Stab Series

Leos L

Cutting edge gyrostabilized 2-Axis Pan & Tilt



Stab Leos L is a two-axis platform designed to keep performance of optronic sensors on-the-move whatever the movement of the platforms and in harsh environments. Used for observation, reconnaissance and targeting applications, Leos L achieves ultimate Line-of-sight stabilization. Thanks to the integration of high-grade gyroscopes coupled to advanced algorithms, Leos L maintains medium-weight optronic sensors' performance, detection, reconnaissance and identification capabilities. As of today, two models are available and provide various degrees of gyrostabilization according to customers' needs.

FEATURES

- U shape configuration
- Rugged design
- Gyrostabilization with Exail FOG

APPLICATIONS

- Land and Naval
- Observation and reconnaissance
- Targeting

BENEFITS

- Compensation of high-dynamic platform movements
- Keep original performance of on-the-move optronic sensors
- 0,01° class pointing accuracy
- Zero intrusion into cabin space ("all inside design")
- Harsh environments
- Free of license – No ITAR components

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contact@exail.com | www.exail.com
EMEA +33 1 30 08 88 88 | Americas +1 888 600 7573 | APAC +65 6747 4912

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TECHNICAL SPECIFICATIONS

Performances

Motorized axis	2
Pan axis range	nx360 °
Tilt axis range	> -90 ° to < +90 °
Tilt axis gyrostab. range	> -70 ° to < +70 °
Pan rate	0,01 °/s to 120 °/s
Tilt rate	0,01 °/s to 120 °/s
Pan acceleration	150°/s² for max payload inertia
Tilt acceleration	150°/s² for max payload inertia
Line of sight gyrostab (with APG 25 profile and balanced payload)	< 100 µrad rms for L5 and L6 (with APG 25 profile)
	< 20 µrad rms for L7 (with APG 25 profile)
Gyro drift	< 250 µrad during 10s for L7
	< 400 µrad during 10s for L6
	< 3000 µrad during 10s for L5
Position accuracy	0,01 °
Duty-Cycle	100 %
Finger lock Tilt	both axes, currentless locked

Physical

Construction	Aluminium
Coating and painting	Epoxy/polyamide
Weight	< 50 kg
Overall dimensions (without arm)	Cylinder Ø 530 mm Height 534 mm No Intrusion

Payload

Max Weight	25 kg
Pan Inertia	0.2 < J < 0.8 kg.m²
Tilt Inertia	0.2 < J < 0.4 kg.m²
CoG / balanced point max	±1 mm range
Modal behavior	> 300 Hz for first mode of rotation around each axis

Electrical

Input voltage	20-33 VDC
Pan tilt peak power req	< 110 W
Pan tilt mean power req	< 210 W
Connectors to host	D38999
Connectors to payload	D38999

Environmental

Operating temperature	-32 °C to +65 °C
Storage temperature	-40 °C to +71 °C
Low pressure	270 hPa
Vibrations	3 g rms 3 axis
Shocks	40 g, 11 ms ½ sinus
Rain	10 cm/h
Water/dust	IP66
Salt Fog	+35 °C, 5 % NaCl 48 h Land 960 Naval
EMC	CE102 CS101, 114, 115 RE101, 102 RS 103

CONFIGURATIONS

LEOS L**X** – **A** – **B** – **C** – **D**

Note that as a standard and without any other requests from the customer, the tilt range is configured for -20 ° to +60 °

X Built-in gyro

Various gyros are available to match customer application

- X = 5 dual axis, affordable cost MEMS gyros
- X = 6D dual axis, low drift MEMS gyros
- X = 6T tri axis, low drift MEMS gyros
- X = 7 tri axis, high performance Fiber Optical Gyro

A Environment

Materials and finishing are reinforced to sustain maritime application

- A = L for land application (Aluminum with Nickel plating type)
- A = N for naval application (Bronze type)

B Slip-ring

A capsule slipring is used to allow unlimited rotation in Azimuth axis

- B = 0 Custom
- B = 1 Standard 43 lines (type 2A)

C Painting color

- C = 0: Custom
- C = 1: Sand PIR 32X2 (NORMDEF 0001)
- C = 2: Green NATO PIR 24X5 (NORMDEF 0001)
- C = 3: Green dark PIR 34X3 (NORMDEF 0001)
- C = 4: Grey/blue mid-clear 2625 (NORMDEF 0001)
- C = 5: Brown land PIR 30X4 (NORMDEF 0001)
- C = 6: Black 3603 (NORMDEF 0001)
- C = 7: White UV NATO 36X0 (NORMDEF 0001)

D Accessories

- D = 0: Custom wires
- D = 1: Half wires LEOS to payload (mandatory for L7 + standard mating connectors to host
- D = 2: Standard mating connectors to payload + standard mating connectors to host

Leos L documentation

DIN00099 : Communication protocol

00215672-A : Mechanical ICD

TBD : Electrical ICD

TBD : Qualification data package