SPACECRAFT AND SATELLITE POWER TESTING

Unparalleled power density and versatility revolutionize power test systems for spacecraft, satellite and payload manufacturers.

ProUST UniverSAS ®
The aerospace industry is home to brilliant engineers committed to leading-edge missions, combining advanced technologies to meet unique challenges, relentlessly optimizing every part without compromising reliability. Terma has been guided by these highest of standards in the creation of the new ProUST UniverSAS® 2.0 Electrical Ground Support Equipment (EGSE).

As the space industry enters a new era of cost consciousness, improving on TCO-dimensions including a lowered facility footprint, simplified service and increased availability also was at the forefront of the development effort. The result is nothing less than revolutionary - a device that redefines the capability of spacecraft and satellite power testing systems.

- 18 kW in 2HU – 9x the power density of existing systems
- Freely configurable as solar array simulator, battery simulator and/or payload load simulator, all in one
- Triple redundant protections
- Multi-function I/Os
- Full-featured embedded Linux controller
- Cyber secured by design
- Remote controlled

The Comprehensive Solution
Test solutions for the power systems of satellites are commonly used in a cleanroom and have to deal with high currents and voltages in a confined space. Moreover, they should be as compact as possible in order to not waste expensive facility footprint. And they are usually bespoke systems consisting of many individual devices, all of which must be configured for the particular test. Even present deployments but in particular future large-scale projects, such as the planned Low-Earth-Orbit constellations, place major challenges on satellite and payload manufacturers in terms of the number of reliable, flexible and highly available test systems at hand.

To meet these demands, Terma has developed ProUST UniverSAS® 2.0, a new, unique solution of highest efficiency, versatility and safety.

With its multitude of optimizations, including an advanced energy recuperation capability, ProUST UniverSAS® 2.0 demonstrates our commitment to power efficiency and an energy-conscious future.

ProUST UniverSAS ® 2.0 is Pure Performance
Imagine your test equipment suddenly is nine times better than before. ProUST UniverSAS® 2.0 offers you 18 kW on two HUs in a 19” rack, which is literally 9 times the performance of present solutions in the same volume. Moreover, you can combine devices to scale up towards entire space stations during the test run. The technical background here is that ProUST UniverSAS® 2.0 deploys world-leading topologies and components and furthermore can economically feed power back into the grid instead of converting it to heat.

ProUST UniverSAS ® 2.0 is Compact and Lightweight
Imagine your test equipment weighs so little and is so compact that you can simply take it with you to your next place of assignment. ProUST UniverSAS® 2.0 has been designed with such mobile scenarios in mind. The design results in an outdoor mobility that makes it convenient to ship it for example to external test labs or the launch pad. With ProUST UniverSAS® 2.0, you need not invest in several stationary installations but can make multiple use of your investment.

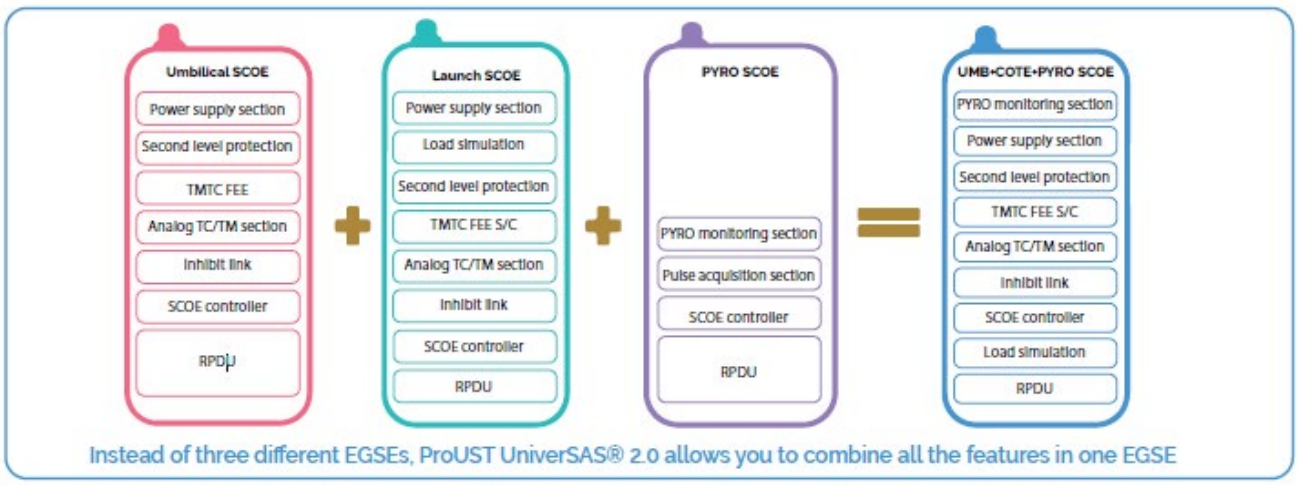
ProUST UniverSAS ® 2.0 is Versatile and Efficient
Imagine your test equipment is not just one device that can do several things but incorporates the functionality of many devices that can do almost anything. That's the basic idea behind ProUST UniverSAS® 2.0. Apart from the function as power supply unit or power load, the system offers additional reconfigurable control interfaces. Moreover, ProUST UniverSAS® 2.0 can be partitioned flexibly and the different functions can be mapped independently to subarrays. This allows for a distribution of the power e.g. to 50 % solar array and 50 % battery simulator, which is why the 18kW device is optimally suited for testing a 10kW satellite.

The benefits of this unique versatility go far beyond functional aspects:

- Multiple simulation capabilities e.g. solar arrays or payload load
- Battery simulation (charge/discharge), battery conditioning and UMB/LBS supply
- Configurable power source and sink (bidirectional)
- Agile 16-channel 2-quadrant switched power supply
- Highest power density (18 kW in 2 HU) with wide scalability
- Extreme usage flexibility and lean cabling
- Compact, portable design and maximum safety (class II isolation)
- Uninterrupted power supply capability
- Low heat dissipation with adaptive ventilation.

As ProUST UniverSAS® 2.0 substitutes many types of power test equipment and has a vast electrical parameter envelope, you will be able to standardize on a single device in the future. This minimizes costs over the entire lifecycle (TCO), optimizes spare policy, simplifies service, ties up less capital and cuts inventory costs.

ProUST UniverSAS ® 2.0 - the Safe Solution
The larger a satellite project the more staff comes into contact with the test equipment, which increases the need to reduce risk of user errors or even accidents. ProUST UniverSAS® 2.0 contains intelligent "fuses" against overvoltage and overcurrent – and redundantly so as required by ESA. Many protected paths even offer triple redundancy. A further aspect of the safety concept is that class-II protection insulation prevents access to any dangerous voltage inside ProUST UniverSAS® 2.0. The central control unit in ProUST UniverSAS® 2.0 provides protection class III with safety extra-low voltage (SELV) only.



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