



# SPACECRAFT AND SATELLITE POWER TESTING

**UNPARALLELED POWER DENSITY AND VERSATILITY REVOLUTIONIZE POWER TEST SYSTEMS FOR SPACECRAFT, SATELLITE AND PAYLOAD MANUFACTURERS.**

## **ProUST UniverSAS<sup>®</sup>**

Testing satellite power systems is often challenging due to limited cleanroom space, complex setups, and increasing costs. Traditional equipment can be bulky, inefficient, and difficult to scale for modern projects like large satellite constellations.

ProUST UniverSAS<sup>®</sup> 2.0 simplifies the process by combining multiple functions into a compact, energy-efficient design that saves space and resources. With advanced safety features and portability, it's designed to make testing easier and more reliable, wherever it's needed.

## **Key Features of Terma Software Defined Power Supply**

- Digital Power Supply (PS)
- PS Hot redundancy
- Solar Array Simulator (SAS I/V Curve, MPPT and Sequential Switched Shunt Regulator (S3R))
- Battery Simulator
- Battery Conditioners
- Electronic Load Simulator (CC, CV, CR, CP)
- Launch based supplies and Umbilical PS
- Several Levels of Protection (Zero Level of Protection, First Level of Protection and Second level of Protection)
- DAQ Embedded
- Thermal Simulation
- Strap Functionality
- LCL – Switching operation (voltage and current)
- Enhanced Snapshot for fault analysis
- Latest MIB including Pus\_C and SCOS 2000
- NIST Cyber Secured
- Automated Self Calibration



# Why Choose ProUST UniverSAS® 2.0

## Compact and Portable

Maximize the use of your workspace. With its lightweight design and compact size (18kW in 2 HU), ProUST UniverSAS® 2.0 reduces facility footprint by up to 50% while offering performance levels far beyond current solutions.

## Efficient and Cost-Effective

Reduce energy use and operational expenses due to regenerate energy technology that allow up to 95% energy efficiency. The system can return power to the grid, supporting energy-conscious operations and cutting long-term costs.

## Versatile to Match Your Needs

Simplify your setup by replacing multiple devices with one system. ProUST UniverSAS® 2.0 handles solar array, battery, dynamic loads, and payload simulations while offering flexible configurations to fit various testing requirements, including large-scale satellite constellations.



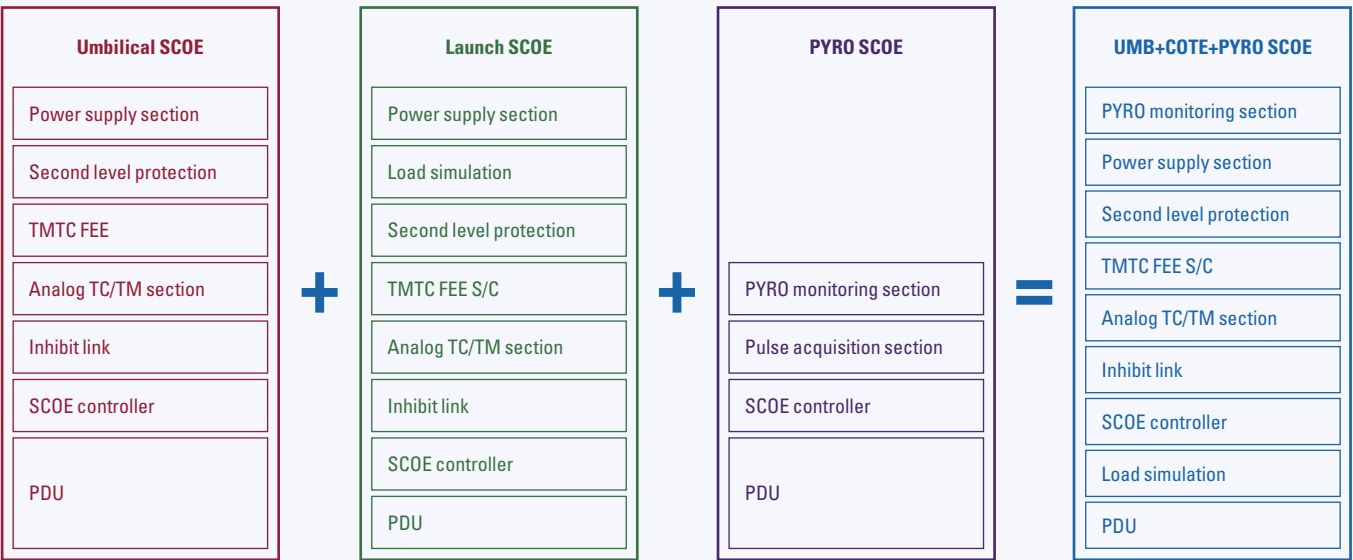
## Safe and Reliable

Built to protect users and equipment, ProUST UniverSAS® 2.0 includes advanced safety measures, redundant systems, and insulation that meet strict industry standards.

## Lower Lifecycle Costs

Standardizing with ProUST UniverSAS® 2.0 simplifies maintenance, reduces inventory requirements, and optimizes overall costs. It's a streamlined approach to testing that aligns with your budget and long-term goals.

## Instead of three different EGSEs, ProUST UniverSAS® 2.0 allows you to combine all the features in one EGSE



## Cost Efficient

- Up to 50% of weight and footprint savings
- Single shot debugging - oscilloscope functionality
- Acoustically quiet, no need for noise protection
- Reduced air condition system consumption

## Technology Advantage

- Multifunctional and configurable power supply SCOE
- Pyro and DAQ embedded
- Three level of protection (ZLP, FLP, SLP)
- Enhanced software GUI
- Cyber secured by design
- Fully compatible with international electrical network

## Work Quality is Improved

- Low footprint and easy to transport
- Easy to maintain
- User friendly digital User Interface Green Power SCOE
- Less CO<sub>2</sub> emission / light packaging
- Energy saving due to low heat dissipation
- Power saving mode configurations
- Low power consumption: End to end up to 95% efficiency
- Energy is sent back to the grid (source/sink)
- Thermal Protection

## Compliance

- ROHS, REACH, CE, FCC, UL, CSA, ITAR, NIST

## Technical Specifications

### Power specification

AC Input voltage	3 phase 100-528 V AC
AC input frequency	45-65 Hz
AC Input current	30 A
DC Output voltage	0-130 V DC
DC Output current	0-25 A DC
DC Output power	18 kW
Efficiency	Up to 95%
Regulation range	250mV-130 V DC
Parallel operation	Up to 200 A
Output ripple and spikes	100 mV P-P
Communication interfaces	Ethernet, RS232, USB, SD card
Active PFC	Up to 99%
DC Output capacitance	Configurable from nF 500 to 13,850

### Operation Configuration

Certifications and standards	IEC/EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1:2012
EMC standard	IEC/EN 61326-1
Certificates	CE, IEC, ISO, UL

### Safety

Thermal management	Fans PWM drive
Insulation class	4000 V rms
Safety class	Class II
Max. typical noise level	60 dB
Operational noise level 50% speed fan	50 dB
Idle noise level	46 dB

### Reliability

MTBF	>15 000 hours
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### Environmental conditions

Operating temperature range	+10C° to +35C°
Storage temperature	-20C° to +70C°

### Mechanical Specifications

Weight	Max 30 kg
Mounting	Rack 19"