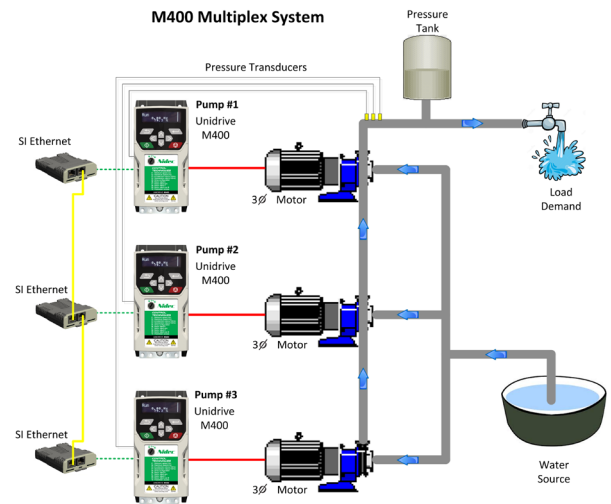# Automation Solutions

Multiplex Pump Control

Control Techniques knows automation solutions, and is experienced in pumping.

The Control Techniques' Unidrive M400 multiplex pump solution is an effective and versatile variable speed control system for maintaining constant pressure in a multiple pump configuration for ratings up to 200 hp.

Based on the highly reliable Unidrive M400 drive, this solution offers cost effective pump control for up to 3 pumps. An embedded controller in the drive eliminates the need for an external controller saving cost, space and programming time.

M400 Multiplex System

STANDARD FEATURES:

- Dynamic V/Hz Energy Savings mode
- Built-in energy metering
- Wide power range — 0.5 hp to 200 hp
- Power range: 115 V to 690 V
- Smooth S-ramp speed variation
- Ethernet communications

Start/Stop and control modes:

- Hand/Auto mode
- Simplex/Duplex/Triplex pump control

Software operating features:

- Pressure PID mode
- Sleep / wake mode
- Start / stop delay
- Pipe fill operation
- Automatic fault reset
- Load transfer between pumps
- Lead/Lag/Alternate pump control

System protection functions:

- Low suction detection/dry well detection
- Transducer loss detection
- High / low pressure detect
- No-flow detection
- Motor overload

E197605

2 YEAR Warranty

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Automation Solutions

Unidrive M400 pump control systems include the multiplex pump solution pre-programmed with pump control software and parameters to significantly reduce costs through measurable improvement in pumping reliability, up-time and performance.

Outdoor NEMA 3R multiplex pump solution

SI-ETHERNET Module
An SI-ETHERNET option module is included with each Unidrive M400 frame sizes 2 and above for drive to drive communication. SI-ETHERNET provides convenient dual port connectivity to Modbus TCP/IP and EtherNet/IP networks. A built-in web server is available for easy diagnostics.

OPTIONS:
CI-KEYPAD-LCD
To access the Unidrive M400 drive parameters without the need for a personal computer, this 4 line multi-language LCD keypad can be ordered.
This option provides rapid setup and easy access to drive status and diagnostics.

CTVUE-306-CTAMP
HMI operator interface provides a graphical interface and adds additional features and remote web access.

HOW TO ORDER:
For complete information on Unidrive M400 AC drives – including ratings, specifications and order codes – please refer to the Unidrive M400 Brochure or User Guide.

1. Order any frame size 2 or above Unidrive M400 and replace the last 5 digits of the order code with K0034 or K0036. This includes the pre-programmed Unidrive M400 with multiplex pump software and SI-ETHERNET, for example:

Standard Drive:
M400-02400013A10101**AB100** (with DB transistor)
M400-09402000E10101**AN100** (without DB transistor)

Multiplex Pump Drive:
M400-02400013A10101**K0034** (with DB transistor)
M400-09402000E10101**K0036** (without DB transistor)

2. Order CI-KEYPAD-LCD for access to drive parameters, status and diagnostics and to load SD card pump files from the AI-BACKUP-ADAPTOR. One keypad is recommended to be order at a minimum.

3. Order AI-CTAMP for pump configuration drive parameters for drives 1, 2 and 3. This includes an AI-BACKUP-ADAPTOR and SD card with default pump configuration drive parameters pre-loaded. Only one AI-CTAMP is needed to load drive parameters for a multiplex system.

SOFTWARE CONFIGURATION:
The Unidrive M400 multiplex pump parameters can be configured from a PC using Unidrive M Connect software and an optional programming cable (CT-USB-CABLE) and RS485 adaptor (AI-485-ADAPTOR), or via the SI-ETHERNET option module.

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