

Digital Signage Installations



Considerations for preventing power problems on your digital signage network.

Digital signage is a dynamic new medium for displaying advertising, public information and point-of-purchase messaging. Unlike static displays, digital signage offers the advantages of letting users quickly change content to “narrowcast” a specific audience, along with its capabilities to interact with customers and to incorporate animation to engage buyer attention. Already a \$1.2 billion market, digital signage is now relied upon by retail outlets, malls, airports, schools, government buildings, tradeshow, outdoor billboards, and in banks and restaurants to enhance the customer experience and communicate important information. Emerson Network Power is meeting the challenges of digital signage in each industry.



“Digital signage is squarely in the public eye. When it is down, the lines of communication between seller and customer are down.”

Because digital signage consists of an array of electronic hardware, it is susceptible to power-related problems and carries the same financial risk. Downtime and power disturbances in digital signage

translate into **costly** service calls, increased warranty claims, and shortened equipment life. Customer satisfaction, even the power of a brand, can be badly tarnished by an outage or interruption. If a large retail outlet had malfunctioning displays throughout the store, it would cause customers to question the viability of the organization and whether they should continue to shop there.

Digital signage is squarely in the public eye. When it is down, the lines of communication between seller and customer are down. The most common culprit: poor power. The components that make up digital signage systems—media players, flat panel displays (LCD, LED, plasma), touch screens, and content management servers—can all experience failure due to the power problems.

Whether installing new equipment or retrofitting legacy equipment, it is critical that components be protected from power anomalies, yet power protection is frequently excluded from the final design because of a common misconception that the existing power is stable or the installing electrician has ensured secure power for your system. Here are some considerations for your installation:

Your network is more than just hardware and software.

Your digital signage network involves hardware, software, and the power that runs it. Having clean power is critical to your business needs. Power problems can cause your system to run poorly or come to a complete stop.

Power quality impacts your bottom line.

According to NREL (National Renewable Energy Laboratory) in 2003 the US lost between \$119 billion and \$188 billion from power outages and power quality issues annually. How much does downtime cost you? When estimating your downtime cost, be sure to include: lost employee productivity, labor time for restoration of system and data, service call cost, lost sales, lost opportunity, lost customer satisfaction. It all adds up.

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Besides interrupting power, disturbances can cause permanent damage.

Because today's systems are made up of delicate circuitry, they are more sensitive to power transients. These disturbances not only cause scrambled data and interrupted content stream, but also irreversible damage to microprocessors. The result is components running inefficiently, or worse, needing replacement altogether.

A new building or power environment can have power disturbances.

Unfortunately, there is no such thing as a static power installation, no matter how new the building. There will always be additions to the circuit that will impact power quality and influences outside your own facility that will impact your equipment's power.

Power outages are only one type of power problem and only account for 0.50% of power disturbances.

Electronics are under constant siege. It is estimated that a site such as a fast food restaurant can get up to 60,000 transients an hour and a sports arena up to 432,000. Most of these transients are unrecognized except when a system freezes-up or goes down. Besides outages, there are nine other power problems to contend with that aren't so obvious - sags, surges, and common mode noise are just a few. All can cause damage in interruption to your system.

Common-mode noise can effect your computer's communications.

A computer communicates in 1s and 0s and uses the common mode ground as a reference point to differentiate between them. When a transient is present on the ground, it mimics the logic signal, causing the 0s to look like 1s. The result—garbled communications, momentary interruptions in data signals, and, if severe enough, damage to your equipment.

“Having insufficient power protection leaves your digital signage vulnerable.”

Not all power disturbances occur on the power lines.

Communication lines can also carry transients that in turn effect your system. These transients are just as damaging to your network as those on the AC power line.



Does installing a UPS solve all my power problems?

A standard UPS will only resolve power outages. For the wide array of power problems your system encounters, there are different levels of protection—from basic surge suppression to filters to power conditioners. Be sure to choose the right level of protection for your level of risk.

Conclusion

Having insufficient power protection leaves your system vulnerable to a host of serious problems. Installers and end-users must deploy application-specific solutions to provide power protection for your digital signage network. This power protection would include communication line protectors, filters, and power conditioners, as well as UPS systems that incorporate these features.

Having insufficient power protection leaves your digital signage vulnerable to a host of serious problems. Installers and end-users must deploy application-specific solutions to provide power protection to digital signage, just as they would for any other components on the network. Emerson Network Power offers the most comprehensive power protection solution that includes ONEAC communication line protectors, filters, and power conditioners, as well as ONEAC UPS systems.

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ONEAC single-phase power protection solutions - including uninterruptible power supplies (UPS), power conditioners and communication line protectors - protect against power outages and power disturbances, ensuring business continuity for customers in the retail, healthcare, telecommunication, education, digital signage and semiconductor markets. Visit www.chloridepower.com/usa for more information on ONEAC products and services.

Learn more about Emerson Network Power products and services at www.EmersonNetworkPower.com.

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