The PULS Advantage

Issue 19

Power Supplies with Integrated Redundancy

In Issues 12 and 16 of "The PULS Advantage" Redundancy is defined as: The doubling up of critical components in order to increase the reliability of a power supply system and ensure that if one component fails the the load will be powered by the remaining components. Redundancy utilizes the same techniques as in paralleling, however, additional protection concepts are added. Care needs to be taken so that a failure or short condition of one unit does not become a burden on the remaining equipment, which is accomplished with de-coupling diodes, or MOSFET based isolation modules. Typically, to create a redundant system, a minimum if 3 components are required. Two power supplies, and one redundancy module.

MOSFET based Isolation

In recent years, advancements in technology allowed for the development of more efficient and reliable isolation utilizing MOSFET, or metal–oxide–semiconductor field-effect transistor. These circuits are tiny, more energy efficient, and have almost no voltage drop from input to output as compared to diode-based redundancy modules.

As a result of this technology, PULS has been able to incorporate this small circuit into the new CP series of 10A and 20A power supplies. The CP10.241-R1, R2 and CP20.241-R1, R2 are the same size as the standard PULS CP Series 10A and 20A power supplies, but have the redundancy circuit included, eliminating the need for a separate isolation module. The CP units with integrated redundancy offer outstanding features like high efficiency, electronic inrush current limitation, wide AC input voltage range, active PFC, wide operational temperature range and an extraordinarily compact size. The units include a decoupling MOSFET for building 1+1 or n+1 redundant power supply systems. PULS power supplies with integrated redundancy come with two connection terminal options; spring-clamp terminals or plug connector terminals which allows replacement without shutting off power to the active power supply. This feature eliminates downtime for the application.

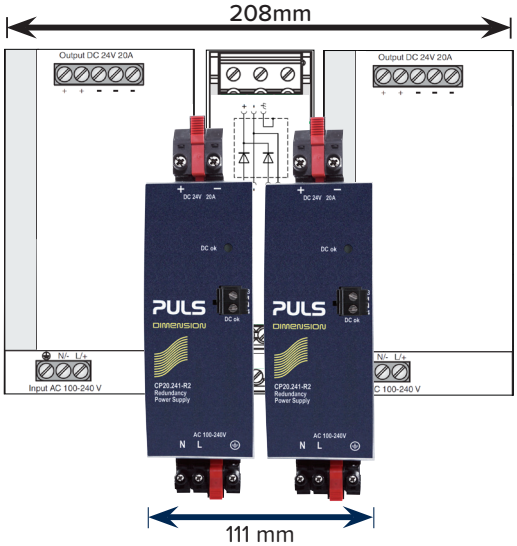
CP20.241-R2 CP10.241-R1

Compact, Reliable, Time Saving

Additional benefits for the customer are the extraordinary space savings compared to traditional redundant configurations. Since there is no separate redundancy module, savings in wiring costs are also a key advantage.

Four additional models include the CP20.242-R2 and CP10.242-R2 version featuring an enhanced DC input voltage range and the CP20.241-R2-C1 and CP10.241-R2-C1 equipped with conformal coated pc-boards. All units feature high immunity to transients and power surges, low electromagnetic emission, and a DC-OK signal contact for remote monitoring. The large international approval package, makes these products suitable for nearly every application.

Competitors 1+1 Solution



PULS 1+1 Solution