DUKANE

HAND PROBE AUTOMATION PRESS

AC Line Requirements for Dukane Ultrasonic Welders

Application Note AN524

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Generator AC Power Requirements

The AC power requirements for the Dukane iQ generators are determined by the power rating of the generator and the version of the servo controller. In most cases, the requirements will be as follows:

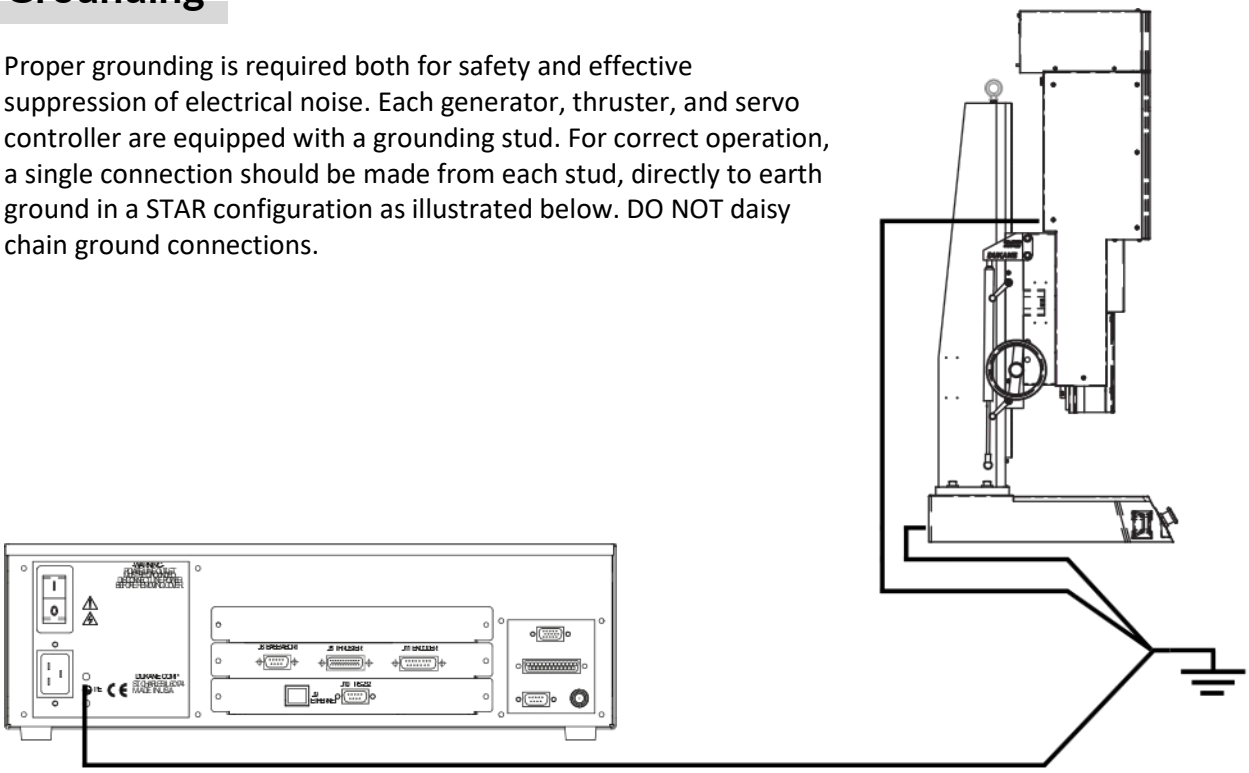
Generator Power Rating (NON _PFC)	AC Line Voltage/Current (nominal)	Recommended Circuit Breaker Size
600 to 1200 Watts	100-120V 50/60 Hz @ 15 Amps	15 Amps
600 to 1200 Watts	200-240V 50/60 Hz @ 8 Amps	15 Amps
1800 to 2400 Watts	200-240V 50/60 Hz @ 15 Amps	15 Amps
3600 to 4800 Watts	200-240V 50/60 Hz @ 30 Amps	30 Amps

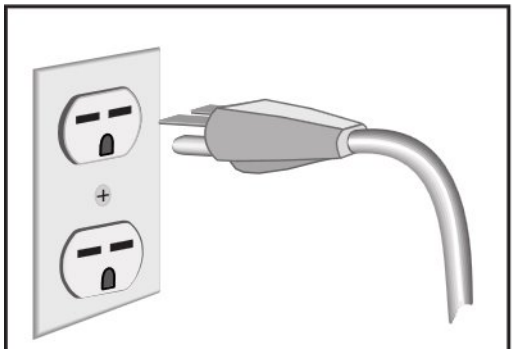
Infinity, AiM and Auto Plus generators employ Power Factor Correction. This results in significantly greater efficiency. As such, these systems will require less current from the AC line for the same generator power capability. Requirements as follows:

Generator Power Rating (PFC)	AC Line Voltage/Current (nominal)	Recommended Circuit Breaker Size
120 Watts	100-240V 50/60 Hz @ 2 Amps	15 Amps
600 Watts	100-240V 50/60 Hz @ 8 Amps	15 Amps
900 Watts	100-240V 50/60 Hz @ 10 Amps	15 Amps
1200 Watts	100-240V 50/60 Hz @ 14 Amps	15 Amps
1800 Watts	200-240V 50/60 Hz @ 10 Amps	15 Amps
2000 Watts	200-240V 50/60 Hz @ 12 Amps	15 Amps
2600 Watts	200-240V 50/60 Hz @ 13 Amps	15 Amps
3600 Watts	200-240V 50/60 Hz @ 19 Amps	30 Amps
5000 Watts	200-240V 50/60 Hz @ 26 Amps	30 Amps
3600 Watts	380-480V 50/60 Hz @8A (3 Phase)	15 Amps
5000 Watts	380-480V 50/60 Hz @10A (3 Phase)	15 Amps

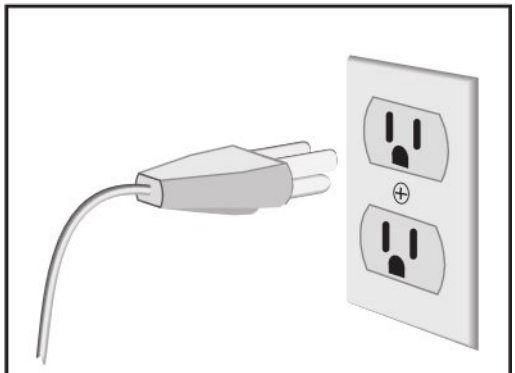
Grounding

Proper grounding is required both for safety and effective suppression of electrical noise. Each generator, thruster, and servo controller are equipped with a grounding stud. For correct operation, a single connection should be made from each stud, directly to earth ground in a STAR configuration as illustrated below. DO NOT daisy chain ground connections.





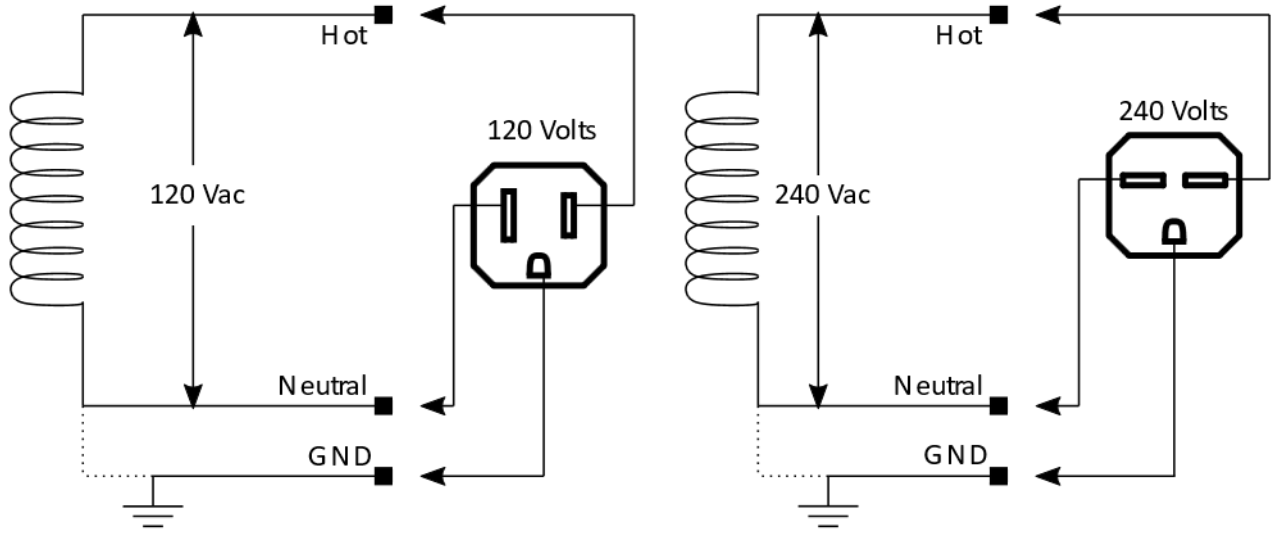
Approved 2 pole, 3 wire grounding receptacle HUBBELL No. 5652 or equivalent to NEMA 6–15R or 6–20R



Approved 2 pole, 3 wire grounding receptacle BRYANT No. 5621 or equivalent to NEMA 5–15R or 5–20R

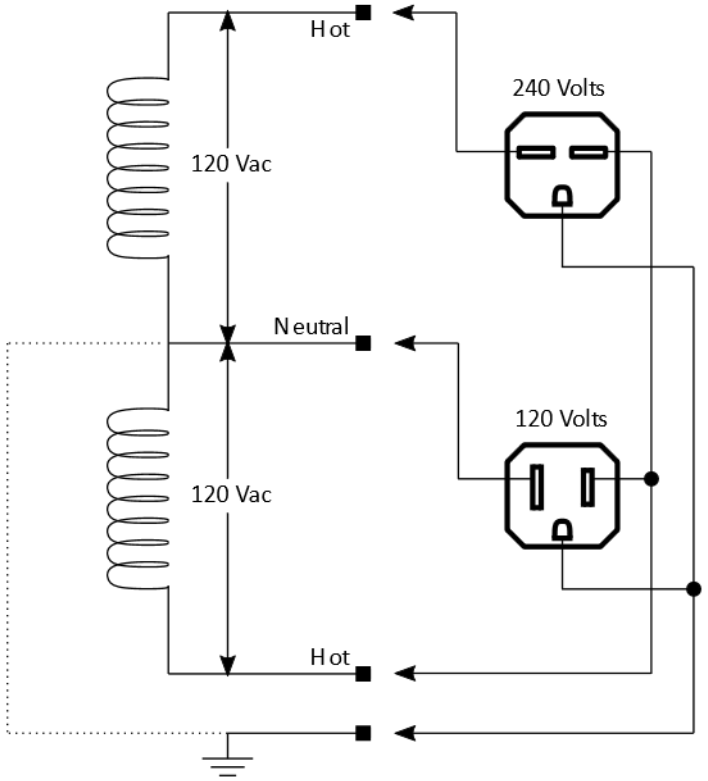
Wiring from a Single Phase

Single phase connection should be wired as shown below. This applies to 120 Volt or 240 Volt. (As common in European Union)



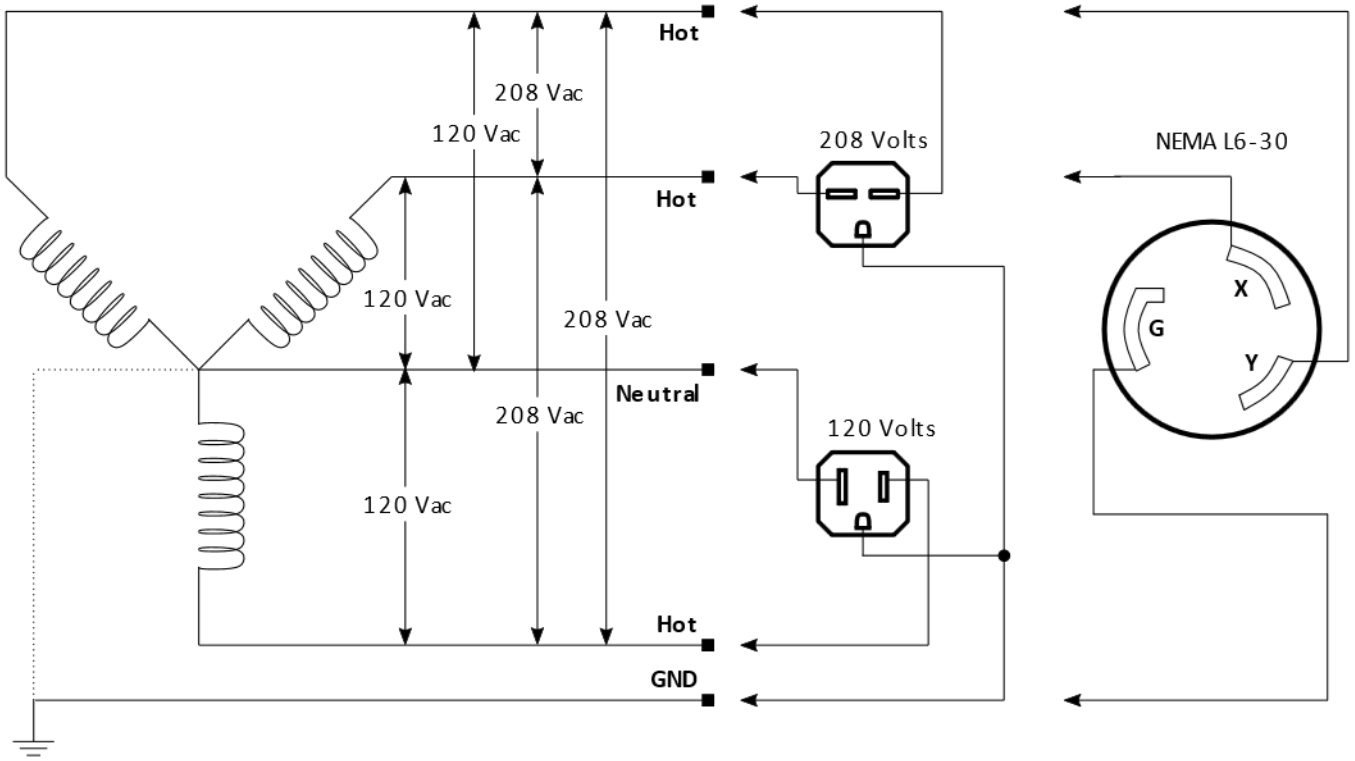
Wiring from 2 Phases

2 Phase 220 Volt connections should be wired as shown below. This typically applies to a 200-240 AC line as is commonly found in the US. (120 Volt connection also shown)



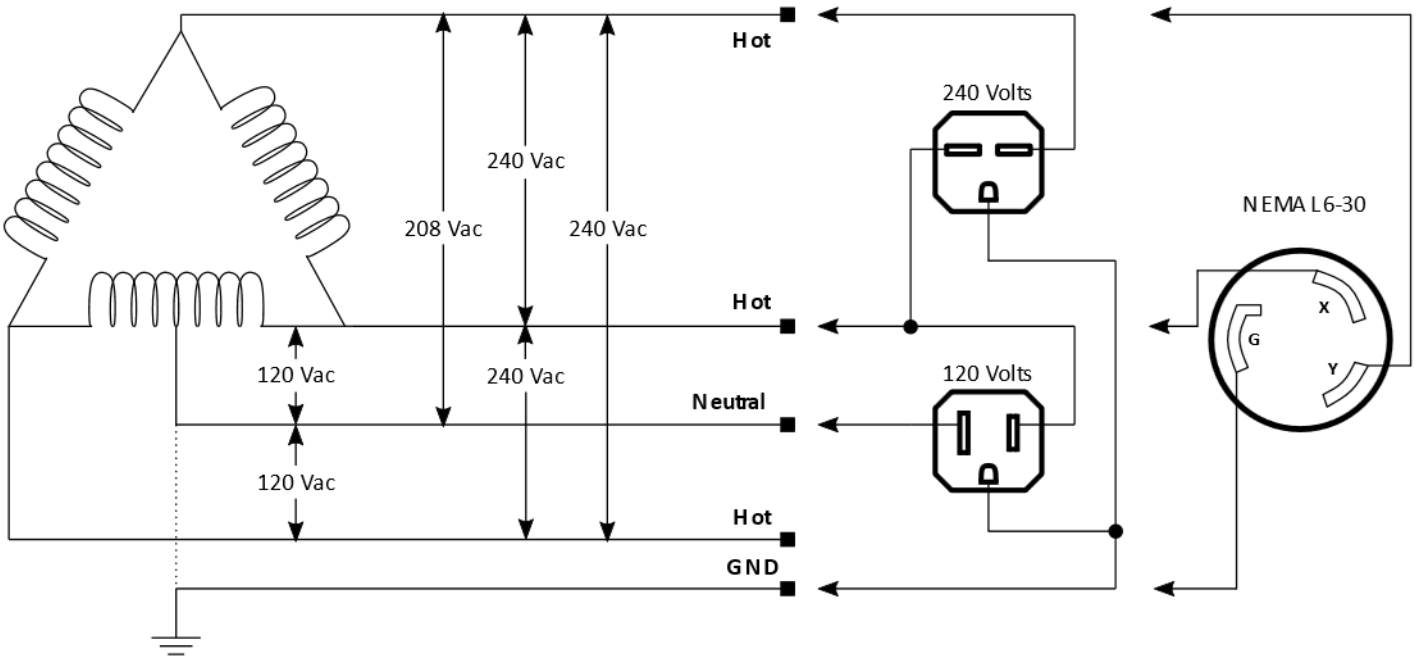
Wiring from a 3 Phase Circuit (STAR/WYE)

3 Phase 208 Volt connections should be wired as shown below. (120 Volt outlet also shown)



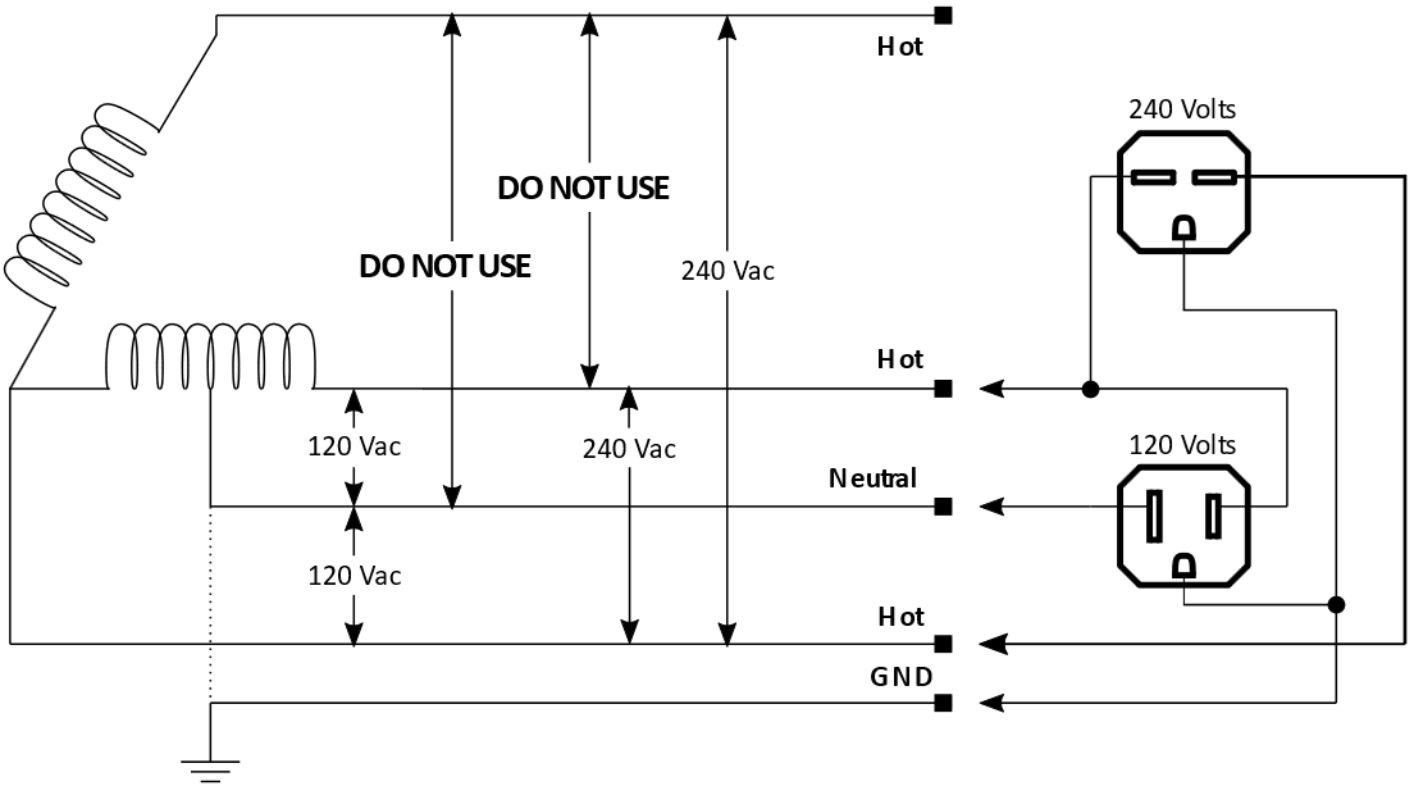
Wiring from a 3 Phase Circuit (Delta)

3 Phase 240 Volt connections should be wired as shown below. (120 Volt outlet also shown)



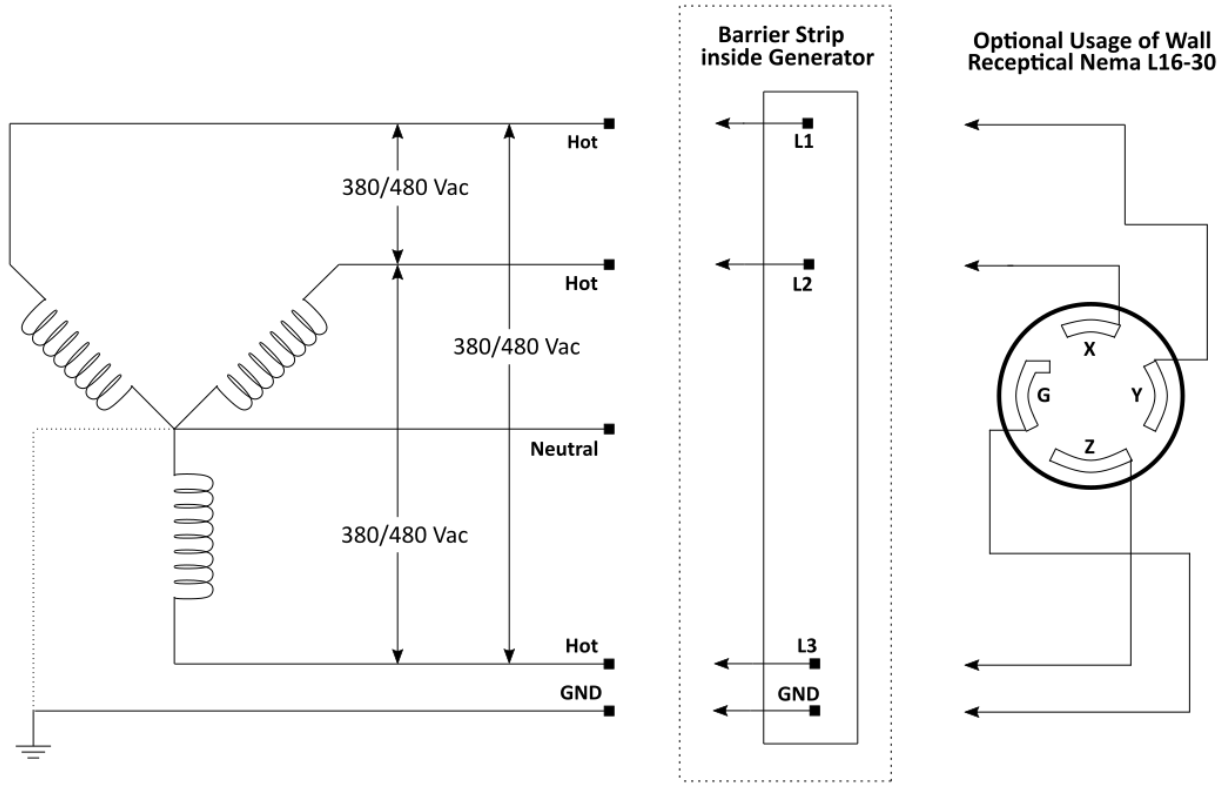
WARNING:

Some 3 phase Delta circuits are supplied with only two transformers. When this is the case, you can not use what is considered the “Wild Leg”. You should only use the connection across the transformer secondary. Do not use the connection without the transformer secondary.



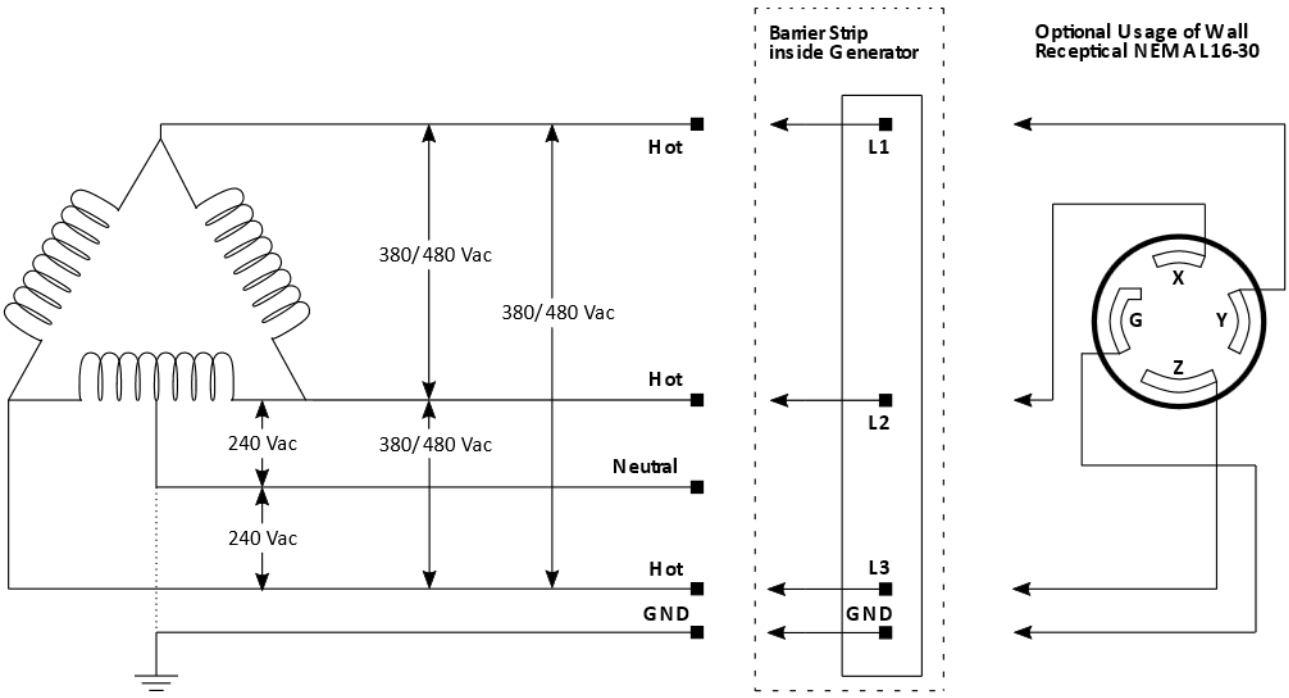
Wiring from a 3 Phase Circuit (STAR/WYE)

3 Phase 380/480 Volt connections should be wired as shown below.



Wiring from a 3 Phase Circuit (Delta)

3 Phase 380/480 Volt connections should be wired as shown below.



Contacting Dukane

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Website

The website has information about our products, processes, solutions, and technical data. Downloads are available for many kinds of literature.

This is the address for the main website:
www.dukane.com

Application Support

You can get application support at the following link below:
https://www.dukane.com/support/#application-support

Local Representative

You can locate your local representative at:
www.dukane.com/contact-us

Please refer to our website at:

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