

# LiteMapper<sup>®</sup> 2400

## Airborne Lidar Terrain Mapping System

*LiteMapper 2400* is best-suited for corridor and small-area mapping applications from low-flying helicopters monitoring power lines, highways, railways, pipelines, and similar infrastructure. Its main advantages are small size, low weight and a high geometrical accuracy, so it is especially useful in small helicopters, UAV's and ultra-light aircraft with limited space, payload, weight and power.

### LM 2400-60 & LM 2400-80

There are two different types of laser scanners offering different scanning angles. *LiteMapper 2400-60* has an opening angle of  $\pm 30^\circ$ , *LiteMapper 2400-80* has an opening angle of  $\pm 40^\circ$ . Please look at the specifications for further information regarding the two models.

Range Measurement Performance LM 2400		
	Conditions	LM 2400-60 & LM-2400-80
Maximum range	flat surface, $\rho \geq 80\%$	650 m
	flat surface, $\rho \geq 20\%$	320 m
Range resolution		5 mm
Range accuracy	flat surface, normal to beam	20 mm (1s) $\pm$ 20 ppm
Target detection modes		first return, last return or alternating
Laser wavelength		905 nm
Pulse Repetition Frequency (PRF)		30 kHz
Beam divergence		$\leq 2.7$ mrad

Operational Parameters LM 2400			
	Conditions	LM 2400-60	LM-2400-80
Altitude of operation	flat surface, $r = 20\%$	10 - 200m AGL	10 - 180m AGL
Ground sample spot diameter		0.6m (@ 200m AGL)	0.6m (@ 180m AGL)
Surface point accuracy (horizontal/ vertical) excluding GPS errors		0.02m/0.02m (1 sigma) (@ 200m AGL)	0.02m/0.02m (1 sigma) (@ 180m AGL)
Swath width		1.15 x altitude	1.68 x altitude
NIR intensity (return amplitude) detection		8 bit per return	
Supply Voltage		28 VDC	
Eye-safety	scanning operation	class 1 eye-safe	

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## Computer Systems LM2400

<b>Mission Planning Software</b>	IGIplan
<b>Flight Management System</b>	CCNS4
<b>Precise Positioning System</b> Inertial Measurement Unit (IMU) IMU sampling rate IMU accuracy (roll/pitch/heading) GPS Post-processing software	AEROcontrol IMU-Ile up to 400 Hz 0.003 deg / 0.003 deg / 0.007 deg dual frequency, 2 Hz AEROoffice
<b>Sensor Control System</b>	LMcontrol + Riegl post-processing software

## Scanner Performance LM 2400

	LM 2400-60	LM 2400-80
<b>Scanner</b>	rotating polygon mirror	
<b>Number of facets</b>	4	3
<b>Scan pattern</b>	parallel scan lines	
<b>Scan angle</b>	± 30° (60° total)	± 40° (80° total)
<b>Scan frequency</b>	6-80 scans/sec	5-60 scans/sec
<b>Maximum effective measurement rate</b>	10,000 meas/sec	

## Weight and Dimensions LM 2400

LM 2400-60 & LM 2400-80	Dimensions	Weight
<b>Laser scanner</b>	ø 180 x 374 mm	7.0 kg
<b>LMcontrol</b>	270 x 162 x 62 mm	2.2 kg
<b>8" TFT touch-screen</b>	212 x 162 x 36 mm	0.9 kg
<b>CCNS4</b>	250 x 209 x 132 mm	4.9 kg
<b>CCNS4 5" TFT CDU</b>	159 x 105 x 35 mm	0.6 kg
<b>AEROcontrol</b>	65 x 140 x 205 mm	1.8 kg
<b>IMU-Ile</b>	126 x 146 x 98 mm	2.2 kg
<b>Aircraft Connector Box</b>	208 x 85 x 94 mm	0.8 kg
<b>Mounting, Cables, Antenna, etc.</b>		3.7 kg
		<b>total: ~24 kg</b>
<b>Optional</b>		
<b>Uninterruptable power supply</b>	210 x 162 x 190 mm	8.5 kg
<b>Shock Absorbing Platform</b>	customized	
<b>DigiCAM - Aerial Camera</b>		5.5 kg
<b>DigiTHERM - Aerial Thermal Camera</b>		4.0 kg



+49 (0)2732 5525-0



info@igi-systems.com



+49 (0)2732 5525-25



www.igi-systems.com

**IGI mbH**

Langenauer Str. 46

57223 Kreuztal

Germany