

# Servo Amplifier

## Description

Servo amplifiers are devices that control the rotational speed, torque, and positioning of servo motors used in robots and automated facilities. They can be used in the optimum combination for the motor output and the control method of the host controller. Today, in line with the increasing performance of industrial robots, small-size servo amplifiers with higher capacities have been developed. This lead to the increased heat generation from the built-in semiconductors, demanding even more efficient cooling. Moreover, servo amplifier applications have diversified, and they are required to operate even in oil mist environments. Therefore, cooling fans used in servo amplifiers are required to have high performance and oil-proof capability.



**Oil Proof Fan**  
**San Ace 60WF**  
**9WF type**

## SANYO DENKI Proposal

- **9WF0624H701 / Oil Proof Fan / 60 x 60 x 15 mm / 24 VDC / Pulse sensor / 40,000 hours @ 60°C / 1 unit**  
Application: Cooling of PCBs in servo amplifier

## Features

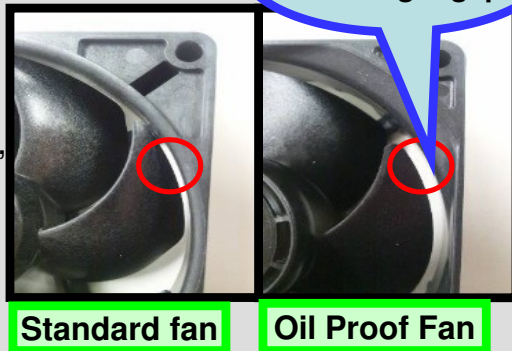
### ■ Three innovations of SANYO DENKI's Oil Proof Fan

1) Both windings and PCB are completely coated with an oil-resistant resin.



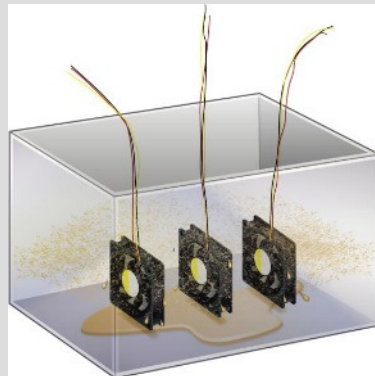
2) The resin used is resistant to change from chemical reactions.

3) To prevent fans from locking up caused by accumulated dust and oil, impeller size has been reduced, widening the gap between frame and impeller.



### ■ Excellent environmental durability

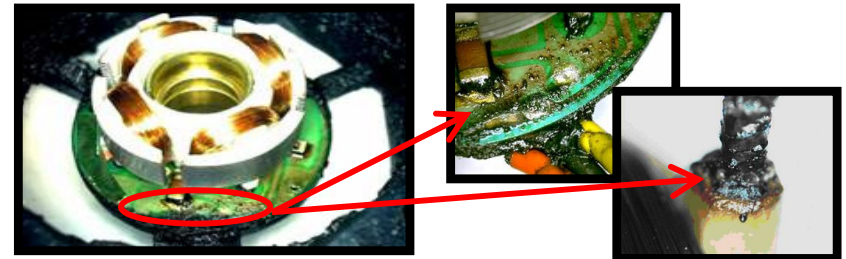
This fan has been tested over 1 month of continuous operation in an oil mist environment, without speed reduction or sensor malfunctions observed. For use in various applications, a wide variety of cutting oil types were used in our testing to ensure the product quality and reliability.



## Merits

### ■ Can be used in harsh environments with oil mist

When using a standard fan within the same environment, oil in contact with the windings or PCB may lead to corrosion and burnout. (See the photos below)



This type of damage commonly occurs to most fans before the end of their expected lifespan. SANYO DENKI's Oil Proof Fan remains unaffected even in harsh oil-mist environments and continues to deliver cooling required for devices.

### ■ Can be installed in any location

When using a standard fan within the same environment, oil in contact with the windings or PCB may lead to corrosion and burns. Whether indoors, in environments with high humidity, wet indoor locations, or environments with oil mist, by using fans that meet your application's requirements there is no need to limit device placement.

### ■ Reduced maintenance even in harsh environments

Fans resist becoming stuck even after long exposure to environments where oil and dust accumulate on impellers.