

**BAS Solution Base Components**

- Multiple controls options for whatever best suit's your operations needs.
- Direct connection with HVAC equipment for alarms and diagnostics
- Integration with lighting panel to allow energy-reduction scheduling and full building control
- E-mail/phone alerts to responsible parties
- Open hardware designed for future expandability
- 24/7 central monitoring station phone support
- Extensive parts and labor warranty
- Site-specific engineering for precise installation
- Web and mobile accessible user interfaces

**Optional Touch Screen Display**

- Minimal training required
- Owner/manager can designate user access levels
- Audit log of changes by authenticated users
- Alarm statuses and messages are easily accessible

**Zone-level Detail - Touch Interface:**

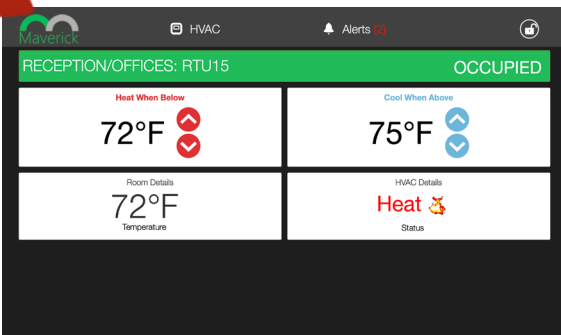
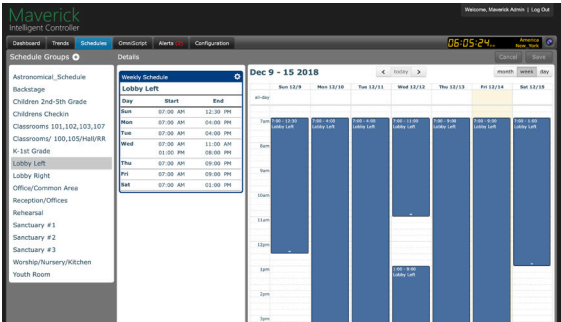
Maverick HVAC Alerts (2)			
Sanctuary 1 RTU01 66°F	Sanctuary 2 RTU02 66°F	Sanctuary 3 RTU03 67°F	Lobby Right RTU04 68°F
Lobby Left RTU05 66°F	Childrens CheckIn RTU06 67°F	K-1st Grade RTU07 64°F	Grade 1st to 5th RTU08 68°F
Worship/Nursery/Kitchen RTU09 66°F	Youth Room RTU10 65°F	Rehearsal RTU11 67°F	BackStage RTU12 68°F
Classrooms 100,105,hall RTU13 69°F	Office Common Area RTU14 71°F	Reception/Offices RTU15 72°F	Classroom Bank B RTU16 68°F

**Examples: Available Options\***

- C&C Device Manager software platform for multi-site monitoring and control
- Real-time energy/water/gas usage and utility bill monitoring
- Smart lighting
- Refrigeration monitoring and control
- Air curtain/ building pressure control
- Continuous commissioning service
- Alarm monitoring service
- Extended warranty

\*See page 3 for more details.

**Schedules - Admin Interface:**





## Operational Benefits

- Owner/operators and store managers with security access have direct control over lighting and HVAC scheduling, both locally and remotely. Limiting unauthorized overrides, along with identifying out-of-schedule lighting and HVAC usage, leads to minimization of energy waste.
- An intuitive touch screen (with HVAC/lighting control and alerts) results in less time spent managing the system, and more time spent generating sales and serving customers in an efficient work environment.
- The solution's unique "open" and expandable design truly prepares building owners and managers for the future.
- Optional connection to downstream sensors allows monitoring of mission-critical devices, including multi- and variable-stage components, exhaust fans, additional signage, in-store displays, sub-metered loads, hot water pumps, building air flow, and walk-in cooler/freezer temperature – which strengthens revenue drivers such as customer comfort and inventory quality control.

## Maintenance Benefits

- Real-time device "health" visibility allows service providers (with security access) to remotely view all alarms and service issues, eliminating unnecessary on-site labor and truck rolls and HVAC service expenses.
- Data logs capture equipment performance information, including run-time totals. This provides valuable insight to ensure equipment is operating at maximum efficiency, resulting in lower energy consumption and increased device lifespan.
- When issues arise, they are promptly diagnosed and addressed without guesswork.
- Completed repairs/replacements are verified remotely to ensure contracted work has been performed
- When on-site service is required, service technicians do not need to enter customer shopping or employee work areas simply to access locked wall thermostats.

## Energy Benefits

- This solution offers significant monitoring capabilities, with the potential to supervise all major energy-consuming devices. This allows the owner/operator a detailed view into his or her operations that is not possible with a smart thermostat solution.
- Consumption data logs indicate unnecessary or unintentional usage of electricity, gas, and water.
- With increased awareness of energy usage, building owners and managers can be more diligent about energy conservation, which improves bottom line earnings.

C&C Building Automation strives to deliver cutting-edge, user-friendly building automation solutions. C&C will recommend the essential features for a basic system. However, there are a number of optional components that will aid your operation's building diagnostics to ensure increased customer comfort, energy savings, and inventory quality control.

***C&C Device Manager***

Enterprise software for multi-site access and monitoring. C&C Device Manager maintains access credentials and relays the most critical information for each installation. C&C Device Manager ensures that you are able to access your store, restaurant, facility, or place of worship from any web-accessible device, and only those with the proper access credentials will be able to make system changes. Currently, C&C Device Manager is available for multi-site installations at no additional charge.

***Energy/ Water/ Gas Metering***

Utility metering is the most accurate way to monitor and, in turn, reduce consumption spending at your site. Live monitoring allows problems to be corrected instantly, as opposed to waiting 30-60 days for utility bills to arrive. Upload utility bill data to track utility accounts that aren't metered, and verify consumption of metered loads.

***Smart Lighting***

While a low cost lighting contactor panel can be ideal for simple installations, advanced lighting solutions can further increase cost savings and system benefits. "Smart panels" allow for each lighting circuit to be turned off individual, with corresponding status information. This results in fast troubleshooting and quick resolution of lighting issues. Advanced BlueTooth lighting technology can be used to guide customers to products within a store and generate occupancy metrics.

***Walk-in Cooler/ Freezer Temperature Monitoring/ Control***

Giving the manager or owner/operator instant alerts when temperatures fall outside of acceptable ranges will not only conserve energy usage, but also ensure optimal food quality for operations that require it. Recorded temperature logs can also be quickly provided to food safety inspectors. Refrigeration control systems can also be connected for complete setpoint control, scheduling, and integration.

***Walk-in Cooler/ Freezer Door Sensors***

Cooler/ freezer doors left open too long lead to expensive problems, such as food spoilage and energy waste. Managers are able to immediately close doors once the alarm is received, as well as have visibility on the percentage of operating hours that refrigerator doors are open, promoting proper closure with each use.

***Air Curtain Control***

Air curtains help keep heated or cooled air inside of a building during exceptionally hot or cold time periods. This increases customer comfort and creates efficiency by reducing cooling or heat loss. However, during periods when the outside air temperature is similar to the indoor temperature, air curtains are not necessary. Air curtain control allows your system controller to turn off air curtains, saving energy and increasing equipment life.

***Building Pressure Control***

Your sites will be calibrated to maintain positive building pressure, which keeps outside air from altering building comfort, and ensures proper performance of exhaust hoods and hot water equipment. When a differential pressure transmitter is installed, your controller can send instant alerts regarding building pressure issues and assist in the detection of their origin (e.g., dirty filters, improper calibration, deteriorating fan motors, etc.).