



SANYO DENKI San Ace Controller

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Cooling Systems Division Sanyo Denki *America*, Inc.

www.sanyodenki.com/america

Products Highlights

- IoT functionality
- Automatic control
- Manual control



- Target applications: Home ventilation, heat
- exchangers, air conditioners, plant factories, base
- stations, industrial equipment, LED lights, & digital
- signage





IoT functionality

Preventive maintenance of equipment



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Automatic control

Low noise and high energy efficiency.



- Fan rotational speed can be automatically controlled using the sensor detection value and the set value.
- Temperature sensors, humidity sensors, and pressure sensors are supported.

Manual control

Optimized fan settings

Example: setting duty cycle



- Multiple fans can be controlled individually.
- Values can be set from 0 to 100% in 1% increments.
- Can be set and controlled from a distance.

Target Applications

- Home ventilation
- Heat exchangers





There is demand for adjusting room pressure and temperature with fans.

Air conditioner

There is demand for remotely controlling fans automatically through a terminal. Humidifier

Air purifier



There is demand for controlling humidity with fans.

Industrial equipment



Because of the harsh installation environment, fan failure frequency is high.

LED lights

Digital signage



Many devices installed outdoors where they are susceptible to temperature fluctuations.

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Specifications – System Configuration



Specifications – Controller Connections



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Specifications - Controllers

		With wireless LAN	Without wireless LAN	With wireless LAN, cUL certified	
Model no.		9CT1-001	9CT1-002	9CT1-U001 ⁽¹⁾	
Rated voltage [VI	DC]	12/24/48		12/24	
Power consumpt	ion [W]	3.1 ⁽²⁾			
Max. input power	r ²	970 W or less		64 W or less (At 12 VDC) 100 W or less (At 24 VDC)	
Operating voltage	e range [VDC]	DC] 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 _{он}): 3.3/5 V Frequency: 25 kHz			
Monitoring criter	ia	Fan speed, fan current, fan operation hours, sensor detection value, external input			
No. of connectable fans Max		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

Specifications – Sensors (option)

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

- 9CT1-001, 9CT1-002: Technical Regulations
 Conformity Certification, VCCI, CE, FCC, & TUV
 approved
- 9CT1-U001: Technical Regulations Conformity
 Certification, VCCI, CE, FCC, TUV & cUL approved
- Instruction Manual can be downloaded from here;

https://products.sanyodenki.com/en/sanace/controller/sanace-controller/9CT1-U001/