

# 10kVA 3-Phase 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)



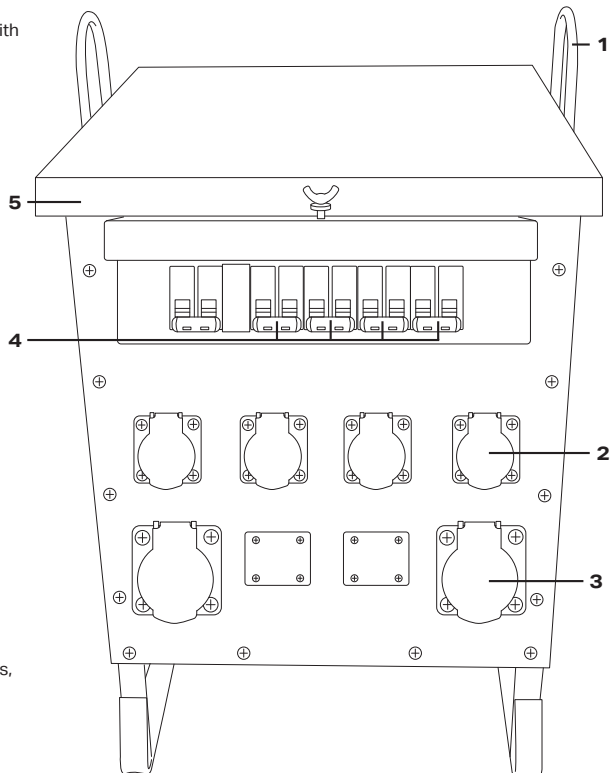
Isolating transformer for construction sites, non-short-circuit proof, mid-point or star-point earthed



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. 34886  
Part No. ZE210027

## Technical Abbreviations Key

V	Volts
AC~	Alternating current
A, mA	Ampere, milli-Amp
Hz	Hertz
W, kW	Watt, kilowatt
VA, kVA	Voltage ampere, kilovolt ampere
cos φ	Power factor
t <sub>a</sub>	Maximum rated ambient temperature

## Specification

Supply voltage:	400 - 415V 3~ 50/60Hz
Output voltage:	110V~ 50Hz
Intermittent duty rated output:	10000VA (10.0kVA)
Continuous duty rated output:	7000VA (7.0kVA)
Vector group:	Y (Wye winding)
Output current:	4 x 16A
	2 x 32A
Protection class:	
Ingress protection rating:	IP44
Maximum rated ambient temperature (t <sub>a</sub> ):	20 - 30°C
Rated power factor:	0.93cos φ
Duty cycle:	Intermittent duty (5min on / 15min off)
Dimensions: (H x L x W)	775 x 515 x 800mm
Weight:	80kg
As part of our ongoing product development, specifications of Defender products may alter without notice.	

## 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**

**Note: This product is supplied without a power cord.** All references to cords within the following safety information assume the correct and safe installation of a suitable power cord or cords to the device..

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.
- m) When moving from one place to another, consider the weight of the product.

### 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.
- ALWAYS ensure the transformer plug is fitted with the indicated fuse (see Specification).
- 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.
- All repairs to the transformer must be carried out by a fully qualified technician.
- If the thermal cut-out/short circuit protector requires 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. Positioning Handles
2. 110V 16A Outlets
3. 110V 32A Outlets
4. MCB Control Switches
5. MCB (Miniature Circuit Breaker) Cover

## Intended Use

Portable isolation transformer ideal for use with heaters. Transforms 400-415V input to 110V via 16A and 32A outputs. Allows the use of 110V compatible tools and appliances. For site use.

The product 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 product, nor for any damage resulting from such modifications.

## Unpacking Your Product

- Carefully unpack and inspect your product. Familiarise yourself with all its features and functions.
- Ensure that all parts of the product are present and in good condition. If any parts are missing or damaged, have such parts replaced before attempting to use this product.

## 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 effect the performance of the transformer.

## Wiring the plug

**⚠ WARNING:** This appliance is only suitable for wiring directly into a power source.

**⚠ WARNING:** Only qualified persons should undertake the task of installing a cable into this appliance. Select a cable that is suitable for the ratings of this transformer (see 'Specification').

- If operating the transformer up to its 7.0kVA continuous rating, a supply current of approx. 11A is required.
- If operating the transformer up to its 10.0kVA intermittent rating, a supply current of approx. 13A is required.

## Operation Connection

1. Locate a suitable 230V power supply. Locate a suitable 230V power supply and ensure that no power is being supplied.
2. 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 allow the transformer to function more effectively.

## Disconnection

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

## Resetting the MCB

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

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

1. Switch the power supply OFF and remove any tools plugged into the outlets.
2. Turn the butterfly nut on the MCB Cover (5) anti-clockwise to release the cover.
3. Push the MCB Control Switch (4) labelled 'INCOMING' to the OFF position by pushing the switch down.
4. Check for any other tripped MCB Control Switches in the OFF position. If present, return them to the ON position by pushing the affected switches back up.

**Note:** Noting the position of any tripped switches amongst the outlets could indicate the location of any tool responsible for causing the outage.

5. Switch the MCB Control Switch labelled 'INCOMING' back to the ON position
6. Switch the power supply back ON.
7. Close the MCB Cover and turn butterfly nut clockwise tightly to secure.

## 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.

### General inspection

- Regularly check that all the fixing screws are tight.
- Inspect the supply cord of the product, prior to each use, for damage or wear. Repairs should be carried out by an authorised Defender service centre.

### 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 this appliance in a secure, dry location out of the reach of children.

## Transportation

**⚠ WARNING:** This appliance weighs approx. 80kg.

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 Positioning 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](http://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

## Disposal

Always adhere to national regulations when disposing of power tools that are no longer functional and are not viable for repair.

- Do not dispose of power tools, or other waste electrical and electronic equipment (WEEE), with household waste.

## Troubleshooting

Problem	Possible Cause	Solution
MCB 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
	There is a fault with the tool	Select another tool
	There is a fault with the transformer	Have the transformer repaired by a qualified person
The transformer becomes warm	This is normal	No action required