TECH NOTE

New Temperature Rating For OEM Modules

Over the past few years, customers have found Zero Surge products to be useful in protecting digital signs. Initially, the digital signs were located in climate controlled commercial buildings. As this industry has learned to create full HD video screens that can withstand outdoor climates, our customers' needs started to include being able to withstand a larger range of temperatures than our standard 0-40°C range.

A review of our Wide Voltage Range (WVR) technology by our Engineering Department in cooperation with Intertek, our independent testing service, was performed. We determined that it was theoretically possible for our product to work up to the point where critical components were kept below 85°C. The temperature is measured while under full current load. Since our largest OEM module was our OEM6-20W-120, we needed to test at 20 Amps. Also, since we are rating for outdoor use, we needed to test for humidity resistance.

OEM6-20W-120

Palmer Digital Group:
QSR Digital Menu Board Solutions

FF1-20W-120

How does one test an OEM module that is incomplete until installed in a final product? We had to determine the smallest size metal box that would allow for proper heat dissipation. We decided that our FF1-20W-120 is a suitable test subject for this test. It is the smallest practical size that also provides enough of a heat sink to wick away heat generated by the current flow. We also needed to determine what ambient temperature we could meet and still keep under the 85°C limit. Engineers determined that 60°C ambient gave us enough room to stay under the limit. We are happy to report that we passed both temperature and humidity tests!

This new rating covers our 120 Volt OEM6 modules (15 and 20 Amp) and our single module FF1-20W-120. Product shipping after April 2020 will have labels indicating this upgraded rating. Specification sheets now reflect the new ratings.

ZeroSurge®
Power Quality Filters

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