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## 5P22 - Compact, Mobile, Automated Pulser Designed for Ease of Use

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A 4 kV/4 kA compact Pulse Forming Network (PFN) system is designed that incorporates a ten stage Rayleigh PFN in five configurable blocks to control the pulse length in increments of 25  $\mu\text{s}$  up to a maximum of 125  $\mu\text{s}$  for a peak energy delivery of 1.5 kJ. Prior to CNC machining and implementation into a mobile package, with dimensions of 96.5X81X79 cm, the system was fully CAD modeled and as designed provides an energy density of 2.5 kJ/m<sup>3</sup> and significant ruggedness for transportation between facilities. A Spartan 3-AN based control system is implemented into the mobile platform to minimize end user interaction while also allowing for remote management and automated application using a UART transport layer. This results in a PFN that requires very little setup on site and scant technical knowledge to run without sacrificing any capabilities or inherent safety. In addition, the platform has been designed to reduce the radiated Electro-Magnetic Interference by incorporating 430 stainless mesh and a double shielded coax load connection method.

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