CONSTANT PRESSURE CONTROLLER

Intelligent Variable Frequency Drive
For Residential Well Pump Systems Maintains Constant Pressure Inside and Outside
CONSTANT PRESSURE FOR WELL PUMP SYSTEMS

For use with both Submersible and Above Ground Well Pumps to Control Changes in Water Demand

Most homeowners with well systems know what happens when demand for water changes. If they’re taking a shower, water pressure drops when someone starts the dishwasher or turns on a faucet. Weak showers, unclean dishes and other water pressure problems become frustrating daily experiences.

A “Variable Frequency Drive” for Submersible or Above Ground Well Pumps.

The PENTEK INTELLIDRIVE Water Pressure Control Center directs changes in pump motor speed, responding to fluctuations in demand. If water pressure starts dropping, an electronic pressure transducer signals the drive to accelerate the pump motor to increase water volume going into the home.

The Benefit? Strong, equal pressure, everywhere.

Homeowners will recognize the difference right away. Water flows smoothly and evenly throughout the home. Regardless of changes in demand, water pressure stays the same: in the shower, the dishwasher, and from every other faucet and fixture.

And when homeowners are outside, they’ll enjoy a lush, green lawn and landscaping. Sprinkler systems will perform at their best, with consistent spray patterns, constantly pressurized to achieve complete coverage.

The pump and motor will last longer.

PENTEK INTELLIDRIVE features “Soft Start/Coast to Stop” design, which minimizes mechanical stress. And during long-running applications like lawn irrigation, pressure-cycling is eliminated...another system stress reducer.

PENTEK INTELLIDRIVE Leading-edge technology for a premium residential water system that makes life better!
How PENTEK INTELLIDRIVE™ works

1. **PENTEK INTELLIDRIVE** is connected to an Electronic Pressure Transducer, and to the submersible pump.

2. **PRESSURE TANK** this properly sized tank is installed between the pump and the pressure transducer. The minimum size tank recommended is 2 gallons.

3. **PRESSURE TRANSUDCER** measures changes in system pressure continuously, and sends electronic signals to PENTEK INTELLIDRIVE.

4. **WHEN PRESSURE DROPS** PENTEK INTELLIDRIVE responds by increasing pump motor speed and water flow; first from the pressure tank, then directly from the well.

5. **INCREASED WATER FLOW** maintains constant pressure wherever it is needed throughout the home.

6. **DECREASED DEMAND** when signaled by the pressure transducer, the pressure tank is replenished, and PENTEK INTELLIDRIVE responds by reducing or shutting off water flow. Once water flow shuts off, the system returns to monitoring phase until the next demand for pressure adjustment.

**PENTEK INTELLIDRIVE** gives you the product range you need with just three models:

<table>
<thead>
<tr>
<th>PUMP MOTOR</th>
<th>INPUT</th>
<th>OUTPUT</th>
<th>PENTEK INTELLIDRIVE Product Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-WIRE</td>
<td>1-PHASE</td>
<td>1-PHASE</td>
<td>UP TO 1.5 HP</td>
</tr>
<tr>
<td>3-WIRE</td>
<td>1-PHASE</td>
<td>1-PHASE</td>
<td>UP TO 2 HP</td>
</tr>
<tr>
<td>3-WIRE</td>
<td>1-PHASE</td>
<td>3-PHASE</td>
<td>UP TO 5 HP</td>
</tr>
</tbody>
</table>
ADVANCED TECHNOLOGY. SUPERIOR PERFORMANCE.

KEYHOLE MOUNT
For fast and easy installation

LCD INFORMATION CENTER
Displays installation, status and fault information in easy-to-understand language instead of codes

GROUND DETECTION
Message Center shows if there is a grounding problem

MULTIPLE ACCESSORY INPUTS
Additional inputs allow use of multiple drive accessories at the same time

BEST-IN-CLASS EMI/RFI FILTER
Superior noise and interference protection, including AM radio signals

SPACIOUS WIRING AREA
For fast and easy installation

PROGRAMMABLE INPUT/OUTPUT RELAYS
Provide application flexibility

EASY-ACCESS CONDUIT OPENINGS
Align with appropriate terminals for straight-in accessibility. Fits 1/2", 3/4" or 1-1/4"

ELECTRONIC PRESSURE TRANSDUCER
More accurate and reliable than mechanical pressure switch, with piezo resistive technology designed to resist water hammer

TEMPERATURE-SENSITIVE INTELLIGENT FAN
Operates when needed for quiet operation

SD CARD SLOT
For easy software updates when provided by manufacturer

SPRING TERMINALS
For secure connections and easy installation without special tools

REMOVABLE TERMINAL BLOCKS
For easy wiring of motor and power supply - field replaceable

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AN INTELLIGENT CONTROL... SIMPLE TO OPERATE, EASY TO UNDERSTAND.

START-UP IS SIMPLE...

1. ENTER MOTOR PHASE
2. ENTER MOTOR TYPE
3. ENTER SERVICE FACTOR AMPS
4. ENTER CURRENT TIME
5. ENTER CURRENT DATE
6. CHOOSE "PUMP OUT" OR "AUTO START"

No other variable frequency drive provides such an effective operator interface with easy touchpad operation and a spectrum of features that allows easy configuration for most residential water control applications. And the LCD Information Center communicates clearly in words, instead of confusing light codes.

Backlit LCD Display
- For cleaning of new wells and fixed frequency operation

Pump-Out Button
- Sets pressure to any value desired

PSI preset
- Self-diagnostic messaging for ease of service

Diagnostics Indicator
- Stores 15 faults with time stamps

Fault Log
- For security against tampering and unintended adjustments

Keypad Lockout
- English, French or Spanish

Multi-Lingual Options
- With automatic line-fill functionality, providing constant pressure operation

Start-up is simple...

Enter Motor Phase
Enter Motor Type
Enter Service Factor Amps
Enter Current Time
Enter Current Date
Choose “Pump Out” or “Auto Start”
**COMPETITIVE PRODUCT COMPARISON**

**OPERATING RANGE**
2-Wire, 3-Wire and 3-Phase in same unit
3-Phase Output (60Hz/80Hz)**

**COMPETITION:**
Most competitors offer separate units for 1-Phase and 3-Phase outputs.

**NUMBER OF MODELS**

**NEW!** Just four models will meet all your needs, reduce inventory requirements and simplify product selection.

**COMPETITION:**
Some competitors offer as many as 11 different models.

**ADJUSTABLE PROGRAMMING PARAMETERS**
34 different parameters can be adjusted. Provides ultimate flexibility to fine-tune system operation.

**COMPETITION:**
Competitors offer no more than 6 adjustable programming parameters.

**GROUND DETECTION**
Detects and displays when there is a grounding problem.

**COMPETITION:**
No competitor offers this technology.

**FULLY PROGRAMMABLE DRIVE**
Easily programmable for a variety of applications and specific settings. SD Card Slot for easy updating of software enhancements when provided by Pentair.

**COMPETITION:**
Most competitors offer factory-configured settings, which limit flexibility.

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**STATE-OF-THE-ART**

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>MOTOR TYPE</th>
<th>HP RANGE</th>
<th>INPUT VOLTAGE</th>
<th>MAXIMUM OUTPUT AMPS</th>
<th>ENCLOSURE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PID10</td>
<td>2-WIRE* 1-PHASE</td>
<td>0.5 – 1 HP</td>
<td>190V – 265V</td>
<td>9.5A</td>
<td>NEMA 3R outdoor</td>
</tr>
<tr>
<td></td>
<td>3-WIRE* 1-PHASE</td>
<td></td>
<td></td>
<td>7.5A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-PHASE</td>
<td></td>
<td></td>
<td>5A</td>
<td></td>
</tr>
<tr>
<td>PID20</td>
<td>2-WIRE* 1-PHASE</td>
<td>0.5 – 1.5 HP</td>
<td></td>
<td>11A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-WIRE* 1-PHASE</td>
<td></td>
<td></td>
<td>13.5A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-PHASE</td>
<td></td>
<td></td>
<td>8.5A</td>
<td></td>
</tr>
<tr>
<td>PID30</td>
<td>2-WIRE* 1-PHASE</td>
<td>0.5 – 1.5 HP</td>
<td></td>
<td>11A</td>
<td></td>
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<tr>
<td></td>
<td>3-WIRE* 1-PHASE</td>
<td></td>
<td></td>
<td>13.5A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-PHASE</td>
<td></td>
<td></td>
<td>11.5A</td>
<td></td>
</tr>
<tr>
<td>PID50</td>
<td>2-WIRE* 1-PHASE</td>
<td>0.5 – 1.5 HP</td>
<td></td>
<td>11A</td>
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<tr>
<td></td>
<td>3-WIRE* 1-PHASE</td>
<td></td>
<td></td>
<td>13.5A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-PHASE</td>
<td></td>
<td></td>
<td>18A</td>
<td></td>
</tr>
</tbody>
</table>

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60Hz operation is recommended as the industry standard. Intermittent 80Hz operation is an acceptable option.

**Ongoing 80Hz operation may reduce the life of the pump and motor.**

* Select drives by S.F. amps of pump motor.
**DIAGNOSTICS**

LCD display provides easy-to-understand information for easy diagnostics and troubleshooting.

**COMPETITION:**
Flashing LED sequence provides unclear diagnostic information.

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**EMI/RFI FILTERS**

Best in the industry, to eliminate potential interference.

**COMPETITION:**
Most competitors offer limited interference filtering capabilities.

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**TERMINAL BLOCKS**

Removable/Replaceable terminal blocks for easy wiring of motor and power supply.

**COMPETITION:**
Fixed blocks require replacement of drive for stripped terminals.

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**CONNECTIONS**

Conduit holes align with terminal blocks for easy accessibility.

**COMPETITION:**
Tight and cramped access makes connections more challenging.

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**SURGE PROTECTION**

Increased surge protection covers both line and load side

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**PENTEK INTELLIDRIVE™ SPECIFICATIONS**

**Enclosure Dimensions**
- **Width:** 9.72”
- **Height:** 19”
- **Depth:** 6.93”

**Carton Dimensions:**
- 10.4” width, 22.3” height, 9.4” depth

**Shipping Weight:**
- 22 pounds

**Ambient Temperature Range:**
- -20°C (-4°F) to 50°C (122°F)

**Ambient Humidity Range:**
- 95% non-condensing

**Includes:**
- Variable Frequency Drive
- Transducer: 1/4” thread size, 18 NPT type
- Transducer Cable: 10’ length standard