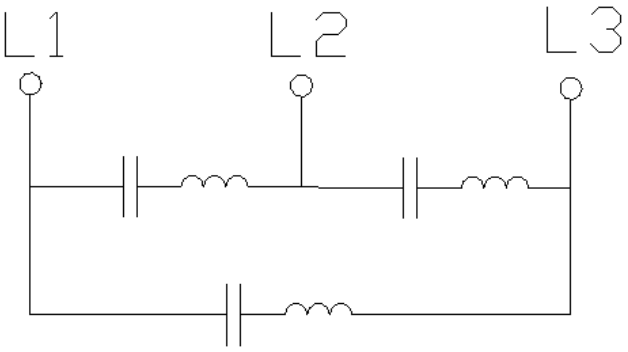
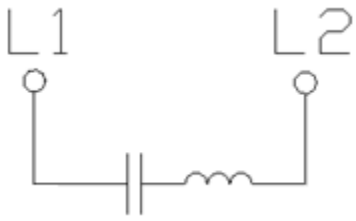
Phase Couplers for Multi-Phase Enphase Systems

Overview

A phase coupler is a passive power line signal communication device that is made up of a capacitor and inductor in series placed between each phase of a multiphase supply. Its purpose is to couple a specific power line communication frequency signal (~117kHz) between the power supply phases so power line communication signals can be passed between the supply phases. It is not connected to Neutral or Earth.

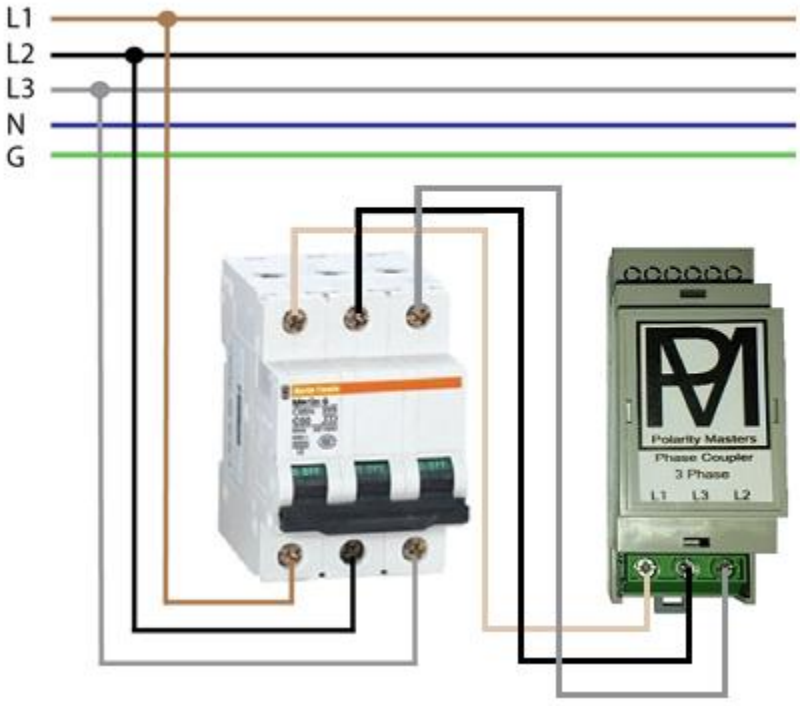


3 Phase



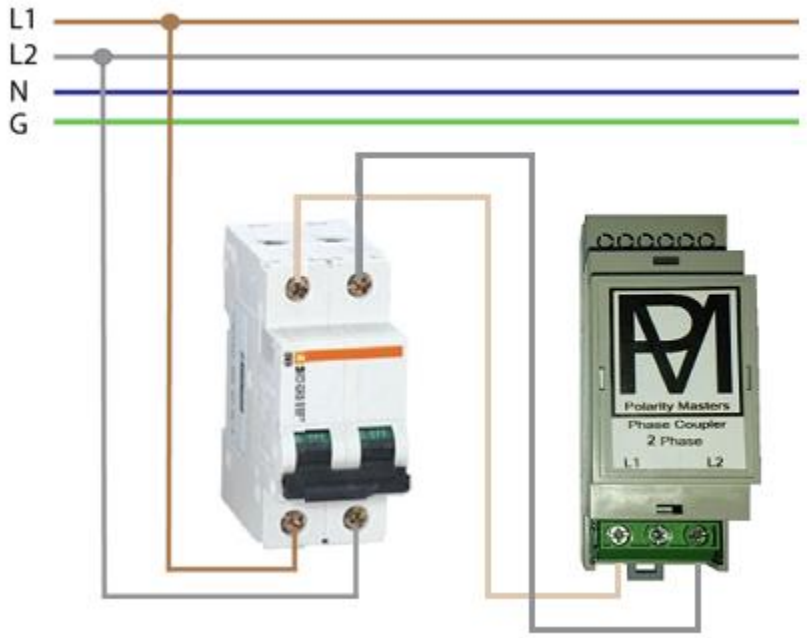
2 Phase

It is practically wired as follows generally din rail mounted in a switchboard. Components are rated appropriately for line to line voltage. In the 3 phase case 440V capacitors and inductors are used.

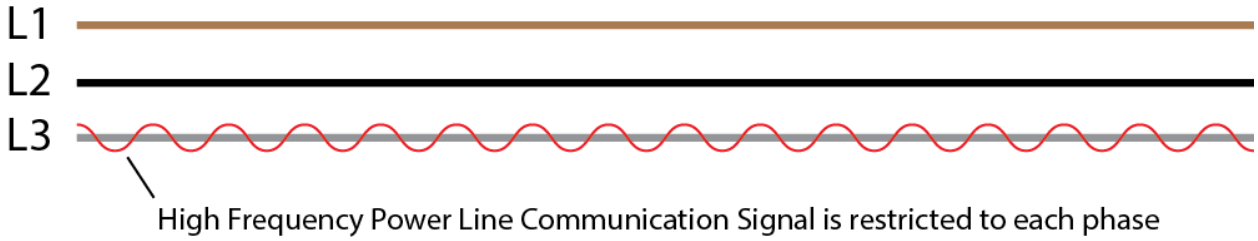


For a 2 phase system, 880V capacitors and inductors are used.

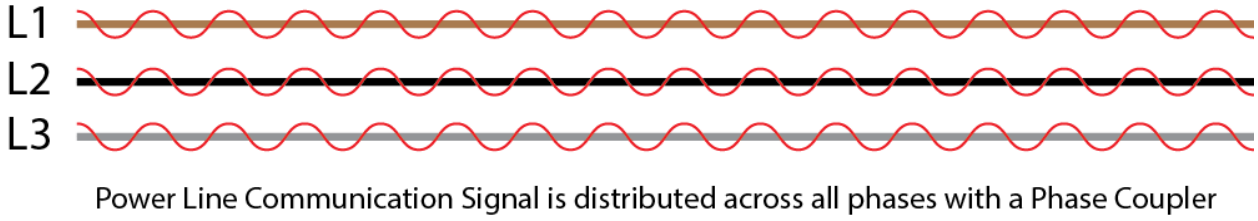
Note: The centre terminal is not used on the 2 phase unit.



Without Phase Coupler



With Phase Coupler



Electrical Specifications

	3 Phase	**2 Phase**
Nominal voltage (RMS)	400	460
Max voltage (RMS)	440	500
Impedance @ 50Hz	14.5KΩ	13.5KΩ
Impedance @ 60Hz	12.0KΩ	11.3KΩ
Impedance @ 117KHz	1 Ω	1 Ω
Resonant Frequency	130KHz	126KHz