

Sept 2025

Installation instructions

The 230 V version is designed for a single-phase supply, while the 460 V version is designed for a split-phase supply. Both can be connected to operate on a 400 V three-phase supply.

Measure the output voltages between phases. The voltage between phases 1 and 3 is 400 V. The voltage between L2 and L3 is slightly higher when no load is connected. Voltages between phases and neutral: Only L3 to N is 230 V; the other two phases are not 230 V and should not be used for control circuits in a machine.

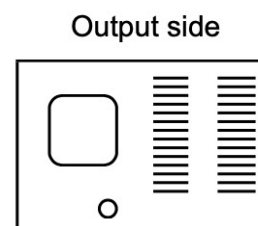
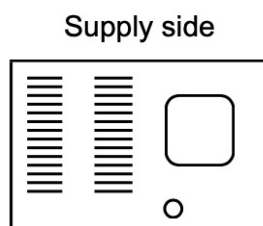
When a machine starts, the inrush current on the supply cable is 2–4 times the maximum input current rating. Therefore, install a D-curved motor-rated overload circuit breaker in the house distribution box and install the converter close to the power source. Use a switched single-phase wall outlet.

For two- or split-phase inputs, use a dual circuit breaker and a dual wall switch. Use a heavier-than-normal supply cable to minimise any voltage drop.

	230V supply	400V two-phase or 460V split-phase supply
3kW	20A	2x 10A
4kW	25A	2x 16A
6kW	32A	2x 20A
8kW	40A	2x 25A
12kW	63A	2x 32A
16kW	80A	2x 40A
24kW	100A	2x 50A
32kW		2x 80A
40kW		2x 100A

Converters with a capacity of up to 8kW are housed in a single enclosure. Those with a power output of 12kW and more are housed in two or more enclosures with marked link cables.

Single units:



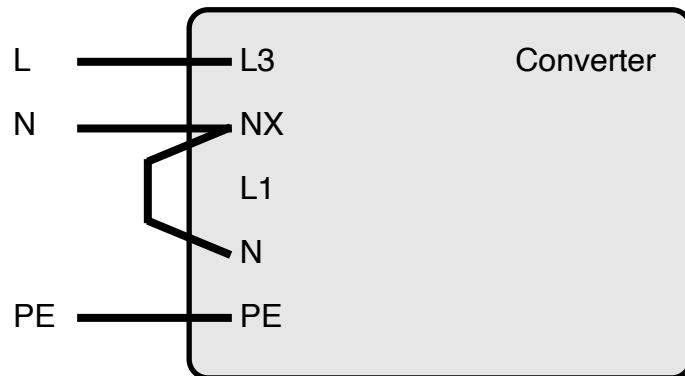
Connect the input side of a converter

Supply is 230V single phase and converter is for 230V single phase:

L to L3

N to NX

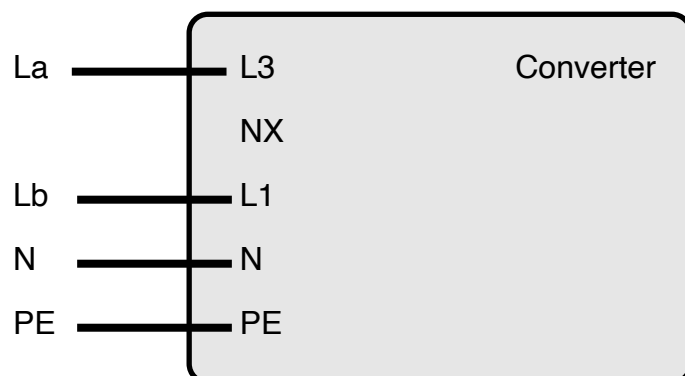
Add a wire bridge
between NX to N



Supply is 400V two phase, converter is for 230V single phase:

La to L3

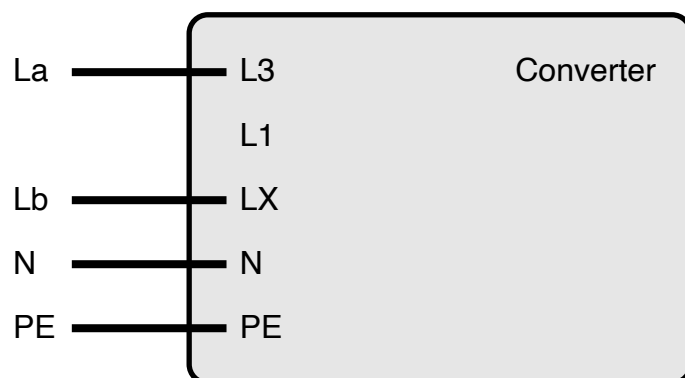
Lb to L1



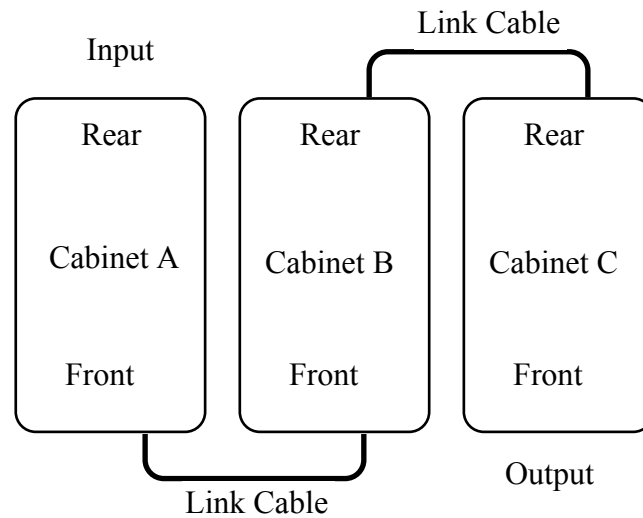
Supply is 460V split phase, version is for 460 V split-phase:

La to L3

Lb to LX



Multi cabinet set-up for converters above 8kW



Connect a machine to a converter

The converter's output phases (1, 2 and 3) must always be connected to the corresponding phases (1, 2 and 3) of a three-phase wall outlet.

Control transformer: most machines have a single-phase control transformer.

Care must be taken as the converter's output voltages are 400 V between phases, but only phase L3 is 230 V to Neutral.

A machine with a five-pin plug usually has a control transformer with a 230 V primary coil. This is connected between Neutral and one of the three phases in the plug. Inside the plug, change this connection to connect the phase to converter output L3.

A machine with a four-pin plug usually has a 400 V control transformer. This coil is connected between two of the three phases. Change the wires inside the plug so that these two phases are connected to converter outputs L1 and L3.

To find out which phases a control transformer is connected to, measure the coil resistance on a machine's plug. Remember to set the main switch on the machine to the ON position.

If a motor rotates in the wrong direction, swap the two wires connected to L1 and L2 in a five-pin plug or the two wires connected to L1 and L3 in a four-pin plug.

Prevent damage to machinery

Incorrect installation can damage the control circuit inside a machine.

Very few machines have multiple internal **single-phase loads connected to more than one phase**. In this case, modify the configuration inside the machine so that all single-phase loads are connected to phase L3 only.

For machines with internal single-phase heaters:

It is best to disconnect the heater and connect it directly to a single-phase supply.

To avoid damage or fire, install the converter in a well-ventilated room and ensure that its air intake and outlet are always **free of obstacles**.

Danger:

The voltage inside a converter can peak at 1200 V. Wait at least ten minutes after disconnecting from the power supply before opening the unit. Always measure the DC voltage on the capacitors prior to carrying out any work, as the live-saving **discharge resistor could be faulty**.

SUPPLIER DECLARATION OF CONFORMITY (SDoC)

In accordance with ISO/IEC 17050-1:2004

SDoC Identification Number¹: **Booster E 2-8kW, Booster T 4-48kW**

Issuer details

Name ² (of New Zealand manufacturer or importer): EuroTech Machinery Ltd	Contact Address: 140 Victoria Street Cambridge 3434
Telephone: 07-823 7234	
New Zealand Company No. (if applicable):	
Email Address: contact@eurotech.co.nz	

Medium Risk Article – Details³ (Product name, type, rating, brand, model, batch numbers, and serial numbers, as applicable):

Booster E2, E3, E4, E8, Booster T4, T8, T12, T16, T24, T36, T48

The Medium Risk Article listed above, fully complies:

With cited standard(s), as listed ⁴ :	
Standard number and issue year: AS/NZS3100:2009	Standard number and issue year: AS/NZS2064:1997
Edition / Amendment status: Amendment 1,2,3 and 4	Edition / Amendment status: Amendment 1, Group I
Standard title: Approval and test specification - General requirements for electrical equipment	Standard title:
AS/NZS ZZ modified Yes ☐ No ☐ N/A ☒	AS/NZS ZZ modified Yes ☐ No ☐ N/A ☒
OR Complies with the Conformity Cooperation Agreement ⁵ Yes ☐ No ☐	

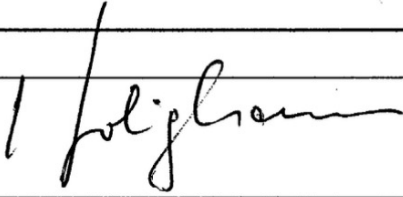
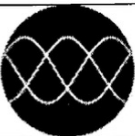
Names and addresses of any testing organisation or body

Name(s): EMC Technologies (NZ) Ltd	Address(es): 47 MacKelvie Street, Grey Lynn, Auckland
Name(s):	Address(es):

Reference to relevant test reports/certification and the issue date that show how compliance is achieved

Standard(s) or document(s) used, to show how compliance with cited standard is achieved: AS/NZS2064:1997	Report Certification or Document reference N°(s): Test Report No 10204.1	Issue date(s): 15 Februar 2001
Reference to any management quality system involved:		
Additional information ⁶ :		

Declaration (signed for and on behalf of)

Name and position as authorized by the issuer ⁷ : Helmut Holighaus, Director	Signature: 
Issuer Identification (as affixed to the article):  EUROTECH DIGITAL POWER ENGINEERING	Date: 23.Aug 2017