

5kVA Portable Transformer

Safety, operation & maintenance instructions

Introduction

Thank you for purchasing this Defender appliance. This manual contains information necessary for safe and effective operation of this appliance. This appliance has unique features and, even if you are familiar with similar appliances, it is necessary to read this manual carefully to ensure you fully understand the instructions. Ensure all users of the appliance read and fully understand this manual. Keep these instructions with the appliance for future reference.

Description of Symbols

The rating plate on your appliance may show symbols. These represent important information about the appliance or instructions on its use.



Wear hearing protection

Wear eye protection

Wear breathing protection

Wear head protection



Wear hand protection



WARNING – To reduce the risk of injury, user must read instruction manual



Caution!



Risk of electrocution! Dangerous voltage!



Class I construction (protective earth)



Isolating transformer for construction sites, non-short-circuit proof, mid-point or star-point earthed

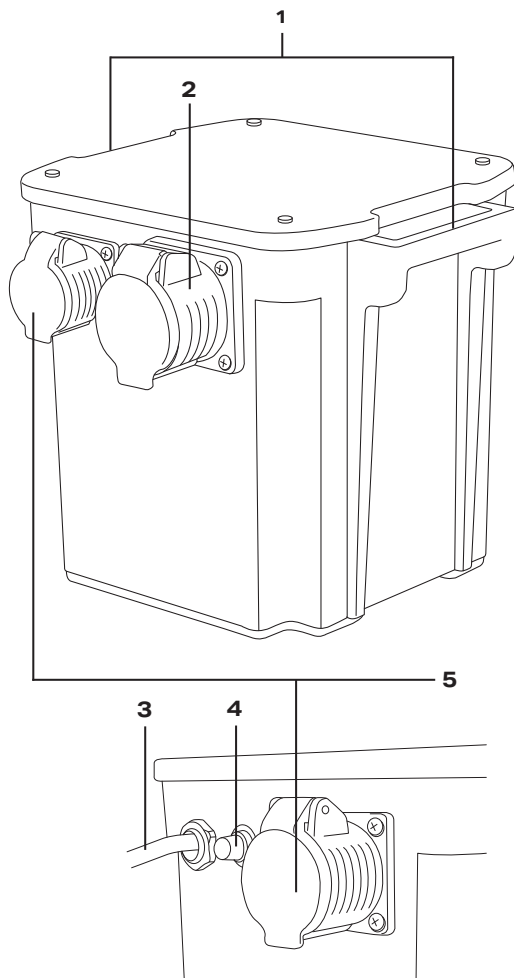


Conforms to relevant legislation and safety standards.



Environmental Protection

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.



16A / 32A

Stock No. 36476
Part No. E205042

Technical Abbreviations Key

V	Volts
AC~	Alternating current
A, mA	Ampere, milli-Amp
Hz	Hertz
W, kW	Watt, kilowatt
VA, kVA	Volt Ampere, kilovolt Ampere
cos φ	Power factor
t _a	Maximum rated ambient temperature

Specification

Supply voltage:	230-240V~ 50/60Hz
Output voltage:	110V~ 50Hz
Intermittent duty rated output:	5000VA (5.0kVA)
Continuous duty rated output:	2800VA (2.8kVA)
Output current:	2 x 16A
	1 x 32A
Protection class:	
Ingress protection rating:	IP44
Maximum rated ambient temperature (t _a):	20°C
Rated power factor:	0.93cos φ
Duty cycle:	Intermittent duty (5min on / 15min off)
Input plug fuse:	32A
Cord length:	2m, 3x2.5mm2, H07RN-F
Dimensions (H x L x W):	280 x 315 x 355mm
Weight:	31kg

General Safety Warnings

⚠ WARNING: Read all safety warnings, instructions, illustrations and specifications provided with this appliance. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "appliance" in the warnings refers to your mains-operated (corded) appliance or battery-operated (cordless) appliance.

1) General Safety

- a) Keep appliance away from heat, sharp objects, oil and other hazards.
- b) Do not place the cord under carpets or other textile coverings such as clothes or dust sheets.
- c) Do not place the cord in areas where it may pose a trip hazard.
- d) Do not use the appliance if the cable or plug is damaged.

- e) Do not use the appliance if the switch does not turn it ON and OFF. Any appliance that cannot be controlled with the switch is dangerous and must be repaired.
- f) Ensure appliance is switched OFF before connecting to mains power supply.
- g) Disconnect the plug from the source before making any adjustments, changing accessories, or storing appliances. Such preventive safety measures reduce the risk of starting the appliance accidentally.
- h) Store idle appliances out of the reach of children and do not allow persons unfamiliar with the appliance or these instructions to operate the appliance. Appliances are dangerous in the hands of untrained users.
- i) Maintain appliances and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the appliance's operation. If damaged, have the appliance repaired before use. Many accidents are caused by poorly maintained appliances.
- j) Children must not play with the appliance. Cleaning and user maintenance must not be made by children without supervision.
- k) When moving from one place to another, consider the weight of the appliance and use appropriate haulage equipment.
- l) Never block or cover the appliance's ventilation while energised or in operation. Good airflow must be maintained at all times to reduce any potential fire risk.

2) Electrical safety

- a) Appliance plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) appliances. Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the appliance. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- c) Always check that the power supply corresponds to the voltage on the rating plate.

3) Service

- a) Have your appliance serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the appliance is maintained.

Transformer Safety Warnings

⚠ WARNING: Read all safety warnings, instructions, illustrations and specifications provided with this appliance. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

- Transformers generate heat in operation. This is normal and not a fault with the device. Do not use on areas which are combustible or may be damaged by heat such as carpets, vinyl flooring or flooring tiles.
- The transformer is fitted with a thermal cut-out switch. If the switch operates repeatedly, check that the rated current of the power tool or appliance being used with the transformer does not exceed that of the transformer fuse.

- ALWAYS ensure the transformer plug is fitted with the indicated fuse (see Specification and plug markings).
- Position transformer close to the 230V supply. Do not supply the transformer via an extension cable.
- Ensure there is adequate access to the transformer to enable regular inspection for prevention of fire and other hazards.
- Do not leave electrical equipment near flammable materials.
- Ensure adequate measures for fire prevention and protection are in place.
- Do not use the transformer if damaged.
- If the external flexible cable or cord of this transformer is damaged, it shall be replaced by the manufacturer or their service agent or a similarly qualified person in order to avoid a hazard.
- All repairs to the transformer must be carried out by a fully qualified technician.
- If the thermal cut-out/short circuit protector is in need of replacement, it must be replaced using the correct unit from the manufacturer or manufacturer's agent.

Even when used as prescribed it is not possible to eliminate all residual risk factors. Use with caution. If you are at all unsure of the correct and safe manner in which to use this appliance, do not attempt to use it.

Product Familiarisation

1. Carry Handles
2. 110V 32A Outlet
3. 230V Input Cable
4. Overload/Short Circuit (OL/SC) Protector Reset Button
5. 110V 16A Outlets

Intended Use

Portable isolation transformer for site use. Transforms 230V input to 110V output. It features 2x 16A and 1x 32A sockets that can be used with corded products such as SDS drills, small demolition hammers, 4.5" angle grinders, jigsaws and circular saws, numerous lighting products, industrial fans, dehumidifiers and fume extractors.

The tool must ONLY be used for its intended purpose. Any use other than those mentioned in this manual will be considered a case of misuse. The operator, and not the manufacturer, shall be liable for any damage or injury resulting from such cases of misuse. The manufacturer shall not be liable for any modifications made to the tool, nor for any damage resulting from such modifications.

Before Use

Ensuring the transformer is suitable

Before using the transformer with a selected power tool or appliance, check that it is suitable for the tool and task.

- Use the transformer ratings plate for guidance. The transformer ratings plate is marked with the duty cycle.
- The values for continuous rating will be approximately 50% of the intermittent rating so take this into account if the tool will be used for a longer period than the intermittent rating given in the duty cycle.

Note: Operating conditions such as applied voltage (voltage supplied to the transformer), the power factor of the tool and ambient temperature may affect the performance of the transformer.

Wiring the plug

⚠ WARNING: This appliance comes supplied with a 2m mains lead with bare ends that requires the wiring of a power input plug before use. Only qualified people should undertake this task. Select a plug suitable for the 230V Input Cable (3) with a fuse capacity of $\geq 3A$.

- If operating the transformer up to its 2.8kVA continuous rating, a supply current of 12A is required. Therefore, the fitted plug should be of at least 13A such as a 13A UK domestic plug or a 16A (230V) industrial plug.
- If operating the transformer up to its 5.0kVA intermittent rating, a supply current of 23A is required. It is recommended that the fitted plug should be a 32A (230V) industrial plug or another suitable rated plug. Alternatively, the transformer can be wired directly into a suitable fused spur electrical point.

Wiring procedures for plugs will vary by model, but must follow the wiring convention below:

Conductor	Wire colour
Live	Brown
Neutral	Blue
Earth	Green and yellow

⚠ WARNING: This appliance is not suitable for wiring directly to a power source.

Operation

Connection

1. Locate a suitable 230V power supply. Place the transformer near the selected outlet.

⚠ WARNING: Do not use an extension lead to connect the transformer to the power supply.

2. Connect the transformer and switch ON the power supply. The transformer is now ready for use.

Note: If using with a heater, take care to ensure the transformer is situated an appropriate distance from the other appliance. This will reduce the likelihood of the thermal overload protector functioning and allow the transformer to function more effectively.

Disconnection

1. Switch the power supply OFF.
2. Disconnect the transformer.

Resetting the overload/short circuit protector

- To reset the overload/short circuit protector, press the OL/SC Protector Reset Button (4).

Note: The integrated circuit breaker may trip for several reasons. To prevent the integrated circuit breaker operating again, please check that there are no underlying issues (see Troubleshooting).

Accessories

- A wide range of accessories for this appliance, including plugs, is available from your Defender stockist.

Maintenance

⚠ WARNING: ALWAYS disconnect from the power supply before carrying out any inspection, maintenance or cleaning.

Cleaning

- Clean with a soft, damp cloth. Solvent or abrasive cleaners should not be used.
- Never immerse in liquid.

Storage

- Always switch OFF and disconnect from power supply prior to storage.
- Always ensure appliance has cooled completely before storing.
- Store in a secure, dry location out of the reach of children.

Transportation

⚠ WARNING: This appliance weighs over 25kg.

Take measures to reduce risk of injury when moving or lifting such as:

- Employing good manual handling practices.
- Apply multiple person lifting methods.
- Using appropriate moving equipment.
- Correct usage of the Carry Handles (1).

When transporting in a vehicle, strap and pad securely to minimise damage to the transformer and any other people or objects in transit.

Contact

For technical or repair service advice, please contact the helpline on +44 (0) 23 8049 4344.

Web: www.defenderpower.com

UK Address:
Hursley Road
Chandler's Ford
Eastleigh, Hampshire
SO53 1YF, UK

EU Address:
Draper Tools Europe B.V.
Oude Graaf 8
6002 NL
Weert
Netherlands

Troubleshooting

Problem	Possible Cause	Solution
Overload/short circuit protector operates	The tool rated current exceeds that of the transformer and it is not suitable for use with this device	Select another tool, checking that the rated current does not exceed that of the transformer
	The tool rated current exceeds the continuous duty rating for this transformer, and the transformer has reached the end of the intermittent cycle	Select another tool with a rated current that does not exceed the intermittent duty cycle rating of the transformer, or wait until the continuous duty period has ended (see Specification)
	The transformer is being operated in an area where the ambient temperature is too high	Reduce the ambient temperature or discontinue use until the ambient temperature has fallen
	The Air Vents (6) are obstructed and the interior of the transformer is not being cooled effectively	Clear obstructions from Air Vents
	There is a fault with the tool	Select another tool
	There is a fault with the transformer	Have the transformer repaired by a qualified electrician
The transformer becomes warm	This is normal	No action required