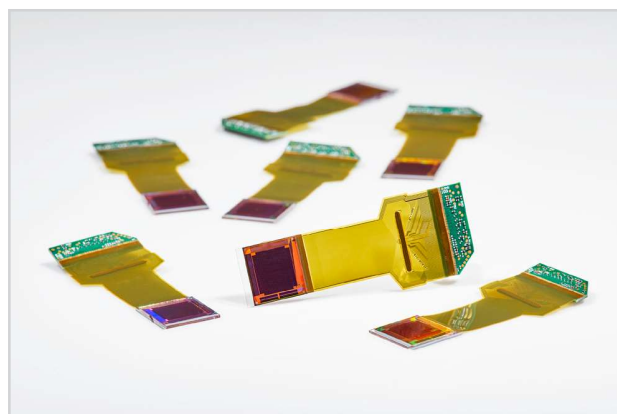


LM10/LX10 Light Control Metasurface (LCM™) Modules

Enabling the Future of 3D Sensing

Key Features

- True solid-state, zero-inertia beam steering
- Software-definable, random access scan patterns
- Ultra-wide FOV, up to 180° with expanding optics
- Compatible with both VCSELs and edge-emitters
- Multiple aperture options for all lidar range classes
- Evaluation kit and lidar reference designs available



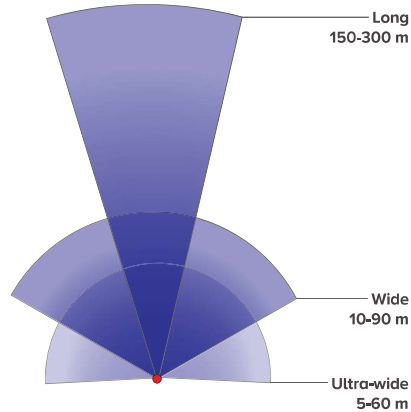
LM10 Beam Steering Module

	LM10 Module	LX10 Module
Availability	Now	Now ¹
Target markets	Automotive, industrial, commercial	Automotive, industrial
Lidar range class	Short to mid (10-100m)	Long (200m+)
Overall dimensions ²	60 mm x 24 mm x 3.5 mm	61 mm x 32 mm x 3.5 mm
Active optical aperture	11 x 9 mm	16 x 27 mm
Angular step size	0.38°	0.17°
Maximum steering field of view	160° native (>180° with expander)	
Steering mode	1D, software-definable	
Response time	~50 µs (any angle)	
Wavelength options	910, 940 nm	
Light source compatibility	Edge emitters, VCSELs	
Operating temperature range	-20° C to +105° C	
Operating lifetime	>100,000 hours	

¹ Engineering samples only; contact Lumotive for production options

² Flex cable can be folded with a bend radius of 0.5mm to fit narrower enclosures

LM10 Configurations and System Design Examples



One LCM, Endless Possibilities

The LM10 LCM enables a wide range of lidar systems based on the same architecture, from ultra-wide field of view to long range. System performance is determined by laser power, field of view of Tx and Rx optics, and the choice of ToF receiver. The LM10 is compatible with both iToF and dToF receiver chips.

LM10 System Design Examples

TOF Sensor	iToF Option A		dToF Option A		dToF Option B		dToF Option C	
Variant	Wide	Ultra-wide	Wide	Long	Wide	Ultra-wide	Wide	Ultra-wide
Range 80% indoors	25 m	13 m	80 m	300 m	90 m	60 m	90 m	60 m
Range 10% 100klux	10 m	5 m	20 m	150 m	30 m	20 m	30 m	20 m
FOV	120°x90°	180°x90°	100°x30°	30°x10°	120°x90°	180°x90°	150°x60°	180°x80°
Angular Resolution	0.4°	0.6°	0.5°	0.1°	0.5°	0.5°	0.4°	0.5°
Pixels Per Frame	320 x 240	240 x 120	199 x 56	199 x 56	256 x 192	192 x 81	368 x 152	368 x 152
Frame Rate	10-60 Hz (software-defined variable frame rate across FOV)							
Module Size	appx. 6 cm x 3 cm x 3 cm							

About Lumotive

Lumotive's award-winning optical semiconductor solutions enable advanced sensing and perception capabilities in next-generation consumer, mobility, and industrial automation products such as mobile devices, autonomous vehicles, and robots. The company's patented Light Control Metasurface (LCM™) beam steering chips deliver an unparalleled combination of high performance, exceptional reliability, and low cost — all in a tiny, easily integrated solution. Lumotive has received measurable industry acclaim including Fierce Electronics' 2021 Startup of the Year award, CES Innovation Awards in 2022 and 2024, Fast Company's Next Big Thing in Tech 2023, a 2022 SPIE PRISM Award, and a prestigious Edison Award. Investors include Gates Frontier, MetaVC Partners, Quan Funds, Samsung Ventures, and Uniquet.