

Water Treatment Control Valves

New technology eases networking controllers for commercial installers

The 3200NT controller is field configurable for any system type (4, 5, 6, 7 or 9) using a simple programming sequence. Defaults for all valves, pistons and cams are stored.

Networking for water treatment installers may no longer be a matter of who you know, but rather a matter of who has the newest technology. The commercial and industrial (C&I) markets are driving the need for more simplified solutions that will cover everything from simple commercial softeners to high-purity process water. Here is a technology that may ease an installer's job.

Introduced earlier this year, the 3200NT Network Controller from Fleck Controls allows up to four commercial valves—specifically, any combination of Fleck valves—to be linked together using standard, off-the-shelf telephone cables. On-board communication capability allows the valves to function as a unified system, communicating with each other.

Field configurable for any system type and flow meter size, the controller is

designed to fit the standard environmental powerheads and uses a simplified wiring harness for easy servicing. Additional controller features include a programmable auxiliary relay (fused), remote start input, remote lockout input and variable reserve.

According to Albin Erhart, marketing manager for Pentair Water Treatment, the new network controller offers many advantages. "With only four valves and four meters in stock, our OEM customers can provide any system type off the shelf. Stocking all system types each with their own wiring package was not economical for our customers because of the large inventory required. Now, they can ship any system configuration from stock while maintaining minimal inventory," he said. "Installers like it because they are able to program the system type they need on site, and they can reconfigure the system type if the customer's requirements change and the system needs to be expanded."

Key Advantages

Erhart expanded on the specific advantages of the 3200NT controller.

- **No need to stock special wiring, creating a shorter lead time.** Prior to the 3200NT, valves had to be individually wired for specific system types and valve position (lead, middle, lag). Installers had to hire electricians to complete field wiring, which differed depending on system type. Now the same 3200NT controller equipped valves and electronic meters can be used to configure any system type, completely eliminating the need to stock special wired systems. (See Figure 1.)
- **On-site programming.** 3200NT controller equipped valves can be field programmed for all standard system types through simple keypad programming.
- **Simplified installation.** Improved

functionality means customers can use the same electronic controller for multiple systems. This not only simplifies installation, it lowers the customer's total cost by eliminating hard wiring of meters and valve interlocks in the field.

- **Reduced installation time.** Plug-in wiring harnesses, meters and communication cables makes for an easier installation.
- **Reduced installation cost.** Field wiring is limited to low voltage 24 VAC power wiring, electronic meter cables and standard telephone cables. This eliminates the need for the installer to hire an electrician or pull an electrical permit to wire the system (in most areas), significantly reducing the cost, complexity and time for field wiring.

Why the Need for Networks?

Erhart cites the breadth, depth and complexity of the C&I water treatment market as the reason for the 3200NT. "Applications for the control valves can range from simple water softeners for restaurants and apartment buildings to boiler feed water and high-purity process water. Because of this wide range of applications, a wide range of product solutions is necessary," he said. "In addition, the need for improved efficiency and lower costs increases application complexity."

The need for remote monitoring and communications capability also is increasing as a way to reduce the overall cost of monitoring and operating water treatment systems at peak efficiency. A future enhancement of controllers could be the ability to communicate with external devices

such as a PC or PDA. "Once the NT controller can communicate externally, the OEM and end user will be able to link their water treatment system to building automation systems and networked process controls," Erhart said.

Valve Communication

Modern networking technology is the secret to how the valves communicate. A circuit board with communication capability was added to each valve, allowing all of the controllers to communicate through a simple RJ 45 phone cable. The circuit board provides built-in functionality that was previously available only from expensive external controllers. This enhanced capability will allow the NT network control system to replace the mechanical system wiring.

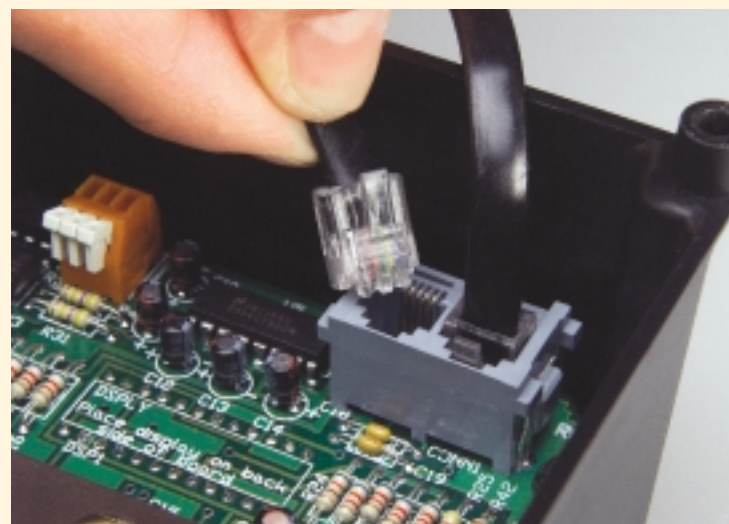
Erhart believes that the 3200NT controller represents the technology of the future for water treatment. He said, "The NT Network concept is a basic control package that can be used as a building block for improved products in the future that are faster to market and compatible with existing market technology." **WQP**

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Figure 1.



Mechanical wiring vs. networking with the Fleck 3200NT timer. Terminal blocks are located directly on the circuit board and wiring is simplified with the new NT controller. Fewer configurations speed assembly, delivery and improve quality.



Fleck 3200NT Timer - simple plug-in wiring

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