

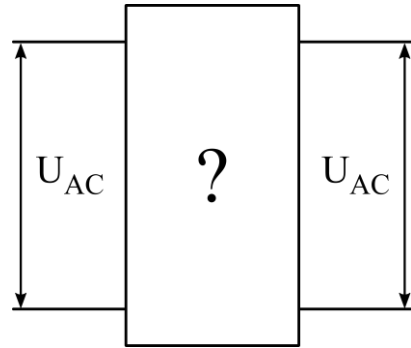
## AC-AC CONVERTERS

# SINGLE-PHASE AC-AC CONVERTERS

- Types of AC-AC converters.
- How do they work?
- Single-phase AC-AC converters.

# AC-AC CONVERTERS

What are AC-AC converters?



AC-AC converters convert:

AC voltages (with **fixed** frequency and amplitude) into  
AC voltages (with **variable** frequency and/or amplitude).

Types of AC-AC converters:

~~Uncontrolled vs Controlled~~

1-1, 3-1 and 3-3 phase versions

Single-pulse vs multi-pulse/multi-level converters

SCR, Triac, GTO, IGBT, IGCT based

Usage of AC-AC converters:

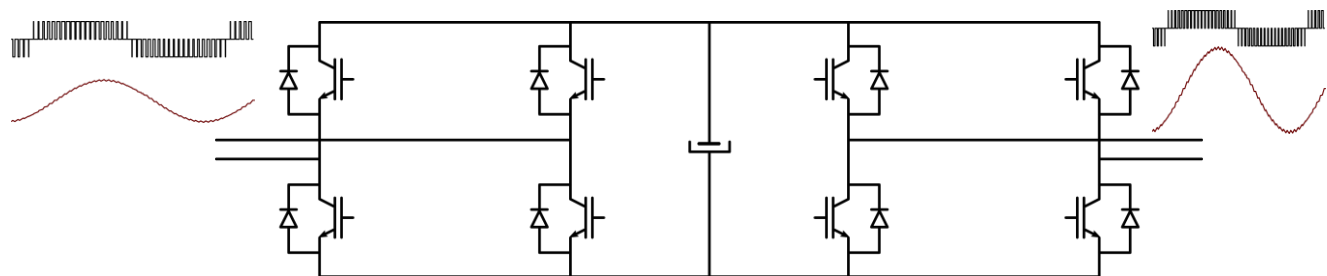
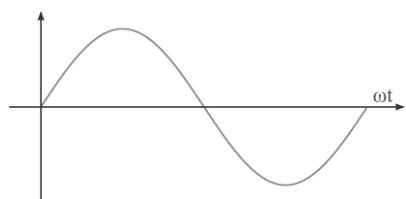
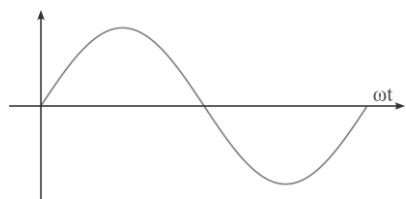
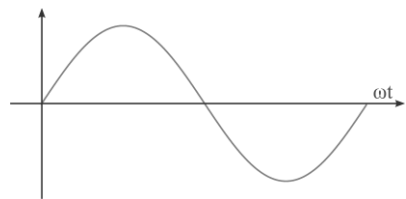
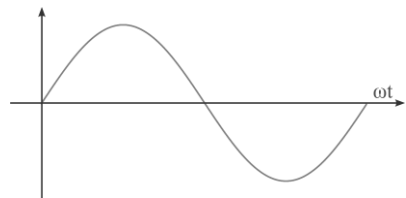
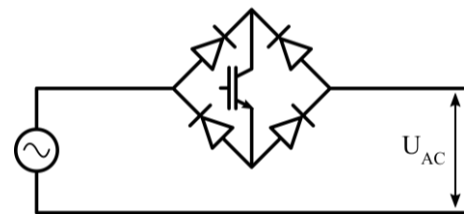
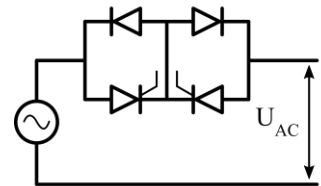
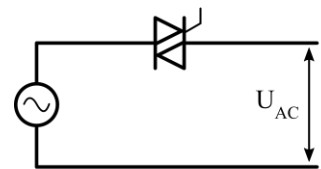
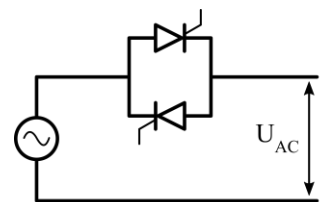
Propulsion and drives in general

Mining

Metallurgy

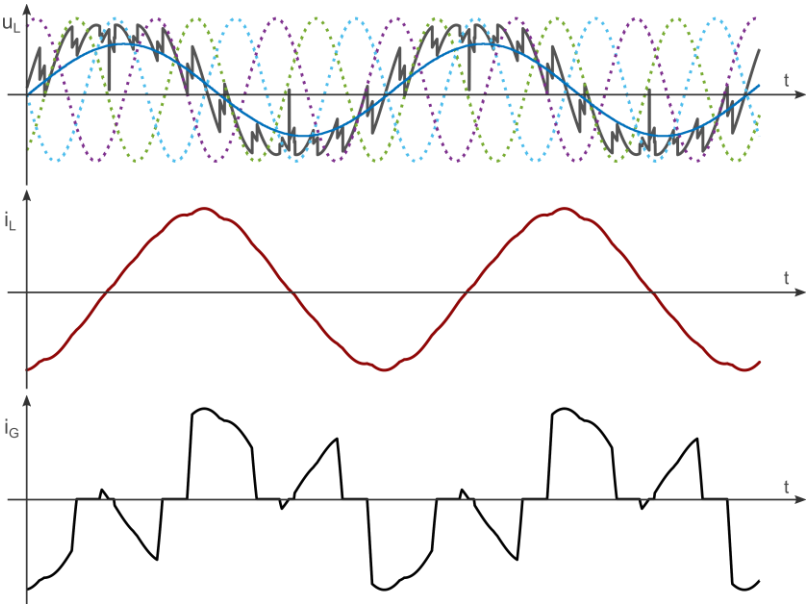
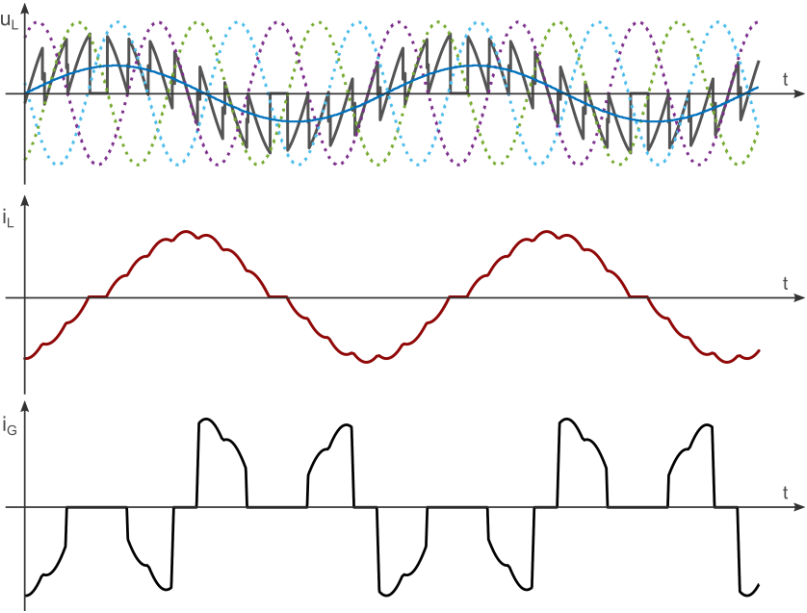
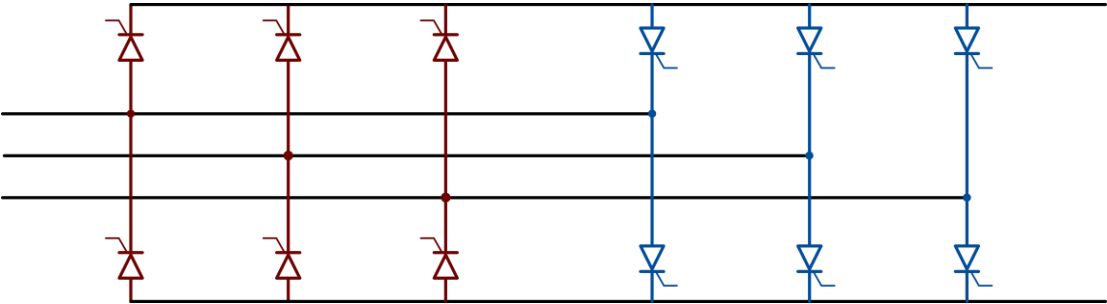
# AC-AC CONVERTERS

X-to-single phase AC-AC converters



# AC-AC CONVERTERS

X-to-single phase AC-AC converters



# AC-AC CONVERTERS

## X-to-single phase AC-AC converters

- important notes

- Types of AC-AC converters,
- PWM modulation and phase-control,
- Some fairly complex,
- (Grid) Current harmonic spectrum complicated.

