

CATEGORY SELECTION GUIDE

Lidar Category Selection Guide

Solid-state lidar uses a VCSEL source, SPAD-SoC optical processing and Time-of-Flight ranging to produce distance-point data across a defined horizontal and vertical field of view for robotic perception and distance sensing. Selection must consider detection range, field of view, target reflectivity, point rate, host processing, interfaces, synchronization and environmental conditions.

CATEGORY SELECTION GUIDE

CATEGORY	CURRENT CATALOG	REVISION / ISSUE
Lidar	1 Product Platforms / 1 SKUs	R01 2026-09-04

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01 | Category Scope and Objective

Item	Current category
Product catalog	1 Product Platform / 1 SKU
Suitable use	The Lidar category covers compact solid-state distance-sensing hardware for perception, ranging and feedback integration where field of view, detection range, point output, synchronization, environmental protection and host interface must be matched to the application.

02 | Operating Principle and Typical Applications

Solid-state time-of-flight sensing

The E1R Product Platform uses fully solid-state scanning with a 2D VCSEL source and SPAD-SoC optical processing. Time-of-Flight ranging produces a point stream across the stated horizontal and vertical fields of view. The platform is intended for perception and distance-sensing integration; optical clearance, target reflectivity, host processing and synchronization must be checked against the application.

Typical applications

Perception and feedback Use point-cloud output to provide distance and scene information to a host perception or feedback system.	Robotic and mobile sensing Use the wide scan envelope for equipment that needs a compact ranging sensor while preserving a defined mounting and wiring envelope.
Outdoor or exposed installation Use the recorded protection and temperature values as initial screening inputs, then verify the complete enclosure, harness and thermal design.	Vehicle or machine integration Capture Ethernet, timing, power and optical-clearance requirements before fixing the mounting position.

03 | Application Record Checklist

Application record checklist

01	Sensing task	Record the target surfaces, required detection distance, field of view and point-output needs.
02	Optical envelope	Record available clearance around the sensing window and confirm that covers, brackets or adjacent parts do not obstruct the field of view.
03	Host interface	Record Ethernet topology, data-rate compatibility, synchronization method, timestamp expectations and host software path.
04	Electrical supply	Record the vehicle or machine supply range, wake-up behavior, harness length and connector arrangement.
05	Environment	Record operating and storage temperature, water or dust exposure, sunlight and cleaning conditions.
06	Mechanical integration	Record mounting coordinates, bracket stiffness, positional tolerance, orientation and cable bend space.
07	Documents	Request the controlled 2D, STEP/STP and integration records needed for the design stage.

04 | Product Platform Catalog

E1R Solid-State LiDAR Product Platform



E1R Solid-State LiDAR Product Platform

A compact solid-state LiDAR Product Platform using fully solid-state scanning, 2D VCSEL and SPAD-SoC processing. The current SKU records a 120° horizontal field of view, 90° vertical field of view, 75 m maximum detection range and 260000 points/s point rate.

ES-LD-C00-S001

05 | Technical Selection Path

Selection sequence

01	1	Confirm the sensing envelope
02	2	Confirm output behavior
03	3	Confirm interface and timing
04	4	Confirm electrical and environment
05	5	Open the Product Platform
06	6	Confirm the SKU

06 | Product Platform Parameter Matrix

Initial comparison parameters

Parameter	Published value
Horizontal Field of View	120° (-60.0°~+60.0°)
Vertical Field of View	90° (-45°~+45°)
Maximum Detection Range	75
Ranging Distance at 10% Reflectivity	30m @10% NIS, 100klux direct sunlight
Point Rate	260000
Frame Rate	10
Operating Voltage	9V - 16V
Power Consumption	<10 W
Mass	330 g±20 g (only LiDAR)
Operating Temperature	- 40℃ ~+ 85℃
Protection Rating	IP67 / IP6K9K

07 | SKU Refinement

SKU refinement checklist

01	SKU identity	Confirm ES-LD-C00-S001-V001 and retain the public SKU in the RFQ or project record.
02	Optical fit	Reconfirm FOV, detection range, blind area, angular resolution and precision for the actual target and mounting position.
03	Data and timing	Confirm 1000Base-T1, connector function, point rate, frame rate and gPTP/PTP timing with the host system.
04	Mechanical and environmental fit	Confirm envelope, mass, operating temperature, protection rating, bracket tolerance and cable routing.
05	Controlled documents	Request the current 2D drawing, STEP/STP record and integration information through the controlled document process.

08 | Integration Checklist

Integration checks

01	Mounting and clearance	Reserve the optical envelope and verify the mounting position accuracy and orientation. The collected installation guidance calls for ± 3 mm positional accuracy and $\pm 1.5^\circ$ roll, yaw and pitch accuracy.
02	Bracket and fastening	Use a rigid bracket, align the locating features and verify fastener engagement and torque against the current controlled installation information.
03	Harness and network	Use a shielded 1000BASE-T1 Ethernet path, maintain the stated supply at the sensor, and reserve connector access and cable bend space.
04	Timing and host	Confirm gPTP or PTP E2E L2 behavior, timestamp handling and host software compatibility before integration testing.

09 | Engineering Use and Verification Notice

Engineering use and verification

The values in this guide are a category-level navigation aid based on the cited published standard-parameter records and collected engineering material. Before design freeze, confirm the exact SKU, mechanical and electrical interfaces, feedback or timing behavior, and the current controlled Datasheet and Dimensional & Integration Guide. Do not infer an unrecorded value from a SKU code or from a single rated value.