SOMAG

NEW GSM 5000

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 Rate[2]		≤ 0.2°/s rms
Residual Deviation	without IMU support[2]:	≤ 0.3° rms
	with IMU support[2,3]:	≤ 0.02° rms
Payload[4]		10...120 kg | 22.05...264.55 lbs
Mass		28.5 kg | 63 lbs
Dimensions (Regular Leveling Positions)	Length:	600 mm | 23.62 inches
	Width:	530 mm | 20.87 inches
	Height[5]:	198 mm | 7.8 inches
Usable Diameter		Ø425 mm | Ø16.73 inches
Operating Temperature		-15 °C...+55 °C | 5 °F...+131 °F
Storage Temperature		-55 °C...+85 °C | -67 °F...+185 °F
Communication Interfaces		Ethernet | RS 232
Internal Logging Capacity		32 GB
Operational Voltage		28 VDC (24...30 VDC)
Average Power Consumption[6] **at Operational Voltage**		50 W
Peak Power Consumption[6] **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

The technical specifications in the metric system represent the binding reference values. The imperial units are rounded approximations and are provided for reference only.

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

2 Vehicle angular motion < 7.5°/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)

6 Horizontal payload CoG offsets are not considered; without wind force and other possible external forces

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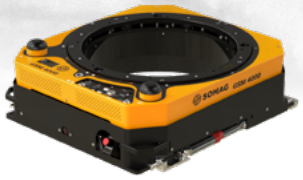
GSM 5000 VS. GSM 4000
GYRO MOUNT COMPARISON

		GSM 5000	GSM 4000
			
Angular Stabilization Ranges	Pitch at 0° Roll: Roll at 0° Pitch: Yaw (drift):	-10.1°...+10.1° -8.1°...+8.1° -30.0°...+30.0° | -177.5°...+177.5° (optional[1])	-8.8°...+8.8° -7.0°...+7.0° -25.0°...+25.0°
[1]**Software Feature: Extended Drift - Movement Range**		Extended Drift Movement Range with 3 additional modes available: • Step and Stare Mode • Scan Mode • Pointing Mode	Normal drift stabilization only No extension available
Usable Diameter		Ø425 mm | Ø16.73 in	Ø410 mm | Ø16.14 in
Internal Logging Capacity		32 GB Data logging possible for: • Fault analysis • Maximization of stabilization efficiency	No data logging possible
Communication Interfaces	Mount Control App: Mount Communication Protocol: AUX-Port:	Ethernet | RS232-COMBI Ethernet | RS232-MAIN | RS232-COMBI 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		• 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	• 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

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