

# San Ace Controller

## Features

### Preventive maintenance of equipment (IoT functionality)

- Easy to connect to user's terminal devices. (Wireless LAN / wired LAN)
- Enables users to monitor the status of fans and sensors from remote terminal devices.
- Enables users to control the fan speed remotely via terminal devices.
- Detects outlier sensor measurements and sends alerts.
- Saves the fan's cumulative operating time and other fan measurement data to the cloud for later use.
- Prevents heat problems with user equipment, contributing to reducing maintenance time and costs.

### Low noise and high energy efficiency (Automatic control)

- Stores temperature, humidity, and air pressure measurements for automatic fan speed control based on the setting conditions.
- Makes fan cooling and ventilation more efficient, reducing noise and improving efficiency.

### Optimized fan settings (Manual control)

- Can connect and control a maximum of four fans, enabling different speed settings for individual fans.
- Optimizes the airflow and static pressure of individual fans in multi-fan systems.



Only the 9CT1-U001 model is cUL-certified.

## Specifications

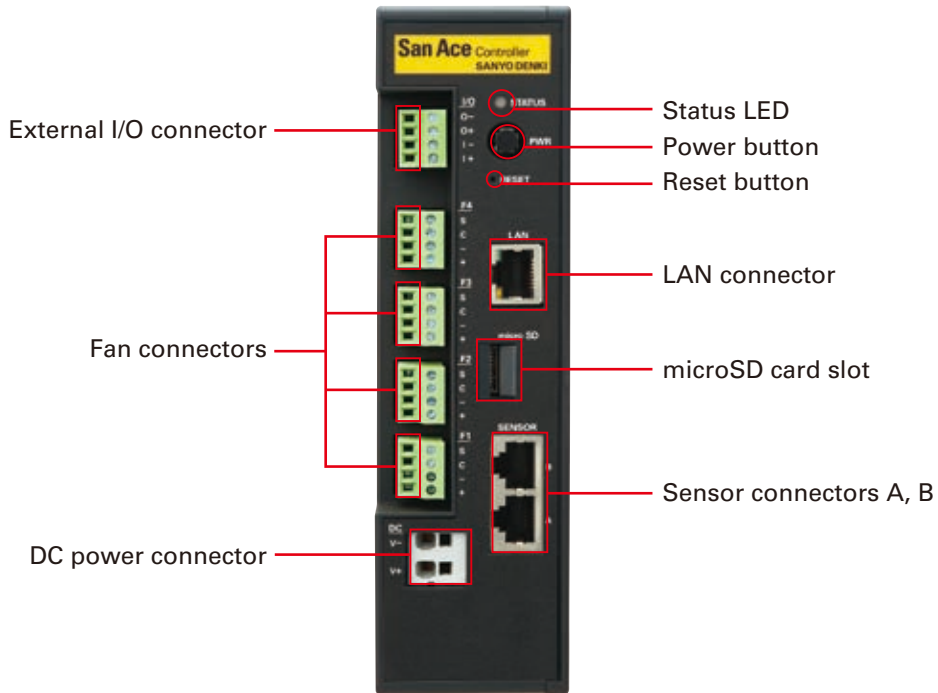
|   | With wireless LAN   | Without wireless LAN   | With wireless LAN, cUL certified                      |
|---|---|--|---|
| Model no.   | 9CT1-001  | 9CT1-002   | 9CT1-U001 <sup>(1)</sup>                              |
| Rated voltage [VDC]                                 | 12/24/48  |  | 12/24   |
| Power consumption [W]                               | 3.1 <sup>(2)</sup>  |  |   |
| Max. input power                                    | 970 W or less   |  | 64 W or less (At 12 VDC)<br>100 W or less (At 24 VDC) |
| Operating voltage range [VDC]                       | 7 to 60   |  | 7 to 27.6   |
| Operating temperature range [°C]                    | -20 to +70  |  |   |
| Control functions                                   | Manual / automatic  |  |   |
| Control signal                                      | PWM signal<br>High-level voltage (V <sub>OH</sub> ): 3.3/5 V<br>Frequency: 25 kHz   |  |   |
| Monitoring criteria                                 | Fan speed, fan current, fan operation hours, sensor detection value, external input |  |   |
| No. of connectable fans                             | Max. 4  |  |   |
| Max. fan connection terminal current (per terminal) | 5 A   |  | 5 A (At 12 VDC)<br>4 A (At 24 VDC)                    |
| Max. output current (Total)                         | 20 A  |  | 5 A (At 12 VDC)<br>4 A (At 24 VDC)                    |
| No. of connectable sensors                          | Max. 4  |  |   |
| Compatible sensors <sup>(3)</sup>                   | Temperature / humidity, air pressure, acceleration                                  |  |   |
| External I/O functions                              | Input   | Photocoupler-isolated input, ON: 15 to 28.8 VDC, OFF: 0 to 5 VDC   |   |
|   | Output  | Photocoupler-isolated open-collector output, load voltage: 28.8 VDC or less, output current: 0.1 A or less |   |
| Communication                                       | Wireless  | IEEE 802.11b/g/n, frequency: 2.4 GHz <sup>(4)</sup>  | —   |
|   | Wired   | Ethernet 10BASE-T, 100BASE-TX  |   |
| Size [mm]   | 50 (W) × 135 (D) × 180 (H)  |  |   |
| Mass [g]  | 450   |  |   |
| Material  | Casing: Plastic   |  |   |

(1) Use a UL Class 2 power supply. (2) For use of this product alone, at 20°C ambient temperature

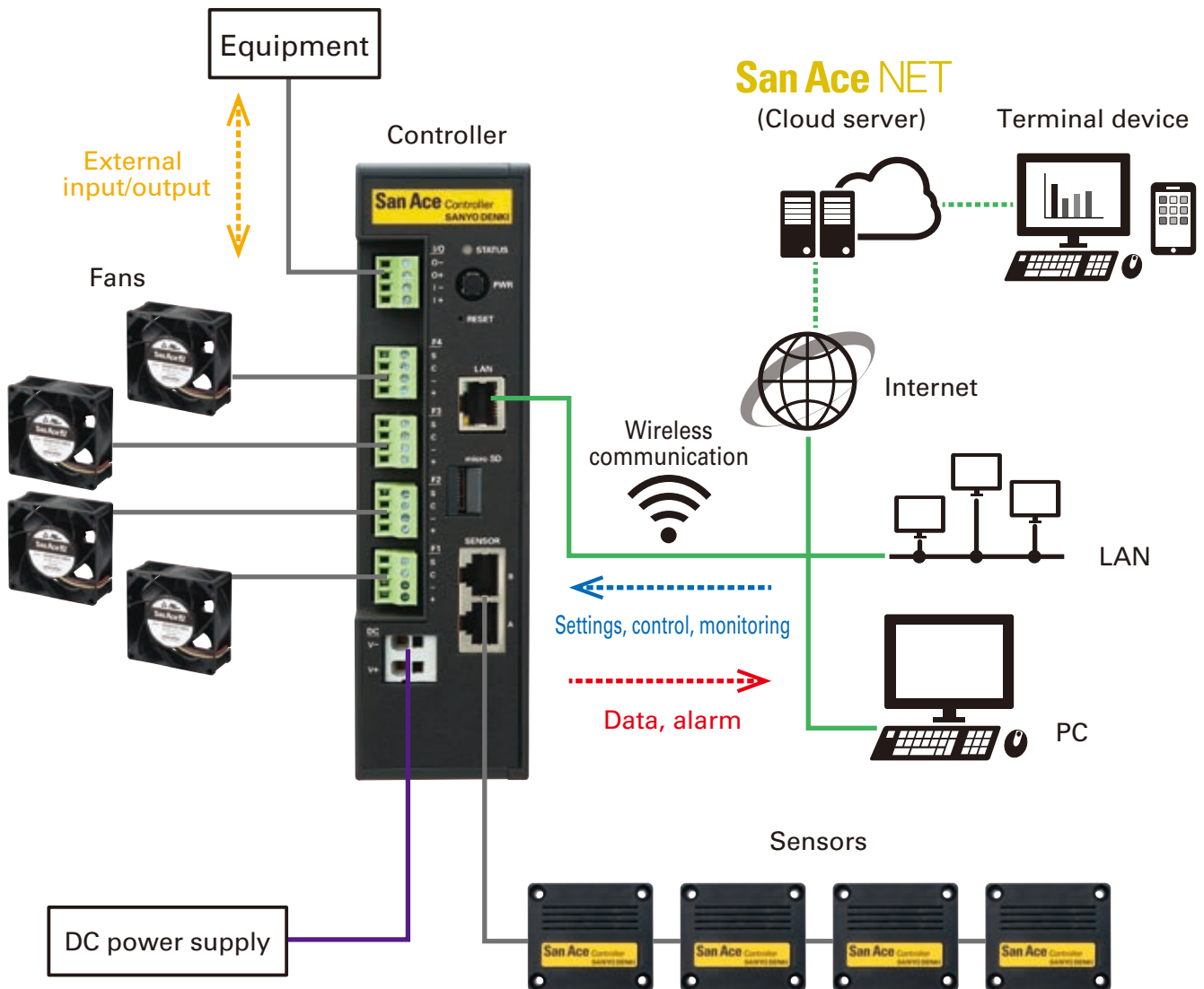
(3) Use our dedicated sensors (options). (4) Available channels: Ch. 1 to 11

# San Ace Controller

## Front View



## System Configuration

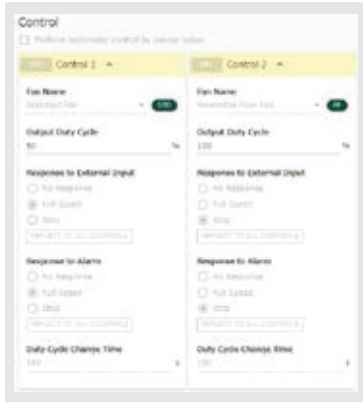


## Graphical User Interface (GUI) Screens

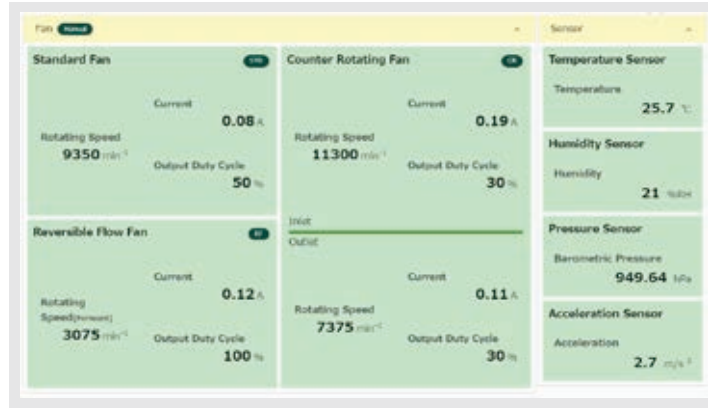
Settings, control, monitoring, and data download can be done through web browsers.

Sample screens

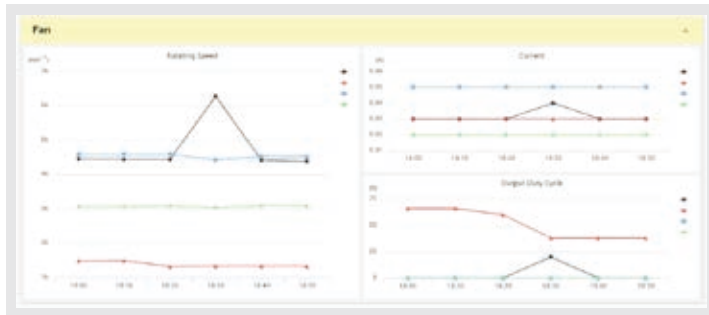
Control settings



Measurement data



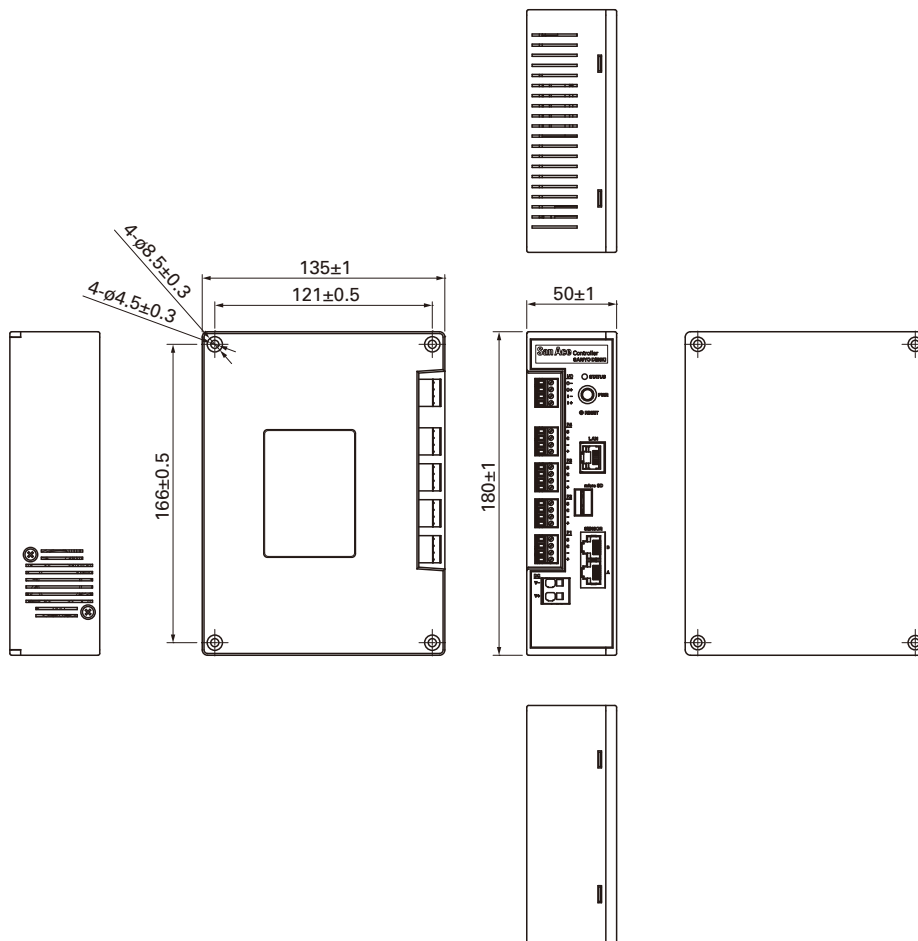
Graphs



Alarms

| Alarm ID | Alarm Name           | Alarm Status   | Action  |
|----------|----------------------|----------------|---------|
| F1       | Fan Rotational Speed | 20000 RPM (OK) | RESOLVE |
| F2       | Fan Rotational Speed | ---            | RESOLVE |
| F3       | Fan Rotational Speed | ---            | RESOLVE |
| F4       | Fan Rotational Speed | ---            | RESOLVE |
| F5       | Fan Current          | 20000 A (OK)   | RESOLVE |
| F6       | Fan Current          | ---            | RESOLVE |
| F7       | Fan Current          | ---            | RESOLVE |
| F8       | Fan Current          | ---            | RESOLVE |
| F9       | Fan Consumption      | ---            | RESOLVE |
| F10      | Fan Consumption      | ---            | RESOLVE |
| F11      | Fan Consumption      | ---            | RESOLVE |
| F12      | Fan Consumption      | ---            | RESOLVE |

## Dimensions (unit: mm)

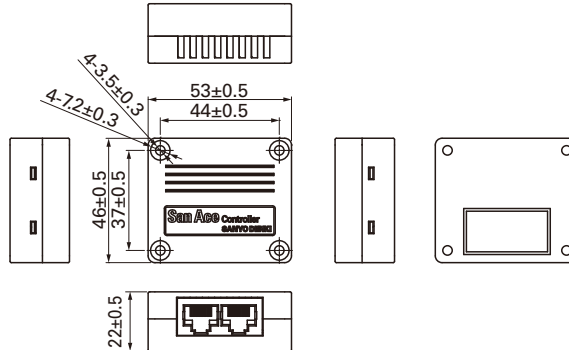


## Options

### Sensors



Dimensions (unit: mm)



| Sensor type                      | Temperature / Humidity sensor                                      | Air pressure sensor           | Accelerometer   |
|----------------------------------|--|-------------------------------|---|
| Model no.                        | 9CT1-T   | 9CT1-P                        | 9CT1-A  |
| Measurement range                | Temperature: -20 to +70°C<br>Humidity: 20 to 85% RH <sup>(1)</sup> | Air pressure: 800 to 1100 hPa | Acceleration: 0 to 60 m/s <sup>2</sup> <sup>(2)</sup> |
| Operating temperature range [°C] | -20 to +70   |                               |   |
| Operating humidity range [% RH]  | 20 to 85 <sup>(1)</sup>  |                               |   |
| Size [mm]                        | 53 (W) × 46 (D) × 22 (H)   |                               |   |
| Mass [g]                         | 35   |                               |   |
| Material                         | Casing: Plastic  |                               |   |

(1) Non-condensing (2) Total acceleration from three axes

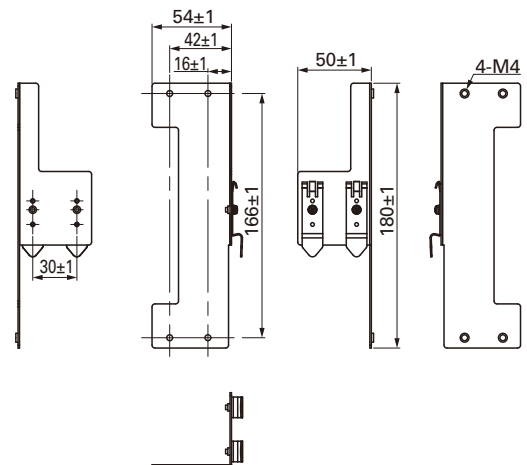
### Din rail adapter



Mounting example



Dimensions (unit: mm)



|                |                 |
|----------------|-----------------|
| Model no.      | 9CT1-D          |
| Mass [g]       | 110             |
| Material       | Stainless steel |
| Items included | Screw: 2 pcs    |

### Precautions on use

● Before using the product, please read the included instructions manual carefully.

### Notice

● The products shown in this catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.

**SANYO DENKI CO., LTD.** 3-33-1 Minami-Otsuka, Toshima-ku, Tokyo 170-8451, Japan TEL: +81 3 5927 1020

<https://www.sanyodenki.com/>

The names of companies and/or their products specified in this catalog are the trade names, and/or trademarks and/or registered trademarks of such respective companies. "San Ace" is a trademark of SANYO DENKI CO.,LTD.

Specifications are subject to change without notice.

CATALOG No. C1090B004 '20.8