

EXSS-240 LRF

Gimbal System with 2 IR Uncooled Imagers, Laser Rangefinder, and Daylight Camera with 30x Optical Zoom

Characteristics

Gimbal system	2 axis gimbal with high bandwidth direct torque drive
Daylight video camera *	PANASONIC GP-MH330
Daylight camera field of view	Horizontal – 65.1° to 2.3° vertical – 38.4° to 1.4°
Minimum illumination	0.4 lx (color), 0.03 lx (B/W)
Infrared imager cores *	2 x TC 640, 25 um pixel pitch uncooled module with shutter, 640*480, or 2x SmartCor, 17 um pixel pitch, uncooled shutterless , 640*480
Infrared imager lens	Imager 1 – 35 or 20 mm athermalized lens Imager 2 – 75 mm athermalized lens
Infrared imager field of view (25 um pixel pitch)	For 35 mm – 26° x 20° For 20 mm – 44° x 33° For 75 mm – 12° x 9°
Infrared imager field of view (17 um pixel pitch)	For 35 mm – 17° x 13° For 20 mm – 30° x 22° For 75 mm – 8° x 6°
Laser rangefinder *	DL-6
Distance measurement range	50 m – 3000 m (if the surface reflection > 0.3)
Measurement accuracy	±1 m
Laser class	3B, $\lambda = 905 \text{ nm}$
Pan/Tilt range	Unlimited – slip ring on both axes
Maximum slew rate	Up to 300 °/sec
Feedback position resolution *	0.072° or 1.25 mRad
De-stabilization	Less than 50 uRad (1σ)
Control interface	1x RS232, 1x auxiliary RS232, up to 3x GPIO with 3.3V levels for external devices control, like video switching, gimbal deployment mechanics control, etc.

Video output	Daylight camera – 1x component Y Pb Pr up to 1080i or ITU472-3 (PAL) Infrared imager 1 – ITU472-3 (PAL) Infrared imager 2 – ITU472-3 (PAL) All signals (daylight and IR1 and IR2) are available at the same time on the external connector (i.e. no video switching inside gimbal)
Weight	7.5 kg
Working voltage	26-32 V
Power	Less than 30 W
Control interface	RS232, 115200 bps, 8N1, proprietary binary protocol
External connector *	PC19TB, or customized.

*This can be customized according customer specification.

Description

EXSS-240 LRF is a gyro stabilized gimbal system, containing FULL HD daylight camera with 30x optical zoom, and 2 infrared imagers with 640*480 resolutions. It also has embedded laser rangefinder to enable geo location feature. 2 axis gyro stabilized gimbal is specially developed for applications on different kind of unmanned and light manned aerial vehicles, with fixed or rotary wing. All control electronics, required for gimbal operation, is fit inside the unit shell. Platform is controlled by high bandwidth, purpose built coreless direct torque motors, with gearless drive, which allow to achieve very low de-stabilization, required for embedded optical sensors operation, enabling good and stable image quality even at maximum optical zoom value.