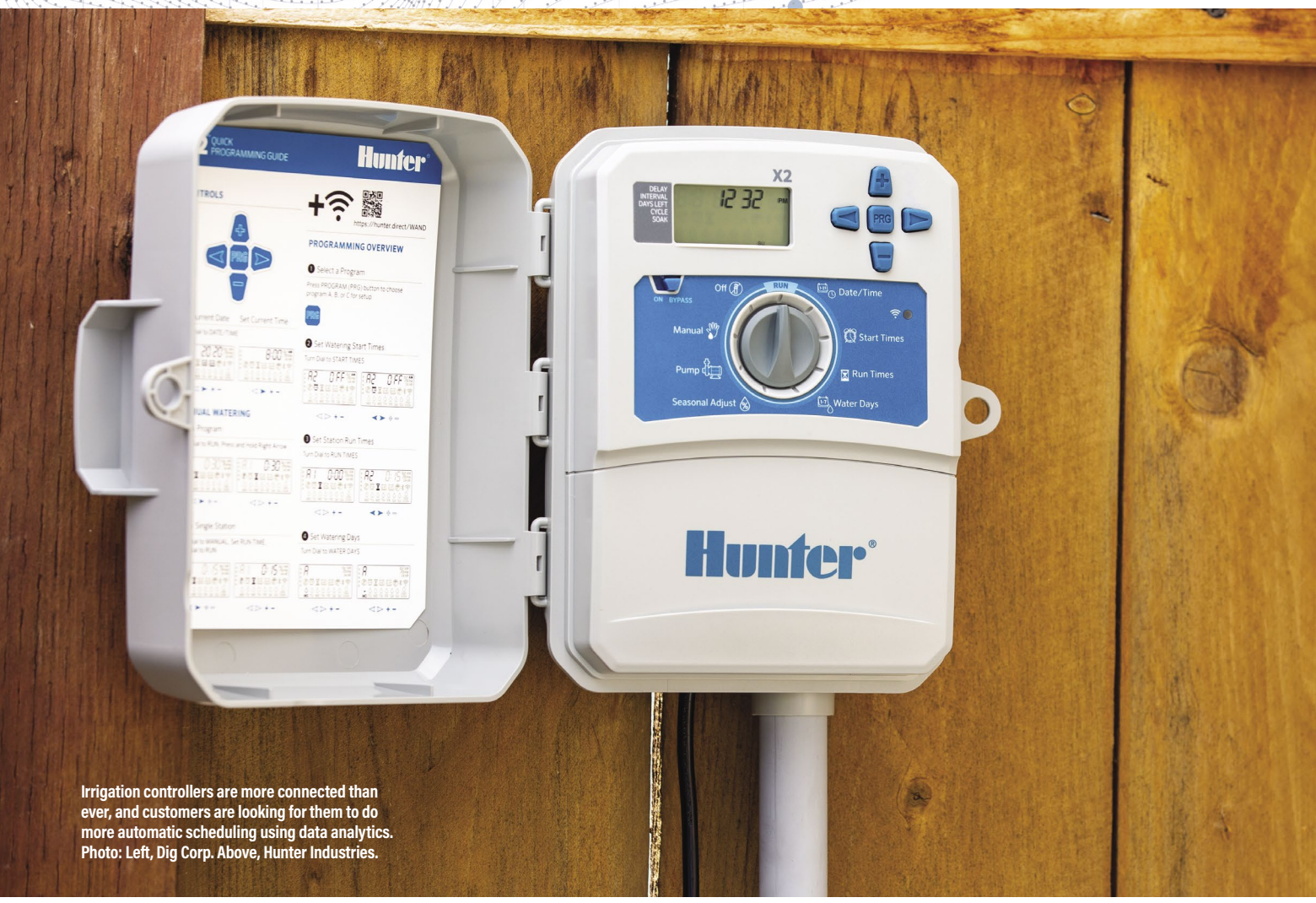
Irrigation Controllers Specification Charts

By Kyle Brown

Smart choices

Today's connected controllers make irrigation easier and more efficient.

IRRIGATION & green industry



Irrigation controllers are more connected than ever, and customers are looking for them to do more automatic scheduling using data analytics. Photo: Left, Dig Corp. Above, Hunter Industries.

Collected data should be able to show clients how much water is being saved and how well the system is operating.

Irrigation controller maintenance used to mean that a contractor had to spend hours systematically working through clients' properties, fixing small problems as they came up.

Now, as smart irrigation controllers are more connected than ever, that information is going straight to the contractor. But as controllers get smarter, they're also gaining new ways to gather and analyze the data they're collecting.

Getting connected

From a homeowner perspective, more clients are looking for controllers with wireless or online capabilities, says Anthony Long, product manager at Hunter Industries Inc. of San Marcos, California.

"We're seeing the transition away from the dial controller I used to have on my wall that I never touched, to an automatic controller that I can talk to via my phone," Long says.

Having the ability to connect via smart device makes clients more prone to interact with their overall water usage, he says. They're more inclined to make small adjustments to the program because it's convenient on their phones.

A controller that's operated via Bluetooth or wireless capabilities makes maintenance more straightforward, says Mike Merlesena, national commercial sales manager for Dig Corp., of Vista, California.

"People like it because they don't have to go into the valve box," Merlesena says. "They can have the full screen pulled up on their smart device. It makes programming a lot easier."

Connected devices collect more information that can be used to narrow down issues with a system, Long says. Monitoring the electrical current can point to a solenoid or broken wire, for example.

Wireless technology can also help in troubleshooting, says A.J. van de Ven, president of Calsense, based in Carlsbad, California. If a system's not acting correctly, a contractor can connect using a separate controller to test it without having to worry about dealing with wiring. That can give the contractor a head start in identifying if the problem is with the controller or the device itself.

Digging into data

The main thing Long sees in new trends is a drive for more automatic responses based on collected data such as weather, he says.

"They want to look at the local weather that they're experiencing at their house, and they want that to influence and change the program," he says. "They want to have the ability to do it manually, but what they really want is for the controller to handle itself."

Weather data analysis is most helpful when it's predictive, says Richard Restuccia, vice president of water management solutions at Jain Irrigation Systems Ltd., in Fresno, California.

"I can water today based on what's happened yesterday and the day before and the week before, but what is equally important is what's going to happen tomorrow. Why would I irrigate today if it's going to rain tomorrow?" Restuccia says.

Predictive analysis will be a feature that more controller manufacturers will be focusing on, he says.

Besides customers being too busy to worry about the day-to-day changes of the irrigation system, data from water districts show that homeowners aren't usually very efficient at it, Long says. Being able to manage irrigation both remotely and automatically makes most properties much more water-efficient.

The development of data analytics has also opened the door for irrigation professionals to do work that's more personalized to individual customers and to use data trends to diagnose problems more quickly for clients, says van de Ven.

"One of the things that we're seeing more of is using that data and extrapolating, for example, your property's data with 100 properties around you in a couple-mile radius," van de Ven says. "And seeing that information presented to the user or contractor in a way they can actually use."

Increased connectivity and improved data analytics provide an opportunity to develop real-time evapotranspiration scheduling programs rather than just using past data, says Restuccia.

"There is a big difference in the accuracy of the water that you'll apply and the water savings between historical and real-time," he says.

Choosing controllers

Price is a good starting point for consideration, says Merlesena, but the most important thing to consider is how easy the system is to use and teach to a client.

"You need to look at how user-friendly the controller is from a logic standpoint," he says.

Another point that comes into play is how well a controller allows a contractor to manage irrigation without having to be directly on-site, says van de Ven. It should also have the capability to add more functionality later if necessary.

Beyond that, the company's support behind the product will make a huge difference throughout the life of the product, Merlesena says. Talk to your distributor and discuss which controller might be the best fit for the application you have in mind. Doing your own research through trusted professional connections and online resources can help as well.

While it's helpful for monitors to gather information remotely, consider what would be most useful to you and your client, says Long. Once the data is determined, make certain that it can be gathered in a way that is actually understandable and useful. As you incorporate smart controllers into your offerings, make sure you have team members on staff that are trained to use them correctly.

"All this information that's being managed should be easily accessible by people in your office," he says. "Make sure you've got the tools to use them in the office."

That information should then be able to be packaged in a way that shows a client the benefits of working with an irrigation professional or the need for system upgrades, says Restuccia.

"We're using a push notification, a weekly email out to users that says, this is the amount of water you use, this is how your system is working," he says. "We're trying to raise the level of the conversation and bring the meaningful information so they can discuss this in an intelligent way."

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— Anthony Long, Hunter Industries

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SMARTPHONE-FRIENDLY IRRIGATION CONTROLLERS FOR RESIDENTIAL/LIGHT COMMERCIAL APPLICATIONS

Manufacturer	Model name(s)	EPA WaterSense certified	Maximum stations	Weather data source	Rain data source	Rain delay?		Subscription fee for weather data?	Automatic scheduling interval capable	Guest access (contractor)	Home automation?	Connectivity	Other product information	Sensor capabilities	Run time input	Watering restrictions	Predictive scheduling (rain, freeze)	Zone customization	Cycle and soak (custom or calculated)	Operation without internet connection
Aeon Matrix	Yardian Smart Irrigation Controller	✓	48	Weatherbug	Weatherbug	auto.			✓	✓	✓	Wi-Fi	built-in security camera, motion detection	rain	✓	✓	✓	✓	✓	✓
Aifro	Water Eco and Water Eco Lite		36	real-time local weather data, uses OpenWeatherMap	real-time local weather data, uses OpenWeatherMap	auto.			✓	✓		Wi-Fi	pause feature, winter dormancy, AiCan smart plug to operate house appliances, manually water more than one zone at a time	built-in temperature sensor, optional rain sensor	✓	✓	✓	✓	✓	
Asante	Asante Irrigation Controller Kit		6							✓		Wi-Fi plus	rain forecast feature	rain/freeze	✓	✓	✓			
Blossom	Blossom, Scotts Gro Controller	✓	12	current local weather and forecasts from multiple weather services	current local weather and forecasts from multiple weather services	auto.			✓	✓	✓	Wi-Fi	only for indoor installation	rain, freeze	✓	✓	✓	✓	✓	
BlueSpray	BlueSpray		64	NOAA	NOAA	auto.				✣	✓	Wi-Fi	run time in minutes or seconds, can turn on multiple valves simultaneously	rain, freeze, flow	✓	✓	✓		✓	
Galcon	Cyberrain	✓	24	local weather stations						✓		RF, HW	flow monitor, alerts							
Hunter	HC, Pro-HC, HPC-FP, Pro-C Hydrawise, HCC	✓	54	Weather Underground and The Weather Channel; local airport weather stations, personal weather stations and/or virtual weather station options available	Weather Underground and The Weather Channel forecasts, weather station data and/or on-site rain shutoff sensor	user conf.		★	✓	✓	✓	Wi-Fi	automatic weather adjustments customizable by zone, contractor portal for multi-site management, real-time alerts and notifications, built-in milliamp sensor, event logs and reports	rain, freeze, soil moisture, flow	✓	✓	✓		✓	✓
HydroPoint	WeatherTRAK LC+	✓	36	propietary ET Everywhere Weather Data (public and private weather stations, NOAA)	current local weather and forecast from weather stations	✓		✓	✓	✓	✓	Cell	centralized cloud control for multisite management, alerts, 30+ customizable reports, over the air updates	rain sensor, flow sensor (with optional key)	✓	✓	✓	✓	✓	✱
Hydro-Rain	HRC 400 WiFi	✓	16	smart WeatherSense local weather data		user conf.			✓	✓	✓	Wi-Fi	optional catch cups and irrigation audit input	rain/freeze sensor, flow or soil moisture sensor	✓	✓	✓	✓	✓	✓
H2OPro	H2OPro		8	local weather stations or user-defined local weather stations	weather station, no sensor	auto.						Wi-Fi	flow monitoring, alerts, restrictions	rain/flow	✓	✓	✓		?	✓
Irritrol	Climate Logic proprietary plug in for Irritrol Kwik Dial, Rain Dial, Total Control and MC-E Controllers	✓ ✦	12	on-site sensor	rain sensor, no rainfall measurement	user conf.				✓		RF plus	SMRT logic allows auxiliary wireless control up to 250 wireless relays	Climate Logic (rain/freeze)	✓	✓			✓	✓
Jain/ET Water	SmartBox, SmartWorks and Hermit Crab 2	✓	48	multiple streaming weather data sources	multiple streaming weather data sources	auto.		✓	✓	✓		Cell	subscription-based product; standalone or add-on to various models of Hunter, Irritrol, Toro, Superior, Weathermatic, Rain Bird and Rain Master controllers	flow, rain	✓	✓	✓	✓	✓	✓
K-Rain	Pro EX 2.0 WiFi		16	WeatherIQ	WeatherIQ	user def.				✓		Wi-Fi	optional long-range antenna, virtual rain sensor (Weather IQ), Wi-Fi hub plugs into internet router to use RF connection, increases router to controller distance through RF	rain, freeze	✓	✓	✓		✓	✓
Netro	Netro Sprite and Whisperer		12	local weather data from multiple sources, as well as historical climate data	based on address, with latitude and longitude, collection of weather data from multiple sources	✓			✓		✓	Wi-Fi			✓	✓	✓	✓	✓	✓
Nxeco	Nxeco	✓	24	real-time weather						✓	✓	Wi-Fi	24-zone extension module to build 36-zone controller	rain, freeze	✓	✓	✓		✓	✓
Orbit	B-Hyve	✓	12	smart WeatherSense local weather data	smart WeatherSense local weather data	user conf.			✓	✓	✓	Wi-Fi			✓	✓	✓	✓	✓	✓
Rachio	Rachio Irrigation Controller	✓	16	NOAA, PWS	NOAA, PWS	user def.			✓	✓	✓	Wi-Fi	current and historic weather data used, real-time notifications	rain and soil, flow with Rachio 3	✓	✓	✓	✓	✓	✓
Rain Bird	Lnk Wi-Fi Module works with ESP-TM2 and ESP-Me Series Controllers and WR2 Series Wireless Rain/ Freeze sensors; ST8-Wi-Fi Controller	✓	22	World Weather Online	World Weather Online	user def.				✓	✓	Wi-Fi		rain, freeze, soil, flow	✓	✓	✓		✓	✓
Rain Machine	RainMachine Touch HD	✓	16	options include NOAA, MetNo, Weather Underground, DarkSky.net, FAWS and CIMIS (with subscription to CIMIS)	options include NOAA, MetNo, Weather Underground, DarkSky.net, FAWS and CIMIS (with subscription to CIMIS)	auto.			✓	✓	✓	Wi-Fi		rain, freeze	✓	✓	✓	✓	✓	✓
RainCommander	RainCommander RC1200		12	None		user def.						Wi-Fi		rain sensor	✓	✓			✓	✓
RainPal	RainPal Pro	✓	12						✓		✓	Wi-Fi, cell	optional leak detection and freeze detection (FL-100)	rain, flow, freeze	✓	✓	✓	✓	✓	✓
Signature	EZ Connect and EZ Share series controllers	✓	24	integration of weather data feeds from NOAA, Accuweather, weather forecast data and weather alerts	integration of weather data feeds from NOAA, Accuweather, weather forecast data and weather alerts	user def.			✓	✓	✓	HW, Wi-Fi, cell	programming accessed via the Signature Share app, end-user of contractor web portal	can integrate two sensors, such as flow, rain, pressure, freeze, ET, soil moisture; some models can use DC latching solonoids	✓	✓		✓	✓	✓
Skydrop	Skydrop Halo Controller	✓	16	local weather stations	local weather stations	✓			✓	✓	✓	Wi-Fi			✓	✓	✓	✓	✓	
Spruce Irrigation	Spruce Controller WiFi	✓	16	Darksky.net and optional soil moisture sensors					✓	?	✓	Wi-Fi	combines real-time moisture sensor data and weather predictions	rain, flow, spruce soil moistures sensors	✓	✓	✓	✓	✓	✓
Toro	TMC and Evolution Series Controllers	✓ ✦	24	on-site sensor and/or Toro Precision Soil Sensor with Evolution controller	on-site rain sensor, no measurement of rainfall	user def.			✓ ✪	✓		RF, Wi-Fi plus	grow-in schedule able to control fountains, gates, landscape lighting via a wireless relay	rain, freeze, ET, soil moisture sensor	✓	✓		✓	✓	✓
Weathermatic	SL and PL Series with SLW15 weather station	✓	48	on-site sensor	on-site rain sensor, no measurement of rainfall	user def.		✓		✓	✓	RF, cell, Wi-Fi	SmartLine Air Card, no Wi-Fi or router required	rain, freeze, weather sensor, flow	✓	✓		✓	✓	✓

✣ "discovery" mode | ✦ with Climate Logic | ★ yes, if more than one airport station is to be subscribed | ✱ yes, backup mode from panel | ✪ with Toro soil moisture sensors

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