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Penton's MILITARY ELECTRONICS

Technology Eliminates Damaging Power Surges

Jack Browne, Technical Editor

VOLTAGE SURGES can damage even electronic equipment that has been designed for rugged environments.

Fortunately, the patented Wide Voltage Range-Total Surge Cancellation (WVR-TSC) technology from Zero Surge (www.zerosurge.com) does not just suppress surges, but entirely eliminates them. The approach is based on out-of-phase cancellation and is usable over voltage ranges as wide as 85 to 265 VAC.

As reported in the July and August issues of *Military Electronics*, Zero Surge's Series Mode Technology powerline filters have protected mission-critical systems for years. In the patented WVR-TSC approach, straightforward delay and inversion techniques are used to cut down surges. Out-of-phase addition prevents even residual surge energy from exceeding the power wave peak voltage, reducing surge let-through to zero.

In tests comparing MOV-based surge suppres-

sors with the new WVR-TSC powerline filters and earlier WVR technology powerline filters from Zero Surge, a 4-kV, 2-kA surge was applied to the three solutions. Test results (available upon request from the company) show a 200-V peak surge voltage let-through with the MOV product, lasting about 32 microseconds. The WVR powerline filter shows a significant improvement, yielding a 100-V peak surge voltage let-through that lasted only 17 microseconds. The new WVR-TSC powerline filter shows less than a 10-V surge voltage let-through lasting only 2 microseconds. Even with a larger 6-kV, 3-kA surge applied, the WVR-TSC powerline



Rugged rack-mount power distribution centers are available with the WVR-TSC technology in 15- and 20-A versions.

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filter cut the surge voltage let-through to only 10 V. To downstream equipment, no surge has occurred, with no interruption in service.

The technology is available in Zero Surge's lines of powerline filter products, including military-grade rack-mount power distribution centers (see figure) with current ratings of 15 and 20 A. **Zero Surge, Inc.**, 889 State Route 12, Frenchtown, NJ 08825; (800) 996-6696, (908) 996-7700, FAX: (908) 996-7773, e-mail: info@zerosurge.com, Internet: www.zerosurge.com.

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