

Diagnostic Display
Pump status and alarms

End of Curve Protection
To Protect pumps from operating outside of published/efficient range

Motor Overload Protection
Turns motors off prior to point of damaging electrical conditions

Communication
Hardwire or Serial Communication to BAS

Manual and Automatic Alternation
To provide even pump wear



NEMA 1 Enclosure
Optional NEMA12 or NEMA 3R also available

Duty/Standby Application
Build in redundancy for critical installations

Local-Off-Remote Control
Allows for local control or operation via building operation interface

UL and CUL Listed
Ensures quality products

No Flow Shut Down

For use with hydropneumatic tank to protect the system and pumps against thermal build-up in pressure boosting application

Flow Sensor

One analog input from a flow sensor to provide flow readout and end of curve protection

Low Suction Pressure Cut-Out

Protects the pumps against operating with insufficient suction pressure via low suction switch digital input or suction sensor analog input

Auto Start of Lag Pump

Upon lead pump failure for multi-pump systems

High System Pressure Cut-Out

To protect the piping system against high pressure conditions

Fused Door Interlocked Disconnect

Allows for safety lockout during system maintenance and troubleshooting

User Friendly Quick Menu

Allows for easy commissioning by giving direct access to the parameters required for most pump applications.

Common Backplate Mounting

Pre-wired and tested at the factory to provide ease of installation

Multi-Pump System

Capable of controlling up to four pumps in parallel

Manual or Automatic Bypass Configuration

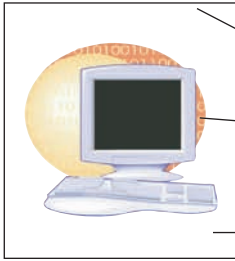
Provides the flexibility and back up operation allowing the user to customize panels to meet specific critical application needs

4 Analog Sensor Inputs

Utilize a combination of zone sensors, flowmeter, or suction pressure sensor

Installation

Hardwire or Serial Communication to the Building Automation System



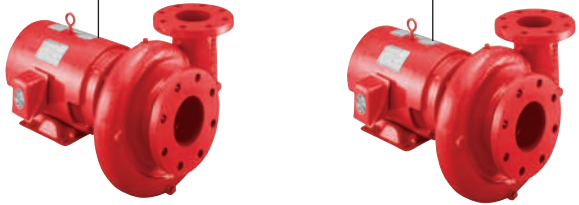
Digital Input(s)



Analog Input(s) for Zone Sensors, Flowmeter & Suction Sensor



3-Phase Input Power

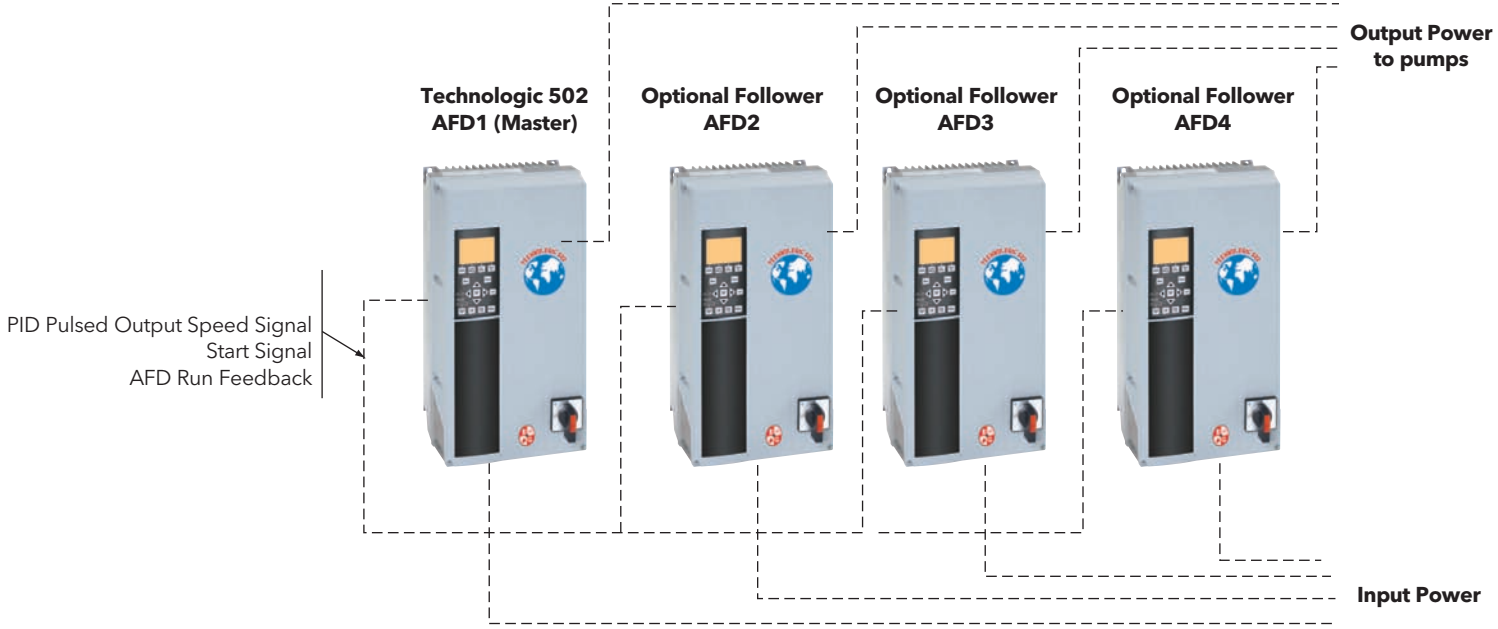


Ease of Installation

The Technologic 502 Pump Controller and up to three variable speed drives are available on a common backplate with single point power connection. It is ideal for:

- retrofits, utilizing existing pumps
- new installations that do not require a skid mounted unit
- conversion of constant speed units to variable speed

Technologic 502 controller and drives are also available in components for situations where a common backplate is impractical.



Pump Logic Controller

The Technologic 502 pump logic controller assembly shall be listed by and bear the label of Underwriter's Laboratory, Inc. (UL) and Canadian Underwriter's Laboratory (CUL). The controller shall be specifically designed for variable speed pumping applications.

The controller shall function to a proven program that safeguards against damaging hydraulic conditions including:

- a. Pump flow surges
- b. Hunting
- c. End of curve (flow sensor required)
- d. System over pressure

The pump logic controller shall be capable of receiving up to four analog inputs from zone sensor / transmitters indicated on the plans. It will then select the analog signal that has deviated the greatest amount from its setpoint. This selected signal will be used as the command feedback input for a hydraulic stabilization function to minimize hunting. Each input signal shall be capable of maintaining a different set point value. Controller shall be capable of controlling up to four pumps in parallel.

The pump logic controller shall have a configurable analog input for a flow sensor. This input shall serve as the criteria for the end of curve protection algorithm.

The hydraulic stabilization program shall utilize a proportional-integral-derivative control function. The proportional, integral and derivative values shall be user adjustable over an infinite range.

The pump logic controller shall be self prompting. All messages shall be displayed in plain English. The operator interface shall have the following features:

- a. Multi-fault memory and recall last 10 faults and related operational data.
- b. Red fault light, Yellow warning light, and Green power on light.
- c. Soft-touch membrane keypad switches.

The display shall have four lines, with 20 characters on three lines and eight large characters on one line. Actual pump information shall be displayed indicating pump status.

Controller shall be capable of performing the following pressure booster functions:

- a. Low suction pressure cut-out to protect the pumps against operating with insufficient suction pressure.
- b. High system pressure cut-out to protect the piping system against high pressure conditions.
- c. No Flow Shut down to turn the pumps off automatically when system demand is low enough to be supplied by the hydropneumatic tank. No Flow Shutdown shall not require any external flow meters, flow switches, nor pressure switches to determine when a No Flow condition exists.

The following hardwire communication features shall be provided to the BAS:

- a. Remote system start / stop non-powered digital input
- b. Failure of any system component. Output closes to indicate alarm condition.
- c. One 4-20 mA output with selectable output of:
 1. Frequency
 2. Process Variable
 3. Output Current
 4. Output Power

The following communication features shall be provided to the Building Automation System via an RS-485 port utilizing Johnson Controls Metasys N2, Modbus RTU, or Siemens P1 protocol:

1. Individual Analog inputs
2. Individual zone setpoints
3. Individual Pump/AFD on/off status
4. System Percent speed
5. System Start/ Stop command
6. System Operation mode
7. Individual Kw signals
8. System flow, when optional flow sensor is provided



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