Bell & Gossett®

Bulletin D-137B

Technologic® 5500 Pump Controller

Designed to control the **most critical variable speed pumping** system on earth. . .yours.

- Controls up to eight pumps in parallel
- Available serial port for communications to the building automation system via many popular protocols
- Control Logic developed exclusively for pumping applications
- All the performance and operator friendliness you expect from Bell & Gossett's Technologic line of controllers
- UL Listed (CSA Available)
- Modular design promotes unlimited flexibility

Bell & Gossett®

ITT Industries
Engineered for life

Technologic 5500 Variable Speed Pump Controller

Bringing you a world of features in an affordable and reliable package!

Bell & Gossett's Technologic line of pump controllers, first introduced in 1986, set the standards for durability, features, and operator friendliness. The Technologic 5500 proudly carries on this tradition while blazing new trails in BAS communication avenues and total pumping system control.

The Technologic 5500 culminates over 40 years of experience with variable speed pumping system design and development for HVAC, industrial process and domestic water booster systems. Our goal includes designing a controller that not only meets your requirements today, but also anticipates your needs tomorrow. After one review of the Technologic 5500's advanced features, we're sure you'll agree we've exceeded our goal.

Today's variable speed pumping systems demand more than a simple pump staging panel. Modern facilities require advanced energy savings capability, true best efficiency control, maximum flexibility and sophisticated communication features. The Technologic 5500 delivers all of this in a highly user-friendly package.

PLC hardware is a commodity - It is programming and application experience that makes the difference in pump controllers. Anyone can program a PLC to stage and destage pumps - only Bell & Gossett gives you a complete variable speed system programmed and designed for performance, reliability and energy savings. In the HVAC business since 1916, Bell & Gossett has applied variable speed to centrifugal pumps since 1965, but our expertise doesn't end at the pump flanges - Bell & Gossett is also a recognized authority in large water system design.

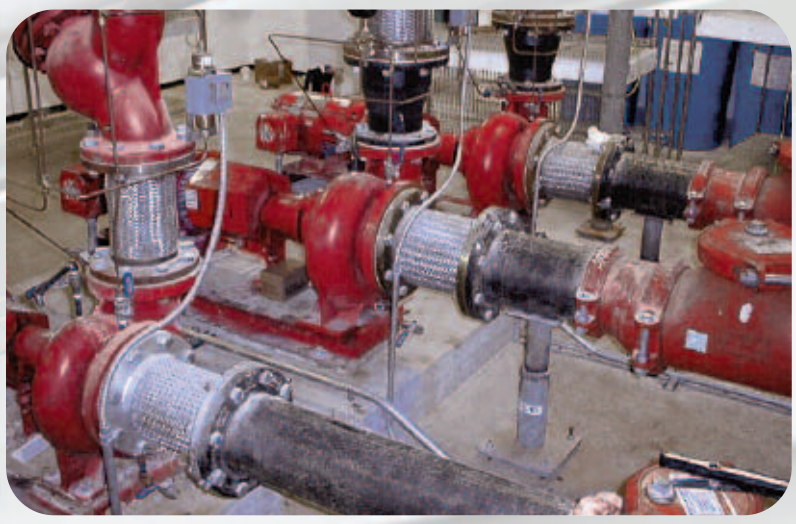
Our goal includes designing a controller that not only meets your requirements today, but also anticipates your needs tomorrow.

Our worldwide representative network is ready to assist you in designing and commissioning your variable speed system. Each of our sales engineers is factory trained in all aspects of HVAC system design, maintenance and service as taught at Bell & Gossett's famous Little Red Schoolhouse. Other manufacturers talk about total customer satisfaction, but Bell & Gossett delivers it.

Innovative • Flexible • Sophisticate

Memory and Data Logging

Flash memory permits customized settings to be loaded and saved. These field values are permanently retained even after external electrical disturbances that could cause corruption of data. A data logging feature provides historical information of key events with date and time stamps. Log information includes alarms, pump run timers and pump cycle counters.



BAS Communication

Hardwire communication via 4-20mA analog signals and digital outputs. Serial communication utilizing the following protocols:

- **Johnson Controls Metasys N2**
- **Modicon's Modbus RTU**
- **BACnet MSTP**
- **BACnet/IP**
- **LonWorks**
- **EtherNet/IP (Allen Bradley)**

User Friendly Display

Four lines of twenty characters, illuminated LCD display in plain English features multi-fault memory and recall, on-screen help functions, LED pilot lights and switches, soft-touch membrane keypad switches. Color touchscreen with graphical display is available as an option. Other options include various language choices

Inputs and Outputs

- Standard unit controls up to 6 pumps in parallel
- Basic hardware accepts four analog inputs from process variable
- Modular design allows for easy expansion to any combination of inputs and outputs.

Enclosure

NEMA 1 is standard.
The following option
also available:
NEMA 3R - to protec
rain, sleet and ice
NEMA 4 - to protect
against dust, hose-d
severe external cond
NEMA 12 - to protec
dust, dirt and light s

Listing

- UL
- CSA (on request)

Application

- Pressure Booster
  No flow shut dow
  Low Suction Cut-O
- HVAC/Closed Loo
  – Cooling Tower
  – Condenser Wat
  – Chilled Water
  – Hot Water

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- Both programs available with energy efficient pump staging and Duty/Standby feature allowing a redundant or standby pump to turn on in event of lead pump failure.

Equipment Protection

Protects system against damaging hydraulic conditions including motor overload, pump flow surges and hunting.

End of curve protection, for use with an optional flow meter, will protect the pumps from hydraulic damage due to operation beyond their published end-of-curve.

Pump Specific Application

The hydraulic stabilization program utilizes a proportional-integral-derivative (PID) control function. The proportional, integral and derivative values are user-adjustable over an infinite range. The scan and compare rate that selects the command setpoint and process variable signal is continuous and automatically set for optimum performance. Each sensor is scanned at least once every 100 milliseconds.

Mounting Configuration

For added flexibility

Components

Pump controller and other electrical components ship loose for field installation. Ideal for new construction or retrofit. It offers fully flexible system layouts; perfect for extremely tight spaces.

Cabinet-Mounted Systems

Pump controller, AFDs, and bypass in one enclosure, factory pre-wired and tested. Ideal for retrofits and installations where floor space is tight and access is limited. Simply connect input power, wiring to pumps and remote sensors.

Frame-Mounted Systems

All electrical components are mounted and wired on a stand-alone frame. By far the most popular among engineers and contractors because it eliminates the guess work and risk of matching components from multiple manufacturers. Just wire incoming power to the unit, outgoing power to the pumps, and control wiring to the zone sensors. Ideal for existing building using existing pumps and motors, or new buildings where access to mechanical room is limited.

Skid-Mounted Systems

Electrical components, pumps and piping are all factory assembled, piped and wired. Potential configurations are limitless, and we have the capability to build any of them, from the simplest to the most sophisticated systems. Incoming power, control wiring to remote sensors and two pipe connections are all that are required to put a system into operation.

Modifiable Program Provides More Flexibility

Variable Primary Application

A concept that is gaining popularity eliminates the need for a secondary chilled or hot water loop. This program allows the pump controller to control variable speed pumps, modulating bypass valve and chiller/boiler isolation valves. Program can be modified to include additional features and sequencing, as required.

Unlimited Number of Process Variables

The standard unit can accept up to four analog inputs from zone sensors. With additional hardware, the controller can process an unlimited number of sensor feedback signals. Ideal for applications that require wide variety and number of feedback signals such as stadiums or hospitals.

Up to 8 pumps in parallel

The Technologic 5500 pump controller can control up to eight pumps in parallel for either variable or constant speed applications.

Four or More Pumps in Parallel for Constant Speed Pressure Boosting

Includes No Flow Shut Down Capability

Other Special Programs

- Summer/Winter Switch allows the pump controller to process two independent setpoints depending on the season. Mode can be switched manually via a selector switch or remotely via a remote contact closure.

- Pump Exerciser for constant speed booster systems with unequal size lead and lag pumps. The lag pumps are turned on or exercised (frequency is user defined) to make sure they do not lock up when left unused for a long period of time.

- Emergency Power allows a specific number (user defined) of pumps to run upon receipt of a signal from the emergency power switch.

Consult your local B&G representative for other applications and special programming needs.

Bell & Gossett 70M, four pump constant speed pressure booster, in The Venetian Las Vegas, Nevada

Bell & Gossett Variable Primary System installations include Lake Zurich Middle School in Lake Zurich, Illinois and Spencer Hopsital in Spencer, Iowa

Bell & Gossett Powersav System controlling 22 zones in Charlotte Convention Center in Charlotte, North Carolina

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