SM500-300-C01-E6D

6DOF MOTION PLATFORM

SANLAB combines deep know-how in robotics and simulation with a strong customer focus to deliver industry-leading motion platforms. From flight simulation to industrial training and beyond, SANLAB motion systems deliver exceptional responsiveness, precision, and reliability.

SM500-300-C01-E6D, engineered specifically for high-performance simulation and testing applications. Its modular architecture enables easy adaptation to a wide range of customer-specific requirements.

APPLICATIONS

- Remote control weapon systems testing
- Camera tracking systems testing
- Electro-optical systems testing
- Radar testing
- Rotator testing
- Antenna testing
- Turret systems testing
- Vehicle simulator
- Stabilization testing
- Driving simulator
- Flight simulator
- Mockup simulator

DIMENSIONS	
Overall Dimensions (L-W-H)	1.60 m - 1.40 m - 1.02 m
Net Weight (product only)	410 kg
Shipping Dimensions (L-W-H)	2.00 m - 1.75 m - 1.50 m
Crate Weight	750 kg
Packaging Type	Wooden crate

ADVANTAGES

- Advanced motion cueing and control algorithms deliver high-performance and realistic motion feedback
- Digital control loops ensure stable and reliable operation over time, with no drift or performance loss
- Simplified troubleshooting through simulation software featuring an intuitive graphical user interface (GUI) and deterministic error codes
- High-bandwidth frequency response
- Safety architecture encompassing both mechanical and software-level protections
- Integrated built-in test functionality
- Critical failure mode detection and protection mechanisms
- IPC based real time contoller
- Real-time system performance monitoring
- Easy integration with host systems
- Cost-effective design and operation
- Customizable structure
- User-friendly software designed for easy installation, operation, and maintenance
- Real time simulation

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SPECIFICATIONS	
Gross Moving Load up to	500 kg
Actuator Stroke	300 mm
Center of Gravity Above Top Platform	0.50 m (Max)
Settled Height (lowest position)	0.84 m
Neutral Height (center position)	1.02 m
Moment of Inertia About X-Y-Z axis	250 kg.m²
Power Supply	380VAC ±10%, 3ph , 50/60Hz
Operating Temperature Range	0ºC to +40ºC
Motor Type	Servo Motor
Ball Screw Type	Precision Ground Ball Screw / Rolled Ball Screw
Control Interface	Ethernet, CAN, Serial Port

PERFORMANCE SPECIFICATIONS

	Velocity	Acceleration	Excursion *Single Axis*	Excursion *Multi Axis*
Surge	± 0.45 m/s	± 5 m/s²	-0.22 m - 0.24 m	-0.30 m - 0.30 m
Sway	± 0.45 m/s	± 5 m/s²	-0.22 m - 0.22 m	-0.31 m - 0.31 m
Heave	± 0.35 m/s	± 6 m/s²	-0.19 m - 0.18 m	-0.19 m - 0.18 m
Roll	± 40 º/s	± 300 º/s²	-21.00 º - 21.00 º	-24.00 º - 24.00 º
Pitch	± 40 º/s	± 300 º/s²	-20.00 º - 22.00 º	-25.00 º - 25.00 º
Yaw	± 50 º/s	± 500 º/s²	-22.00 º - 22.00 º	-26.00 º - 26.00 º

OPTIONS

- Outdoor use
- 3D connection controller
- Light curtain safety system

SERVICE & SUPPORT

Committed to customer satisfaction, we deliver tailored support solutions designed to meet your specific operational requirements.

CUSTOMIZATION

Motion platforms are designed with flexibility in mind and can be tailored to meet unique project requirements. Modular mechanical and electronic design makes it easy to customize key features like payload, number of motion axes (DOF), stroke length, and mounting dimensions.

For tailored solutions or to explore customization options, please get in touch with us.

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- Degrees of freedom
- **E-**Electric / **EP-**Electric-Pneumatic / **H-**Hydraulic
- Configuration code
- Actuator stroke (mm)
- Gross moving load (kg)
- SANLAB Motion

HARDWARE

- Hardware real-time control
- UDP based PC communication
- IMU integrated measurement system
- Passive and active limitations

SOFTWARE

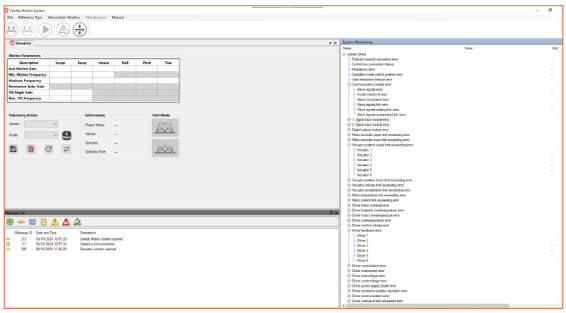
- Signal processing
- Signal generation
- Field data signal replication
- Real time signal visualization
- Signal recording and processing

SOFTWARE DETAILS

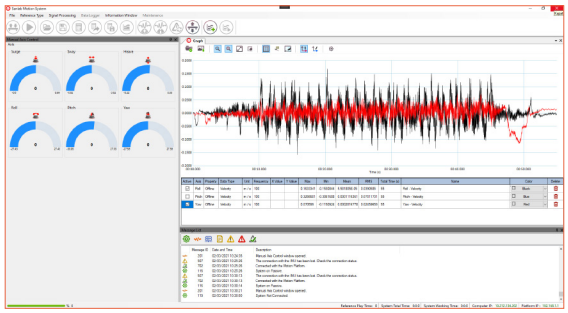
The software offers versatile tools for creating, replicating, recording, and replaying motion signals.

Signal Generator allows safe, multi-axis signal creation with automatic scaling. Signal Replicator enables accurate playback of real-world sensor data. Data Logger captures system data for analysis, visualization, or future reuse. Play From File ensures reliable test execution using predefined reference signals.

Together, these features support consistent, flexible, and repeatable motion testing and simulation workflows.



Simulation System Software



Test System Software

Optical System Test Application

Turret Test Application

Flight Simulation Application

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