



GSM 5000

The GSM 5000 Gyro Stabilization Mount is the successor of the world-renowned GSM 4000 and the flagship of SOMAG's Airborne Gyro Mount line. The 3-axis gimbal is designed to automatically stabilize large format aerial cameras, scanners, LiDAR and other imaging sensors, compensating in real time for drift, roll and pitch. The result is consistently high-quality data capture.

TECHNICAL SPECIFICATIONS

Angular Stabilization Ranges	Pitch at 0° Roll: -10.1° ... +10.1° Roll at 0° Pitch: -8.1° ... +8.1° Yaw (Drift): -30.0° ... +30.0° -177.5° ... +177.5° (optional ¹)
Residual Angular Rate²	≤ 0.2°/s rms
Residual Deviation	without IMU support ² : ≤ 0.3° rms with IMU support ²⁻³ : ≤ 0.02° rms
Payload⁴	10...120 kg 22...264.6 lbs
Mass	29.5 kg 65 lbs
Dimensions (Regular Leveling Positions)	Length: 613.5 mm 24.1 inches Width: 531 mm 20.9 inches Height ⁵ : 198 mm 6.9 inches
Usable Diameter	Ø425 mm Ø16.7 inches
Operating Temperature	-15 °C...+55 °C -5 °F...+131 °F
Storage Temperature	-55 °C...+85 °C -40 °F...+185 °F
Communication Interfaces	Ethernet RS 232
SD-Card Logging	32 GB
Operational Voltage	28 VDC (24...30 VDC)
Average Power Consumption at Operational Voltage	50 W
Peak Power Consumption at Operational Voltage	200 W
Applied Standards	RTCA DO-160-G, EUROCAE-14G, ISO 7137, 2006/42/EC Machinery

Preliminary data, subject to change without notice

¹ Activation of the extended drift movement range is possible through an optional software feature

² Vehicle angular motion < 10°/s and with typical data acquisition profile frequency spectrum

³ Deviation from perpendicular depends on accuracy of used IMU

⁴ Minimum payload is based on usage of Passive Vibration Isolation Ring

⁵ Minimum 167.5 mm (6.6 inches) | Maximum 228.5 mm (9.0 inches)

GSM 5000 VS. GSM 4000

GYRO MOUNT COMPARISON

GSM 5000

GSM 4000



Angular Stabilization Ranges	Pitch at 0° Roll: -10.1° ... +10.1° Roll at 0° Pitch: -8.1° ... +8.1° Yaw (drift): -30.0° ... +30.0° -177.5° ... +177.5° (optional ¹)	-8.8° ... +8.8° -7.0° ... +7.0° -25.0° ... +25.0°
Software Feature: Extended Drift - Movement Range	Extended Drift Movement Range with 3 additional modes available: <ul style="list-style-type: none"> • Step and Stare Mode • Scan Mode • Pointing Mode 	Normal drift stabilization only No extension available
Usable Diameter	Ø425 mm Ø16.7 in	Ø410 mm Ø16.1 in
SD-Card logging	32 GB Data logging possible for: <ul style="list-style-type: none"> • Fault analysis • Maximization of stabilization efficiency 	No data logging possible
Communication Interfaces	Mount Control App: Ethernet RS232-COMBI Mount Communication Protocol: Ethernet RS232-MAIN RS232-COMBI AUX-Port: Ethernet RS232-COMBI	USB RS232-MAIN RS232-AUX
Pivot Point	Pivot point of the Mount is located in the base plate (19.5 mm 0.77 inches above installation surface), which provides geometric advantages for the field of view of the sensor system	Pivot point of the Mount is located in the upper plate (143.9 mm 5.66 inches above installation surface), which leads to a higher risk of movement restrictions or collisions of the sensor system
Valve	Electric valve: the Mount is lowered via software. If the working height of the Mount is too high, the valve can independently release oil to restore the correct working height	Manual valve, which must be turned by the operator to hydraulically lower the Mount to the lowest position
User Interface	<ul style="list-style-type: none"> • Simplified, user-friendly layout • Digital user interface with touch encoder • No "high points" that could cause the sensor system to collide or restrict its movement along the drift axis, thanks to the absence of motor cover caps and the new horizontal cable routing 	<ul style="list-style-type: none"> • Complex layout • Analog user interface • "High points" such as motor cover caps and vertical cable routing that may limit the movement range of the sensor system in the drift axis



BACKWARD COMPATIBILITY

Mechanically and electronically backward compatible with current GSM 4000 installations