

Troubleshooting of Diffusion Silicon Pressure Transmitter

Diffusion silicon pressure transmitter is applied in a wide variety of industries, such as petroleum, chemical industry, steel, power, light industry and environmental protection industry.

It can complete the work of measurement and control of the gauge pressure, negative pressure or absolute pressure of various fluid pressure.

Most importantly, this type of transmitter can be used in corrosive medium and harsh or dangerous environment. In the process of using the transmitter, there may be some faults or problems.



Figure 1: [Danfoss Transmitter 060G0092](#)

Diffusion Silicon Pressure Transmitter Troubleshooting

When you mount the transmitter, the pressure sensitive parts of the transmitter should be perpendicular to the gravity direction. If the installation conditions are limited, after installation and fixation of the device, calibrate the output to the standard value by the zero trim.

The transmitter could not be adjusted within the range of zero position. To solve this problem, firstly remove the transmitter and directly check whether the zero position is correct. If the zero position is correct, replace the sealing ring and check it again.

If the pressure is increased, output of the pressure transmitter does not change. When you increase the pressure again, the output suddenly changes. When the pressure returns back to the normal value, the zero position of the device cannot return back. The reason is most likely that there's problem in the sealing ring of the pressure transmitter.

There is no voltage output. Inspect whether the transmitter meets the power supply requirements; whether there is any wiring error between power supply and transmitter or load equipment. If there is polarity reverse or no voltage on the terminal of transmitter, there could be no voltage signal output.

Generally, the shell of transmitter shall be grounded. Signal cable must not be laid around power cable. Strong electromagnetic interference shall be avoided around the transmitter. Transmitters must be periodically verified according to industry regulations.

When selecting the transmitter, users should fully understand the working conditions of the pressure measurement system, and make reasonable selection according to their requirements, so as to make the system work in the best condition, reducing the project cost.

Two kinds of pressure of the medium under test of pressure transmitter are connected to high and low pressure chambers. The pressure of the low pressure chamber is atmospheric pressure or there is vacuum, which acts on both sides of the diaphragm of δ element (i.e. sensitive element).

The pressure is transmitted to both sides of the measuring diaphragm through the filler liquid in the isolation plate and the element. Pressure transmitter is a capacitor composed of measuring diaphragm and electrodes on both sides of insulating sheet.

You should inspect pressure transmitter once a week and further examine it once a month. The inspection work is to remove dust in the device, check electrical components inside, as well as the current value of output frequently.

Since there is weak current in the pressure transmitter, you should separate it from strong current in work place.

Problem and Solution List of Diffusion Silicon Pressure Transmitter

You can check the following table for detailed problems/faults and their solutions.

No.	Faults	Reasons	Solutions
1	Output Value of Zero	Check if the power supply is connected correctly.	Correct the wiring.
		Inspect whether the voltage of power supply is DC 10~45V.	Restore the power supply to DC 24V.
		Examine if the diode is damaged.	Replace it.
		Check if the electronic circuit board is failed.	Replace it.
2	Communication Failure	Supply voltage on transmitter is 10.5V.	Restore the power supply to DC 24 V.
		Load resistance is 250 Ω .	Add resistance or replace resistance.
		Wrong unit addressing.	Re address.
		Unstable pressure.	Stabilize the pressure or just

3	Unstable Reading		wait for a while.
		Insufficient damping.	Increase damping
		Check whether there is interference.	Eliminate interference source.
4	Inaccurate Reading	Blocked instrument pressure pipe	Dredge it.
		Check whether the transmitter is set correctly.	Reset it.
		Examine whether the system equipment is in good condition.	Ensure it is in good condition.
		Device is not calibrated.	Re - calibrate it.
5	Changing Pressure with No Output	Blocked pressure pipe	Dredge it.
		Check if the transmitter is set correctly.	Reset it.
		Inspect the safety device.	Reset it.
		Check whether the transmitter module is damaged.	Replace it.

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