RURAL / AGRICULTURAL

1100 Flux Vector Pump Control Drive

Sophisticated pump control made simple

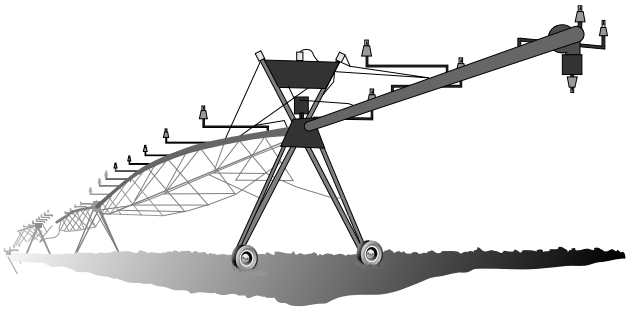
1100
Pump Control AC Drive

Overview

The greatest challenge in most pumping applications today is maintaining constant pressure in the face of varying system demand without the expense of large tanks or energy-robbing throttling valves. The 1100 Flux Vector AC Drive with Pump Control Software is an intelligent solution to the control needs of today's pumping systems.

Custom system performance in a simple, menu-driven controller

Custom-engineered, fully automated pump control systems of relays, timers, and controllers have been the domain of large municipalities and industrial pump users due to their high cost and complexity. Smaller pump users have had the recent benefit of solid-state pump controllers, but they don't address all of the problems encountered in automated pumping systems. With the 1100, however, you get custom system performance at prices competitive with solid-state devices offering far less.



No external PID controller required

A PID control loop is built into the 1100. This eliminates the time and expense of locating, wiring, and calibrating an external PID controller. The PID is set up through a simple, menu-driven keypad. Simply enter the requested system pressure and three control values and you're set.

Runs submersible and positive displacement pumps as easily as centrifugals

Built-in minimum speed setting means you can satisfy submersible motor manufacturers' minimum speed requirements of 1,206 rpm for four-pole motors and 2,412 rpm for two-pole motors with the touch of a button. Full torque from zero to full speed makes driving PD pumps a breeze. You won't have to oversize the drive and motor to get adequate torque at low speeds.

Complete pump and motor protection

Whether it's no-flow conditions such as loss of prime or an over-pumped well, or broken discharge lines, high system pressure, or motor overloads, the 1100 has you covered. All appropriate alarm functions have timed overrides so nuisance trips can be tuned out of your system. In addition, all necessary alarm functions are automatically overridden during start-up and line filling.

Controls a second pump on/off

In systems where one pump is not able to provide coverage for the necessary flow range, the 1100 is able to control a second pump on/off. It automatically controls the speed of the first pump until it's unable to satisfy demand and coordinates a smooth transition when it starts pump two, then adjusts the speed of pump one to maintain constant system pressure. When demand in the system falls off and two pumps are no longer needed, it controls the shut down of pump two and provides a smooth transition back to pump one variable-speed operation. The second pump is also protected from no-flow conditions such as loss of prime, over pumping a well, and deadheading.

Overview
(continued)

Thrives in hostile environments
The 1100 was designed for the harsh environments of pumping applications. Go ahead and hang it outside on a pole. Summer or winter. Its compact, rugged NEMA 3R dust- and rain-tight enclosure is up to the task. Our unique mechanical design allows the drive to be mounted inside the enclosure while its heat sink is outside the enclosure, so heat is dissipated externally.

Protects the load
The sophisticated vector control does more than just deliver power to the motor and pump. It also acts as a diagnostic tool for monitoring their performance and protecting them against damage. If the measured load increases due to bearing or jamming problems, the drive will monitor the amount and duration of the overload and make a decision to either shut down or just warn the operator.

Simple readout
The 1100 asks you what you want—and tells you what to do. A menu-drvie alpha numeric LCD display/keypad talks to you in descriptive English. All values are entered and dis-played in everyday engineering terms like rpm, volts, amps, gpm, and psi.

Easy troubleshooting
When there's a problem, the 1100 lets you know with a blinking display. Faults are identified in plain language without cryptic codes. The drive retains the last three faults, making it easy to spot trends. It also stores the operating conditions at the time of the most recent fault to aid in troubleshooting.

Application flexibility
With more than 100 user-programmable settings, the 1100 can be customized to suit your application. You can specify coast- or ramp-to-stop, acceleration and deceleration rates, preset speeds with duration timers for filling empty lines, critical frequency lock outs, and a "sleeper" mode for pressurized mains (when the pump is off and pressure drops below a user-specified minimum, the drive will ramp the pump up until requested pressure is achieved). The drive can work alone, or it can easily be integrated into a larger system where it can talk to PLCs, PCs, building automation systems, and other computers. Multiple 1100s can be networked together using the drive's master/slave capability.

Accommodates single- or three-phase power
Whether your input power is three-phase or single-phase, there's a version of the 1100 to accommodate. Standard three-phase drives are available up to 500 hp. The single phase is accomplished via appropriate de-rating to control three-phase motors.

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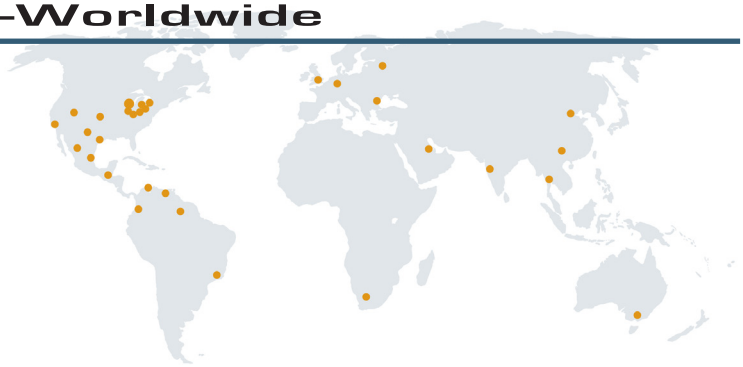

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Unico is a leading global innovator of motion-control solutions for industry. Founded in 1967, the company develops, manufactures, and services variable-speed drives, application-engineered drive products, integrated drive systems, and ancillary products that improve operations by increasing productivity, safety, and equipment life while lowering energy and maintenance costs.

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