

Amendments

Amendment Number	Details	Date
Ver 1, Rev 0	New Document.	June 2020
Ver 1, Rev 1	Correction to Interlocked product codes Addition of Non-Interlocked Hook-Ups. Update of branding. Amendment to manual code	November 2020

Product:	Interlocked and Non-Interlocked Hook Up Units		
Applicable Models:	Non-metered	kWh Metered	Smartcard Metered
Interlocked models	LSAA0010i	LSAB0010i	LSAB0090i
	LSAA0010i-10A	LSAB0010i-10A	LSAB0110i
	LSAA0030i	LSAB0030i	PitchMaster
	LSAH0040i	LSAC0010i	LSIM0010i
	LSAH0040i-10A	LSAC0010i-10A	LSIM0020i
	LSAH0040i-6A	LSAC0030i	Direct Connection
	LSAH0045i	LSAH0090i	PitchMaster Metered
	LSAH0050i	LSAH0090i-10A	LSIM0040
	LSAH0050i-10A	LSAH0095i	Direct Connection
	LSAH0055i	LSAH0100i	Metered
	LSAH0060i	LSAH0100i-10A	LSAB0040
	LSAH0060i-10A	LSAH0105i	LSAG0040
	LSAH0065i		
Non-Interlocked models	Non-metered	kWh metered/mini-metered	
	LSAA0010	LSAB0010	
	LSAA0030	LSAB0030	
	LSAH0040	LSAC0010	
	LSAH0050		
	LSAH0060		
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Safety

This manual is specifically applicable to the Rolec hook up units mentioned within and is provided as a guide to their installation and use.

NOTE: This manual covers a variety of Hook Up Units. Not all features described will apply to all models within.	
	WARNING: Electrical Power (where applicable) <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.
	IMPORTANT: Installers and End Users must read and understand the content of this manual before use.
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.	

- The information provided in this manual must ONLY be used with the model(s) listed on page 2 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 several times as appropriate and may be preceded by a hazard symbol.

Product Overview

Rolec Hook Up Units are available in a variety of interlocked and non-interlocked models specifically designed to enable electrical supply connections to static caravans, touring caravans and similar domestic dwellings equipped with the appropriate electrical infrastructure, and various forms of commercial and industrial equipment.

Specifications

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

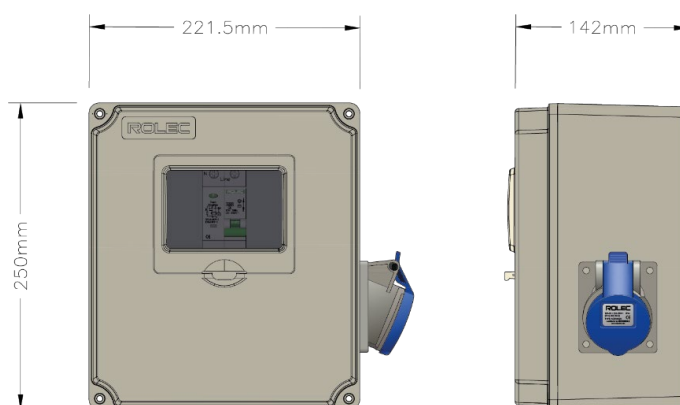


Figure 1 Small Non-Interlocked Enclosure with 1 x 16A Socket

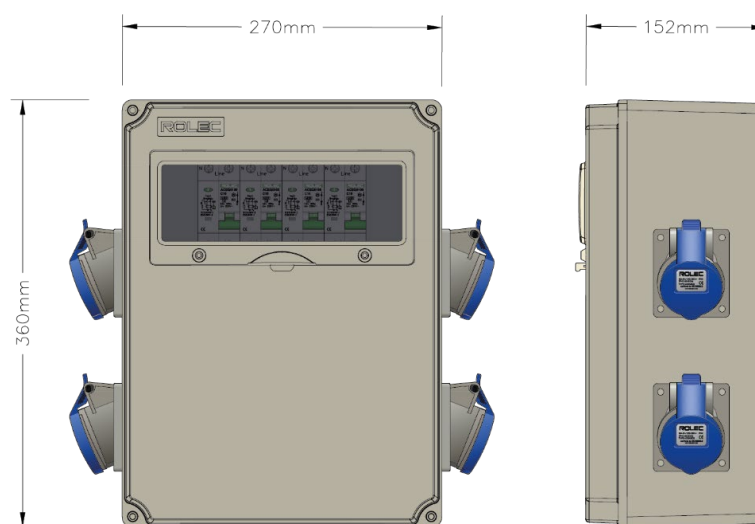


Figure 2 Large Non-Interlocked Enclosure with 4 x 16A Socket

NOTES:

- Drawing dimensions show the enclosure sizes only.
 - 16A Sockets + 54mm per socket.
 - 32A Sockets + 65mm per socket.
- Depending on the model, socket may be mounted on the front face.

Interlocked Range

Product Code	18 th Edition - Socket Units
1 WAY	
LSAA0010i	1 Way 16A Hook-Up Unit
LSAA0010i-10A	1 Way 16A / 10A Hook-Up Unit
LSAA0030i	1 Way 32A Hook-Up Unit
1 WAY - kWh Metered	
LSAB0010i	1 Way 16A Metered Hook-Up Unit
LSAB0010i-10A	1 Way 16A / 10A Metered Hook-Up Unit
LSAB0030i	1 Way 32A Metered Hook-Up Unit
1 WAY - Smartcard Metered	
LSAB0090i	1 Way 16A Smartcard Metered Hook-Up Unit
LSAB0110i	1 Way 32A Smartcard Metered Hook-Up Unit
1 WAY - PitchMaster Metered	
LSIM0010i	1 Way 16A PitchMaster Metered Hook-Up Unit
LSIM0020i	1 Way 32A PitchMaster Metered Hook-Up Unit
2 WAY	
LSAH0040i	2 Way 16A Hook-Up Unit
LSAH0040i-6A	2 Way 16A / 6A Hook-Up Unit
LSAH0040i-10A	2 Way 16A / 10A Hook-Up Unit
LSAH0045i	2 Way 32A Hook-Up Unit
2 WAY - kWh Metered	
LSAC0010i	2 Way 16A Metered Hook-Up Unit
LSAC0010i-10A	2 Way 16A / 10A Metered Hook-Up Unit
LSAC0030i	2 Way 32A Metered Hook-Up Unit
3 WAY	
LSAH0050i	3 Way 16A Hook-Up Unit
LSAH0050i-10A	3 Way 16A / 10A Hook-Up Unit
LSAH0055i	3 Way 32A Hook-Up Unit
3 WAY - kWh Metered	
LSAH0090i	3 Way 16A Metered Hook-Up Unit
LSAH0090i-10A	3 Way 16A / 10A Metered Hook-Up Unit
LSAH0095i	3 Way 32A Metered Hook-Up Unit
4 WAY	
LSAH0060i	4 Way 16A Hook-Up Unit
LSAH0060i-10A	4 Way 16A / 10A Hook-Up Unit
LSAH0065i	4 Way 32A Hook-Up Unit
4 WAY - kWh Metered	
LSAH0100i	4 Way 16A Metered Hook-Up Unit
LSAH0100i-10A	4 Way 16A / 10A Metered Hook-Up Unit
LSAH0105i	4 Way 32A Metered Hook-Up Unit

Direct Connection Range

Product Code	18 th Edition - Direct Connection Units
kWh Metered	
LSAB0040	32A 230V Metered Direct Connection Unit
LSAG0040	63A 230V Metered Direct Connection Unit

PitchSmart

Product Code	18 th Edition - PitchSmart Interlocked Unit
PitchMaster Metered	
LSIM0040	63A 230V PitchMastA2:B48red Direct Connection Unit

Non-Interlocked Range

Product Code	Socket Units
1 WAY	
LSAA0010	1 Way 16A Hook-Up Unit
LSAA0030	1 Way 32A Hook-Up Unit
1 WAY - kWh Metered	
LSAB0010	1 Way 16A Metered Hook-Up Unit
LSAB0030	1 Way 32A Metered Hook-Up Unit
2 WAY	
LSAH0040	2 Way 16A Hook-Up Unit
2 WAY - kWh Metered	
LSAC0010	2 Way 16A Metered Hook-Up Unit
3 WAY	
LSAH0050	3 Way 16A Hook-Up Unit
4 WAY	
LSAH0060	4 Way 16A Hook-Up Unit

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
Flame Retardance	IEC 60695-2-11:2014
Low Voltage Directive (LVD)	2014/35/EU
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, 2004/22/EC MID B+D Certified
RoHS	2011/65/EU
REACH	1907/2006



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 Electrical Wiring Regulations of the geographical location.

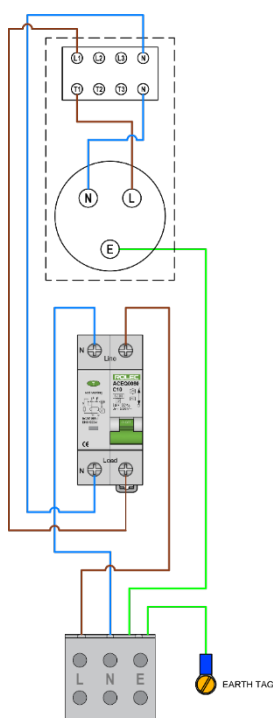
IMPORTANT: All Units **must** be earthed in accordance with the current Electrical Wiring Regulations applicable to the site and application of use.

Interlocked Units

LSAA0010i

LSAA0010i-10A

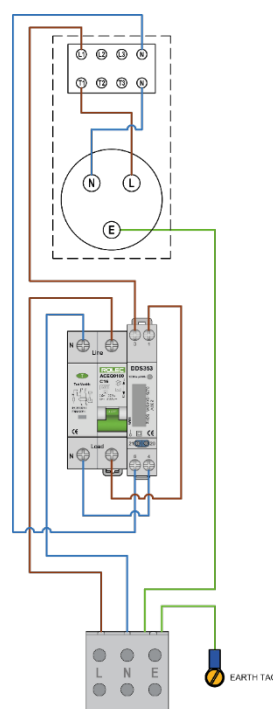
LSAA0030i



LSAB0010i

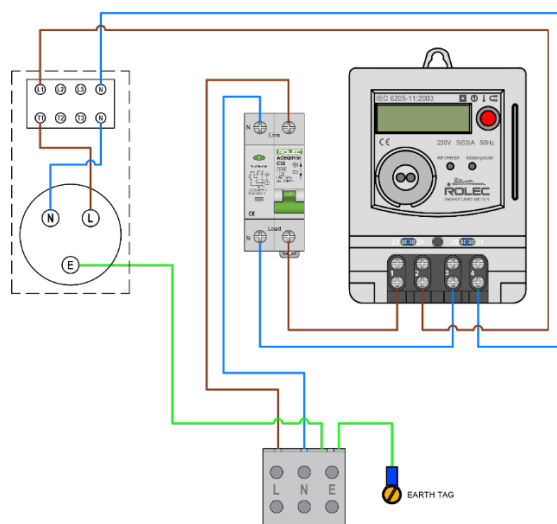
LSAB0010i-10A

LSAB0030i

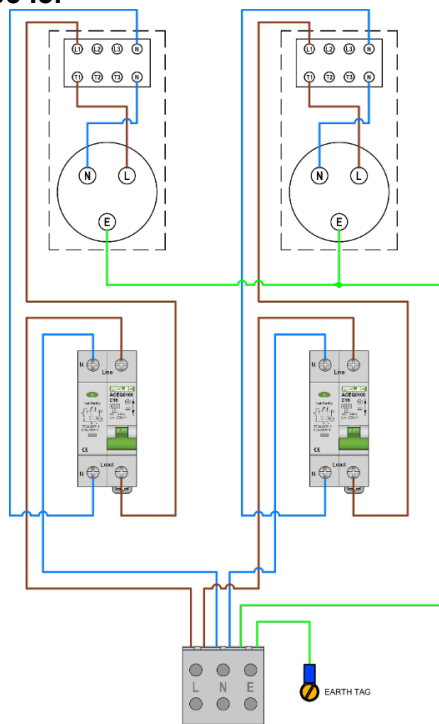


LSAB0090i

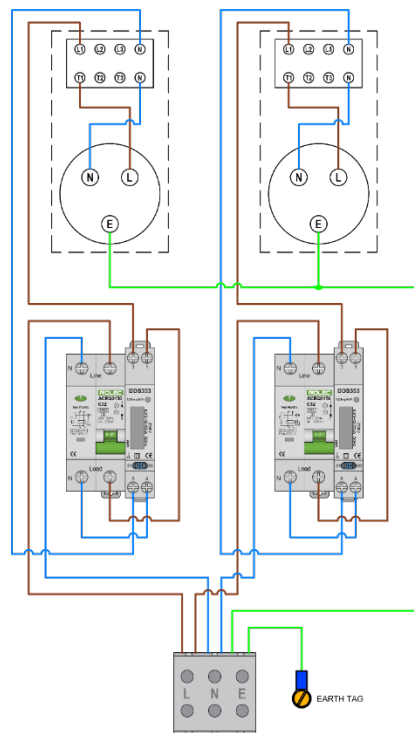
LSAB0110i



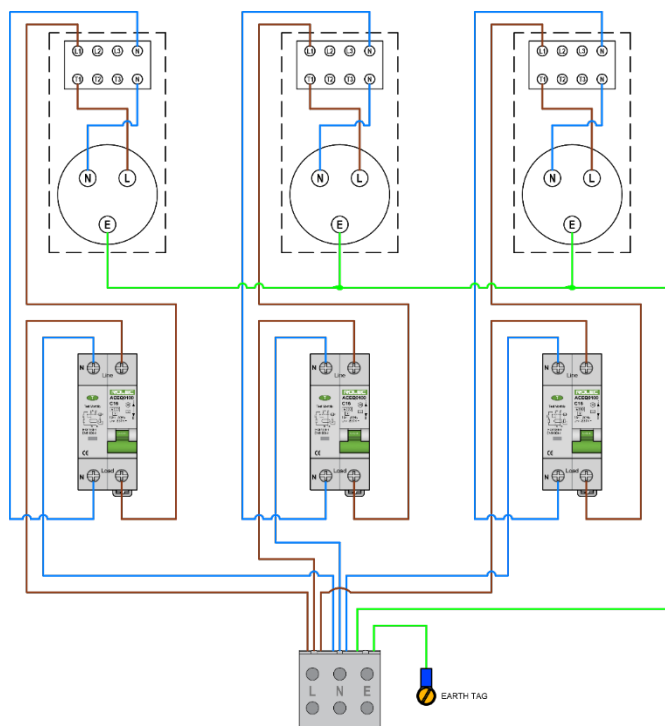
LSAH0040i
LSAH0040i-6A
LSAH0040i-10A
LSAH0045i



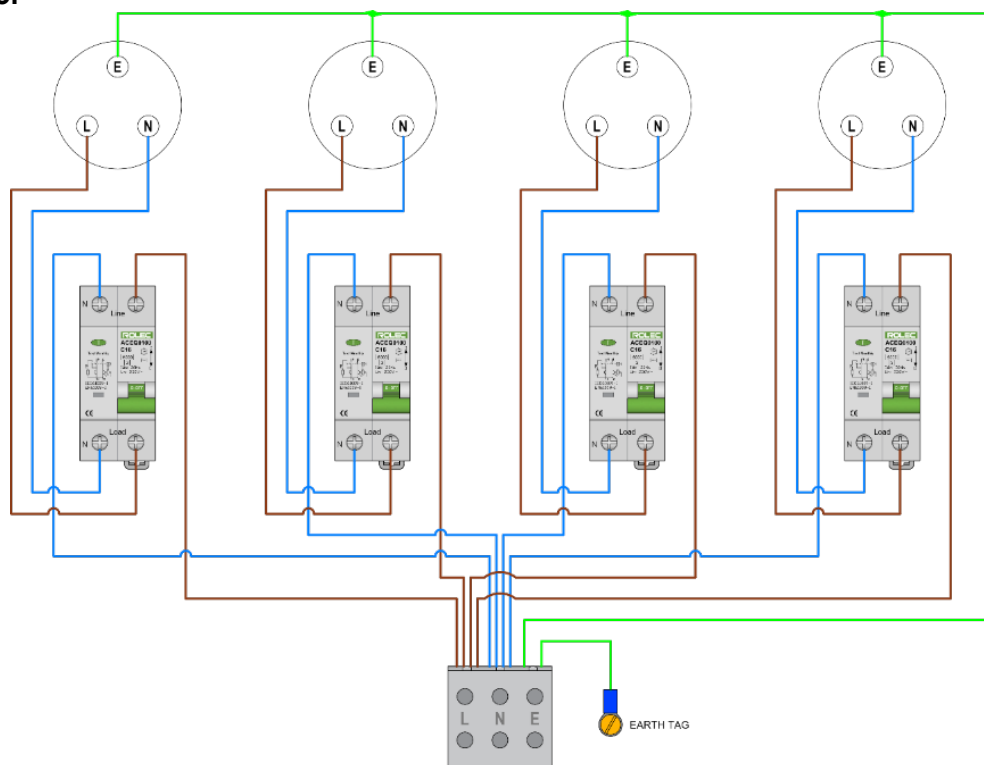
LSAC0010i
LSAC0010i-10A
LSAC0030i



LSAH0050i
LSAH0050i-10A
LSAH0055i

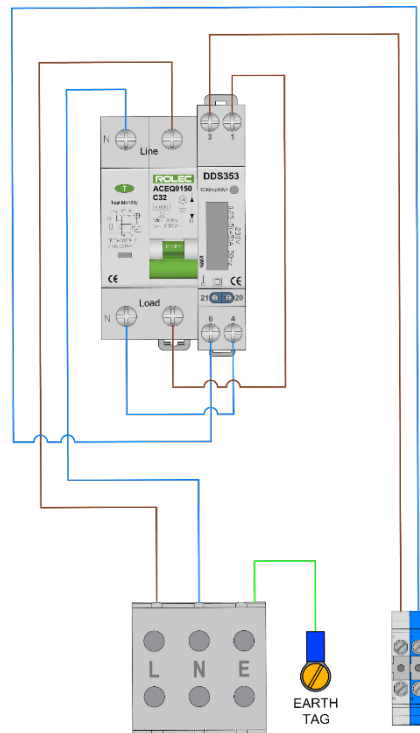


LSAH0060i
LSAH0060i-10A
LSAH0065i



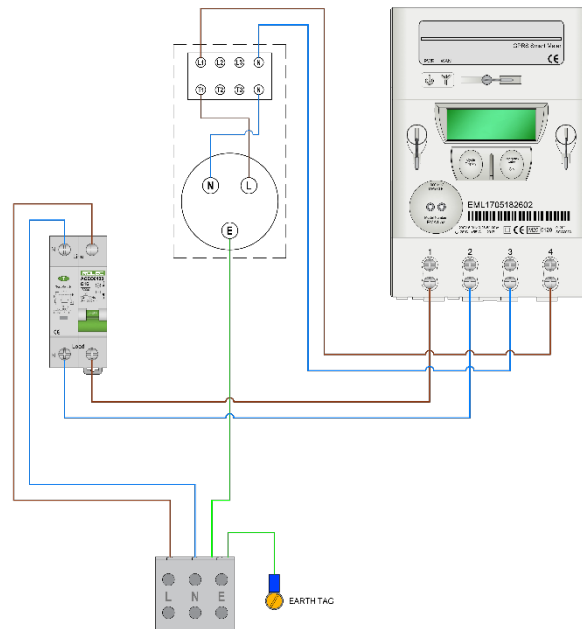
Direct Connection Units

LSAB0040
LSAG0040

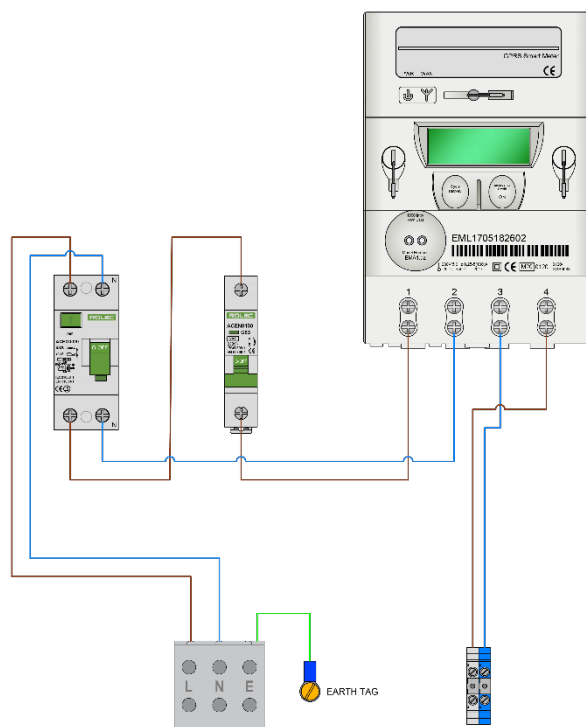


PitchMaster Units

LSIM0010i
LSIM0020i

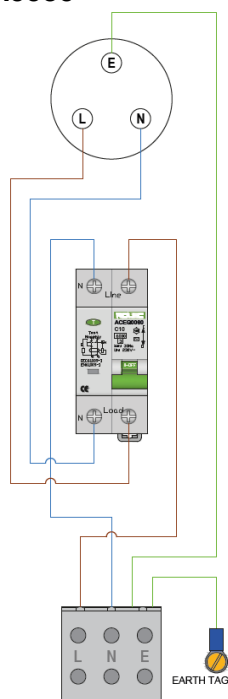


PitchMaster Direct Connection Unit LSIM0040

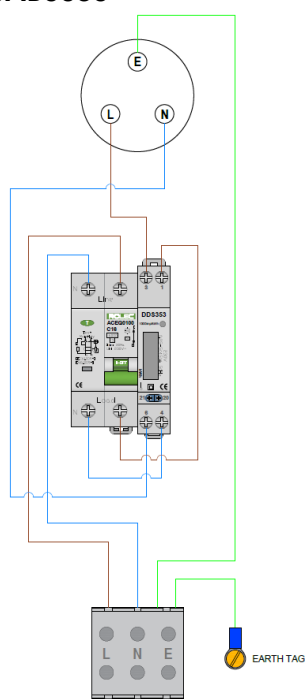


Non-Interlocked Units

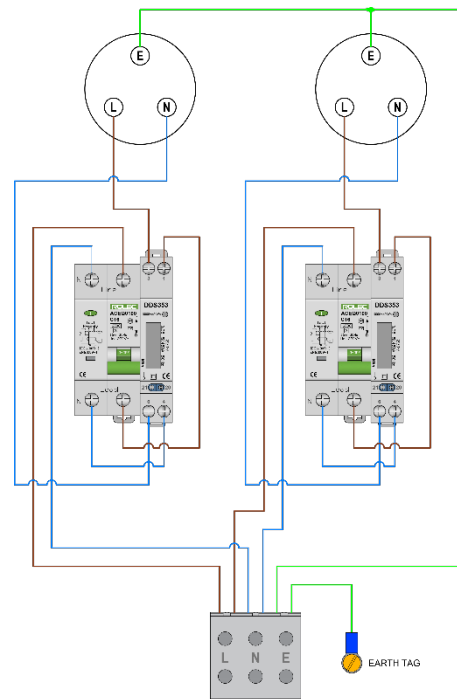
LSAA0010 LSAA0030



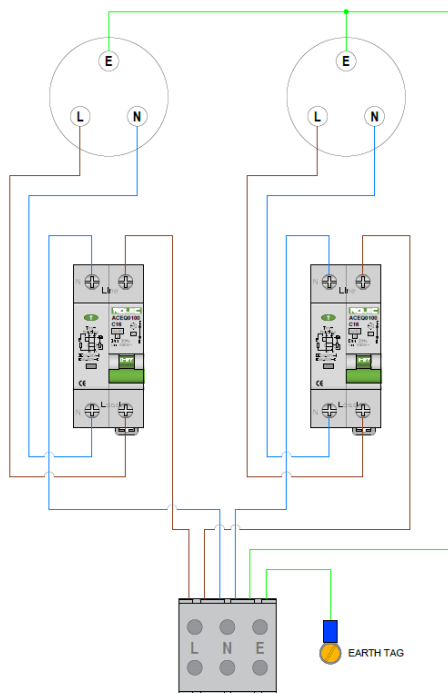
LSAB0010 LSAB0030



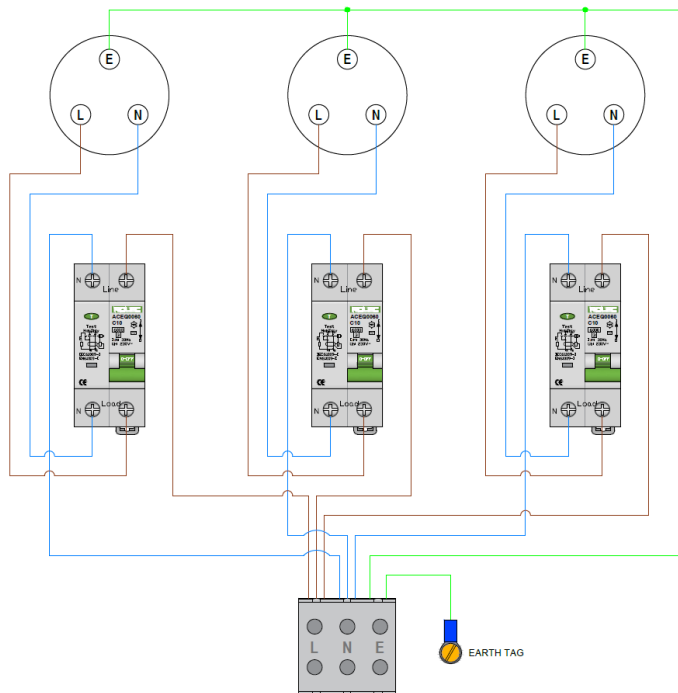
LSAC0010



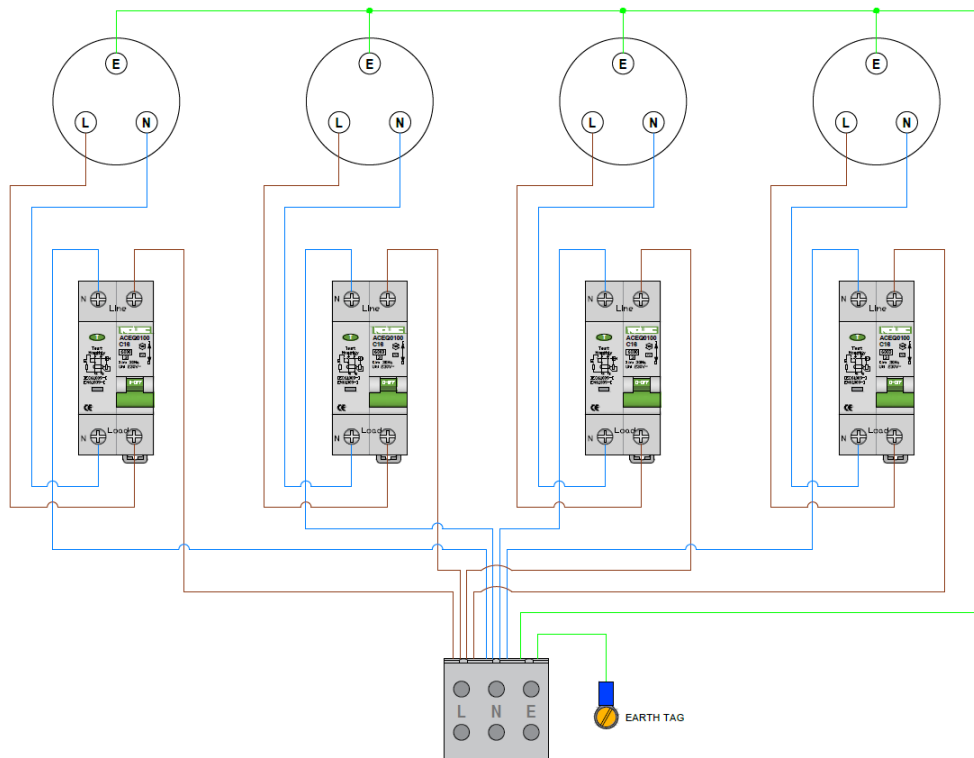
LSAH0040



LSAH0050



LSAH0060



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.

Product Label

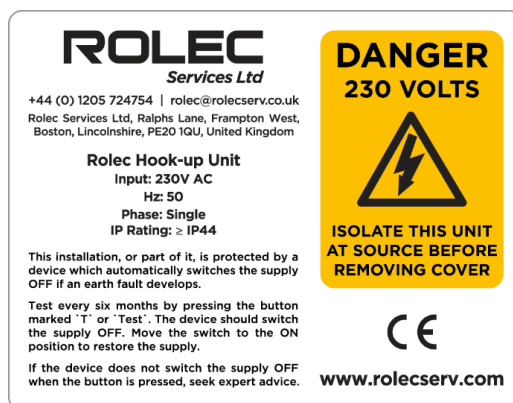


Figure 3 Typical Product Label(s)

Plug/Coupler Labels



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.

Installation

Before Installation

	<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>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>
	<p>NOTE: For PITCHMASTER installations, refer to the PitchMaster manual for additional information.</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 hook up unit to installed.
 - The unit is designed to be post mounted in an upright position.
 - If installing a mounting post, take care not to damage any underground services.
3. Refer to the appropriate schematic for the Hook Up Unit being installed.
4. Make sure the incoming power supply cable is disconnected from electrical power.

IMPORTANT: For further information relating to the surveying, installation, and commissioning of the PITCHMASTER range, refer to separate manual enclosed.

5. Take the hook up unit from its packaging and remove the unit lid.
6. Create a suitably sized hole(s) in the bottom of the unit to accommodate the incoming supply cable(s) being careful not to damage any of the internal components.
7. Cut a suitably sized hole in the required location on the Unit to enable the entry of the power supply cable into the rear of the enclosure.

If a mounting post is supplied:

- Make sure the post and Hook-Up Unit will fit together correctly.
- Fix the mounting post in the desired location.
- 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.
- Secure the rear enclosure in place on the post using the supplied fasteners.

If a mounting post is not supplied:

- Carefully place the rear enclosure of the Unit in the desired location and **mark** the four fixing points. Remove the enclosure before drilling.
 - Drill the mounting location as appropriate to receive the fasteners.
 - Use suitable fasteners, to mount the rear enclosure in the required location.
8. Feed the power supply cable up through the hole in the rear enclosure. Use a suitably sized cable gland to produce a water-resistant seal.
 9. Terminate the supply cable in the appropriate manner and connect to the Unit terminals.
 10. Make sure any debris is removed from the enclosure.
 11. Replace the unit lid ensuring the lid sits correctly on the enclosure to provide the correct weatherproof sealing.
 12. Safely energise the electrical power to the unit and switch the circuit breaker to the ON position.
 13. 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.

Electrical 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 Hook Up cables without taking advice from a qualified electrician.

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.

Power Consumption Meters

If installed, all meters installed in Rolec Hook Up Units comply with the Measuring Instruments Directive - 2004/22/CE.

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

Socket Hook Up 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.
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 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.

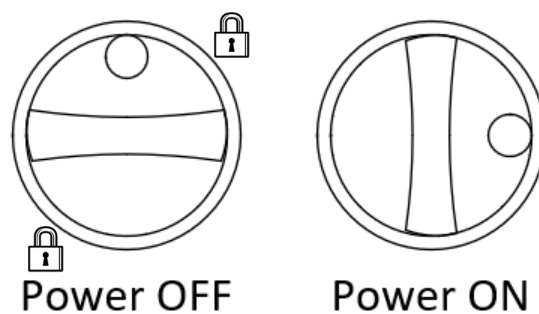


Figure 4 Rotary Power Switch Positions

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 Socket

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 weatherproof socket cover closes after removal.
4. Loosely coil the power cable ready for next use and store in a clean, dry environment.

Connect a Power Connection Cable to a Non-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.
4. Insert the plug of the hook up cable into the socket.
5. Make sure the circuit breaker is in the ON position.

Power should now be available.

NOTE: If an electricity meter is installed, the meter reading window is located next to the RCBO. If power to the meter is lost, the display may go blank, but the reading will not be lost and will be displayed again when power is restored.

Disconnect the Power Connection Cable from a Non-Interlocked Socket

1. Pull the hook up cable from the hook up unit.
2. Make sure the weatherproof socket cover closes after removal.
3. Loosely coil the power cable ready for next use and store in a clean, dry environment.

Direct Connection Hook Up Units

Direct Connection Hook Up Units do NOT have a rotary power switch. Electrical power coming from the Hook Up Unit is permanently live unless interrupted by the RCBO or power is stopped at source before being fed to the Hook Up Unit.

NOTE: If an electricity meter is installed, the meter reading window is located next to the RCBO. If power to the meter is lost, the display may go blank, but the reading will not be lost and will be displayed again when power is restored.

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 hook up cable plug or hook up unit socket. Isolate 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 Hook Up 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, switch socket off, reset and switch socket back on. • If circuit breaker trips again, isolate 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 Hook Up Unit	<ol style="list-style-type: none"> 1. Make sure the rotary switch is in the OFF position. 2. Seek professional advice.

Hook Up Unit Maintenance



WARNING:

- 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 clear flap moves smoothly and can be closed securely
4. Make sure the enclosure fasteners are secure and that the enclosure is fully closed.
5. Make sure the enclosure is secure on its mounting location.
6. Make sure the power cable entering the enclosure is in good condition and that it is securely attached to the enclosure.