Introduction to New Commercial Products

The Intelligent Use of Water™
New COM Products!

ESP LX-IVM Controller

IQ4 Central Control
Rain Bird – Central Control

Ahwatukee Country Club
Phoenix, Arizona (1978)
Over 40 years of expertise
Reasons Customers Buy Central Control

- Program, monitor, adjust, and manually operate remote site controllers from a computer – Saves time & labor, do more with less

- Automatically adjust controller programming based on the weather conditions – Saves water, labor, money

- Automatically react to and be notified of problem flow conditions, shutting down the valve or water source – Saves water & limits liability

- Track water usage, create reports – Show your customer or organization how much water you have saved

- Track manual operation and programming changes made at the controller – Prevent unauthorized access
IQ4 ➞ 4 Things to Know

- **Easy setup and access – 100% Web Browser Based**
  - Easy upgrade from IQ3
  - No time needed to train users

- **Complete control with mobile device**
  - Reporting and text notifications on phones

- **New features simplify programming and management of controllers**

- **Faster**
# IQ4 Controllers Screen

## Controllers

<table>
<thead>
<tr>
<th>Status</th>
<th>Name</th>
<th>Site</th>
<th>Type</th>
<th>Stations Programmed</th>
<th>Programs Used</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LXD with Flow</td>
<td>Flow Sites</td>
<td>LXD</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>LXME with Flow</td>
<td>Flow Sites</td>
<td>LXME</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>LX-IVM PRO 4G</td>
<td>Office IVM</td>
<td>LX-IVM Pro</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Brown Test</td>
<td>Office LXME</td>
<td>LXME</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

_Dashboard > Controllers_
### IQ4 Controller Program Screen

#### Programs

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Site</th>
<th>Status</th>
<th>Start</th>
<th>Water Days</th>
<th>Adjust</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Program A</td>
<td>Flow Sites</td>
<td>✔️</td>
<td>12:00 AM</td>
<td>Su M T W Th F S</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Program B</td>
<td>Flow Sites</td>
<td>✔️</td>
<td>-</td>
<td>Su M T W Th F S</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Program C</td>
<td>Flow Sites</td>
<td>✔️</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Program D</td>
<td>Flow Sites</td>
<td>✔️</td>
<td>-</td>
<td>-</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>Program E</td>
<td>Flow Sites</td>
<td>✔️</td>
<td>4:00 AM</td>
<td>Su Th</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Program F</td>
<td>Flow Sites</td>
<td>✔️</td>
<td>6:15 AM</td>
<td>Su M T W Th F S</td>
<td>100</td>
</tr>
</tbody>
</table>

**Dashboard > Programs**

0/52 Selected
Edit Program Screen

Add Stations

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Landscape</th>
<th>Sprinkler</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Station 008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Station 009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Station 010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Station 011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Station 012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Station 013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Station 014</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Manual Operations

## Controller Settings

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Stations</th>
<th>Status</th>
<th>Start</th>
<th>Days</th>
<th>Adjust</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Program A</td>
<td>2</td>
<td>-</td>
<td>07:00</td>
<td>M</td>
<td>200</td>
</tr>
<tr>
<td>B</td>
<td>Program B</td>
<td>2</td>
<td>Running</td>
<td>07:00</td>
<td>-</td>
<td>300</td>
</tr>
<tr>
<td>C</td>
<td>Program C</td>
<td>3</td>
<td>-</td>
<td>05:00</td>
<td>MFS</td>
<td>110</td>
</tr>
<tr>
<td>D</td>
<td>Program D</td>
<td>3</td>
<td>-</td>
<td>04:00</td>
<td>Su T Th</td>
<td>100</td>
</tr>
</tbody>
</table>

**Flow**

- Actual Flow Rate: 2.81 gal/min (87.95%)
- Expected Flow Rate: 3.19 gal/min

**Name**

- Malkin Residence

**Controller Type**

- LXE

**Controller Type**

- Direct Satellite

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## Manual Operations

### Controller Settings

- **Flow**
  - Current: 0 gal/min
  - Expected: 3.1 gal/min
  - Actual: 2.81 gal/min (87.95%)

### Stations

<table>
<thead>
<tr>
<th>#</th>
<th>Station Name</th>
<th>Status</th>
<th>Landscape</th>
<th>Sprinkler</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Station 001</td>
<td>Idle</td>
<td>Shrub</td>
<td>Emitters</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Station 002</td>
<td>58 min 53 sec</td>
<td>Trees</td>
<td>Emitters</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Station 003</td>
<td>Idle</td>
<td>Shrub</td>
<td>Emitters</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Station 004</td>
<td>58 min 53 sec</td>
<td>Trees</td>
<td>Emitters</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Station 005</td>
<td>Idle</td>
<td>Ground Cover</td>
<td>Drip Line</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Station 006</td>
<td>Idle</td>
<td>Shrub</td>
<td>Emitters</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Station 007</td>
<td>Idle</td>
<td>Turfgrass</td>
<td>Spray Heads</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Station 008</td>
<td>Idle</td>
<td>Turfgrass</td>
<td>Rotor/Impact</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>Station 009</td>
<td>Idle</td>
<td>Turfgrass</td>
<td>Rotor/Impact</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>Station 010</td>
<td>Idle</td>
<td>Flowers/Garden</td>
<td>Emitters</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Station 011</td>
<td>Idle</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>Station 012</td>
<td>Idle</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## Activity Screen

### Activity

#### Scheduled

- **Start**: 10/21/2019
- **End**: 10/24/2019

#### Completed

<table>
<thead>
<tr>
<th>Controller Name</th>
<th>Site Name</th>
<th>Name</th>
<th>Status</th>
<th>Total Run Time</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LXD with Flow</td>
<td>Flow Sites</td>
<td>Program A</td>
<td>Completed</td>
<td>03:00:00</td>
<td>10/24/2019 12:00 AM</td>
<td>10/24/2019 3:00 AM</td>
</tr>
<tr>
<td>LXD with Flow</td>
<td>Flow Sites</td>
<td>Program A</td>
<td>Completed</td>
<td>03:00:01</td>
<td>10/23/2019 12:00 AM</td>
<td>10/23/2019 3:00 AM</td>
</tr>
<tr>
<td>LXD with Flow</td>
<td>Flow Sites</td>
<td>Program A</td>
<td>Completed</td>
<td>03:00:00</td>
<td>10/22/2019 12:00 AM</td>
<td>10/22/2019 3:00 AM</td>
</tr>
</tbody>
</table>

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**Dashboard > Activity**

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IQ4 Reports

- Station Run Time: Program starts, Station Run Times, Total Time, Estimated vs. Actual Total Flow
- Alarms and Warnings: View the Alarms and Warnings notifications
- Monthly Report Card: Program starts, Stations run, Total time, Estimated vs. Actual Total Flow
- Monthly Flow: Compare previous vs current 30 day water consumption
- Flow Log Graph: Compare previous vs current annual and monthly water consumption
- Water Management: Compare previous vs current annual and monthly water consumption
- Water Use by FloZone™: Compare previous vs current annual and monthly water consumption
- Yearly Water Consumption: Compare previous vs current annual and monthly water consumption
Mobile Accessibility
Example Report
New COM Products!

ESP LX-IVM Controller

IQ4 Central Control
The future is Two-Wire Systems

- Adaptable to phased projects
- Reduced installation time
- Reduced wire costs
- Increased wire run lengths
- Higher Capacity
  - Larger station counts
  - More Sensors (Flow and weather)
  - More simultaneous stations
Next Generation Controller

- **Goal**
  - Create the easiest to use controller
  - Best in class specs
  - Revolutionize two-wire systems with innovative technology
    - Simplify installation
    - Improve reliability
    - Set a new standard with diagnostic capabilities

- **Result** The new ESP LX-IVM Controller and IVM field devices
What is IVM?

- IVM ➔ Integrated Valve Module
- New Two-Wire device ➔ NO MORE DECODERS, it’s built into the solenoid which fits Rain Bird valves
- It’s more than a solenoid or a decoder...It’s an entire controller
- Two way communication with faster response times and enhanced diagnostics
- Eliminates decoder and 50% of wire connections
New LX Controller
ESP LX-IVM Series 2-Wire Controllers

- **ESP LX-IVM**
  - 60 Stations
  - 5 Master Valves
  - 5 Flow Sensors
  - 4 Weather Sensors (1 local)
  - 8 SimulStations
  - 10 Programs

- **ESP LX-IVM PRO**
  - 240 Stations
  - 10 Master Valves
  - 10 Flow Sensors
  - 8 Weather Sensors (1 local)
  - 16 SimulStations
  - 40 Programs

“No Expansion Modules”
# IVM-Series Field Devices

<table>
<thead>
<tr>
<th>Device</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IVM-SOL</strong></td>
<td>Commercial Valves interface – Fits PGA, PEB, EFB, &amp; BPE Valves</td>
</tr>
<tr>
<td><strong>IVM-SEN</strong></td>
<td>For weather and flow sensors</td>
</tr>
<tr>
<td><strong>IVM-OUT</strong></td>
<td>Adapts third party valves to work in our system - Requires DC Latching Solenoid</td>
</tr>
<tr>
<td><strong>IVM-SD</strong></td>
<td>Surge Protection Install every 500’ or 15 field devices.</td>
</tr>
</tbody>
</table>
IVM System Layout

- ESP LX-IVM Controller
- Non-LX-IVM Valve with DC Latching Solenoid
- Pump Start with DC Latching Relay
- Maxi Cable 2-Wire Path
- Local Weather Sensor
- IVM-OUT
- Input Power for Pump
- To Pump
- IVM-OUT
- IVM-OUT
- IVM-SEN
- IVM-SEN
- IVM-SEN
- IVM-SOL
- IVM-SOL
- IVM-SOL

- Master Valve LX-IVM-Series
- FS-Series Flow Sensor
- Station Valve LX-IVM-Series
- Grounding Rod Every 500 ft. or 15 field devices
- 2-Wire Path Weather Sensor

The Intelligent Use of Water.™ — LEADERSHIP • EDUCATION • PARTNERSHIPS • PRODUCTS
LX Series Features

- FloWatch ➔ Leak detection
- FloManager ➔ Compressed Water Schedules
- Learn Flow
- Assignable Master Valve
- Assignable Weather Sensors
- Cycle & Soak and Station Delay
- Water Windows
- Seasonal Adjust
Familiar User-friendly Interface!
Key Point – Diagnostics / Self-Healing!

- 4 Isolated Wire Paths ensure that shorts don’t take down the full system
- 2-Wire Mapping and List-Not-Responding identifies device failures
- Trending 12-month electrical history reports and proactive action
- Self-healing and restart after 2-Wire shorts
- Two-Way Communication with devices activates self-shutoff when power is absent
IVM – 4 Things to know

**Controller**
- This is the best and most advanced controller on the market
- New User Interface is a lot easier to use
  - 2.5x Bigger screen, backlight
  - Less Dial Positions and backlit buttons

**IVM SOL**
- The IVM Technology is a game changer for two wire and will be the future
  - 50% less wire splices = 200% more reliable
  - Advanced diagnostics pinpoint problems
- Can’t be mixed with other decoder systems
What about the LXD?

LXD

LX-IVM

LX IVM PRO

GOOD

BETTER

BEST