Application Brief

OMRON AUTOMATION & SAFETY

Overcoming Heat and Vibration in a Control Panel

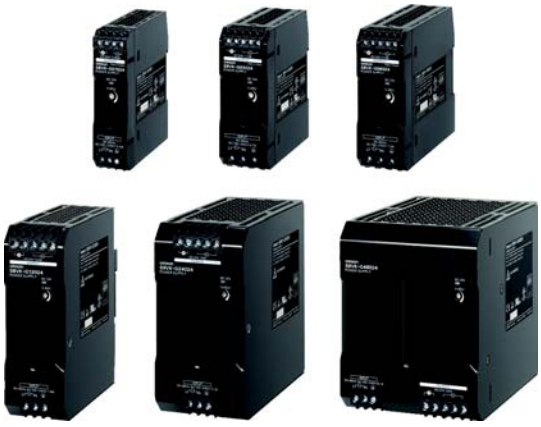
Challenge:

Control panels in the oil industry and pumping stations need to be designed for installation and continuous operation in a wide range of outdoor temperatures. These control panels need to operate in extreme hot and cold conditions. As design of the control panels continues to evolve, they include more and more digital displays and communication equipment that require reliable low DC control voltage.

Solution:

The S8VK-G power supply is eaxctly what is required for such oil well and pump control panels. The installations in the hot sun and cold winter days can cause the electronics to fail prematurely. The S8VK-G is designed with compnents that allow for these extreme conditions. The S8VK-G power supply will operate at a temperature range of -40°F to 158°F. It was also designed to reduce the harmful effects of vibration to the power supply. The S8VK-G power supplies can be mounted in locations that would cause failures with other power supplies. The 5G vibration testing means the S8VK-G will work when mounted on equpment that moves, shakes or starts up frequently.

How It Works:



The S8VK-G has been designed with a universal input voltage that allows for installation in worldwide applications. The AC voltage range is 100 to 240 VAC (allowable 85 to 264 VAC) and the DC input range of 90 to 350 VDC can be used in applications in the USA, Canada Mexico and worldwide. The DC output voltage can be specified in 5VDC, 12VDC, 24VDC and 48VDC. Because of this range of DC outputs the S8VK-G series can be designed into applications that include oil field and pump control panels.

The wide operating temperature range of -40° to 70°C (-40° to 158°F) ensures stable operation in any environment where other power supplies may start to fail. The robust design advantages don't end there because the S8VK also offers high resistance to vibration when mounted on moving equipment or transmitted by machinery in close proximity. The S8VK-G has been designed to withstand up to 5G vibration for 80 minutes each in X, Y, and Z directions.

Omron knows that size is important for machine designers managing panel space. For this reason we have applied our proprietary technology using thermal simulation in the design of the S8VK power supplies. This delivers high power density in a compact package.

For More Information:

For more information on the S8VK-G Switch Mode Power Supplies visit www.omron247.com or contact Omron at 800-55-OMRON.

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