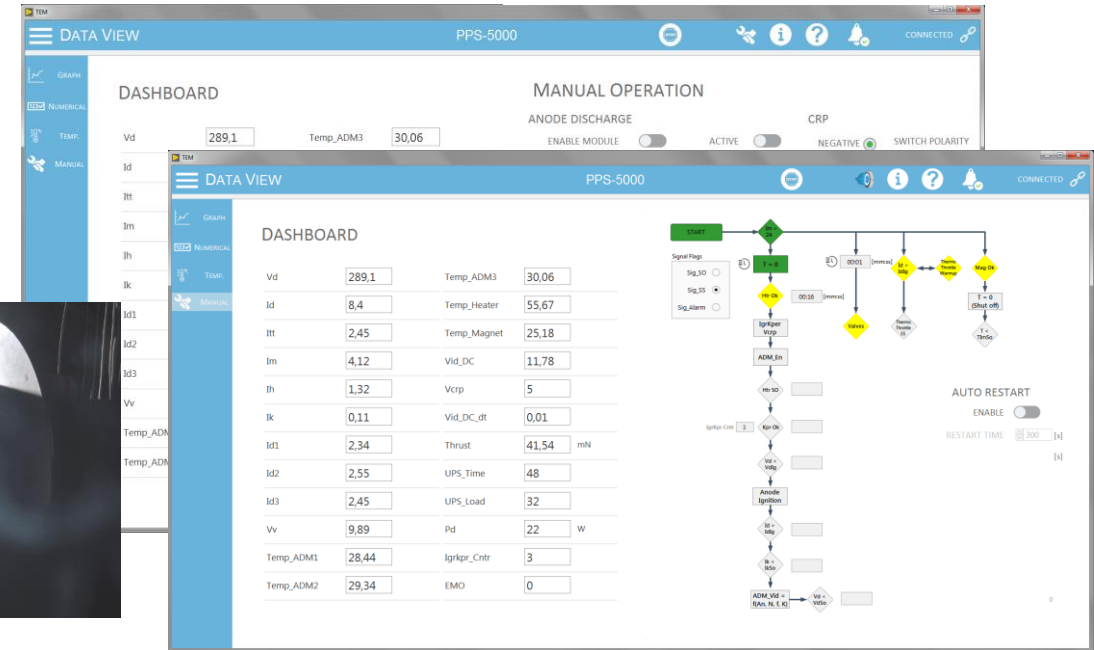


Electric Propulsion: Plasma Thruster Emulator



OHB Sweden is a provider of space systems and develops, builds, tests and operates satellites for different kinds of space missions.

OHB Sweden has developed an Electrical Ground Support Equipment (EGSE) that emulates the electrical behavior of electric propulsion thrusters (stationary plasma) for validation and ground testing of the spacecraft propulsion subsystem.



Novator Solutions was hired to develop the software for the emulator. A CompactRIO with an embedded FPGA was chosen as target for the emulator to handle the requirements of high frequency thruster oscillation currents as well as handling all analogue to digital acquisitions required to verify the propulsion power supply electrical behavior.

A separate GUI running on a PC was also part of the application, which handles the user interaction, displays the emulator data and records the measurements during firing emulations.