

# Quick Reference Guide Step Down Transformer

## About This Device

The purpose of the step down transformer is to step down 400V primary supply to single phase 230V for a maximum 12kW load on the UPS. Operating range of 322 - 477V makes it useful for 380/400/415V primary supply and reduced line currents. The contents of this manual include advice and instructions to secure safe and satisfactory service. In the event of any doubt, query or the need for further information, please contact us. In any communication, please quote the product serial number to be found on the Rating Plate.

To order, contact HP Logistics at  
Tel: +44 1753 608700 and request part number 1019899

## Support Information:

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## Important Safety Requirements

### *Read Before Installing Product*

The product to which this manual refers should be installed, commissioned, operated and maintained under the supervision of a competent Electrical Engineer, in accordance with relevant statutory requirements and good engineering practice, including Codes of Practice where applicable, and properly used within the terms of the specification.

**WARNING:** The equipment must only be operated and maintained by qualified personnel. Before entering the Transformer vicinity ensure that the equipment is isolated from the supply and grounded. Site selection and design, embodying features which provide adequate ventilation, protection and security, taking into account appropriate fire, moisture and explosion hazards. Selection and setting of electrical protection in both primary and secondary circuits against overload and short circuit.

**IMPORTANT:** On arrival at site, the unit should be examined for any damage that may have occurred during transport. Any damage must be reported to the manufacturer immediately. The unit and any separately supplied components must be checked against the relevant shipping list.

## Product Specifications

Rating	22 kVA, 1 ph
Primary Voltage	400 VAC (324-477 V), 50 Hz
Secondary Voltage	230V
Insulation Class	H
Construction	Dry type enclosed IP 20
Cooling	AN convection
Weight	135 kg
Dimensions (LxWxH)	410mm x 930mm x 625mm

## System Requirements

The Step Down Transformer is designed to allow a single phase UPS to be connected to 3 phase input in a 380V/400V/415V 50Hz environment. The maximum load supported by the transformer is 12kW.

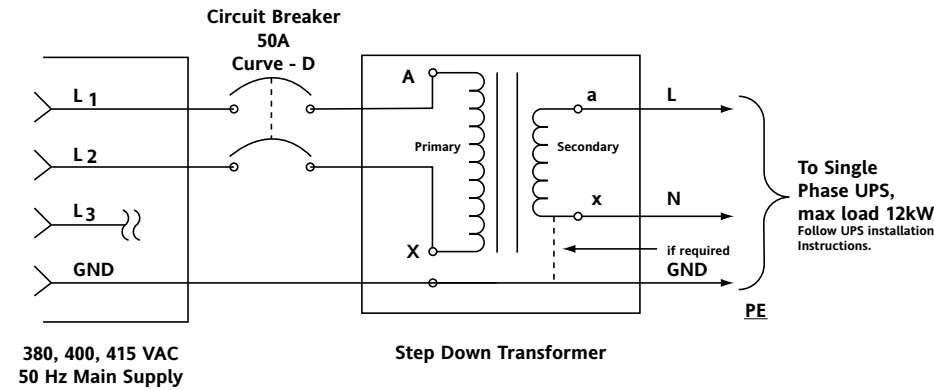


Figure 1. Diagram of single phase UPS connected to Transformer

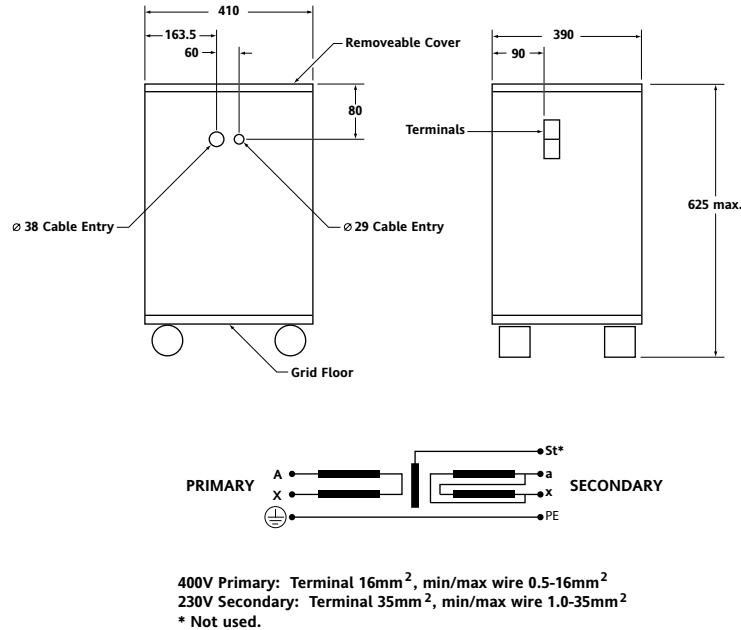


Figure 2. Diagram of terminals and cables

## Installation Considerations and Commissioning

**Electrical Protection** - 50A, D-curve, circuit breaker is recommended in the transformer primary feeder. 100A circuit breaker may be used in transformer secondary feeding the UPS.

**Wiring** - Wire sizes should be per the local code applicable to the installation.

**Grounding** - The unit should be effectively grounded before energizing the transformer. Grounding studs are provided for this purpose at ground level. Isolated secondary output neutral can be connected to ground (PE) if required by the local electrical code and practices.

**Terminations** - Ensure all cables are correctly fitted to their associated terminals and that all connections are tightened to the following recommended torques:

- M8 – 10 Nm
- M10 – 20 Nm
- M12 – 40 Nm

**Insulation Tests** - Primary winding to secondary winding and Earth insulation Tests should be made using a megger and the readings noted. Readings below 75 megohms should be reported to Powerware.

**NOTE:** Before energising ensure all terminal protection barriers and enclosure panels are correctly fitted.

## Maintenance Instructions

**IMPORTANT:** To ensure satisfactory operation, a planned maintenance schedule should be implemented. The transformer enclosure should be carefully examined to see if rust is forming, especially at the welded seams. If so, it should be completely removed with a wire brush or other means and the metal given a coat of red oxide followed by an appropriate undercoat and finally the finishing coat. Check to ensure there are no restrictions to air circulation around the Transformer and tightness of all cable connections.