

RangePRO Laser Rangefinder Modules

Model Range

INTRODUCTION

This document describes models from two groups of Laserdyne's RangePRO laser rangefinders:
the flashlamp pumped laser range; and
the diode pumped laser (DPL) range.

A full listing of currently available models is shown in this document.

Models may be customised depending upon contract quantity.

All RangePRO laser rangefinders are designed for integration into sensing, surveillance, tracking & weapons stations, thermal imaging cameras & gimbals, for mobile and fixed installation applications whether land, sea or airborne.

Advanced digital signal processing techniques are employed to provide accurate, reliable ranging. Signals from the detector are digitally sampled. The samples are examined to determine all potential real target returns. If a valid target is detected within the user-set range gate it's range data is output, if more than one target is detected within the range gate the nearest or farthest may be selected for data output.

All signal and range computation is done "on the fly". Using this philosophy, the only task remaining after the sampling has expired is to transfer the range data through the serial port. Effectively the speed of the signal processing is limited only by the data output rate.

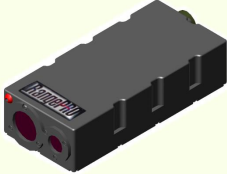
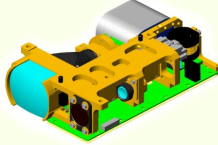
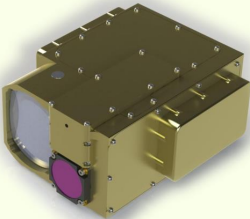

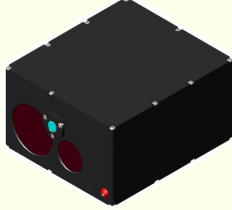
The system employs an adaptive range threshold to compensate for changing noise levels. The worst case for noise is when the system electronics are being operated at the high end of their temperature specification and when ranging is being performed in strong sunlight. The best case is the reverse situation. The adaptive range threshold feature results in more reliable ranging (fewer false alarms) when noise is elevated and higher sensitivity (further ranging) when noise is reduced, thus maximising the system capability under varying conditions. The threshold is calculated on a "shot-by-shot" basis.

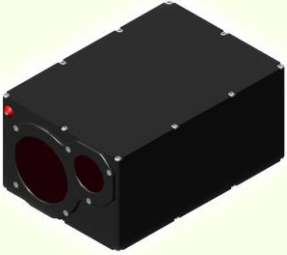

RangePRO laser rangefinder software is easily upgradeable, upgrades can be downloaded in the field via a PC.

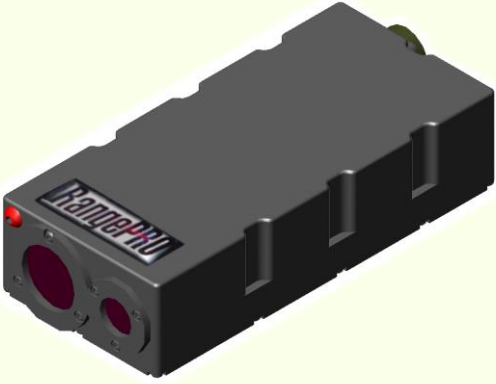
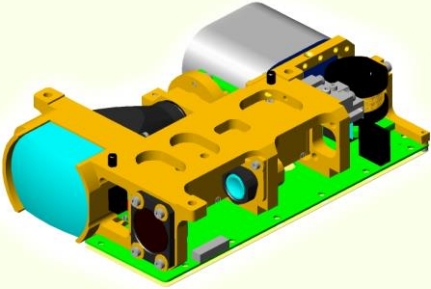
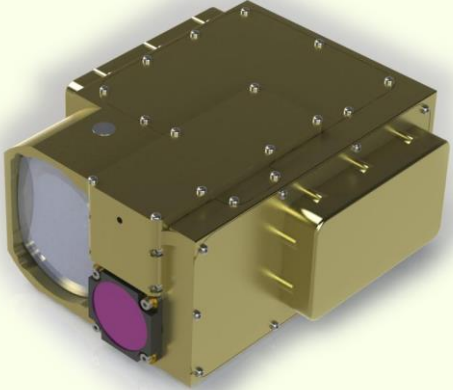
FLASHLAMP PUMPED RANGE


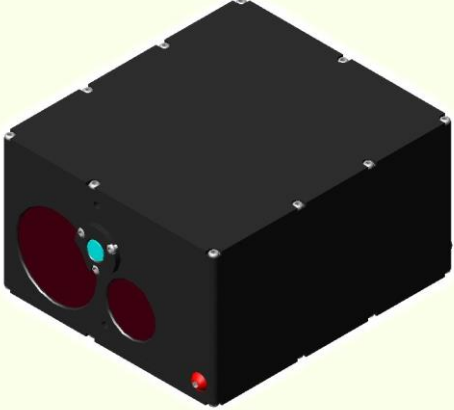
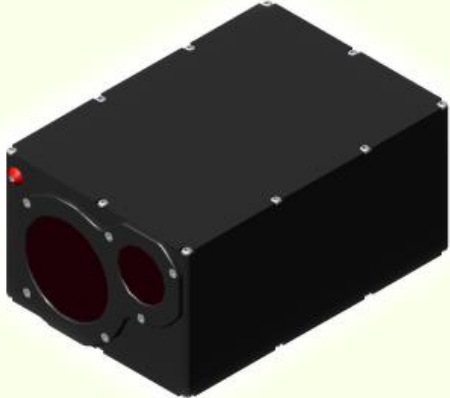
This series of RangePRO laser rangefinders employs our flashlamp pumped Nd:YAG/OPO laser engine which has been proven over years of use, and is noted for its compact structure and reliability over a wide temperature range.


These laser modules are used in single shot and low rep. rate (to 1Hz) models.

Model	Description
<p style="text-align: center;">Flashlamp Pumped series</p> <div style="text-align: center;">  <p>GSLR-2K</p>  <p>HPCL-10KO</p>  <p>HPCL-20KO</p>  <p>L5LUH</p>  <p>L5LGH</p> </div>	<p>Suitability</p> <ul style="list-style-type: none"> • OEM module for integration into or with sensing, surveillance, tracking & weapons stations, and thermal imaging cameras & gimbals; • for land, sea or airborne applications; • designed to withstand vibration, shock, and extended temperature operation, EM shielded; • single-shot or low rep. rate ranging; • eye-safe operation. <p>Digital Ranging</p> <ul style="list-style-type: none"> • advanced digital signal processing techniques are employed to provide accurate, reliable ranging; • signals from the detector are digitally sampled and examined to determine all potential real target returns; • an adaptive range threshold compensates for changing noise levels, maximising system capability under varying conditions.

Model	Description
 <p>L5LUR</p>  <p>L20LC</p>	

Model	Description	
<p>GSLR-2K</p> 	<p>General Sighting Laser Rangefinder - 2km range class.</p>	<p>Ranging Man (0.45x1.8m): > 2,000m; Standard (1x1m): > 2,500; Vehicle (2.3x2.3m): > 4,000m.</p> <p>Ranging Rate 5 per minute (single-shot).</p> <p>Eye Safety Class 1.</p> <p>Dimensions width 166 mm; height 69 mm; depth 36 mm; mass 0.545 kg.</p>
<p>HPCL-10KO</p> 	<p>High Performance Compact Laser rangefinder - 10km range class, Open frame.</p>	<p>Ranging Man (0.45x1.8m): > 5,000m; Standard (1x1m): 10,000; Vehicle (2.3x2.3m): 20,000m.</p> <p>Ranging Rate 12 per minute (single-shot).</p> <p>Eye Safety Class 1.</p> <p>Dimensions width 129.5 mm; height 79.8 mm; depth 31 mm; mass 0.3 kg.</p>
<p>HPCL-20KO</p> 	<p>High Performance Compact Laser rangefinder - 20km range class, Open frame.</p>	<p>Ranging Man (0.45x1.8m): > 7,500m; Vehicle (2.3x2.3m): 12,000; Building (large): 26,000m.</p> <p>Ranging Rate single-shot to 1Hz burst.</p> <p>Eye Safety Class 1M.</p> <p>Dimensions width 131 mm; height 114.5 mm; depth 65 mm; mass 0.8 kg.</p>

Model	Description	
<p>L5LUH</p> 	<p>Laser rangefinder, 5 to 10 km range class, Low profile, Universal, Housed.</p>	<p>Ranging Vehicle (2.3x2.3m): > 6,500m; Building (8x8m): > 10,000m.</p> <p>Ranging Rate 12 per minute (single-shot).</p> <p>Eye Safety Class 1.</p> <p>Dimensions width 138.5 mm; height 94 mm; depth 66 mm; mass 1.01 kg.</p>
<p>L5LGH</p> 	<p>Laser rangefinder, 5 to 10 km range class, Low profile, General use, Housed.</p>	<p>Ranging Vehicle (2.3x2.3m): > 6,200m; Building (8x8m): > 12,500m.</p> <p>Ranging Rate 12 per minute (single-shot); 1Hz burst</p> <p>Eye Safety Class 1M.</p> <p>Dimensions width 122.5 mm; height 104 mm; depth 65.5 mm; mass 0.85 kg.</p>
<p>L5LUR</p> 	<p>Laser rangefinder, 5 to 10 km range class, Low profile, Universal, Repeat Pulse.</p>	<p>Ranging Vehicle (2.3x2.3m): > 5,000m; Building (8x8m): > 7,000m.</p> <p>Ranging Rate up to 1Hz.</p> <p>Eye Safety Class 1M.</p> <p>Dimensions width 138 mm; height 94 mm; depth 66 mm; mass 1.05 kg.</p>


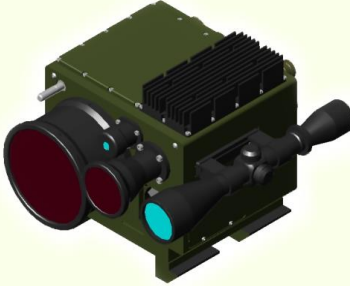
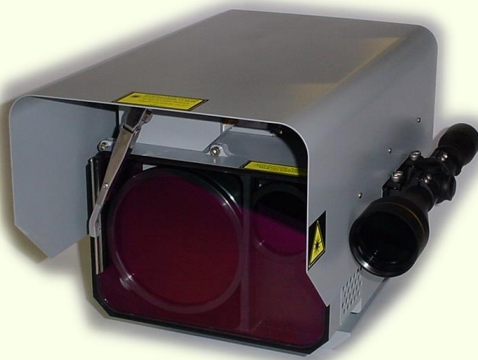
Model	Description								
<p data-bbox="199 255 288 282">L20LC</p> 	<p data-bbox="770 255 995 383">Laser rangefinder, 20 km range class, Long platform, Closed framework.</p> <p data-bbox="1058 255 1166 282">Ranging Standard (1x1m): > 6,500; Vehicle (2.3x2.3m): > 10,000m; Building (8x8m): > 18,000m.</p> <p data-bbox="1058 439 1233 465">Ranging Rate up to 1Hz (70% duty cycle).</p> <p data-bbox="1058 546 1193 573">Eye Safety Class 1M.</p> <p data-bbox="1058 654 1209 680">Dimensions</p> <table data-bbox="1058 689 1286 826"> <tr> <td>width</td> <td>273 mm;</td> </tr> <tr> <td>height</td> <td>143 mm;</td> </tr> <tr> <td>depth</td> <td>80.3 mm;</td> </tr> <tr> <td>mass</td> <td>3.4 kg.</td> </tr> </table>	width	273 mm;	height	143 mm;	depth	80.3 mm;	mass	3.4 kg.
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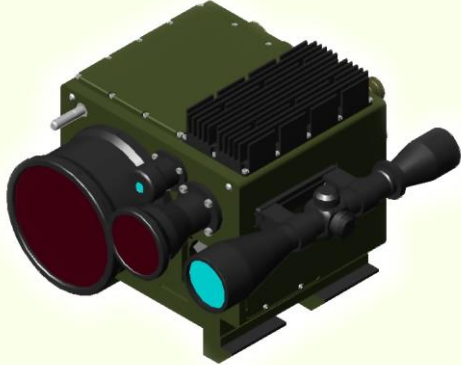
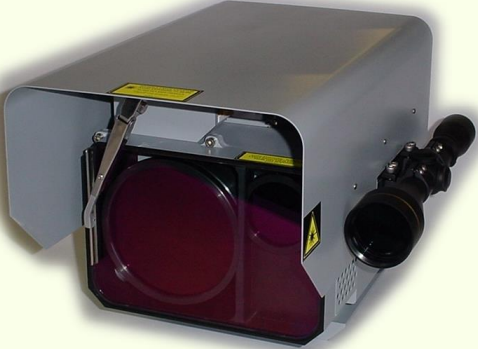
DPL RANGE

This series of RangePRO laser rangefinders employs our diode-laser pumped series which have been refined for military use by Laserdyne resulting in compact laser modules that represent the state-of-the-art in diode-laser pumped eyesafe laser technology.

These lasers exhibit very high reliability and long life. Like the single-shot type, they also exhibit excellent stability over a wide temperature range.

They can be operated from single shot up to repetitive ranging rates of 30Hz (model dependent).

Model	Description
<p style="text-align: center;">DPL series</p>  <p style="text-align: center;">L-GM5</p>	<p>Suitability</p> <ul style="list-style-type: none"> • OEM module for integration into or with sensing, surveillance, tracking & weapons stations, and thermal imaging cameras & gimbals; • for land, sea or airborne applications; • designed to withstand vibration, shock, and extended temperature operation, EM shielded; • repetitive ranging; • eye-safe operation.
 <p style="text-align: center;">L-GM20</p>	<p>Digital Ranging</p> <ul style="list-style-type: none"> • advanced digital signal processing techniques are employed to provide accurate, reliable ranging; • signals from the detector are digitally sampled and examined to determine all potential real target returns; • an adaptive range threshold compensates for changing noise levels, maximising system capability under varying conditions.
 <p style="text-align: center;">L-NAV30K</p>	

Model	Description
<p>L-GM5</p> 	<p>Laser rangefinder - General Module to 5Hz rep. rate.</p> <p>Ranging Small craft (2.3x2.3m): > 9,000m; Large craft (20x20m): > 20,000m.</p> <p>Ranging Rate 5Hz typical; 10Hz burst (50% duty cycle).</p> <p>Eye Safety Class 1M.</p> <p>Dimensions length 312.6 mm; width 237.1 mm; height 143 mm; mass 5.6 kg.</p>
<p>L-GM20</p> 	<p>Laser rangefinder - General Module to 20Hz rep. rate.</p> <p>Ranging Small craft (2.3x2.3m): >12,000m; Large craft (20x20m): > 25,000m.</p> <p>Ranging Rate 10Hz typical; 20Hz burst (50% duty cycle).</p> <p>Eye Safety Class 1M.</p> <p>Dimensions length 315 mm; width 301 mm; height 245.9 mm; mass 9.8 kg.</p>
<p>L-NAV30K</p> 	<p>Laser rangefinder - NAVal, 30km range class.</p> <p>Ranging Small craft (2.3x2.3m): >12,000m; Large craft (20x20m): > 25,000m.</p> <p>Ranging Rate 15Hz typical; 30Hz burst (50% duty cycle).</p> <p>Eye Safety Class 1M.</p> <p>Dimensions length 380 mm; width 261 mm; height 258 mm; mass 12.5 kg.</p>