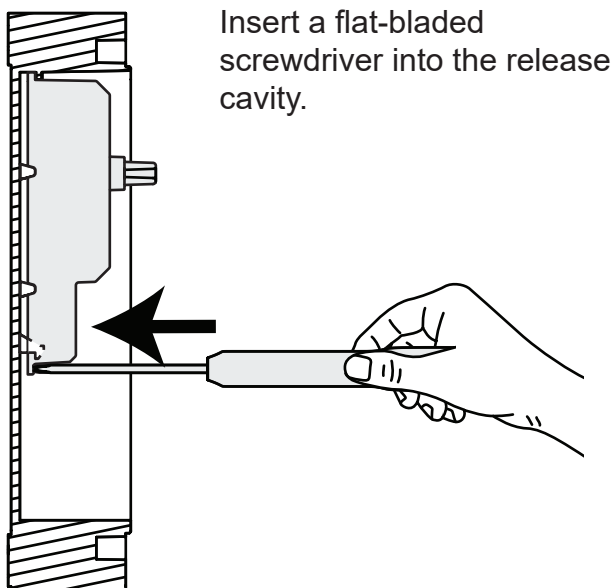
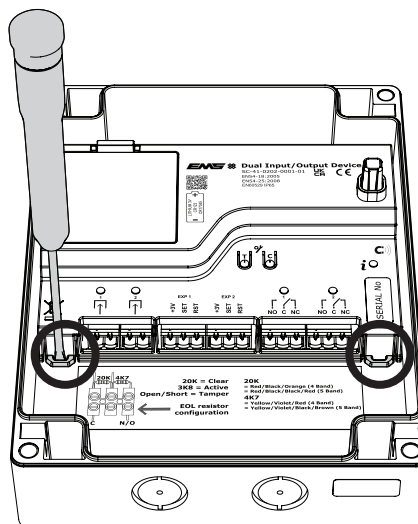
Optional PCB and casing removal



The PCB and its casing can be removed from the back box by releasing the hooked tab mechanisms.

There are two hooked tabs that need to be disengaged. Their locations are shown.

Disengage each tab one by one, as follows:



Specification

Operating temperature	-10 to +55 °C
Storage temperature	
With batteries	-10 to +30 °C
Without batteries	-10 to +55 °C
Humidity	0 to 95% noncondensing
Location	Indoor
IP rating	IP65
Material	UL94 5VB rated PC+ABS
Output rating	1 A at 30 VDC
Supply	3 x 3V CR123A - lithium manganese dioxide batteries with a capacity of at least 1550mAh.
Certified with	<i>Duracell DL-123A / CR-123A Intense</i> <i>Panasonic CR-123A PA / BD</i>
Operating voltage	2.7 to 3.3 VDC
Operating frequency	868 MHz
Output transmitter power	14 dBm / 25 mW
Signalling protocol	X5
Dimensions (W x H x D)	150 x 200 x 55mm
Weight (fully fitted)	0.6 kg



WARNING: Risk of fire or explosion. Incorrect battery type, incorrect polarity or improper handling may result in fire, explosion or serious injury. Follow these instructions:

- Use only the specified and approved battery type.
- Observe correct polarity. See [Fit batteries section](#).
- Dispose of batteries in accordance with local regulations.
- Do not expose batteries to fire, heat, crushing, or cutting.
- Store batteries in a cool, dry place.
- Do not expose batteries to extreme temperatures or very low air pressure.

Regulatory information

Manufacturer EMS Ltd. Technology House, Herne Bay, Kent, CT6 8JZ, United Kingdom.

Year of manufacture See devices serial number label

Certification



DoP number DoP0051

**Approved to
European Union
Directives**

EN54-18:2005. Fire detection and fire alarm systems.
Part 18: input/output devices.

EN54-25:2008. Incorporating corrigenda september 2010
and march 2012. Fire detection and fire alarm systems.
Part 25: components using radio links.

EMS declares that the radio equipment type
SmartCell Dual Input / Output Device is in compliance with
Directive 2014/53/EU. The full text of the EU declaration
of conformity is available at the following internet address:
www.mysmartcell.com



2012/19/EU (WEEE directive): Products marked with this
symbol cannot be disposed of as unsorted municipal waste
in the European Union. For proper recycling, return this
product to your local supplier upon purchase of equivalent
new equipment, or dispose of it at designated collection
points. For more information see www.recyclethis.info

Dispose of your batteries in an environmentally friendly
manner according to your local regulations.

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www.mysmartcell.com