

Improved Air Quality for a Healthier Environment



A Community College in Florida Continues to Make a Big Impact on Energy Savings & Occupant Health

A community college in Florida maintains an unparalleled quality of education by taking the health of its students and staff very seriously. To ensure everyone's potential and talent are developed, the College places the relationship between comfort and productivity at the core of its priorities. Installing thermal dispersion airflow measuring stations within every campus at the College makes it possible to accurately measure outdoor air ventilation in real-time, even from a smartphone. The college staff collaborated with Original Solutions Company Inc., a Manufacturer's Representative of Engineered HVAC Products, to furnish a network of airflow measuring stations at the college campuses. The installation successfully achieved the desired Indoor Air Quality (IAQ) goal and energy savings. Users can easily access real-time data from every airflow measuring station via the BACnet integrated Building Management System or the EB-Link App on their smartphone.

Healthy Learning and Living Environment

The Florida Community College stands at the forefront of higher education, leading with innovation and earning a commendable reputation for fostering student success. We aim to create a welcoming and supportive learning environment that helps improve student outcomes. We aim to provide affordable and high-quality education to all applicants. This dedication has brought them national acclaim, notably the esteemed Aspen Prize for Community College Excellence. The College takes pride in meticulously crafted degree programs, continuous education offerings, and fast-tracked skills training, pivotal in shaping Florida into a hub of economic opportunities for its residents. Their mission is to equip every student with the tools for triumph and instill a transformative sense of self-belief in everyone.

The College welcomes more than 60,000 students to the twelve campuses. The buildings at the college offer a state-of-the-art facility for character animation, digital arts, and recording studio, a building dedicated to engineering, computer programming, and mathematics labs, libraries with ample study and research facilities, chemistry, biology, and robotics labs, a theater where performing arts students can showcase their talents through plays, musicals, and other performances, administration buildings, health science buildings dedicated to nursing, cardiovascular technology, and dental hygiene. These are just a few examples of the buildings at the College. Each campus offers additional facilities like student centers, food services, and recreational spaces to support students' academic and extracurricular activities.



Since its installation in 2009, the airflow measurement station has remained accurate and reliable.

As Operations Manager Energy Efficiency, Robert is tasked to improve the college's efficiency while maintaining a high Indoor air quality (IAQ) standard. While looking for opportunities for IAQ improvements, Robert found anomalies with the demand control ventilation used on the VAV AHUs. At some buildings, the outside air requirements were easily met, but in others, the design requirement would always come short. Upon further investigation, it was found the airflow measurement stations (AFMS) in the problem buildings were dirty. After wiping them down, the readings were correct. Looking at all buildings that used AFMS, it was observed that the buildings using EBTRON maintained correct readings using our standard yearly maintenance—still, the other buildings using two other brands needed minimum monthly maintenance to maintain proper readings. One of the campuses had an AHU (Air Handler Unit) in an obscure location, and the maintenance had been missing for at least 7 years. When it was found, it was observed to be an EBTRON Silver series, installed in 1996, and after cleaning, it was read correctly in 2019. With the new Advantage Gold series available, this unit was upgraded while replacing airflow stations within the buildings. Robert stated, "With this and other informal test, the EBTRON product has proven itself again and again."

The College was Robert's first exposure to airflow measurement stations (AFMS). Prior to this, he was employed in the light commercial HVAC (Heating, Ventilation, and Air Conditioning) industry, where airflow measurement stations were mostly not utilized. Most of the energy consumption at the College comes from the HVAC system. With Florida's hot and humid climate, dealing with the outside air and controlling humidity is a significant opportunity to reduce energy waste. The College started with Demand Control Ventilation (DCV) based on CO₂ and VAV systems. The AFMS integrated with the DCV offered better control and limited under/over ventilation. Robert wanted to verify that the buildings met the ventilation requirements and ensure the system operated efficiently along with the damper's opening and closing. It is a crucial role of the airflow measuring station due to the expensive nature of cooling and dehumidifying outside air.

Robert found the EBTRON Gold series more forgiving regarding duct lengths, accurate, and reliable without the need to clean the probes weekly or monthly! Robert stated: "Standardizing on the EBTRON Gold Series was an obvious solution. The EBTRON product provides accuracy, no additional monthly maintenance, no calibration, which maintains IAQ and yields more energy savings."



Original Solutions Company, Inc.

Original Solutions Company Inc. assisted and continues supporting the College with selecting and starting up the EBTRON airflow stations. There were locations where probe placement was tricky. But Original Solutions Company worked with facilities personnel and installing contractors to meet EBTRON’s suggested placement guidelines to achieve optimum operational performance. The team believes that the long-term success of the College is achieved by providing quality, technology-driven solutions that meet their needs.

The College has 2.5 million square feet of buildings; of those, 2.2 million square feet are under chilled water, most with installed EBTRON Gold Series airflow stations. All the airflow measurement stations offer superior reliability and seamless integration with the Building Management System (BMS). For quick access on-site, EBTRON offers EB-Link, which allows access to view airflow measurement data – temperature, humidity, enthalpy, dew point, and other parameters. Real-time and traverse data can be stored on the phone and emailed as a text file.

Customer Experience and Satisfaction

The College’s decision-making process heavily relied on the readings’ precision, stability, and reliability. EBTRON’s bead-in-glass thermistor probes accurately and reliably measure airflow and temperature rate with an optional humidity sensor for relative humidity, enthalpy, or dew point. Higher accuracy and analytical data can be obtained since each sensing node is an independent temperature and flow measurement point. EBTRON’s unique velocity-weighted temperature provides a

more accurate temperature measurement than a single point of averaging sensors and, when coupled with the humidity sensor, can provide a more precise enthalpy calculation, which is essential in energy-saving strategies. Each sensor node is calibrated to a NIST traceable airflow standard at up to 16 points, resulting in a sensor accuracy of 2% of reading. Robert learned of the computer-controlled manufacturing system with over 30 automated quality checkpoints at the factory. Every sensor node is also independently calibrated to a NIST traceable standard in custom-designed and automated calibration wind tunnels. The rugged bead-in-glass design differentiates EBTRON from the competition.



“To help maintain healthy IAQ levels within the College, we evaluated and informally tested several airflow measuring devices. We were extremely impressed with the results of EBTRON, which proved to be fully accurate with stable readings and minimal maintenance,” states Robert.

EBTRON, Inc.

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