

APPLICATION NOTE

Single- to Three-Phase Power Conversion



Overview

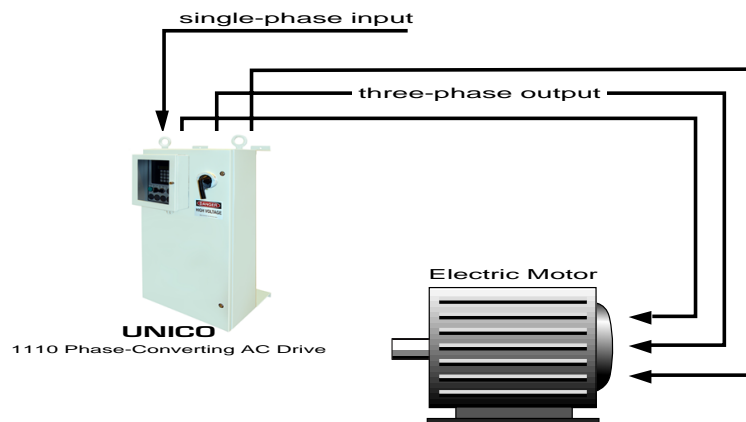
The 1110 Phase-Converting Drive provides energy-efficient conversion of single-phase power to three-phase power. This allows the use of three-phase motors up to 100 hp on existing single-phase lines where three-phase is not available or where the upgrade would be prohibitively expensive.

Where Used

- With any of the electric-motor-driven loads listed on the reverse side

What is Needed

- 1110 Phase-Converting Drive with single-phase input
- Start/stop station operating the motor at either full speed or variable speed when connected to a manual or automatic speed signal



Features & Benefits

- Converts single-phase power to three-phase power
- Controls speed of a three-phase motor
- Provides balanced voltage and current output, regardless of load (not achievable with static or rotary converters)
- Soft start eliminates inrush current
- Protects the motor from overcurrent, overvoltage, and undervoltage

Typical example:

The largest single-phase electric motor that utilities will normally allow to be started on single-phase lines is 10 hp. A 10 hp 230 V single-phase motor started across the line will create an inrush current of 300 A. In comparison, the 1110 controller will soft-start a 10 hp three-phase motor from a single-phase 230 V line, and it will never exceed 55 A.

Applications Whenever there is a need to control the speed of an electric motor in your farm or rural application, the UNICO 1110 Phase-Converting Drive should be your first choice.

Pumps and Pump Systems

- Submersible pumps
- Centrifugal pumps
- Positive displacement pumps
- Turbine pumps
- Vertical hollow-shaft pumps
- Municipal water booster stations
- Municipal sewage lift stations
- Farm irrigation systems
- Turf irrigation systems
- Greenhouse irrigation systems
- Horticultural irrigation systems
- Tailwater recovery systems
- Agricultural manure pumps
- Oil jack pumps
- Dairy vacuum pumps

Material Handling

- Grain elevator legs
- Grain augers
- Grain and gravel conveyors
- Grain vacuum and pneumatic grain conveyors
- Silo unloaders

Fans

- Grain dryer fans
- Grain bin ventilation fans
- Confinement building ventilation fans
- HVAC fans

Compressors

- Natural gas compressors
- Air compressors
- Air conditioning compressors

Other

- Pond and lake aerators
- Workshop lathes, grinding wheels, and drill presses
- Electric-motor-driven hydraulic systems
- Animal feed extruders

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