

SubStation RV™

The SubStation RV™ is the perfect solution for difficult retrofitting situations or complex irrigation sites. The SubStation provides access to the industry-leading BaseStation 3200™ controller using cellular LTE technology with Baseline's Cloud Networking capabilities. This wireless connectivity means you can retrofit existing controllers or battery-operated controllers and integrate them into a BaseStation 3200 controller without running expensive wire across long distances. You can also establish new irrigation zones in areas separated from the main controller by obstacles such as roadways or parking lots.

After the SubStation RV is connected to the Baseline server, you can take full advantage of the powerful BaseStation 3200 capabilities to program the SubStation RV's zones from any location.

Features

- Supports up to 6 conventionally-wired zones (24 VAC)
- Provides diagnostic LEDs for simple installation and troubleshooting
- Displays status of device and the connected status of the BaseStation 3200
- "Cloud-display" offers controller-like display accessible in BaseManager
- Supports up to 1,500 feet of wire-path
- High-speed LTE cellular communication
- NEMA 6P (IP68) waterproof lockable enclosure
- Supports firmware updates over the air

BaseStation 3200 Features

- The BaseStation 3200 has 25 available addresses for SubStation RVs. Each SubStation RV connection uses one of these addresses.
- Total zone counts, including the zones connected to all SubStation RVs must remain within the BaseStation 3200 specifications.
 - SubStation RV zones that exceed the BaseStation 3200 limits are ignored.
- All search and assign operations for SubStation RV zones are performed from the BaseStation 3200 or from BaseManager.
- All programming operations for SubStation RV zones are performed from the BaseStation 3200 or from BaseManager.
- All test operations for SubStation RV zones are performed from the BaseStation 3200 or from BaseManager.
- Displays status of the SubStation RV connection and reports the number of each zone from last search
- For SubStation RV compatibility, ensure that the BaseStation 3200 is running firmware version 18.0 or greater.

Communication Requirements

- The SubStation RV communicates with a BaseStation 3200™ irrigation controller over a 256-bit encrypted cellular network.
- The SubStation RV supports AT&T and Verizon service providers

Information Security Controls

The SubStation includes information security controls that enable secure networking with other Baseline products.

To learn more about the SubStation security controls, refer to the Baseline Security Controls Technical Specification available on the Baseline website.

Electrical Specifications (AC Power)

Transformer Input

- Requires 120 VAC, 50 Hz to 60 Hz and a minimum of a 5 amp breaker
- Requires a certified electrician for hard-wire installation

Power Output

- Zero 24 VAC valves actuated = 1.0 milliamp
- One 24 VAC valve actuated = 35 milliamp
- Six 24 VAC valves actuated = 210 milliamp

Solenoid Specification

- Requires a typical solenoid with approximately 400 milliamps of inrush current and approximately 200 milliamps holding current

Surge

- 10 levels of surge protection
- Up to 5 levels of surge protection built into the controller boards
- Minimum surge response time of 1 picosecond

Environmental

- Freeze/heat resistant -4oF to 140oF (-20°C to 60°C)
- NEMA 6P (IP68) Waterproof

Electrical Specifications (Solar Power)

Electronic Protections

- Solar: Overload, short-circuit, high voltage, transient surges
- Load: None
- Battery: High Voltage

Battery Specifications - 50E 21700

Amp Hours	5000 mAh per battery
Nominal Voltage	3.6 V
Max Charge Voltage	4.20 V
Standard Charge Current	2.45 A
Optimal Discharge Temp	-20°C - 60°C
Optimal Charging Temp	0°C - 45°C
Over Current Range	6.0 A - 12.0 A

Enclosure Options

Enclosure Notes

SubStation RV enclosures are large enough to hold the processor board, the terminal board, power supply, and a communication module. The communication module will be built into the enclosure by the factory when ordered together.

- High impact polycarbonate low profile hinged enclosure with integrated locking latch, opaque cover and integrated mounting flange.
- The enclosure is 8 inches tall by 6 inches wide by 3 inches deep
- Includes enclosure mounting tabs
- Includes three openings in the bottom of the enclosure to accommodate field and power wires
- NEMA 6P (IP68) Waterproof

Warranty

The controller and installed equipment carry a standard warranty of 5 years from the date of installation.

The user can apply for an extended warranty of 10 years from the date of installation. Approval of the extended warranty is based on:

- Fully completed extended warranty application
- Successful site inspection completed by an authorized Baseline representative

The extended warranty shall include coverage of surge damage, even from a direct lightning strike. However, surge protection equipment must be installed according to specification.

How to Specify

Start with the SubStation:

BL-SUBSTN-RV-DP-VZ = Direct Power SubStation RV with Verizon cellular service provider

BL-SUBSTN-RV-DP-AT = Direct Power SubStation RV with AT&T cellular service provider

To specify the BaseStation 3200 irrigation controller, refer to the BaseStation 3200 Technical Specification.