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SANYO DENKI Develops IoT-Enabled *San Ace Controller*

Industry's first controller that can remotely monitor and automatically control fans

SANYO DENKI has developed and released the *San Ace Controller*, the industry's first fan controller that enables automatic speed control and remote monitoring of PWM fans.*

This controller can optimize airflow and static pressure of up to four fans by controlling individual fan speeds. Also, sensor measurements can be stored and used for automatic fan control, contributing to reducing noise and improving energy efficiency. Moreover, it enables remote monitoring and control of fans via a cloud server. Value-added features include fault detection and preventive maintenance measures for user equipment.

This product is suitable for applications such as automatic control of temperature, humidity, and air pressure for home ventilation, heat exchangers, air conditioners, and plant factories, and preventive maintenance of base stations, industrial equipment, and digital signage.

Features

1. **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.

2. **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.

3. **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.

* Based on our own research as of February 19, 2019.

Specifications

Controllers

		With wireless LAN	Without wireless LAN	With wireless LAN, cUL certified
Model no.		9CT1-001	9CT1-002	9CT1-U001(1)
Rated voltage [VDC]		12/24/48		12/24
Power consumption [W]		3.1(2)		
Max. input power		970 W or less		64 W or less (At 12 VDC) 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 High-level voltage (V_{OH}): 3.3/5 V 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) 4 A (At 24 VDC)
Max. output current (Total)		20 A		5 A (At 12 VDC) 4 A (At 24 VDC)
No. of connectable sensors		Max. 4		
Compatible sensors(3)		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 (4)	—	IEEE 802.11b/g/n, frequency: 2.4 GHz (4)
	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

Sensors

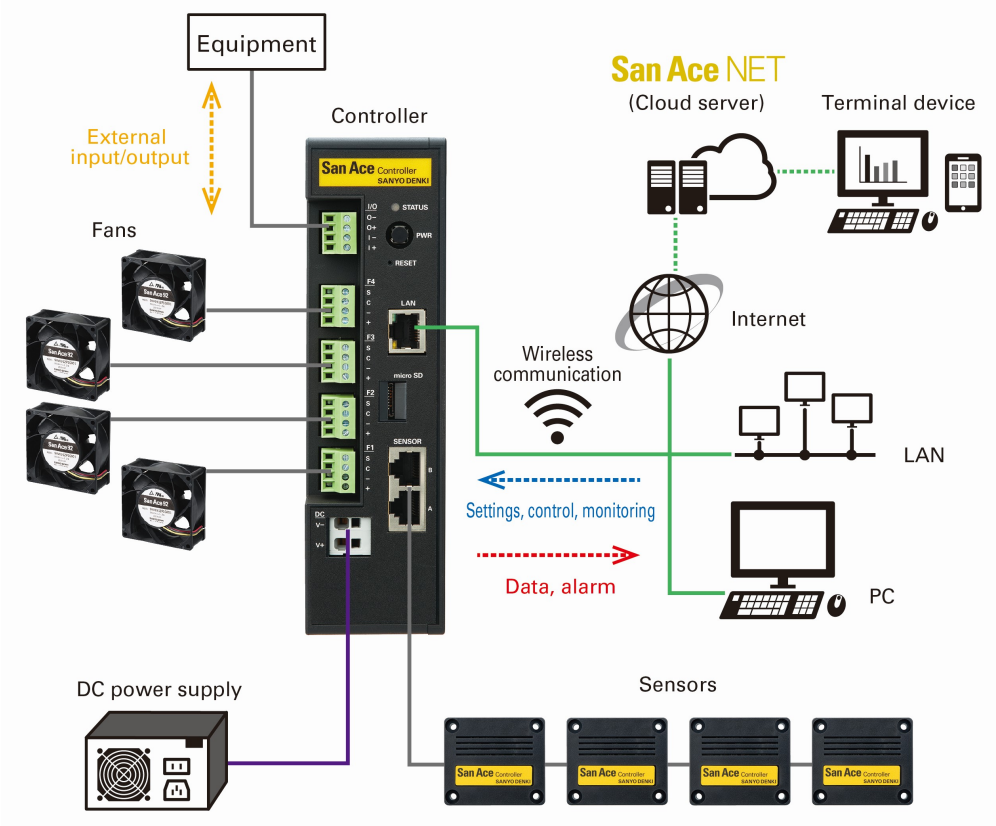
Sensor type	Temperature / Humidity sensor	Air pressure sensor	Accelerometer
Model no.	9CT1-T	9CT1-P	9CT1-A
Measurement range	Temperature: -20 to +70°C Humidity: 20 to 85% RH(1)	Air pressure: 800 to 1100 hPa	Acceleration: 0 to 60 m/s^2 (2)
Operating temperature range [˚C]	-20 to +70		
Operating humidity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

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

Applications

Home ventilation, heat exchangers, air conditioners, plant factories, base stations, industrial equipment, LED lights, and digital signage

System Configuration



Price

Open

Photo

Note: The information stated in this release is current as of June 4th, 2020.

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