

# Delta IAQ Solutions for WELL v2 Compliance

Delta Building Automation Business Group  
June 2021 R3



## AIR



Achieve high levels of indoor air quality across a building's lifetime through pollution source elimination or reduction, active and passive building design and operation strategies and human behavior interventions.

**PARTS SELECTED**  
by response

44%

**AIR PRECONDITIONS**  
9 required strategies

**4 YES**

56%

**AIR OPTIMIZATIONS**  
16 available strategies

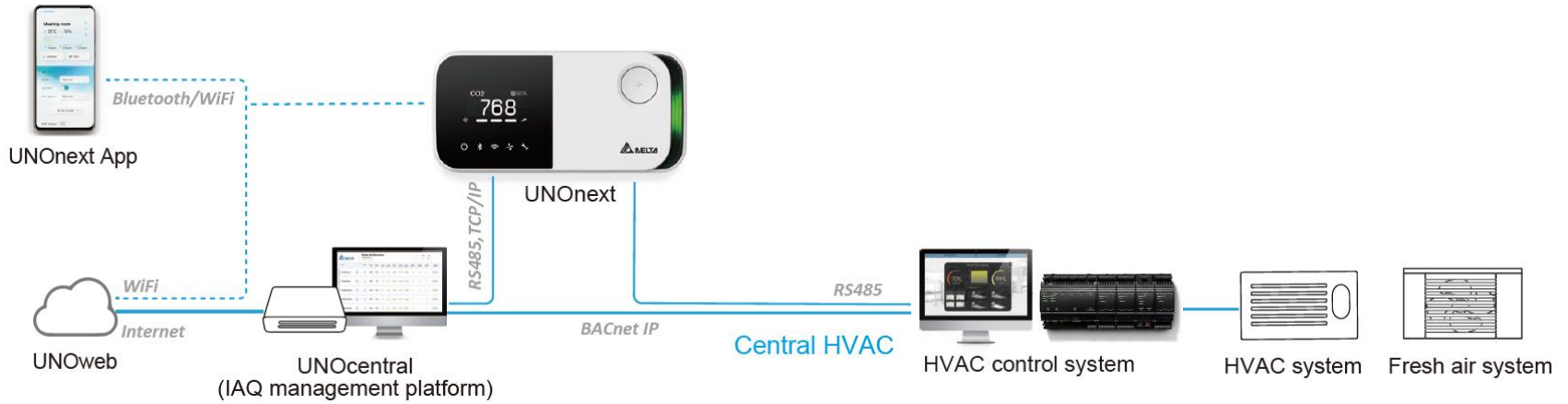
**7 YES**

**AIR TOTAL**  
by points pursuing  
**4 prerequisites**  
**7 points**



# Delta Solutions for WELL Air Features & Credits

Compliant	Credits	Part ID	Feature	Requirement
YES	Prerequisite	A01.1	Meet Thresholds for Particulate Matter	Meet the acceptable thresholds PM2.5: 15 µg/m <sup>3</sup> or lower. PM10: 50 µg/m <sup>3</sup> or lower.
YES	Prerequisite	A01.2	Meet Thresholds for Organic Gases	Meet the VOC monitoring requirements; sensor to measure TVOC at least once per hour with accuracy 25% at 500 µg/m <sup>3</sup>
YES	Prerequisite	A01.3	Meet Thresholds for Inorganic Gases	Meet the carbon monoxide 9 ppm or lower: thresholds
YES	Prerequisite	A01.5	Monitor Air Parameters	The pollutants listed in Parts A01.1 - A01.2 are monitored in occupiable spaces at intervals no longer than once per year, and the results are submitted annually through the WELL digital platform.
YES	2 pts	A05.1	Meet Enhanced Thresholds for Particulate Matter	met the Particulate Matter Thresholds; PM2.5: 10 µg/m <sup>3</sup> or lower. PM10: 20 µg/m <sup>3</sup> or lower.
No	1 pts	A05.2	Meet Enhanced Thresholds for Organic Gases	<i>Note: UNOnext only support Formaldehyde. Other organic gases are not supported.</i>
No	1 pts	A05.3	Meet Enhanced Thresholds for Inorganic Gases	<i>Note: UNOnext only support Carbon monoxide. Nitrogen dioxide is not supported.</i>
YES	2 pts	A06.1	Increase Outdoor Air Supply	met the Demand control ventilation feature for all space by using UNOnext with DDC to activate ventilation
YES	1 pts	A06.2	Improve Ventilation Effectiveness	Displacement ventilation system and met ASHRAE Guidelines
YES	1 pts	A08.1	Install Indoor Air Monitors	UNOnext met the sensor requirements; 1. PM2.5 or PM10 (accuracy 25% at 50 µg/m <sup>3</sup> ) 2. Carbon dioxide (accuracy 10% at 750 ppm) 3. Total VOCs (accuracy 25% at 500 µg/m <sup>3</sup> )
YES	1 pts	A08.2	Promote Air Quality Awareness	Data are presented through display screens via website. Or Hosted on a website or phone application accessible to occupants. UNO solution provide website and mobile APP for this part.



**Meet Enhanced Thresholds for Particulate Matter**
2
YES
MAYBE
NO

A05.1 Enhanced Air Quality

This part has multiple point thresholds available. Please review the requirements and select the appropriate number of points using the dropdown.

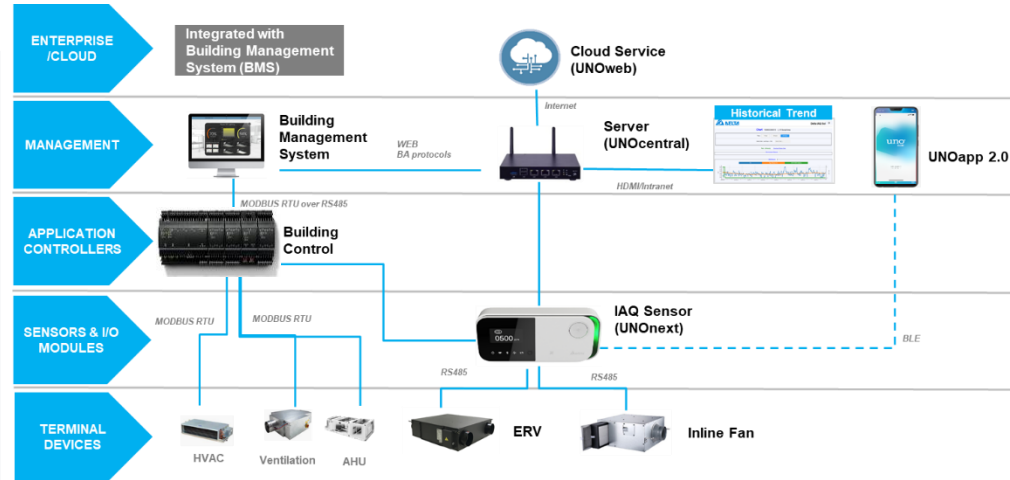
2

The following requirement is met:

a. Projects comply with the thresholds specified in the table below:

Particulate Matter Thresholds	Points
PM <sub>2.5</sub> : 12 µg/m <sup>3</sup> or lower. <sup>8</sup> PM <sub>10</sub> : 30 µg/m <sup>3</sup> or lower. <sup>9</sup>	1
PM <sub>2.5</sub> : 10 µg/m <sup>3</sup> or lower. <sup>9</sup> PM <sub>10</sub> : 20 µg/m <sup>3</sup> or lower. <sup>9</sup>	2

## Delta IAQ Solution Architecture



### Features and Benefits:

- **Intelligent IAQ control** : demand-controlled ventilation auto operates when abnormal IAQ sensed
- **Fulfills zone-based application demands**: integrate with BA systems and equipment, operating per actual needs
- **Efficient maintenance for sustainability**: auto maintenance alerts to facility managers per equipment operation data

This part has multiple point thresholds available. Please review the requirements and select the appropriate number of points using the dropdown.

1

Choose between the following:

**Demand control ventilation**

For mechanically ventilated projects, the following requirements are met in at least 90% of regularly occupied spaces:

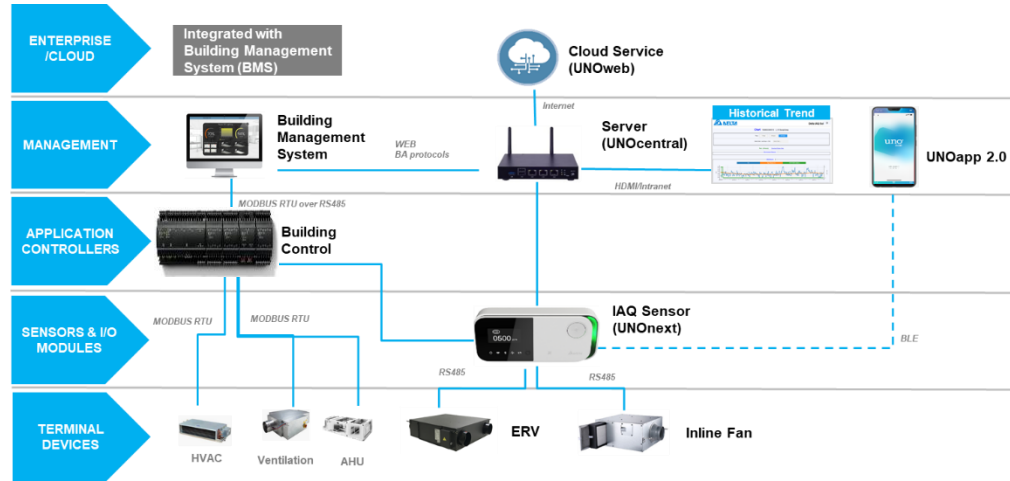
a. A demand-controlled ventilation (DCV) system regulates the outdoor air ventilation rate to keep CO<sub>2</sub> levels less than the thresholds specified in the table below, at the maximum intended occupancy:

Threshold		Threshold	Points
900 ppm	OR	500 ppm above outdoor levels	1
750 ppm	OR	350 ppm above outdoor levels	2

b. Carbon dioxide is measured at the return air diffusers or in the breathing zone at least 1 m away from doors, windows, air supply diffusers or occupants. At least one sensor is used for each occupancy zone (or per air handling unit, if a single zone is served by multiple air handling units). If the occupancy density/pattern/usage is substantially different in two adjacent areas, each area must be considered a separate zone.

# A06.1 Increase Outdoor Air Supply

## Delta IAQ Solution Architecture



### Features and Benefits:

- Intelligent IAQ control :** demand-controlled ventilation auto operates when abnormal IAQ sensed
- Fulfills zone-based application demands:** integrate with BA systems and equipment, operating per actual needs
- Efficient maintenance for sustainability:** auto maintenance alerts to facility managers per equipment operation data



A06.2 Improve Ventilation Effectiveness  
Enhanced Ventilation Design

1

YES MAYBE NO

Choose between the following:

**Displacement ventilation system**

The project uses a displacement ventilation system in at least 90% of regularly occupied spaces, with one of the following as a basis for design:

- a. ASHRAE Guidelines RP-949.<sup>9</sup>
- b. ASHRAE 62.1-2019, "Stratified Air Distribution Systems (Section 6.2.1.2.1)."<sup>10</sup>
- c. REHVA Guidebook No. 01 (Displacement Ventilation in non-industrial premises).<sup>11</sup>

Verified by [Letter of Assurance - Engineer](#)

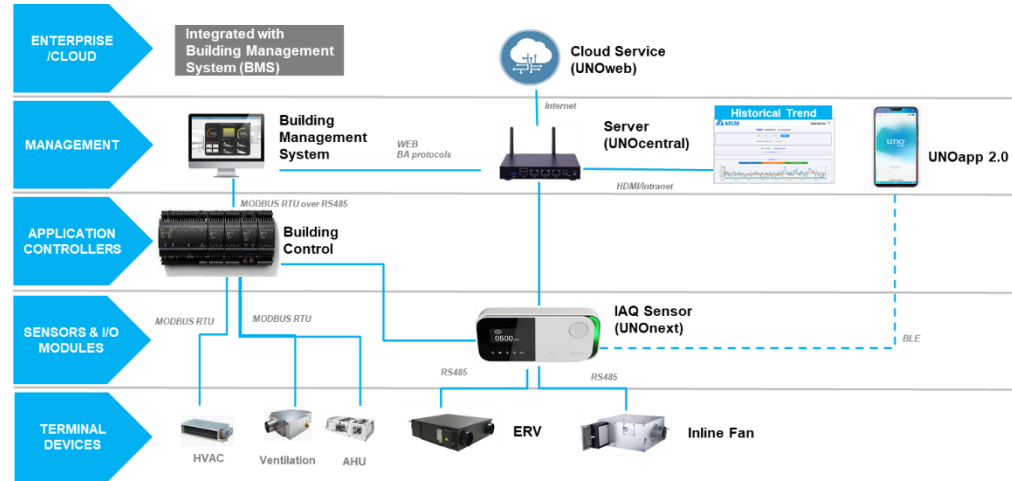
OR

**Personalized ventilation system**

For at least 50% of workstations, the following requirements are met:

- a. Outdoor air is supplied in the breathing zone, with an airspeed of no greater than 0.25 m/s at the occupant's head.<sup>10</sup>
- b. The return air diffusers are located more than 2.8 m above the floor.<sup>10</sup>

Verified by [Letter of Assurance - Engineer](#)



Features and Benefits:

- Intelligent IAQ control : demand-controlled ventilation auto operates when abnormal IAQ sensed
- **Fulfills zone-based application demands:** integrate with BA systems and equipment, operating per actual needs
- Efficient maintenance for sustainability: auto maintenance alerts to facility managers per equipment operation data

CONCEPTS / AIR / FEATURE A08 **OPTIMIZATION**

## Air Quality Monitoring and Awareness

Monitor indoor air quality issues, as well as inform and educate individuals on the quality of the indoor environment. Max 2 Pts

REQUIREMENTS WELL Core + Expand All

Part 1  
Install Indoor Air Monitors (1 point)

For All Spaces

Meet the following:

**1: Sensor requirements**

The following requirements are met:

- The project deploys monitors that measure at least **three** of the following parameters:
  - PM<sub>2.5</sub> or PM<sub>10</sub> (accuracy 25% at 50 µg/m<sup>3</sup>).**
  - Carbon dioxide (accuracy 10% at 750 ppm).**
  - Carbon monoxide (accuracy 1 ppm at values between 0 and 10 ppm).
  - Ozone (accuracy 10 ppb at values between 0 and 100 ppb).
  - Nitrogen dioxide (accuracy 20 ppb at values between 0 and 100 ppb).
  - Total VOCs (accuracy 25% at 500 µg/m<sup>3</sup>).**
  - Formaldehyde (accuracy 20 ppb at values between 0 and 100 ppb).
- Monitor density is at least one sensor per 3500 ft<sup>2</sup> of occupiable space. Monitors are sited at locations compliant with the following requirements:
  - 3.6-5.6 ft above the finished floor at locations where occupants would typically be seated or standing.
  - At least 3.3 ft away from doors, operable windows and air supply/exhaust outlets.
- Measurements are taken at intervals of no longer than 10 minutes for carbon dioxide and no longer than one hour for other pollutants.

Verified by On-site Photographs, Letter of Assurance – Engineer

TEMP  
LUX  
HUMI  
CO  
PM2.5  
CO2  
PM10  
TVOC  
O3  
HCHO

**PM<sub>2.5</sub>/PM<sub>10</sub>, CO<sub>2</sub> and TVOC meet the requirements**

Sensor	Measurement Range	Accuracy
Temperature	0-50°C	±1°C at 25°C and 50% rH
Humidity	0-100% rH	±5% at 25°C and 50% rH
CO2	400-10000 ppm	± 30 ppm ± 3%
PM2.5	0-1000ug/m3	0~100 ug/m3 ± 10 ug/m3, 100-1000 ug/m3 ± 10%
PM10	0-1000ug/m3	Relative accuracy
HCHO(Opt.)	0-1600ppb	±15% at 20~50°C
CO (Opt.)	0-500 ppm	±20ppm or ±5%
O3 (Opt.)	0.2-10 ppm	Relative accuracy
TVOC	0-60ppm	±15% in lab test (Ethanol)
Luminance	0-2000 lux	
External temp.	NTC10k Temp sensor	±0.1°C at 25°C and 50% rH





A0  
8.  
2

## Promote Air Quality Awareness

Air Quality Monitoring and Awareness

1

YES

MAYBE

NO

**Certification note:** Projects may only receive points for this part, if Part 1 is also achieved

Information about the air quality measured in Part 1 of this feature is made available to occupants as follows:

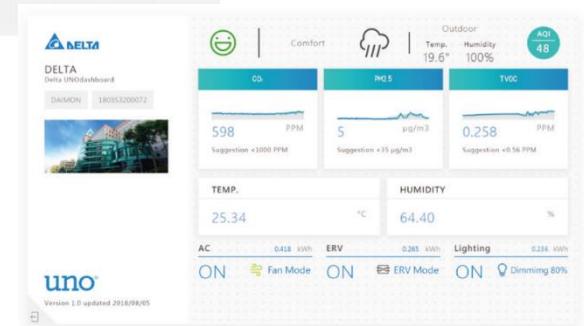
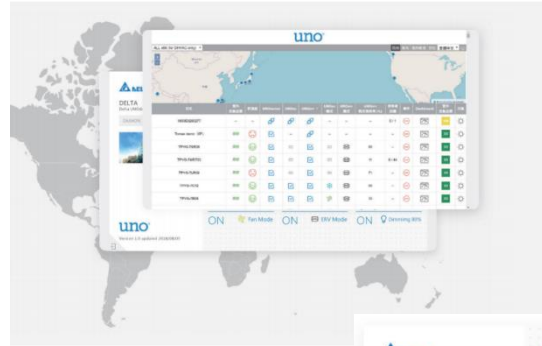
a. Data are presented through one of the following:

1. **Display screens** prominently positioned at a height of 1.1–1.7 m with at least one display per 325 m<sup>2</sup> of regularly occupied space.
2. **Hosted on a website or phone application accessible to occupants.** Signs are present indicating where the data may be accessed at a density of at least one sign per 325 m<sup>2</sup> of regularly occupied space.

b. Data presented include one of the following:

1. **Concentrations of the parameters measured.**
2. **Qualitative results of air quality (e.g., colored-coded levels).**

Verified by On-site Photographs ↓ Letter of Assurance - Owner



Features and Benefits:

- **UNOnext dashboard shows all real-time IAQ info:** the dashboard contains the real-time IAQ info by zone, helping individuals be aware of any deviations in indoor air quality metrics and is an important first step toward better air quality.

Smarter. Greener. Together

