



MicroVision^{EX}

COOLING TOWER CONTROLLERS

SIMPLE, RELIABLE AND SECURE.

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WORRY LESS AND DO MORE WITH **MICROVISION EX**

Pulsafeeder simplifies advanced controller technology.

MicroVision EX makes life simpler for water treaters. Our advanced controller is easier to install, program and operate because of **proven MicroVision software** that utilizes an intuitive user interface. Accurate measurement is achieved by our **toroidal probe**, which is factory-calibrated and maintenance-free. And **PULSAlink cloud-based communication** delivers convenience and the highest security.

MicroVision EX controllers, along with the support of Pulsafeeder sales and technical representatives, ensure water treaters of **quick troubleshooting**, freeing up more time to serve their customers.

Maintain process control, reduce costs and limit downtime. Only with MicroVision EX from Pulsafeeder.



PULSALINK PUTS YOU IN CONTROL ANYTIME, ANYWHERE.

Exclusive PULSAlink communication delivers cloud-based, secure mobile access to your MicroVision EX controller. Data is stored safely on the cloud, and AES 256-bit military-grade encryption provides unsurpassed security. Get easy-to-use, interactive reporting and graphing tools – plus quick access to settings and notifications – right from your mobile device. This level of connectivity enables you to monitor and make adjustments anytime, from anywhere.

*New **PULSAlink** app gives water treaters easier access through more streamlined navigation, putting vital information at your fingertips anytime, anywhere.*

MICROVISION EX. RELIABLE AND VERSATILE.

Built on a proven platform, MicroVision EX is a microprocessor-based cooling tower controller with the versatility to control conductivity, pH, ORP and PTSA. Precisely control your inhibitor feed, protecting costly equipment while optimizing chemical feed. This controller is ideal for all cooling tower applications including comfort cooling, industrial cooling, rinse, industrial process and wastewater.

Water treaters can select from multiple control configurations and probe inputs – with specific models utilizing all available probe options, including toroidal and PTSA.

Control options include:

- **Conductivity Control**
- **Conductivity and pH**
- **Conductivity and ORP**
- **Conductivity, pH and ORP**

CONTROLLER SPECIFICATIONS

- Enclosure: IP65
- Dimensions: 7.9 in. x 6.5 in. (200.66 mm x 165.1 mm)
- Power Supply: 100 VAC – 240 VAC / 50 / 60Hz / 8A
- Control Output: 8 Amps max (3 Amps / relay)
- Display: Multicolor graphical LCD
- Measurement Range: 0 – 9,999 $\mu\text{S}/\text{cm}$; 0 – 14 pH; -2000 – +2000mV
- Set Point Types: Rising or falling
- Languages: English, Spanish, Portuguese

INNOVATIVE TOROIDAL SENSOR TECHNOLOGY.

Only MicroVision EX features the toroidal conductivity sensor, factory-calibrated for the life of the probe to eliminate routine calibrations and save you valuable service time and money. Because the sensor features no exposed electrodes, cleaning, downtime and erroneous conductivity readings are eliminated when installed according to the manufacturer's instructions.







PULSALINK COMMUNICATIONS IS CONVENIENT AND SECURE.

Save time and money by accessing your MicroVision EX controllers without having to make the drive to site locations. Only MicroVision EX delivers the cloud-based communications capabilities of PULSALink, leveraging military-grade AES 256-bit encryption to ensure the highest data security. Now it's easy to provide your customers with the peace of mind they deserve, while you monitor and make needed adjustments anytime, from anywhere.



EASY ACCESS ON THE GO.

PULSAlink communications enables you to use your mobile phone, tablet or computer to access your controller anytime from anywhere – putting vital information at your fingertips. The PULSAlink app gives water treaters easier access than the desktop version by offering more streamlined navigation.

LIVE READINGS

View and monitor cooling tower readings anytime, anywhere using any device with an internet connection.

CHANGE SETTINGS

MicroVision EX allows you to quickly change system settings remotely.

EMAIL NOTIFICATIONS

Configure alerts for alarm notifications and live readings to be emailed to any necessary staff.

REPORTS

Download and create reports without having to be in front of your controller.



CUSTOMIZATION AT YOUR FINGERTIPS.

Customizable names for relays, water meters and inputs, synced to Controller, PULSAlink website, App iOS/Android, and reports. You deserve reporting capability that lets you do your job quickly and accurately, so you can get more done. And now you have it. PULSAlink doesn't require you to refresh the report to change test parameters. At any time, you can simply drag all parameters onto one screen. With PULSAlink, reporting has never been easier:

- Report page automatically pulls up past week's data
- Toggle from default report page to specific time periods and test output parameters
- Compatible with eServiceReport
- Unsurpassed reporting and graphing
- No need to enter individual dates and variables to develop graphs
- Enhanced charting capabilities
- Customizable timer programs without system reboot
- Robust data logging capabilities



YOUR SECURITY IS A LOCK.

PULSAlink offers centralized data storage and management for superior control of your equipment. Should your controller ever be offline, your data is safe and accessible. Anyone attempting to access the PULSAlink website will need a login password, which is only generated by Pulsafeeder or your administrator.

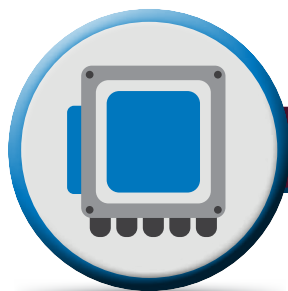
MicroVision EX and PULSAlink are supported by the highest encryption level in the industry:

- Prevents unauthorized manipulation of controller
- Prevents unauthorized data access
- Connects directly to the Internet without the need of an additional modem
- Doesn't require the use of ports that may be affected by a firewall

Communications with data logging and reporting has become very important in the fight against Legionella. Timely response is vital. MicroVision EX with PULSAlink lets you quickly access your controllers without having to waste time driving to site locations.

ADVANCED FEATURES AND FUNCTIONS TO BETTER SERVE YOUR CUSTOMERS.

As a longtime recognized leader in fluids handling technology, Pulsafeeder is now setting the standard for the development of controller technologies through our proven MicroVision controls platform. Rely on our advanced MicroVision EX controller for features that allow you to better serve your customers' specific needs — all while making your job easier.



DISPLAY INTERFACE MAKES PROGRAMMING AND INSTALLATION QUICK AND EASY.

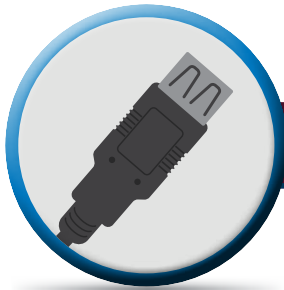
- Intuitive menus make program adjustments easy and understandable
- Soft-keys touch pad delivers ergonomic programming
- Large, easy-to-read color display provides information at a glance
- Pre-wired, conduit connection options make installation easy
- LED function indicators are highly visible in low light
- Touch-pad program keys provide clear and precise system information

SELECTABLE TIMERS DELIVER PRECISION CONTROL OF ALL SYSTEM PARAMETERS.

- Limit timer
- Percent timer
- Percent post bleed with limit timer
- Water meter pulse timer
- Biocide control timer with pre-bleed, lockout, and conductivity minimum
- Alarm output
- 4–20mA input, pH, or ORP set point control

DIGITAL INPUTS AND I/O OFFER INCREASED SYSTEM FUNCTIONALITY.

- Flow switch
- 3 drum levels
- Dry contact water meter
- Hall effect water meter
- 4–20mA isolated output
- Dry contact alarm
- Bleed (Solenoid valve or motorized ball valve)
- 4–20mA input, pH or ORP set point control



USB CONNECTIVITY ENHANCES CONTROLS FUNCTIONALITY.

- Data logging
- Firmware updates
- Programming duplication
- Settings log



TOROIDAL PROBE BRINGS SUPERIOR RELIABILITY AND SAVINGS.

- Factory-calibrated and maintenance-free for the life of the probe
- Not susceptible to sensor fouling, which eliminates cleaning downtime and erroneous conductivity readings
- No annual replacement needed
- No exposed electrodes
- No need to complete routine calibrations, which saves time and money and reduces downtime for your customers



OPTIONAL PTSA PROBES DELIVER EVEN GREATER CONTROLLER FLEXIBILITY.

- Precisely measures concentrations of active trace chemicals in process
- Includes built-in compensation for water turbidity
- Accurately controls chemical dosage
- Sensor outputs a 4 - 20mA signal proportional to the concentration of trace sensed in the process
- Can be configured to dose chemistry base of the sensor output to control a process



PULSALINK COMMUNICATIONS SAVES TIME AND OFFERS PEACE OF MIND.

- Cloud storage
- Military-grade encryption AES 256
- Easy navigation
- Fast data retrieval
- Multi-level user access

SYSTEM OPTIONS

Time is money. That's why MicroVision EX systems are equipped with all the features you need to bring the industry's most reliable controller online quickly with no installation hassles.

FLOW SWITCH

- 125 psi max
- Available with or without panel

FLOW SWITCH



STANDARD PANEL AND FLOW ASSEMBLY

- Flow assembly is pre-mounted on poly panel
- Quick, simple installation saves time and gets customer's controller online fast

STANDARD PANEL AND FLOW ASSEMBLY



PANEL-MOUNTED WITH PUMPS

Pulsafeeder's MicroVision EX systems are designed to provide complete, easy-to-install solutions for cooling tower applications.

- Turnkey simplicity
- Industrial-grade durability
- Mounting locations for pumps
- Factory assembled and hydrostatically tested
- Includes strainer, sensor tee, injection tee(s) and rails
- Custom panel mounts and configurations are available

PANEL-MOUNTED WITH PUMPS



CONTROLLER MODELS

CONDUCTIVITY CONTROL

MODEL NUMBER ¹	PROBE STYLE	PROGRAMMABLE TIMERS	PANEL / PUMP MOUNTS	PULSALINK CAPABLE
MVECXXXPX-XXX-XXX ²	Toroidal	3	None	No
MVECXXXPX-XXX-CZXXX	Toroidal	3	None	No
MVECXXXPF-XXX-XXX	Toroidal	3	None	No
MVECXXXPF-XXX-CZXXX	Toroidal	3	None	No
MVECXXXPA-XTX-XXX	Little Dipper PTSA	2	None	No
MVECXXXPA-XPX-XXX	Pyxis PTSA	2	None	No
MVECXXXPA-XXX-XXX	Toroidal	3	Yes / No	No
MVECXXXPA-XXX-CZXXX	Toroidal	3	Yes / No	No
MVECXXXPA-EXX-XXX	Toroidal	3	Yes / No	Included
MVECXXXPA-EXX-CZXXX	Toroidal	3	Yes / No	Included
MVECXXXPA-ETX-XXX	Little Dipper PTSA	2	Yes / No	Included
MVECXXXPA-EPX-XXX	Pyxis PTSA	2	Yes / No	Included
MVECXXXPD-XXX-XXX	Toroidal	3	Yes / Yes 3	No
MVECXXXPD-XXX-CZXXX	Toroidal	3	Yes / Yes 3	No
MVECXXXPD-EXX-XXX	Toroidal	3	Yes / Yes 3	Included
MVECXXXPD-EXX-CZXXX	Toroidal	3	Yes / Yes 3	Included
MVEC5XXPF-XXX-XXX	Toroidal	4	None	No
MVEC5XXPF-XXX-CZXXX	Toroidal	4	None	No
MVEC5XXPA-XXX-XXX	Toroidal	4	Yes / No	No
MVEC5XXPA-XXX-CZXXX	Toroidal	4	Yes / No	No
MVEC5XXPA-EXX-XXX	Toroidal	4	Yes / No	Included
MVEC5XXPD-EXX-XXX	Toroidal	4	Yes / Yes 3	Included
MVEC5XXPD-EXX-CZXXX	Toroidal	4	Yes / Yes 3	Included
MVEC5XXPA-ETX-XXX	Little Dipper PTSA	3	Yes / No	Included
MVEC5XXPA-EPX-XXX	Pyxis PTSA	3	Yes / No	Included

CONDUCTIVITY AND PH

MODEL NUMBER ³	PROBE STYLE	PROGRAMMABLE TIMERS	PANEL / PUMP MOUNTS	PULSALINK CAPABLE
MVECXPXP-XXX-XXX	Toroidal	6	None	Order: ACT-PULSALINK
MVECXPXP-XXX-CZXXX	Toroidal	6	None	Order: ACT-PULSALINK
MVECXPXA-XXX-XXX	Toroidal	6	Yes / No	Order: ACT-PULSALINK
MVECXPXA-XXX-CZXXX	Toroidal	6	Yes / No	Order: ACT-PULSALINK
MVECXPXA-EXX-XXX	Toroidal	6	Yes / No	Included
MVECXPXA-EXX-XXX	Toroidal	6	Yes / No	Included
MVECXPXA-ETX-XXX	Little Dipper PTSA	5	Yes / No	Included
MVECXPXA-EPX-XXX	Pyxis PTSA	5	Yes / No	Included
MVECXPXD-XXX-XXX	Toroidal	6	Yes / Yes 3	Order: ACT-PULSALINK
MVECXPXD-XXX-CZXXX	Toroidal	6	Yes / Yes 3	Order: ACT-PULSALINK
MVECXPXD-EXX-XXX	Toroidal	6	Yes / Yes 3	Included
MVECXPXD-EXX-CZXXX	Toroidal	6	Yes / Yes 3	Included

CONDUCTIVITY AND ORP

MODEL NUMBER ³	PROBE STYLE	PROGRAMMABLE TIMERS	PANEL / PUMP MOUNTS	PULSALINK CAPABLE
MVECOXPF-XXX-XXX	Toroidal	6	None	Order: ACT-PULSALINK
MVECOXPF-XXX-CZXXX	Toroidal	6	None	Order: ACT-PULSALINK
MVECOXPA-XXX-XXX	Toroidal	6	Yes / No	Order: ACT-PULSALINK
MVECOXPA-XXX-CZXXX	Toroidal	6	Yes / No	Order: ACT-PULSALINK
MVECOXPA-EXX-XXX	Toroidal	6	Yes / No	Included
MVECOXPA-EXX-CZXXX	Toroidal	6	Yes / No	Included
MVECOXPA-ETX-XXX	Little Dipper PTSA	5	Yes / No	Included
MVECOXPA-EPX-XXX	Pyxis PTSA	5	Yes / No	Included
MVECOXPD-XXX-XXX	Toroidal	6	Yes / Yes 3	Order: ACT-PULSALINK
MVECOXPD-XXX-CZXXX	Toroidal	6	Yes / Yes 3	Order: ACT-PULSALINK
MVECOXPD-EXX-XXX	Toroidal	6	Yes / Yes 3	Included
MVECOXPD-EXX-CZXXX	Toroidal	6	Yes / Yes 3	Included

CONDUCTIVITY PH AND ORP

MODEL NUMBER ³	PROBE STYLE	PROGRAMMABLE TIMERS	PANEL / PUMP MOUNTS	PULSALINK CAPABLE
MVECOXPF-XXX-XXX	Toroidal	5	None	Order: ACT-PULSALINK
MVECOXPF-XXX-CZXXX	Toroidal	5	None	Order: ACT-PULSALINK
MVECOXPF-EXX-XXX	Toroidal	5	None	Included
MVECOXPA-XXX-XXX	Toroidal	5	Yes / No	Order: ACT-PULSALINK
MVECOXPA-XXX-CZXXX	Toroidal	5	Yes / No	Order: ACT-PULSALINK
MVECOXPA-EXX-XXX	Toroidal	5	Yes / No	Included
MVECOXPA-EXX-CZXXX	Toroidal	5	Yes / No	Included
MVECOXPA-ETX-XXX	Little Dipper PTSA	4	Yes / No	Included
MVECOXPA-EPX-XXX	Pyxis PTSA	4	Yes / No	Included
MVECOXPD-XXX-XXX	Toroidal	5	Yes / Yes 3	Order: ACT-PULSALINK
MVECOXPD-XXX-CZXXX	Toroidal	5	Yes / Yes 3	Order: ACT-PULSALINK
MVECOXPD-EXX-XXX	Toroidal	5	Yes / Yes 3	Included
MVECOXPD-EXX-CZXXX	Toroidal	5	Yes / Yes 3	Included

MICROVISION EX PARTS

PART NUMBER	DESCRIPTION
12-600-00	Acc kit, Fuse, relay name tables, IOM
16-170-07	Probe Tee
16-170-08	Flow Assembly, Cond, Flow
04-080-01	Little dipper sensor kit, sensor and tee
04-000-21-1	Toroidal probe
04-060-00	pH probe
04-060-01	ORP probe
04-080-02	Pyxis sensor kit, Sensor and tee

MICROVISION EX ACCESSORIES AND EXPANSIONS

PART NUMBER	DESCRIPTION
CK750	Check Valve Kit
PC025	Cable, Cond, Flow - Extension Kit; 25 ft
PC050	Cable, Cond, Flow - Extension Kit; 50 ft
PC075	Cable, Cond, Flow - Extension Kit; 75 ft
PC100	Cable, Cond, Flow - Extension Kit; 100 ft
UGK-MILIN	4-20mA input Upgrade kit (1)
UGK-MILOUT	4-20mA output Upgrade kit (1)
ACT-PULSALINK	PULSALink cloud communications connection kit (required for remote communications)

1. All models feature 6 digital inputs.
2. Does not include flow switch.
3. All models feature 10 digital inputs.

PROGRAMMABLE TIMER MODES:

- Limit Timer
- Percent Timer
- Percent Post Bleed with Limit Timer
- Biocide Control Timer with Pre-bleed, Lockout, and Conductivity Minimum
- Water Meter Pulse Timer
- 4-20mA Input, pH, or ORP Set Point Control
- Alarm Output

DIGITAL INPUT ASSIGNMENTS:

- #1 Flow Switch
- #2, 3 & 4 Drum Levels
- #5 Water Meter - Hall Effect or Dry Contact
- #6 & 7 Water Meter - Dry Contact
- #8, 9 & 10 Water Meter-Hall Effect or Dry Contact

USB standard on all controllers.
CZXXX = CE approved, non-pre-wired models, or 230 VAC.