Technical Bulletin

Bulletin No: TB-0050-22-180-FS Effective Date: 07-01-2022 Type: Informational

Subject: Power Supply Selection

Scope
This technical bulletin discusses considerations when selecting an appropriate power supply.

Background
An often-overlooked aspect during the design and installation of a SCADA system is the requirement to use good quality power supplies. Selection based on cost alone can result in the purchase of a poor quality power supply, the installation of which can cause a wide range of system performance issues.

Discussion
Purchasing a power supply based on cost alone is false economy, as quality, performance and service life are often compromised. Substandard power supplies can fail in an unexpected, often dramatic fashion, resulting in anything from fire to catastrophic, systemwide failure and damage to ancillary equipment. The price in collateral equipment damage due to failure can easily exceed the cost of a quality power supply several times over.

What to look for when purchasing a power supply
Qualities to look for when researching a power supply are good overcurrent protection (OCP), overload protection (OP), overtemperature protection (OTP), overvoltage protection (OVP), short circuit protection (SCP), line regulation, and low voltage ripple.
System integrators should also consider local factors when selecting power supplies, such as the type of enclosure the power supply will be installed in and site location (desert, arctic, jungle, marine) as this may determine additional required features, such as operating temperature range or IP rating. Environmentally conscious and off grid users should look for supplies with power factor correction (PFC) as this will increase system efficiency. A quality power supply can also be your first line of defense against damage to system equipment due to unexpected conditions (such as supply voltage fluctuations).
Supply voltage may also be a consideration. In some cases it may be advantageous to use a 24 VDC supply (as opposed to a 12 VDC supply) as systems operating at higher voltages can utilize smaller diameter wire gauge, resulting in both reduced installation expenses and increased resistance to interference.
Based on internal testing and from customer testimonials, we have found power supplies from Sola/Hevi-Duty, Phoenix Contact, and Puls to be good quality products. This should not be considered a definitive list of quality power supplies, but rather a starting point for system integrators to begin their research when selecting a new power supply.

For more information please contact Mission Critical Energy at (716) 276-8465 or visit us at www.flexscadafusion.com .