

V5/27-11-19



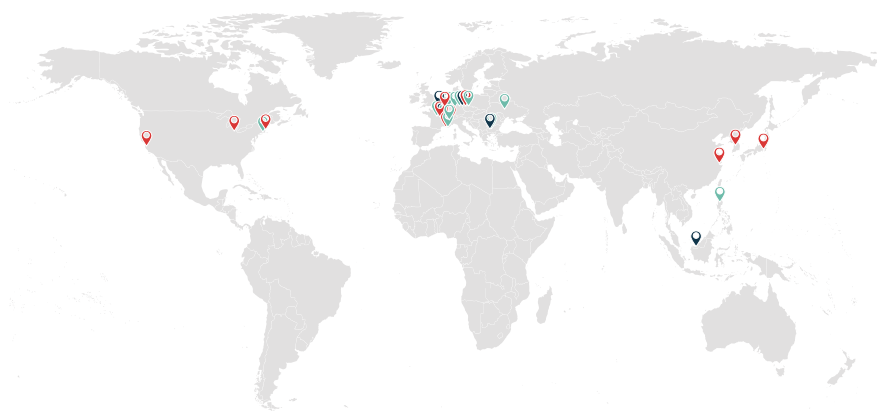
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SELECTION GUIDE

TRIAxis® & LINEAR HALL

Thanks to its magnetic compass the fascinating honey bee has the ability to perceive the omnipresent magnetic field (MF) of the Earth. This magnetic field sensitivity matches this wonderful creature with our Triaxis® magnetic sensors.

We are a pioneer in programmable angular and linear Hall sensors for rotary, linear, and joystick motion. Our devices offer improved manufacturability of sensor assemblies and modules. Our technology and innovations support a broad range of applications in automotive markets and beyond.

Triaxis® Hall																														
Product	Supported Motion				Output Format						Angle Computation		Magnetic Field Strength ⁽⁴⁾		Supply Voltage	Current Consumption	Package				Temperature Option					Market			Safety	
	Rotary On-Axis	Rotary Off-Axis	Linear	Joystick (3D)	Ratiometric Analog	PWM	SENT	SPI	I2C	PSI-5	On-chip	Off-chip	mT [G]	Min. Field (mT/mm)	(V)	mA (Typical)	SOIC-8	TSSOP-16 ⁽²⁾	DMP-4 (no-PCB) ⁽¹⁾	QFN16	S: -20-85C	E: -40-85C	K: -40-125C	L: -40-150C	G: -40-160C	Automotive (AEC-Q100)	Industrial	Consumer	ASIL (ISO26262)	
MLX90316	✓				✓	✓		✓			✓		20-70 [200-700]		4.5-5.5	Fast Mode: 13.5 Slow Mode: 8.5	✓	✓			✓	✓	✓	✓		✓	✓	✓		
MLX90324	✓				✓	✓	✓				✓		20-70 [200-700]		4.5-5.5	Fast Mode: 12.5 Slow Mode: 7.0	✓	✓					✓		✓	✓	✓	✓		
MLX90333		✓	✓	✓	✓	✓		✓			✓		20-70 [200-700]		4.5-5.5	Fast Mode: 13.5 Slow Mode: 8.5	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	
MLX90340	✓	✓	✓		✓	✓					✓		20-70 [200-700]		4.5-5.5	13.5	✓	✓			✓	✓		✓			✓	✓	✓	A
MLX90363	✓	✓	✓	✓				✓			✓	✓	20-70 [200-700]		3.15-3.45 or 4.5-5.5	12.5	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	B
MLX90364	✓	✓	✓		✓	✓					✓		20-70 [200-700]		4.5-5.5	6			✓			✓	✓	✓	✓	✓	✓	✓	✓	B
MLX90365	✓	✓	✓		✓	✓					✓		20-70 [200-700]		4.5-5.5	6	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	B
MLX90366	✓	✓	✓				✓				✓		20-70 [200-700]		4.5-5.5	6			✓			✓	✓	✓	✓	✓	✓	✓	✓	B
MLX90367	✓	✓	✓				✓				✓		20-70 [200-700]		4.5-5.5	6	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	B
MLX90393	✓	✓	✓	✓				✓	✓			✓	5-50 [50-500]		V _{ANA} : 2.2 – 3.6 V _{DIG} : 1.8 – V _{ANA}	3 (peak) 0.1 (avg) ⁽³⁾				✓	✓						✓	✓		
MLX90371	✓	✓	✓		✓	✓					✓		10-70 [100-700]	6	4.5-5.5	10	✓	✓	✓						✓	✓	✓	✓	✓	B
MLX90372	✓	✓	✓			✓	✓				✓		10-70 [100-700]	6	4.5-5.5 ⁽⁵⁾ 6-18	10	✓	✓	✓						✓	✓	✓	✓	✓	C
MLX90373	✓	✓	✓							✓	✓		10-70 [100-700]	6	4.1-6 6-18	11		✓	✓				✓			✓	✓	✓	✓	C
MLX90374	✓	✓	✓			dual	✓				✓		10-70 [100-700]	6	4.5-5.5 ⁽⁵⁾ 6-18	10	✓		✓						✓	✓	✓	✓	✓	C
MLX90378				✓		✓	✓				✓		10-70 [100-700]		4.5-5.5 ⁽⁵⁾ 6-18	10	✓	✓							✓	✓	✓	✓	✓	C

Linear Hall																				
Product	Package						Output Format				Programmable		Position Calibration		Temperature Calibration		Safety	Magnetic Field Strength	Supply Voltage	Current Consumption
	3-SIP-UA (1.5mm thick)	4-SIP-VA (1.15mm thick)	TSOT-23	SOIC-8	TSSOP-16 ⁽²⁾	DMP-4 (no-PCB)	Analog Voltage	PWM	SENT	PSI-5	By Customer (End of Line)	Preprogrammed by Melexis	Gain & Offset (2 point)	Multi-point (17 points)	Linear	Multi-point	ASIL (ISO26262)	mT [G]	(V)	mA (Typical)
MLX90251		✓					✓				✓		✓		✓		A	±6 to ±800 [±60 to ±8000]	4.5-5.5	7
MLX90288				✓			✓				✓		✓		✓	2nd order	A	±6 to ±650 [±60 to ±6500]	4.5-5.5	8,8
MLX90290	✓		✓				✓					✓			✓			±20 to ±100 [±200 to ±1000]	3.15-5.5	5
MLX90291				✓				✓			✓		✓		✓			±15 to ±400 [±150 to ±4000]	4.5-5.5	8
MLX90292					✓			✓		✓	✓		✓		✓	2nd order		±30 to ±170 [±300 to ±1700]	4.6-8.7	16
MLX90293				✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	7 Points	B	±7 to ±400 [±70 to ±4000]	4.5-5.5	8

(1) Dual Mold Package. Package is intended to be used without a PCB with electrical connections made directly to a leadframe.

(2) TSSOP-16 packages include two dies with individual electrical connections where full redundancy is needed.

(3) Average current draw will depend on the programmable conversion duty cycle and filtering.

(4) Stray field robust mode utilizes a gradient field (mT/mm) while the traditional mode uses a homogenous field (mT).

(5) Standard supply range 4.5-5.5V. Extended mode (6-18V) selectable via EEPROM programming.

