

CARAVAN HOOK-UPS & DIRECT CONNECTION UNITS

INSTALLATION & OPERATION MANUAL

MODELS:

LSHU0010	LSDC0110
LSHU0015	LSDC0120
LSHU0020	LSDC0130
LSHU0025	LSDC0210
LSHU0030	LSDC0220
LSHU0040	LSDC0230
LSHU0045	LSHU0040-10A
LSHU0110	LSHU0110-10A
LSHU0115	LSHU0120-10A
LSHU0120	LSHU0130-10A
LSHU0125	LSHU0140-10A
LSHU0130	LSHU0020-6A
LSHU0140	LSHU0010-10A
LSHU0210	LSHU0020-10A
LSHU0215	LSHU0030-10A


ROLEC
Caravan Hook-Ups

Installation & Operation Manual
ROECUIDM-01-V01-R0 June 2022



Amendments

Amendment Number	Details	Date
Ver 1, Rev 0	New Document.	June 2022



Product:	Interlocked Caravan Hook-Up Units and Direct Connection Units					
Applicable Models:	Interlocked Non-metered	Interlocked kWh Metered	Interlocked Smartcard Metered	Direct Connection kWh Metered	Direct Connection Smartcard, Metered	
	LSHU0010 LSHU0010-10A LSHU0015 LSHU0020 LSHU0020-6A LSHU0020-10A LSHU0025 LSHU0030 LSHU0030-10A LSHU0040 LSHU0040-10A LSHU0045	LSHU0110 LSHU0110-10A LSHU0115 LSHU0120 LSHU0120-10A LSHU0125 LSHU0130 LSHU0130-10A LSHU0140 LSHU0140-10A	LSHU0210 LSHU0215	LSDC0110 LSDC0120 LSDC0130	LSDC0210 LSDC0220 LSDC0230	
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Safety

This manual is specifically applicable to the Rolec Caravan Hook-ups and Direct Connection units listed on page 1 and is provided as a guide to their installation and use.

<p>NOTE: This manual covers a variety of Hook-Up Units. Not all features described will apply to all models.</p>	
	<p>WARNING: Electrical Power (where applicable)</p> <ul style="list-style-type: none"> • Installation of electrical systems must only be performed by an appropriately qualified and competent electrician, in accordance with the regulations in force in the region of installation. • The instructions below are illustrative only and do NOT override anything written in the current regulations.
	<p>IMPORTANT: Installers and End Users must read and understand the content of this manual before use.</p>
<p>NOTE: Damage to the equipment, connected systems or to property, caused by improper installation or use are the responsibility of the installer and/or end user.</p>	

- The information provided in this manual must ONLY be used with the model(s) listed on page 1 of this manual.
- The information provided in this manual must NOT be used with any other product.
- The content of this manual may be updated as required.
- Do NOT use the equipment for anything other than its intended purpose.
- Do NOT modify the equipment unless specifically instructed to do so by the manufacturer.
- Do NOT attempt to repair the equipment unless specifically instructed to do so by the manufacturer or as detailed in this manual.
- This product is electrically safe when in normal use.
- Damage to the product may render it unsafe. The product must be electrically isolated and NOT used until appropriate remedial action has been performed.

Safety Advice within this Manual

Rolec manuals use a system of warnings, cautions and notes.

- **WARNINGS** concern the safety of installers/end user and will be given before the detail/instructions in the manual.
- **CAUTIONS** concern the potential for damage to the equipment and will be given before the detail/instructions in the manual.
- **NOTES** are given to provide additional information and/or highlight information of importance. They will be given either before or after the detail/instructions as appropriate and may use different wording (such as IMPORTANT) where emphasis is required.

Warnings, Cautions and Notes may be repeated as appropriate and may be preceded by a hazard symbol.

Product Overview

Rolec **Caravan Hook-ups and Direct Connection Units** are available in a variety of models and power ratings.

Specifications

Input Voltage	220 to 250 VAC / 50 Hz (Single Phase)
Enclosure Material	Polycarbonate (UV stabilised)
Operating Temp	-25°C to +60°C

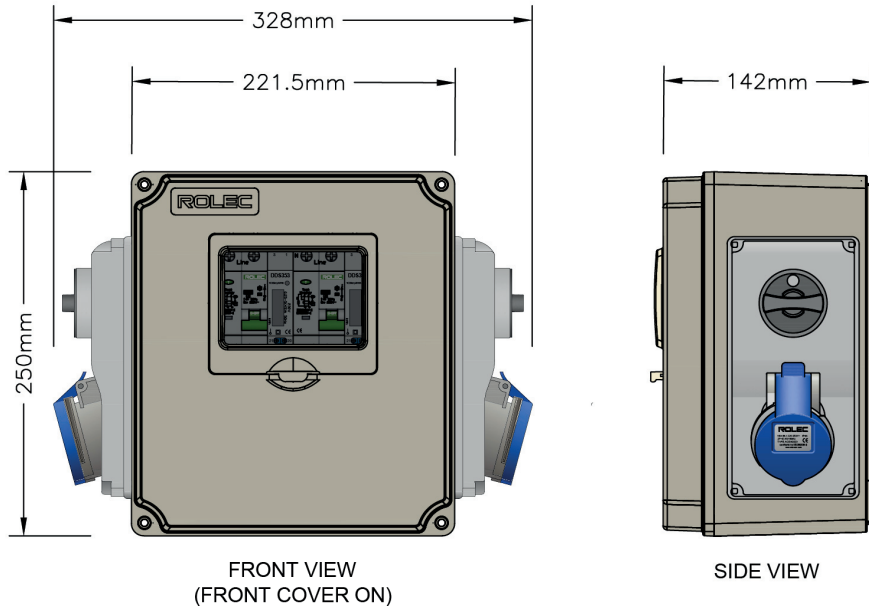


Figure 1 Small Enclosure Dimensions

NOTE: Direct Connection Units have the same enclosure dimensions as socketed Hook-ups (minus the socket dimensions).

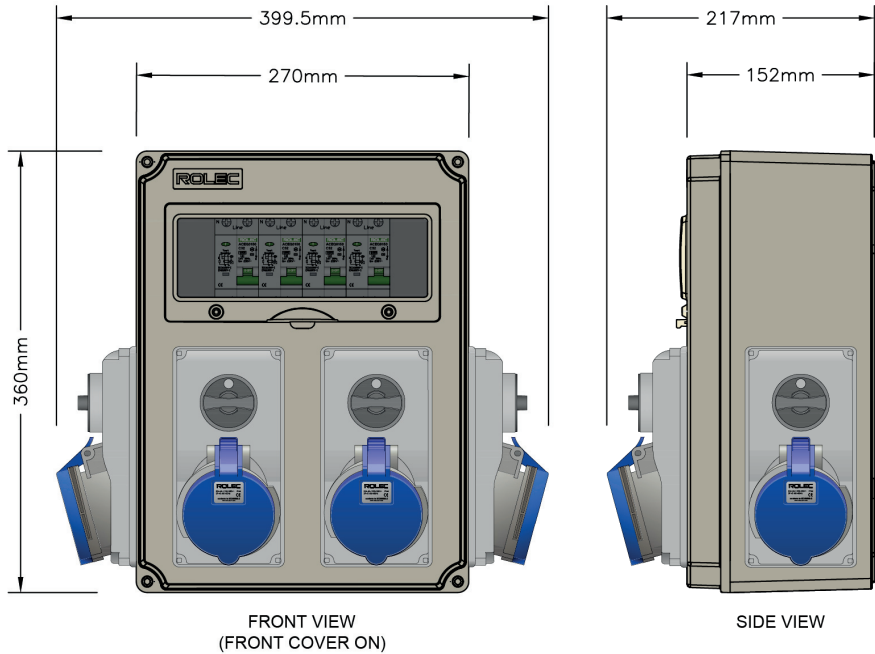


Figure 2 Large Enclosure Dimensions

NOTE: Direct Connection Units have the same enclosure dimensions as socketed Hook-ups (minus the socket dimensions).

Hook-Up Units (Interlocked)

Product Code	Edition - Socket Units
1 WAY	
LSHU0010	1 Way 16A Hook-Up Unit
LSHU0010-10A	1 Way 16A / 10A Hook-Up Unit
LSHU0015	1 Way 32A Hook-Up Unit
LSHU0110	1 Way 16A Metered Hook-Up Unit
LSHU0110-10A	1 Way 16A / 10A Metered Hook-Up Unit
LSHU0115	1 Way 32A Metered Hook-Up Unit
LSHU0210	1 Way 16A Smartcard Metered Hook-Up Unit
LSHU0215	1 Way 32A Smartcard Metered Hook-Up Unit
2 WAY	
LSHU0020	2 Way 16A Hook-Up Unit
LSHU0020-6A	2 Way 16A / 6A Hook-Up Unit
LSHU0020-10A	2 Way 16A / 10A Hook-Up Unit
LSHU0025	2 Way 32A Hook-Up Unit
LSHU0120	2 Way 16A Metered Hook-Up Unit
LSHU0120-10A	2 Way 16A / 10A Metered Hook-Up Unit
LSHU0125	2 Way 32A Metered Hook-Up Unit
3 WAY	
LSHU0030	3 Way 16A Hook-Up Unit
LSHU0030-10A	3 Way 16A / 10A Hook-Up Unit
LSHU0130	3 Way 16A Metered Hook-Up Unit
LSHU0130-10A	3 Way 16A / 10A Metered Hook-Up Unit
4 WAY	
LSHU0040	4 Way 16A Hook-Up Unit
LSHU0040-10A	4 Way 16A / 10A Hook-Up Unit
LSHU0045	4 Way 32A Hook-Up Unit
LSHU0140	4 Way 16A Metered Hook-Up Unit
LSHU0140-10A	4 Way 16A / 10A Metered Hook-Up Unit

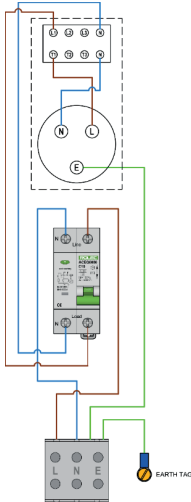
Hook-up Unit Schematics (Interlocked)

NOTE: In accordance with the specific power rating of the unit, individual components may differ to those shown. Cable routing and connections are as shown.

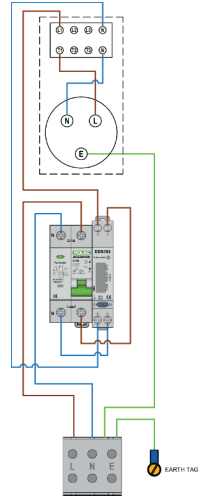
IMPORTANT: Installers must make sure to use the correct type of Unit in accordance with the requirements of the location.

IMPORTANT: All Units **must** be earthed in accordance with the current Electrical Wiring Regulations applicable to the site and application of use.

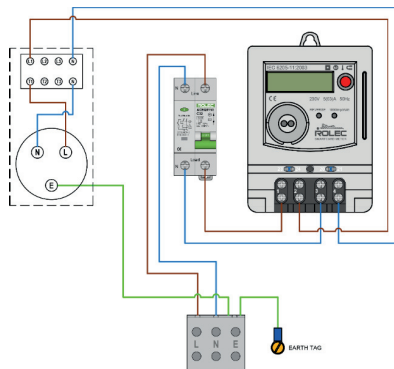
LSHU0010
LSHU0010-10A
LSHU0015



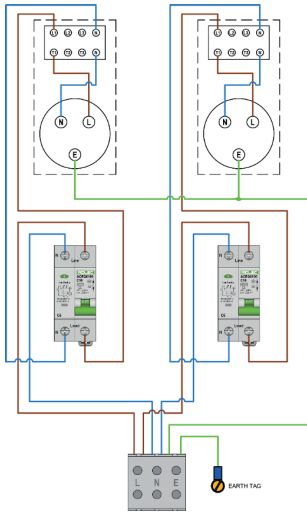
LSHU0110
LSHU0110-10A
LSHU0115



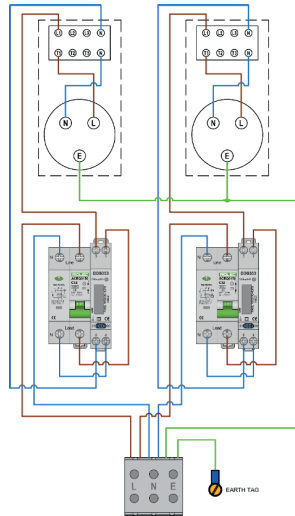
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LSHU0215



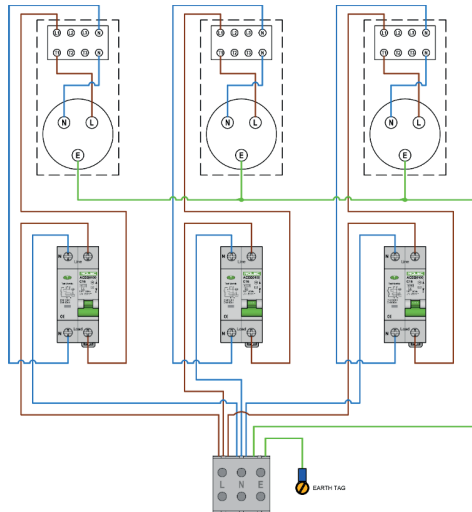
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LSHU0020-10A
LSHU0025



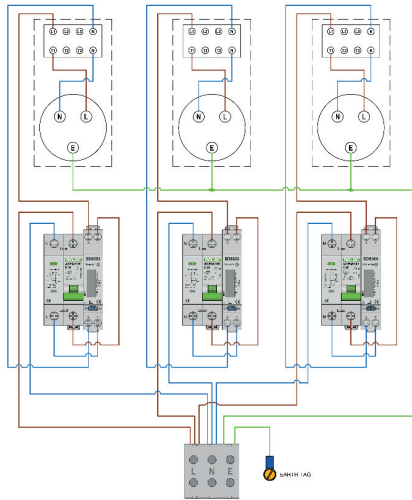
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LSHU0125



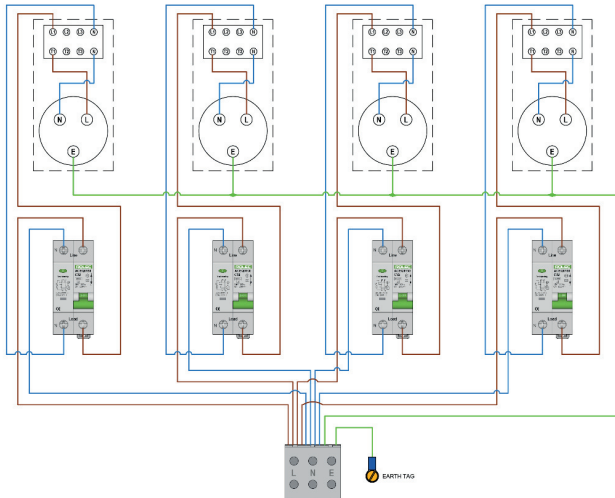
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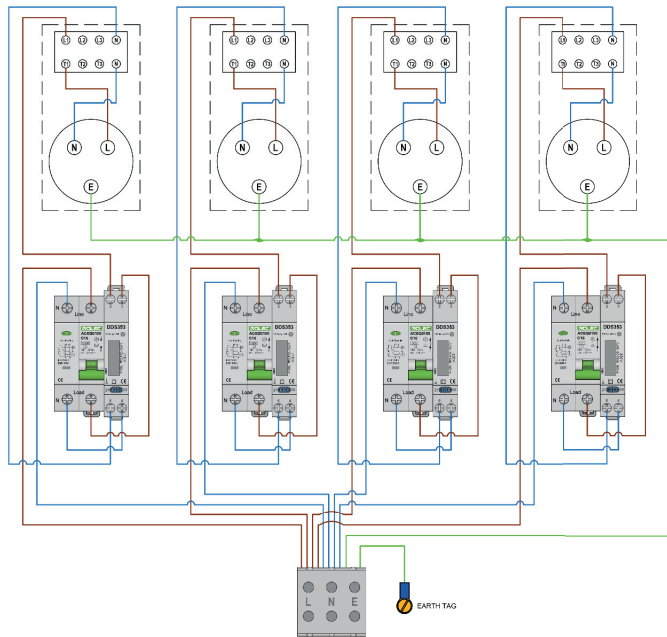
LSHU0130
LSHU0130-10A



LSHU0040
LSHU0040-10A
LSHU0045



LSHU0140
LSHU0140-10A



Direct Connection Units

Product Code	Direct Connection Units
kWh Metered	
LSDC0110	1 x 16A 230V Metered Direct Connection Unit
LSDC0120	1 x 32A 230V Metered Direct Connection Unit
LSDC0130	1 x 63A 230V Metered Direct Connection Unit
LSDC0210	1 x 16A 230V Smartcard Metered Direct Connection Unit
LSDC0220	1 x 32A 230V Smartcard Metered Direct Connection Unit
LSDC0230	1 x 63A 230V Smartcard Metered Direct Connection Unit

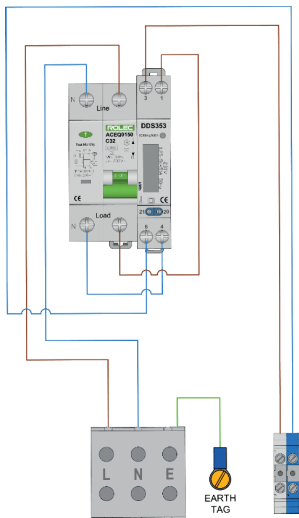
Direct Connection Unit Schematics

NOTE: In accordance with the specific power rating of the unit, individual components may differ to those shown. Cable routing and connections are as shown.

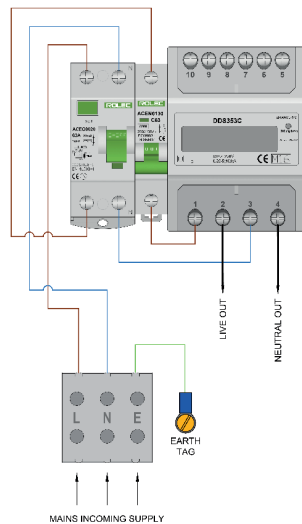
IMPORTANT: Installers must make sure to use the correct type of Unit in accordance with the requirements of the location.

IMPORTANT: All Units **must** be earthed in accordance with the current Electrical Wiring Regulations applicable to the site and application of use.

LSDC0110
LSDC0120

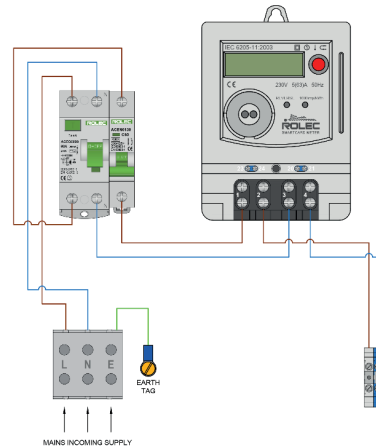
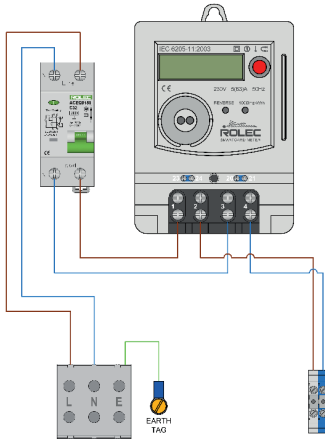


LSDC0130



**LSDC0210
LSDC0220**

LSDC0230



Certifications and Compliances

This product has been designed and built in accordance with the following standards and legislation:

Enclosure	EN 60670-1, EN 60670-22
Wiring Regulations	18th Edition BS7671:2018+A1:2020 (where applicable)
Flame Retardance	IEC 60695-2-11:2014
Low Voltage (LVD)	The Low Voltage Directive (2014/35/EU) The Electrical Equipment (Safety) Regulations 2016 (SI 2016/1101)
Environmental Protection	IP65 Enclosure, IP44 Socket(s) Weather resistance BS EN 60529:1992+A2:2013
Socket(s) – Where fitted	BS EN 60309-2:1999+A2:2012
Cable – Where fitted	BS 6004
Metering – Where fitted	EN50470-1, EN50470-3, MID B+D Certified The Measuring Instruments Directive (2014/32/EU) The Measuring Instruments Regulations 2016 (SI 2016/1153)
RoHS	Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations (2002/95/EC) (SI 2012/3032)
REACH	1907/2006



Labelling

Users must observe the information given on labels to ensure safe use of the product. Labels may be in the form of adhesive 'stickers', plates, and/or moulded into the surface of components.



Figure 3 Typical Product Label(s)

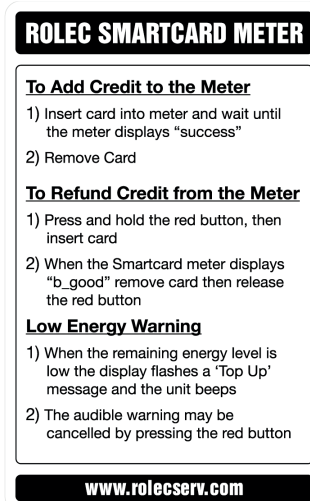


Figure 4 Typical Smartcard Meter Label

NOTE: Labels may vary depending on the model. Always refer to the label attached to the unit.

Plugs and Couplers are labelled with their specific IP rating and power rating.

Warning: Electrical Hazard

- Do NOT exceed the power rating displayed on the label(s).
- Do NOT change the plug/coupler to accept a connection to a higher rated power source.
- Do NOT use cables that are not sufficiently rated for the power they will be required to carry.



Internal components are labelled with their power rating (as appropriate) by the component manufacturer.

Warning: Electrical Hazard

- Always use the originally installed component as a reference – model numbers and electrical ratings may differ to those shown in the schematics section of this manual.
- Do NOT change components to models with different power ratings or different operational characteristics. The safety and correct operation of the unit may be affected.

Installation

Before Installation

	<p>WARNING: Electrical Power</p> <ul style="list-style-type: none"> • Installation of this equipment must only be performed by an appropriately qualified and competent electrician, in accordance with the regulations in force in the region of installation. • The instructions below are illustrative only and do NOT override anything written in the current regulations.
	<p>IMPORTANT: Installers and End Users must read and understand the content of this manual before use.</p> <p>IMPORTANT: Installers must make sure to use the correct type of Unit in accordance with the Electrical Wiring Regulations of the geographical location.</p>
<p>NOTE: Damage to the equipment, connected systems or to property, caused by improper installation or use are the responsibility of the installer and/or end user.</p>	

Install the Unit

1. Make sure the installation is performed in accordance with the current Electrical Wiring Regulations.
2. Identify a suitable and safe location for the Unit to be installed.
 - The unit is designed to be wall or post mounted in an upright position.
 - If installing a mounting post, take care not to damage any underground services when the post is installed.
3. Refer to the appropriate schematic for the Unit being installed.
4. Make sure the incoming power supply cable is disconnected from electrical power.
5. Take the Unit from its packaging and remove the unit lid (front cover).
6. Create a suitably sized hole(s) in the bottom of the unit to accept the incoming power supply cable(s).
 - Take care not to damage any of the internal components.
 - Make sure all drilling debris is removed from the enclosure and the internal components.

If a mounting post is supplied:

7. Make sure the post and Unit will fit together correctly.
8. Fix the mounting post in the desired location.
9. Offer up the rear enclosure to the post and make sure the holes in the post align with the holes in the enclosure. If required, drill out the holes in the mounting post to ensure smooth fitment of fasteners.
10. Secure the rear enclosure onto the post using the supplied fasteners.

If a mounting post is not supplied:

11. Carefully place the rear enclosure of the Unit in the desired location and **mark** the four fixing points. Remove the enclosure before drilling.

WARNING: Equipment Damage

Do NOT use the enclosure as a drilling guide. Debris from drilling can damage internal components. Mark the drilling points then remove the enclosure before drilling.

12. Drill the mounting location as appropriate to receive the fasteners.
13. Use suitable fasteners, to mount the rear enclosure in the required location.
14. Feed the power supply cable up through the hole in the rear enclosure. Use a suitably sized cable gland to ensure a water-resistant seal.
15. Terminate the supply cable in the appropriate manner and connect to the Unit terminals.
16. Make sure any debris is removed from the enclosure.
17. Replace the unit lid ensuring it sits correctly on the enclosure then tighten the fasteners securely to provide the correct weatherproof sealing.
18. Make sure it is safe to apply electrical power to the Unit.
19. Apply electrical power to the Unit and, if applicable, switch the Unit's circuit breaker to the ON position.
20. Test the Unit and the electricity supply from the Unit in accordance with current Electrical Wiring Regulations.

Security

When installation of the Unit is complete, the clear hatch (if fitted) should be secured with a suitable padlock to prevent access and to prevent the entry of dust and/or water to the enclosure.

Some units also feature lockable socket covers and/or lockable rotary power switches allowing a small padlock to be used to prevent tampering and uncontrolled use of electricity.

Operation

Warning: Electrical Hazard

- Do NOT exceed the power rating displayed on the label.
- Do NOT change the cable plug/coupler to accept a connection to a higher rated power source.
- Do NOT extend cables without taking advice from a qualified electrician.
- Do NOT place strain on the connection(s) or stretch the cable.
- Make sure the cable is fully uncoiled before use. Coiled power cables can generate heat and electrical fields.
- Do NOT use damaged cables or connectors.
- Do NOT use contaminated cables or connectors.
- When in use, make sure cables do not present an obstruction or trip hazard.
- After use, store removeable cables in a clean, dry and secure environment.

Socket Units

Connect a Power Connection Cable to an Interlocked Hook-Up Unit

1. Fully uncoil the cable.
2. Make sure the plug, coupler, cable and Hook-Up Unit appear to be in an undamaged, serviceable condition.
3. Make sure the cable is securely connected to the caravan (or appliance) socket.
4. Make sure the rotary power switch on the Hook-Up Unit is in the OFF position.
 - It should not be possible to turn the switch without a cable connected.
 - If the switch is in the wrong position, there may be damage to the switch/connection. Do not use the connection until repairs have been made.
5. Insert the plug of the Hook-Up cable into the Hook-Up socket.
6. Make sure the circuit breaker is in the ON position.
7. Turn the rotary power switch to the ON position.

Power should now be available.

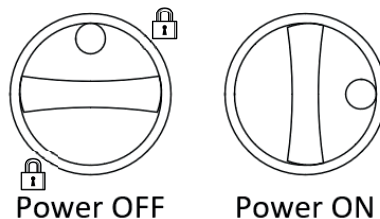


Figure 5 Rotary Power Switch Positions

NOTE: Rotary power switches can be locked to prevent use when in the Power OFF position. Apertures in the outer ring of the switch (at the 2 o'clock and 7 o'clock positions) allows a padlock or similar device to be used to prevent the switch being turned to the ON position.

Disconnect the Power Connection Cable from an Interlocked Hook-Up Unit

1. Make sure the rotary power switch is turned to the OFF position.
2. Pull the Hook-Up cable from the Hook-Up unit.
3. Make sure the socket cover is closed when not connected to a cable.
4. Remove the cable from the caravan (or appliance) socket.
5. Loosely coil the power cable ready for next use and store in a clean, dry and secure environment.

Direct Connection Units

Direct Connection Units do NOT have a rotary power switch and, as standard, are not supplied with a connection cable or connector plug.

Direct Connection Units are intended to be wired directly to the building (or appliance) and electrical power coming from the Unit is permanently live unless interrupted by the RCBO or power is stopped at source before being fed to the Unit.

Unit Maintenance

**WARNING:**

- Electrical maintenance of this product must only be performed by an appropriately qualified and competent person, in accordance with the regulations in force in the region of installation.
- Replacement sockets/couplers must be of the same type and rating as the original items. Do NOT exceed the power rating of the original fittings.

1. Regularly clean the external surfaces of the equipment with a damp cloth.

CAUTION: Equipment Damage

To avoid damage to the surface finish, and/or internal components do NOT use:

- Abrasive materials.
- Mineral or petroleum solvents / degreasers.
- Hose pipes.
- Jet washers.
- Steam cleaners.

2. Regularly inspect the exterior of the equipment for visual damage.
 - If damage affects safety, isolate the equipment and prevent its use until appropriate repairs have been completed.
3. Make sure the enclosure fasteners are secure and that the enclosure is fully closed.
4. Make sure the enclosure is secure on its mounting location.
5. Make sure the power cable entering the enclosure is in good condition and that it is securely attached to the enclosure.
6. Make sure the clear flap (if installed) is in good condition, moves smoothly, can be closed securely, and that a weather resistant seal is made.
7. Make sure socket covers (if installed) are present and can close securely when a cable is not in use.
8. Make sure electrical cables are secure and are in a serviceable condition.

RCBOs

A 'Residual Current Breaker with Over-Current' (RCBO) is an electrical fault, safety device that combines the functions of a miniature circuit breaker (MCB) and a residual current device (RCD). Operation by the end user is virtually identical for all these devices.

Each Rolec Hook-Up Unit is equipped with an RCBO of the appropriate rating which will cut power to the Hook-Up socket(s) or cable in the event of:

- **Earth Leak** – Where a physical break or damage to the electrical circuit is detected being fed to Earth. Often when someone accidentally cuts into a cable.
- **Overcurrent** – Where too much power is being drawn through the unit.
- **Short Circuit** – Where there is a direct connection between live and neutral conductors.

If the RCBO is activated (tripped), the lever on the front of the device will point downwards. The RCBO may be reset when the issue is resolved.

To reset the RCBO, simply move the lever to the upwards position.

IMPORTANT: If the RCBO trips regularly or cannot be reset, the issue should be investigated by and appropriately qualified electrician.

Power Consumption Meters

If installed, meters installed in Caravan Hook-up and Direct Connections Units comply with the Measuring Instruments Directive - 2014/32/EU.

- The meter reading window is located next to the RCBO. If power to the meter is lost, the meter display will go blank but the reading will not be lost and will be displayed again when power is restored.

If a Smartcard meter is installed, operating instructions for the meter are shown on a label attached to the unit.

Troubleshooting

1. Cannot connect cable to Hook-Up Unit	<ol style="list-style-type: none"> 1. Make sure the correct cable/plug is being used. 2. Rotary power switch already in the ON position. Try to turn the switch to the OFF position and attempt to connect the cable. 3. Debris has got into the plug or socket. Isolate electrical power before cleaning. 4. Hook-Up cable plug or Hook-Up socket pins are damaged. Do not use until properly repaired
2. Cannot turn power ON	<ol style="list-style-type: none"> 1. Make sure the cable plug is FULLY inserted into the Unit socket. 2. Make sure rotary power switch has not been locked with a padlock, cable tie or similar device. 3. Check the Hook-Up cable and Hook-Up Unit for damage. Do not use until any damage has been repaired.
3. Power does not flow from the Hook-Up Unit	<ol style="list-style-type: none"> 1. Check if the circuit breaker has tripped. <ul style="list-style-type: none"> • If it has, reset the breaker to switch the socket back on. • If circuit breaker trips repeatedly, isolate electrical power and seek professional advice.
4. Power does NOT switch OFF	<ol style="list-style-type: none"> 1. Use the RCBO to switch power OFF. 2. Prevent use of the Hook-Up Unit. 3. Seek professional advice.
5. Cannot remove cable connection from Unit	<ol style="list-style-type: none"> 1. Make sure the rotary switch is in the OFF position. 2. Make sure the RCBO is in the OFF position. 3. Seek professional advice.

ROLEC

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