# ATTACHMENT A-4
# SOLE SOURCE FACILITY JUSTIFICATION TRANSMITTAL

Public Contract Code section 3400 provides, in pertinent part, that:

"(a) The Legislature finds and declares that it is the intent of this section to encourage contractors and manufacturers to develop and implement new and ingenious materials, products, and services that function as well, in all essential respects, as materials, products, and services that are required by a contract, but at a lower cost to taxpayers.

(b) No agency of the state, nor any political subdivision, municipal corporation, or district, nor any public officer or person charged with the letting of contracts for the construction, alteration, or repair of public works, shall draft or cause to be drafted specifications for bids, in connection with the construction, alteration, or repair of public works, (1) in a manner that limits the bidding, directly or indirectly, to any one specific concern, or (2) calling for a designated material, product, thing, or service by specific brand or trade name unless the specification is followed by the words "or equal" so that bidders may furnish any equal material, product, thing, or service. In applying this section, the specifying agency shall, if aware of an equal product manufactured in this state, name that product in the specification. Specifications shall provide a period of time prior to or after, or prior to and after, the award of the contract for submission of data substantiating a request for a substitution of "an equal" item. If no time period is specified, data may be submitted any time within 35 days after the award of the contract.

(c) Subdivision (b) is not applicable if the awarding authority, or its designee, makes a finding that is described in the invitation for bids or request for proposals that a particular material, product, thing, or service is designated by specific brand or trade name for any of the following purposes:

(2) In order to match other products in use on a particular public improvement either completed or in the course of completion."

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**Distech Controls Eclypse Connected VAV Controller**

This is a sole source procurement because:

- ☐ This is a sole provider of a licensed, copyrighted or patented good or service.
- ☑ This is a sole provider of items compatible with existing equipment or systems.
- ☐ This is a sole provider of factory-authorized warranty service.
- ☐ This is a sole provider of goods or services that perform a unique function in order to meet the specialized needs of the District. Please provide specific detail below.

Distech Controls Field Level Controllers are needed for consistency and compatibility with the District's building controls systems.

- ☑ There are overriding circumstances upon with the Board can find that the exception found in Public Contract Code section 3400 (c) (2) applies to the identified product(s). Please provide specific detail below as to what those circumstances are, and why this sole source procurement would be in the best interest of the District.

This Distech Eclypse Connected VAV Controllers are compatible with the District's building management systems. In the past two years the District has been working with a building controls consultant, SC Engineering, to develop a comprehensive standard building controls system. The District is standardizing on VAV controllers compatible with the District's terminal unit controller, which was sole sourced and approved by the board on January 23, 2020. The use of other types of VAV control devices would be counter- productive to establishing uniformity and remote access to our systems.

- Utilizes BACnet/IP and IT standards and open integration with building management systems
- Supports smart room controls for end-to-end system for the controls of HVAC, lighting and shades
- Embedded alarms, trend log and schedule support allows for fully distributed data
- Easy customization with Distech Controls
- Automatic email notification for system status and alarms to ensure faster system servicing and response times

**This is a restricted brand or trade name, and no substitutions are allowed because:**

☑ The requested product is an integral repair part or accessory compatible with existing equipment or systems.

Existing Equipment/System: Eclypse Connected VAV Controller
Manufacturer/Model Number: Distech Controls/ECY-VAV, ECY3030, ECY-PTU/TU

☑ The District has standardized on the requested product, and use of another brand/model would require considerable time and funding to evaluate or implement. Please provide additional detail below.

Over the last 26 years, the District has invested in a proprietary building management system at all three campuses. This Distech Eclypse Connected VAV Controller replaces the Seimens controller to allow for better sub-contractor participation in building controls. Any change in the current system would incur considerable time and funding for evaluation and implementation. Such a change would involve the hiring of architects and engineers to redesign and segregate new building management systems from the existing systems. These planning costs would be in addition to the servicing and maintenance costs impacted if the building management system devices are changed due to not sole

☑ Please provide details below:

The need for consistency and capability with the established Siemens building management system and local area network is required.

**Supplier or Contractor Information:**

**Distech Controls Energy Services, Inc.**
400 East Royal Lane
Building Three, suite 290
Irving, Texas 75039

Telephone: 450-444-9898
North America (Toll Free): 1-800-404-0043

**RECOMMENDATION**

Sufficient evidence has been provided upon which the Board can find that the exception found in Public Contract Code section 3400 (c) (2) applies to the identified product(s). Approve a finding to authorize use of the above stated exception for the Distech Control Eclypse Connected VAV Controller in the MiraCosta Design Standards Manual for all the projects in the MM program. Require that said finding be included in all pertinent bid/proposal documents for those projects where such product(s) will be used.

**SIGNATURE:**

| | |
|---|---|
| **Tom Macias, Facilities Director** | 3/24/20<br>**Date** |
| **Geoff Bachanas, PMO Director** | 3/24/2020<br>**Date** |

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# Exhibit B-4
# SOLE SOURCE ARCHITECT/ENGINEERING JUSTIFICATION SUMMARY REPORT TRANSMITTAL

March 27, 2020

Re: Distech Controls Eclypse Connected VAV Controller

Within the Design & Construction Standards MiraCosta CCD has identified or designed various proprietary systems or products that meet specific District performance requirements, allow for seamless integration into existing systems, provide ease of maintenance, and afford a lower total cost of ownership. In these instances, the District is requesting that these systems and products shall be provided without substitution. The following Specification Section 23 09 00 is one that meets these special requirements.

Our experience working with other Colleges and Universities shows that single sources for some materials, products, equipment, and systems is a common approach to achieving best value.

We have reviewed the facility justification transmittal for the above-referenced item and believe that the District's sole-sourcing of this specification section meets the requirements for District's benefit as described above.

Sincerely,

Rob Barthelman
Principal

# ECLYPSE™ Connected VAV Controller

## Overview

The ECLYPSE Connected VAV Controller (ECY-VAV) is designed to control any variable air volume (VAV) box. It supports BACnet/IP communication and is a listed BACnet Building Controller (B-BC).

The ECY-VAV comes with an embedded web server that enables web-based VAV application configuration and a visualization interface. It also features embedded scheduling, alarming, and logging. Control logic and graphic user interface can be customized as required for the application.

## Features & Benefits

- Utilizes BACnet/IP and IT standards, delivering empowered IP connectivity and open integration with building management systems
- Uses cryptographic modules making it FIPS 140-2 "Inside"
- Via its RESTful API, data can be accessed from different applications, such as energy dashboards, analytics tools, and mobile applications
- Comes with ENVYSION™ Viewer and the associated preloaded rooftop unit applications and graphics pre-installed
- xpressENVYSION offers a simplified and streamlined experience in a workflow oriented, drag & drop GUI environment
- Supports EC-*gfx*Program, which makes Building Automation System (BAS) programming effortless
- Supports Smart Room Control for an end-to-end system for the control of HVAC equipment, lighting, and shades/sunblinds
- Embedded alarms, trend log and schedule support allows for fully distributed data and logic providing a more robust system
- Automatic email notifications for system status and alarms to ensure faster system servicing and response time
- Robust hardware design featuring metallic pitot terminal barbs as well as metallic anchor point and mounting bracket

# Model Selection

Example: ECY-VAV-*PoE (SI)*

| Series | Power | Units |
|---|---|---|
| ECY-VAV | [blank] : Standard 24VAC/DC power supply<br>*PoE* : Power Over Ethernet | *(SI)* : Preloaded Apps in SI (Metric) units<br>*(IMP)* : Preloaded Apps in Imperial (US) units |
| 11-points, 4 UI, 2 UO, 4 DO, 18 Vdc power supply output, built-in flow sensor, integrated damper actuator, ENVYSION viewer | | |

## Accessories

| | |
|---|---|
| ECLYPSE Wi-Fi Adapter | Wi-Fi Adapter for ECLYPSE Connected Controllers. |
| ECLYPSE Open-To-Wireless™ Adapter | EnOcean communication protocol adapter for ECLYPSE Connected Controllers. |
| Terminal covers | Terminal cover designed to conceal the wire terminals of the ECY-VAV Series controllers. Required to meet local safety regulations in certain jurisdictions. |

# Product Specifications

## Power Supply Input (ECY-VAV Models)

| | |
|---|---|
| Voltage Range[1] | 24VAC/DC; ±15%; Class 2 |
| Nominal Power Consumption | 7VA; all external loads excluded, no USB peripherals |
| Full Load Power Consumption | 20VA; external 24VAC loads excluded |
| Frequency Range | 50 to 60Hz |
| Overcurrent Protection | Field replaceable fuse |
| Fuse Type | 3A, fast-acting, 5 × 20mm (GMA-2A) |
| Power Factor | >90% |

1. 24VDC does not support DO (triac outputs).

## Power Supply Input (ECY-VAV-PoE Models)

| | |
|---|---|
| Power over Ethernet Link Powered | IEEE 802.3at |
| PoE Switch | Must be listed as Limited Power Source (LPS) per UL60905 |
| Overcurrent Protection | Field replaceable fuse |
| Fuse Type | 3A, fast-acting, 5 × 20mm (GMA-2A) |
| Powering External Devices | Up to 15 Watts maximum (power is available from the controller's power supply input terminals) |

## Communications

| | |
|---|---|
| Ethernet Connection Speed | 10/100 Mbps |
| Addressing | IPv4 or Hostname |
| BACnet Profile | BACnet Building Controller (B-BC), AMEV AS-A and AS-B |
| BACnet Listing | BTL, WSP B-BC |
| BACnet Interconnectivity | BBMD forwarding capabilities |
| BACnet Transport Layer | IP |
| Web Server Protocol | HTML5 |
| Web Server Application Interface | REST API |
| Wireless Adapter | Optional, USB Port Connection |
| Wi-Fi Communication Protocol | IEEE 802.11b/g/n and 802.11s |
| Wi-Fi Network Types | Client, Access Point, Hotspot |

## Subnetwork

| | |
|---|---|
| Communication | RS-485 |
| Cable | Cat 5e, 8 conductor twisted pair |
| Connector | RJ-45 |
| Connection Topology | Daisy-chain |
| Maximum number of standard room devices supported per controller combined [1] | 4 |
| Allure EC-Smart-Vue Series[2] | 4 |
| Allure EC-Smart-Comfort Series | 4 |
| Allure EC-Smart-Air Series[2] | 4 |
| EC-Multi Sensor | 4 |
| ECx-Light-4 / ECx-Light-4D / ECx-Light-DALI [1] | 4 |
| ECx-Blind-4 / ECx-Blind-4LV [1] | 4 |
| Maximum number of Bluetooth low energy room devices per controller combined [3] | 4 |
| Allure UNITOUCH™ | 2 |
| EC-Multi-Sensor-BLE | 4 |

1. For more details about supported quantities, see the ECLYPSE Selection Tool.xlsm spreadsheet file available for download from SmartSource.
2. A controller can support a maximum of 2 Allure sensor models equipped with a $CO_2$ sensor. Any remaining connected sensors must be without a $CO_2$ sensor.
3. A mixed architecture with standard room devices and Bluetooth low energy enabled devices is not recommended.

## Hardware

| | |
|---|---|
| Processor | Sitara ARM processor |
| CPU Speed | 600MHz |
| Memory | 4GB Non-volatile Flash (applications & storage)<br>512MB RAM |
| Real Time Clock (RTC) | Real Time Clock with rechargeable battery<br>Supports SNTP network time synchronization |
| RTC Battery | 20 hours charge time, 20 days discharge time<br>Up to 500 charge / discharge cycles |
| Cryptographic Module | FIPS 140-2 Level 1 Compliant |
| Ethernet (ECY-VAV) | 2 × switched RJ-45 Ethernet ports with integrated fail-safe for daisy-chaining |

| | |
|---|---|
| Ethernet (ECY-VAV-PoE) | 1 × RJ-45 PoE+ Ethernet port<br>1 × switched RJ-45 Ethernet port |
| USB Connections | 2 × USB 2.0 Ports<br>1 × Micro-USB 2.0 Ports |
| Subnet | RJ-45 |
| Green LED | Power status, Subnet TX, and Ethernet Traffic |
| Orange LED | Controller status, Subnet RX, and Ethernet Speed |

## Open-to-Wireless Adapter

| | |
|---|---|
| Communication Protocol | EnOcean wireless standard [1] |
| Connector Type | USB |
| Number of Wireless Inputs[2] | 18 |

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1. Available when an optional external ECLYPSE Open-to-Wireless Adapter is connected to the controller. Refer to the Open-to-Wireless Application Guide for a list of supported EnOcean wireless modules.
2. Some wireless modules may use more than one wireless input from the controller.

## Integrated Damper Actuator

| | |
|---|---|
| Motor | Belimo brushless DC motor |
| Torque | 45 in-lb, (5 Nm) |
| Degrees of Rotation | 95° adjustable |
| Shaft Diameter | 5/16 to 3/4" (8.5 to 18.2mm) |
| Acoustic Noise Level | < 35 dB (A) @ 95° rotation in 95 seconds |

## Mechanical

| | |
|---|---|
| ECY-VAV Dimensions (H × W × D) | 7.90 × 5.51 × 3.70"<br>(200.61 × 139.93 × 94.04 mm) |
| ECY-VAV-PoE Dimensions (H × W × D) | 7.90 × 8.17 × 3.70"<br>(200.61 × 207.59 × 94.04 mm) |
| Dimensions with Terminal Covers (H × W × D) | 7.90 × 10.84 × 3.70"<br>(200.61 × 275.26 × 94.04 mm) |
| ECY-VAV Shipping Weight | 2.00lbs (0.90 kg) |
| ECY-VAV-PoE Shipping Weight | 2.50lbs (1.14 kg) |
| Terminal Cover Shipping Weight (one side, bulk packaged) | 0.30lbs (0.14 kg) |
| Enclosure Material[1] | FR/ABS |
| Enclosure Rating | Plastic housing, UL94-5VB flammability rating |

1. All materials and manufacturing processes comply with the RoHS directive and are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive

## Environmental

| | |
|---|---|
| Operating Temperature | 32 to 122°F (0 to 50°C) |
| Storage Temperature | -4 to 122°F (-20 to 50°C) |
| Relative Humidity | 0 to 90% non-condensing |
| Ingress Protection Rating | IP20 (IEC 60552) |
| Nema Rating | 1 |

## Standards and Regulations

| | |
|---|---|
| CE Emission | EN61000-6-3: 2007+A1:2011 |
| CE Immunity | EN61000-6-1: 2007 |
| FCC | Compliance with FCC rules part 15, subpart B, class B |
| UL Listed (CDN & US) | UL916 Energy management equipment |

## On-Board Air-Flow Sensor

| | |
|---|---|
| Differential Pressure Range | ±2.0 in. W.C. (±500 Pa)<br>Polarity-free high-low sensor connection |
| Input Resolution | 0.00007 in. W.C. (0.0167 Pa) |
| Air Flow Accuracy | ±4.0% @ > 0.05 in. W.C. (12.5 Pa)<br>±1.5% once calibrated through air flow balancing @ > 0.05 in. W.C. (12.5 Pa) |
| Pressure Sensor Accuracy | ±(0.2 Pa +3% of reading) |

## Universal Inputs (UI)

### General

| | |
|---|---|
| Input Type | Universal; software configurable |
| Input Resolution | 16-bit analog to digital converter |
| Power Supply Output | 18VDC; 80mA maximum |
| Protection | Auto-reset fuse for 24VAC protection |

### Contact

| | |
|---|---|
| Type | Dry contact |

### Counter

| | |
|---|---|
| Type | Dry contact |
| Maximum Frequency | 1Hz maximum |
| Minimum Duty Cycle | 500ms On / 500ms Off |

### 0 to 10VDC

| | |
|---|---|
| Range | 0 to 10VDC (40kΩ input impedance) |

### 0 to 5VDC

| | |
|---|---|
| Range | 0 to 5VDC (high input impedance) |

### 0 to 20mA

| | |
|---|---|
| Range | 0 to 20mA<br>249Ω external resistor wired in parallel |

### Resistance/Thermistor

| | |
|---|---|
| Range | 0 to 350 KΩ |
| Supported Thermistor Types | Any that operate in this range |

**Pre-configured Temperature Sensor Types:**

| | |
|---|---|
| Thermistor | 10KΩ Type 2, 3 (10KΩ @ 77°F; 25°C) |
| Platinum | Pt1000 (1KΩ @ 32°F; 0°C) |
| Nickel | RTD Ni1000 (1KΩ @ 32°F; 0°C)<br>RTD Ni1000 (1KΩ @ 69.8°F; 21°C) |

## Universal Outputs (UO)

### General

| | |
|---|---|
| Output Type | Universal; software configurable |
| Output Resolution Converter | 10-bit digital to analog Converter |
| Output Protection, | Built-in snubbing diode to protect against back-EMF, for example when used with a 12VDC relay<br>Output is internally protected against short circuits |
| Auto-reset Fuse | Provides protection from accidental 24VAC connection |

### 0 or 12VDC (On/Off)

| | |
|---|---|
| Range | 0 or 12VDC |
| Source Current | Maximum 20 mA at 12VDC (minimum resistance 600Ω) |

### PWM

| | |
|---|---|
| Range | Adjustable period from 2 to 65 seconds |
| Thermal Actuator Management | Adjustable warm up and cool down time |

### Floating

| | |
|---|---|
| Minimum Pulse On/Off Time | 500 milliseconds |
| Drive Time Period | Adjustable |

### 0 to 10VDC

**Source:**

| | |
|---|---|
| Voltage Range | 0 to 10VDC linear |
| Source Current | Maximum 20 mA at 10VDC (minimum resistance 600Ω) |

**Sink:**

| | |
|---|---|
| Voltage Range | 0 to 10VDC linear[1] |
| Sink Current | Maximum 2.5 mA at 1VDC (minimum resistance 4kΩ) |

1. When the VAV is not powered, there is no default sink voltage.

## Digital Output (DO)

### General (ECY-VAV Models)

| | |
|---|---|
| Output Type | 24VAC Triac; software configurable |
| Maximum Total Current for all Outputs | 2A |
| Power Source, | External or internal (jumper selectable) |
| Maximum Current per Output | 0.5A continuous |
| | 1A @ 15% duty cycle for a 10 minute period |

### General (ECY-VAV-PoE Models)

| | |
|---|---|
| Output Type | 24VAC Triac; software configurable |
| Power Source | External or internal (jumper selectable) |

**Internal Power Source**

| | |
|---|---|
| Network Switch | 802.3at |
| Maximum Total Power for all Digital Outputs | 15W |
| Maximum Current per Output | 0.5A continuous, power supply limited |
| Waveform | 24 VAC square wave |

**External Power Source**

| | |
|---|---|
| Voltage | 24VAC from external source |
| Maximum Current per Output | 0.5A continuous |
| | 1A @ 15% duty cycle for a 10 minute period |

### 0 or 24VAC (On/Off)

| | |
|---|---|
| Range | 0 or 24VAC |

### PWM

| | |
|---|---|
| Range | Adjustable period from 2 to 65 seconds |

### Floating

| | |
|---|---|
| Minimum Pulse On/Off Time | 500 milliseconds |
| Drive Time Period | Adjustable |

# Dimensions

*Figure 1:* ECY-VAV Controller Dimensions

*Figure 2:* ECY-VAV-PoE Controller Dimensions

*Figure 3:* ECY-VAV Controller with Terminal Covers Dimensions

Specifications subject to change without notice.
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