

Weather API for Connect+ Enterprise Management Software



The Weather API is a new feature of Connect+ that can be used to input real-time location specific weather data directly to Emerson Supervisory Control systems. This data service, available through a separate license, can be used in place of physical weather stations on premise to obtain this information, eliminating the cost of installing and maintaining these stations which typically cost several thousand dollars over the expected serviceable lifetime of these stations (5-10 years). In addition, the weather service data is exempt from inaccuracies that can result from physical weather stations due to ice, snow, rain, other debris and sun/shadow effects from the placement of the sensors.

Weather data is fetched on-demand, using on site geographic information from the OpenWeather™ service to send data to a weather EAS application in the controller, which is deployed through Connect+. A configurable schedule runs the weather data service to provide this data, typically every 10-15 minutes. Retail locations can use this data to optimize the performance of their heating, air conditioning, refrigeration and lighting infrastructure with accurate, real-time and reliable data.

Real Time Data Provided Through the API

- Outside Air Temperature
- Relative Humidity
- Barometric Pressure
- Human Feel Temperature
- Dewpoint
- Cloud Coverage
- UV Index
- Wind Speed
- Wind Angle
- Wind Gust

Sample Use Cases

- Exterior lighting can be enabled based on Realtime UV or Irradiance readings to turn on/off exterior lighting at the approach of heavy storm clouds mid-day.
- Grocery stores can keep a consistent temperature and humidity level inside by increasing/decreasing condenser performance with accurate real time exterior data.
- Locations can optimize energy consumption based on accurate real-time data.

Controller Support

CONTROLLER	REAL TIME WEATHER DATA
E2	Yes
E3	Yes
Site Supervisor	Yes
EVO	No
Danfoss	No

Weather EAS Application

The screenshot shows the Weather EAS application interface. At the top, it displays the date (08-04-21), unit (BX-400 Unit 1), and time (16:52:55). The application name is 'Weather'. The interface is divided into several sections:

- VALUES:** Outside Air Temperature (83.10), Relative Humidity (41.00), Barometric Pressure (1018), Human Feel Temp (82.56), Dewpoint (56.98), Cloud Coverage (20), Ultraviolet Index (2), Wind Speed (8), Wind Angle (10), Wind Gust (9), Sunrise (NONE), Sunset (NONE), Last Collection Date (4), Last Collection Time (16), Total Solar Radiation (NONE), Summer Winter (NOTACT).
- Outputs:** Outside Air Temp Out (83.10), Relative Humidity Out (41.00), Barometric Pressure (1018), Human Feel Temp (82.56), Dewpoint (56.98), Cloud Coverage (20.00), Ultraviolet Index (2.00), Wind Speed (8), Wind Angle (10), Wind Gust (9), Sunrise (0), Sunset (0).
- ADVISORY SUMMARY:** Fails (0), Alarms (0), Notices (2).
- NETWORK OVERVIEW:** IONet-1 (green dot), MODBUS-1 (green dot), MODBUS-2 (green dot).
- System Info:** BX-1 288, Rev 4.10F02, English-US.

At the bottom, there are function keys: F2: ZONES, F8: LIGHTING, FA: SENSORS, FS: SETUP.

Weather Graphical Screen in Controller

The screenshot shows the Weather Graphical Screen in the controller. It displays the following information:

- Site:** 154 Atlanta
- Day:** 16.0 Hour: 11.0
- Temperature:** 45.3 °F
- Relative Humidity:** 51.0 %
- Wind Speed:** 0.9 mi/h
- Barometric Pressure:** 0.1 hPa
- Human Feel:** 56.2 °F
- UV Index:** 3.3
- Cloud Coverage:** 75.0 %
- DewPoint:** 28.7 °F