

# S1 / 01 Overview

## 192-Line LiDAR Evaluation Kit

Brand: ROGERSENSE

Model: S1

Document version: 1.0

Hardware / firmware revision: TBD



Product presentation. Delivered configuration: TBD.

### Key functions

| Parameter       | Value / conditions                                                                                                            | Rev. |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------|------|
| Channels / type | 192-line semi-solid-state, single-photon dToF                                                                                 | 1.0  |
| Range           | 300 m (200 m @10% reflectivity), 1 m min<br>Source PDF p.5: 200 m at 10% reflectivity under 100 kLux; 300 m is maximum range. | 1.0  |
| FOV             | 120° (H) × 25° (V)                                                                                                            | 1.0  |

### Delivery configuration

LiDAR host, gateway, host-to-gateway cable, Ethernet cable and power supply; listing states approximately 3 kg total package weight.

### Application scope

Reference specifications for project evaluation. Final delivery is subject to the agreed hardware, firmware, accessories and acceptance conditions. Presentation imagery does not define manufacturing geometry.

## S1 / 01 Overview (continued)

### Reference photographs

#### S1 LiDAR / front and rear views



Front view / optical window



Rear view / connector and cooling fins

#### Gateway / front and rear views of the same unit



Front view / LAN, timing and DC input

#### Hybrid harness / accessory



Host-to-gateway cable



Rear view / T1 data, wake and power output

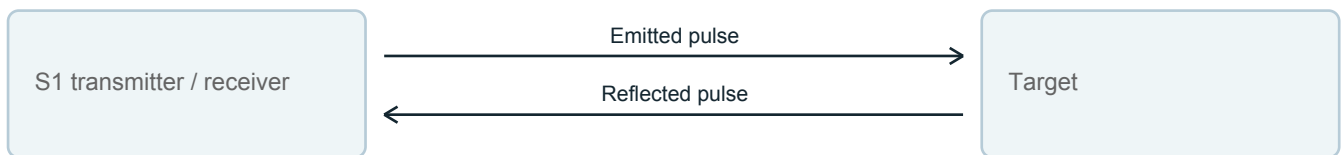
Front and rear photographs show the same S1 host and the same gateway, respectively. Backgrounds and identifier labels removed. Included accessories follow the ordered configuration.

## S1 / 01 Overview (continued)

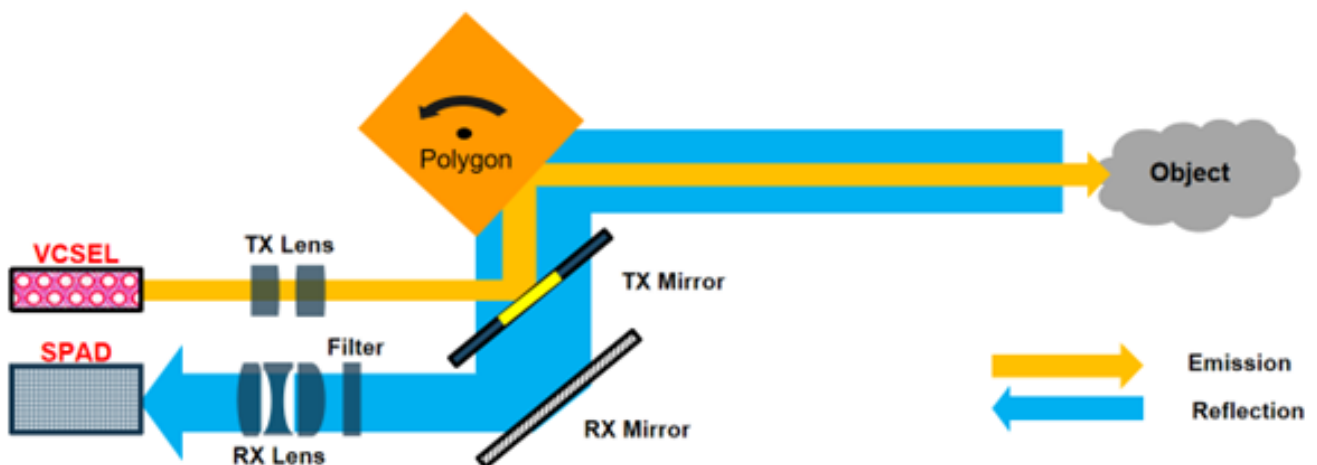
### Operating principle and optical path

#### Direct time of flight (dToF)

The transmitter emits an ultrashort laser pulse. The target reflects the pulse and the receiver detects the return. S1 measures the round-trip flight time  $t$  and calculates target distance  $d = c \times t / 2$ , where  $c$  is the speed of light.



#### Coaxial optical architecture



Eight line-type VCSEL emitters are interleaved to form a line spot. After collimation, the transmit beam covers a 25.6-degree vertical optical field. Transmit and receive paths are coaxial; the receiver covers the same vertical field. The original diagram identifies the TX lens, TX mirror, polygon, RX mirror, filter, RX lens and SPAD receiver.

A low-speed rotating mirror runs at 150 rpm at a 10 Hz frame rate, providing a 120-degree horizontal scan. The 25.6-degree value describes the optical design; the rated product field of view remains 120 x 25 degrees as specified in the technical table.

## S1 / 02 Technical data

Documented values and operating conditions. Conflicting or unavailable values are marked TBD.

| Parameter            | Value / conditions                                                                                                                                  | Rev. |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Channels / type      | 192-line semi-solid-state, single-photon dToF                                                                                                       | 1.0  |
| Range                | 300 m (200 m @10% reflectivity), 1 m min<br>Source PDF p.5: 200 m at 10% reflectivity under 100 kLux; 300 m is maximum range.                       | 1.0  |
| FOV                  | 120° (H) × 25° (V)                                                                                                                                  | 1.0  |
| Resolution           | 0.15° × 0.13° @10Hz                                                                                                                                 | 1.0  |
| Point rate           | 1,536,000 points/s                                                                                                                                  | 1.0  |
| Accuracy (1σ)        | < 3 cm<br>Source PDF p.5: Lambertian 10% target at 20 m.                                                                                            | 1.0  |
| Frame rate           | 10 / 20 Hz                                                                                                                                          | 1.0  |
| Returns              | Single / dual echo, anti-interference                                                                                                               | 1.0  |
| Safety               | Source lists ASIL-B and "Class 1B"; classification / certificates TBD<br>Reference claim only; verify final product label and formal documentation. | 1.0  |
| Time sync            | 1588v2 PTP / 802.1AS gPTP / PTP Master                                                                                                              | 1.0  |
| Environment          | -40~85 °C · IP67, IP6K9K                                                                                                                            | 1.0  |
| Power                | DC 9~32 V · 10 W                                                                                                                                    | 1.0  |
| Size / weight        | 125 × 110 × 35 mm · 808 g                                                                                                                           | 1.0  |
| Connector            | TE 2387351                                                                                                                                          | 1.0  |
| Sensor-side data     | 1000BASE-T1; specified gateway / interface box<br>Source PDF p.7                                                                                    | 1.0  |
| Storage temperature  | -40 to +95 deg C                                                                                                                                    | 1.0  |
| Mass boundary        | 808 g host only, excluding cable; enclosure excludes mounting / connector                                                                           | 1.0  |
| Cable                | Diameter 4.10 +/-0.2 mm; minimum bend radius 5 x diameter                                                                                           | 1.0  |
| Host IP / PC example | 192.168.101.101 / 192.168.101.200; subnet 255.255.255.0                                                                                             | 1.0  |

## S1 / 03 Electrical interface

### Pin / terminal definitions

| Parameter | Value / conditions                                                                | Rev. |
|-----------|-----------------------------------------------------------------------------------|------|
| 1         | VCC, DC 9-32 V                                                                    | 1.0  |
| 2         | WAKEUP input; original pin table labels 0-30 V; switching threshold / timing: TBD | 1.0  |
| 3         | GPSRMC, 3.3 V CMOS                                                                | 1.0  |
| 4         | Power GND                                                                         | 1.0  |
| 5         | Signal GND                                                                        | 1.0  |
| 6         | PPS, 3.3 V CMOS                                                                   | 1.0  |
| D1        | 1000BASE-T1 positive                                                              | 1.0  |
| D2        | 1000BASE-T1 negative                                                              | 1.0  |

### Electrical conditions

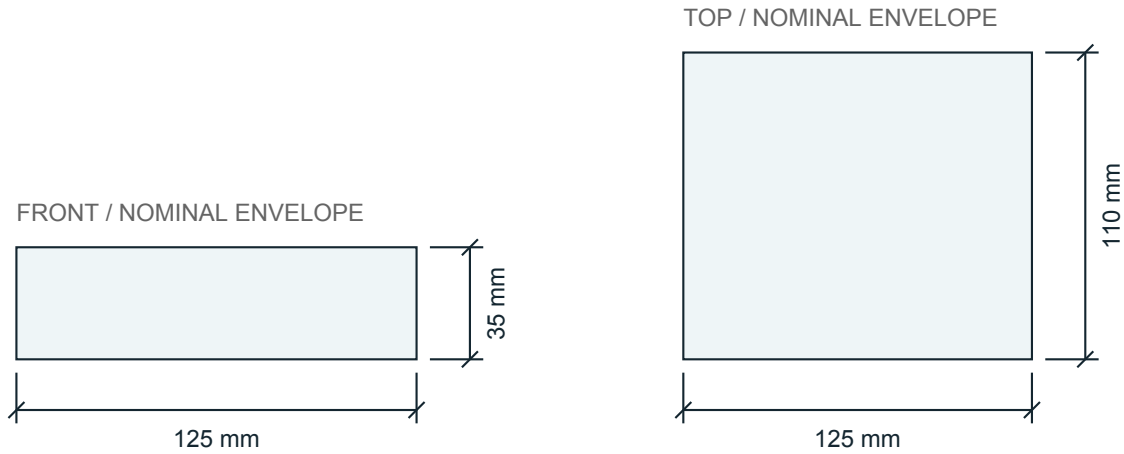
Sensor-side D1/D2 is 1000BASE-T1. The matching gateway and harness are part of the interface boundary.

Connector mating orientation, WAKEUP behavior and delivered pin-to-wire mapping: TBD.

| Item                            | Value / condition                                         | Rev. |
|---------------------------------|-----------------------------------------------------------|------|
| Pin viewing orientation         | TBD unless identified in the approved wiring drawing      | 1.0  |
| Harness / logic compatibility   | TBD; confirm against the delivered hardware before wiring | 1.0  |
| EMC / isolation / load derating | TBD; component ratings do not establish system ratings    | 1.0  |

S1 / 04 Mechanical & installation

Dimensions / unit: mm



Unit: mm. Not to scale. Holes / datum / unspecified tolerances: TBD.

| Item                     | Value / condition                                                                                         | Rev. |
|--------------------------|-----------------------------------------------------------------------------------------------------------|------|
| Host body                | 125 +/-1 x 110 +/-1 x 35 +/-1 mm; body excludes mounting / connector                                      | 1.0  |
| Mounting / base callouts | 145 +/-0.50; 117 +/-0.50; 115 +/-0.50; 73 +/-0.50; 70 +/-0.50; 14 +/-0.50 mm, datums per original drawing | 1.0  |
| Mounting holes           | 4 x M4-6H threaded holes, depth 4.5 mm; 3 x diameter 4.2 through holes                                    | 1.0  |
| Locating features        | Diameter 3 (+0.05 / 0) and width 3 (+0.05 / 0), each 4 mm deep; 2 mm edge callout                         | 1.0  |
| Sensor connector         | Mounting plate 23.6 x 21.5; mounting pitch 18.9 x 16.8; diameter 2.3 mm holes                             | 1.0  |
| Optional interface box   | 100 +/-0.50 x 80 +/-0.50 x 28 +/-0.50 mm; 88 +/-0.20 mm mounting pitch; 2 x M4, depth 8 mm                | 1.0  |
| Host mass / cable        | 808 g excluding cable; cable diameter 4.10 +/-0.2 mm; minimum bend radius 5 x diameter                    | 1.0  |

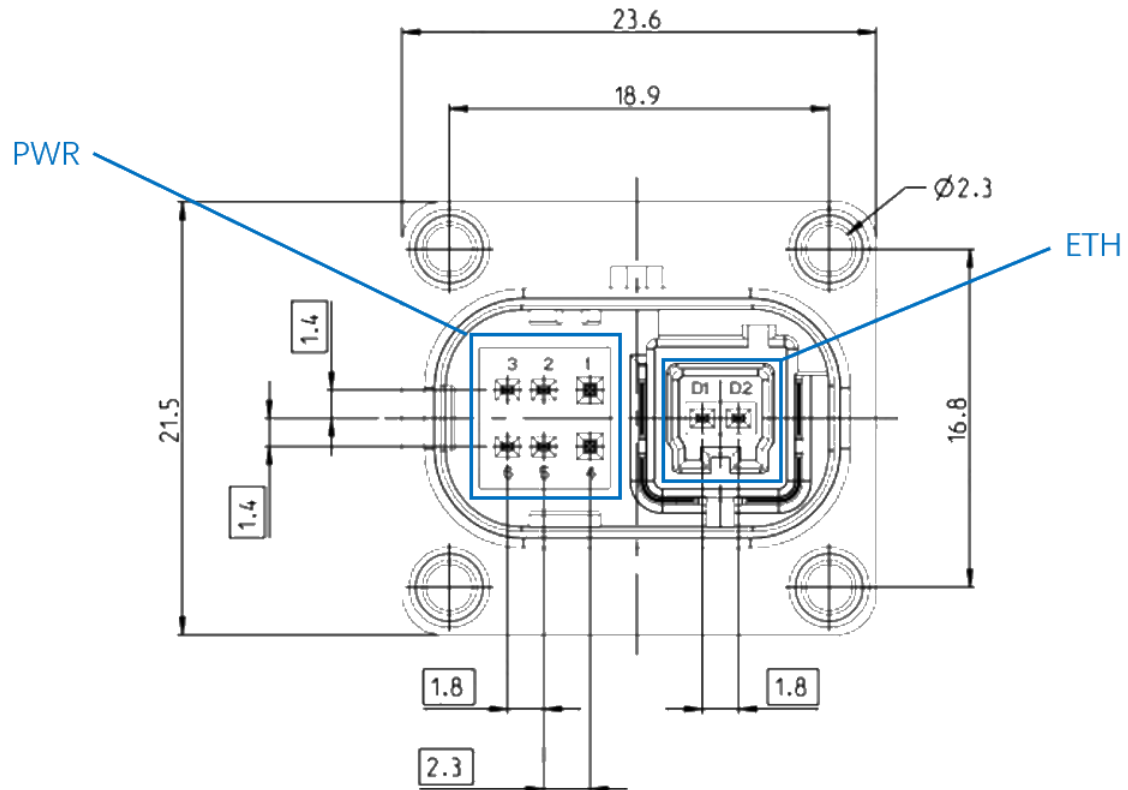
Installation control

Confirm mounting datum, clearance, connector access and the exact delivered revision. Drawing spans listed in the table require an approved drawing to establish orientation. Unspecified geometry and tolerances: TBD.

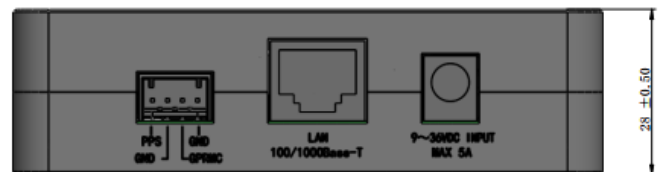
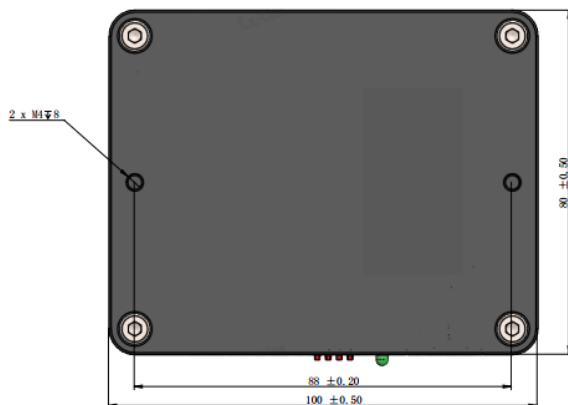


## S1 / 04 Mechanical & installation (continued)

Sensor connector / male receptacle - unit: mm



Optional interface box / bottom and rear views - unit: mm



Height: 28 +/-0.50 mm

Source dimension leaders retained. Body: 100 x 80 x 28 mm, each +/-0.50 mm.

## S1 / 05 Protocol & software

### Native interfaces and protocol

| Item                       | Value / condition                                                | Rev. |
|----------------------------|------------------------------------------------------------------|------|
| Host tools                 | Web information, settings, status, update, log / DTC views       | 1.0  |
| SDK bindings               | C++, Python, ROS1, ROS2; delivered versions: TBD                 | 1.0  |
| Data tools                 | PCAP recording / replay; IMU motion compensation; LeeminentView  | 1.0  |
| Export formats             | CSV / PLY / PCD / LAS / VTK                                      | 1.0  |
| Native web firmware update | Documented; package authentication / rollback: TBD               | 1.0  |
| SLAM / advanced features   | Not assumed included in the public SDK; licensing and scope: TBD | 1.0  |

### ROGERSENSE integration services

MQTT connectivity, OTA firmware updates, gateways and cloud platform are available for delivery. Model-specific controllers, interfaces and adaptation are agreed per project. These services do not imply native MQTT or OTA support inside every sensor.

Platform: <https://iot.rogersense.com>

| Item                                    | Value / condition | Rev. |
|-----------------------------------------|-------------------|------|
| Gateway / firmware build                | TBD               | 1.0  |
| MQTT topic / payload / credentials      | TBD               | 1.0  |
| OTA signing / rollback / access control | TBD               | 1.0  |

## S1 / 06 Delivery & verification

### Configuration and acceptance record

| Item                                | Value / condition                               | Rev. |
|-------------------------------------|-------------------------------------------------|------|
| Document version                    | 1.0                                             | 1.0  |
| Brand / model                       | ROGERSENSE / S1                                 | 1.0  |
| Hardware / firmware revision        | TBD                                             | 1.0  |
| Serial number / calibration report  | TBD                                             | 1.0  |
| Approved mechanical drawing         | TBD                                             | 1.0  |
| Inspection / acceptance report      | TBD                                             | 1.0  |
| Packing / harness / accessories     | TBD; confirm the ordered configuration          | 1.0  |
| Certification / compliance evidence | TBD unless identified in the delivery agreement | 1.0  |

### Open items

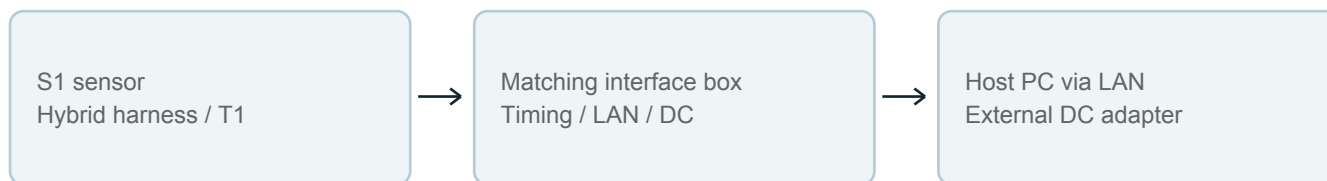
Every TBD item and any conflicting supply, accuracy, dimensional or revision requirement must be resolved in the approved delivery configuration. Calibration conditions, wiring orientation, installation datum and application suitability require project verification.

### After-sales

After-sales follows the existing ROGERSENSE policy and the approved order. <https://rogersense.com/returns>

## S1 / 07 Appendix A

### Architecture and mechanical installation



| Item                     | Value / condition                                                                                                                                                                                                                            | Rev. |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Measurement principle    | Single-photon direct Time of Flight: distance = light speed x flight time / 2.                                                                                                                                                               | 1.0  |
| Optical architecture     | Eight-line VCSEL arrangement; coaxial transmit / receive path. Original optical description gives 25.6-degree vertical optical coverage and a 150 rpm mirror at 10 Hz; the controlled specification table gives 120 x 25-degree product FOV. | 1.0  |
| Nominal body / tolerance | 125 x 110 x 35 mm. Existing mechanical reference labels length, depth and height at +/-1 mm. Body dimensions exclude connector, screw holes and mounting ears.                                                                               | 1.0  |
| Mass / cable             | 808 g host excluding cable; cable outer diameter 4.10 +/-0.2 mm; minimum bend radius 5 x cable outer diameter.                                                                                                                               | 1.0  |
| Connection topology      | LiDAR hybrid harness to the matching interface box; interface-box LAN to host PC; DC input from power adapter. Sensor-side data is 1000BASE-T1, not an assumed direct PC Ethernet connection.                                                | 1.0  |
| Connector handling       | Power off before mating or separation. Align housing latches, insert correctly, then press the latch and pull the housing to disconnect. Do not pull the cable forcefully or twist the housing.                                              | 1.0  |
| Mechanical qualification | Mount to a reliable surface / structure. Confirm actual mounting features and custom requirements before production. Hole coordinates and connector projection: TBD.                                                                         | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 08 Appendix B

### Connector and interface-box reference



Sensor-side male receptacle reference. Confirm mating face / harness orientation before wiring.

| Item                         | Value / condition                                                                                                                                                                                                          | Rev. |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Radar-side connector         | TE Connectivity 2387351, sensor-side male receptacle. The original view labels top row 3 / 2 / 1 and lower row 6 / 5 / 4, with the D1 / D2 pair alongside. Confirm this viewing face against the delivered mating harness. | 1.0  |
| 1 / 2 / 3                    | VCC: original connector table labels 9-36 V; the product operating specification is DC 9-32 V and governs use. WAKEUP: 0-30 V input label. GPSRMC: 3.3 V CMOS.                                                             | 1.0  |
| 4 / 5 / 6                    | Power GND / Signal GND / PPS, 3.3 V CMOS.                                                                                                                                                                                  | 1.0  |
| D1 / D2                      | 1000BASE-T1 positive / negative differential pair.                                                                                                                                                                         | 1.0  |
| Optional interface-box front | Front face of the same gateway: timing I/O (PPS / GPRMC), LAN and DC input. Front/rear naming follows the original manual.                                                                                                 | 1.0  |
| Optional interface-box rear  | Rear face of the same gateway: T1 ETH, Act / Link LEDs, DIP and Power Out; Wake Off / Wake En DIP function is indicated in the original reference.                                                                         | 1.0  |
| Reserved connections         | Avoid direct contact with reserved interfaces and exposed pins. WAKEUP switching threshold / timing and delivered harness mapping: TBD. Do not apply the broader connector-table voltage as an operating-range extension.  | 1.0  |
| Connector release            | If housing becomes loose, stop using the connector. Do not reassemble the shell / cable clamp or connect a housing-less connector; request technical support.                                                              | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 09 Appendix C

### Network configuration and web control

| Item               | Value / condition                                                                                            | Rev. |
|--------------------|--------------------------------------------------------------------------------------------------------------|------|
| Sensor / target IP | Sensor 192.168.101.101; default target 192.168.101.255 broadcast, configurable in web settings.              | 1.0  |
| Host setup         | Example PC 192.168.101.200; subnet mask 255.255.255.0. Connect through the matching gateway / interface box. | 1.0  |
| Web entry          | http://192.168.101.101                                                                                       | 1.0  |
| Power-on behavior  | The existing manual describes operation and automatic data transmission after power-on and host connection.  | 1.0  |
| Information        | Module name, serial number and software / device version information.                                        | 1.0  |
| Setting            | Return strategy, operating status, IP / port, mirror speed / direction, PTP / PPS synchronization options.   | 1.0  |
| Status / Monitor   | Operating voltage, temperature, humidity, port statistics and abnormal operating events.                     | 1.0  |
| Update             | Factory reset interface and firmware upgrade. Delivered image authentication / rollback behavior: TBD.       | 1.0  |
| Log / DTC          | Diagnostic trouble-code messages and associated logs; ISO 15031 is referenced by the existing manual.        | 1.0  |
| Diagnostic         | Internal-use diagnostics and optimization, for authorized engineering use.                                   | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 10 Appendix D

### Point-cloud packet reference

| Item                     | Value / condition                                                                                                                                                               | Rev. |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Header / type            | Header identifier 0xA255, 2 bytes; LiDAR technology type, 2 bytes.                                                                                                              | 1.0  |
| Protocol version         | 1 byte: VersionMajor, high 4 bits, value 0; VersionMinor, low 4 bits, value 0 in the retained manual.                                                                           | 1.0  |
| Block Num / Channel Num  | Number of blocks, 1 byte; channels per block, 2 bytes.                                                                                                                          | 1.0  |
| LiDAR Flag               | Additional product information, 2 bytes.                                                                                                                                        | 1.0  |
| Points Number            | Valid point count in the complete frame, 4 bytes.                                                                                                                               | 1.0  |
| Payload Length           | Payload length, 2 bytes.                                                                                                                                                        | 1.0  |
| Frame ID                 | 2 bytes; starts at 0, increments for each complete frame and restarts from zero after overflow.                                                                                 | 1.0  |
| Packet Seq               | 2 bytes; Ethernet packet sequence within the frame.                                                                                                                             | 1.0  |
| Timestamp                | 10 bytes: first 6 bytes year / month / day / hour / minute / second; actual calendar year = encoded year + 1900. Last 4 bytes are microseconds.                                 | 1.0  |
| Reserved / point payload | 2 reserved bytes followed by variable point-cloud data.                                                                                                                         | 1.0  |
| Block header             | Time offset, 2 bytes; azimuth, 2 bytes.                                                                                                                                         | 1.0  |
| Each channel             | Distance, 2 bytes; reflectivity, 1 byte; confidence, 1 byte.                                                                                                                    | 1.0  |
| Integration boundary     | Exact byte order, distance / angle scaling and delivered protocol revision: TBD. The manual describes the typical Block Num = 1 structure and ROS / ROS2 Rosbag debugging data. | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 11 Appendix E

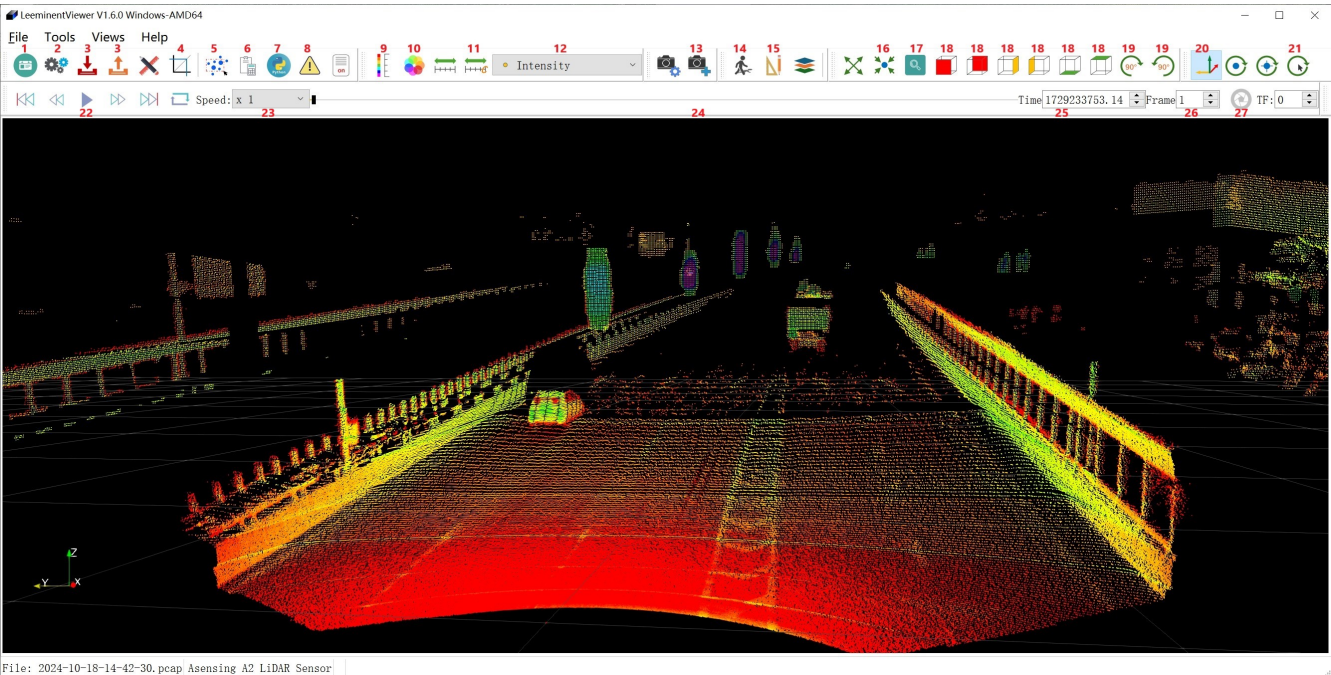
### Time synchronization

| Item                      | Value / condition                                                                                                                                              | Rev. |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Supported synchronization | IEEE 1588v2 PTP, IEEE 802.1AS gPTP and PTP Master; PPS / GPSRMC pins are available as documented.                                                              | 1.0  |
| Default PTP role          | PTP Slave. When a PTP Master is available on the network, the documented default automatically synchronizes without a separate enable switch.                  | 1.0  |
| Free Run                  | Uses an internal RTC simulated value, counting forward from a configured start time.                                                                           | 1.0  |
| Locked                    | After handshaking with a PTP Master, the sensor locks to the received external clock source.                                                                   | 1.0  |
| Frozen                    | After loss of PTP Master interaction, time continues counting using the local RTC.                                                                             | 1.0  |
| Acceptance checks         | Confirm the delivered timing mode, timestamp reference, host network configuration and behavior during lock / source loss. Delivered timing error limits: TBD. | 1.0  |
| Per-block timing          | Datablock Time_Offset is a 2-byte interval between generation of that block and the packet-header timestamp. Exact delivered scaling / byte order: TBD.        | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

# S1 / 12 Appendix F

## LeeminentView and development packages



| Item                 | Value / condition                                                                                                                                                                     | Rev. |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Viewer modes         | Live sensor display and offline PCAP playback for capture, visualization and analysis.                                                                                                | 1.0  |
| Point attributes     | Timestamped returns, timestamp, azimuth and laser ID attributes.                                                                                                                      | 1.0  |
| Engineering controls | Grid, ruler, cropping, point selection, color mapping, point size, frame aggregation and 3D view manipulation.                                                                        | 1.0  |
| Recording / export   | Record PCAP; export CSV, PLY, PCD, LAS and VTK.                                                                                                                                       | 1.0  |
| Driver SDK           | Query / set configuration; read and buffer UDP streams; record / read PCAP; convert raw data to depth and reflectivity images; IMU motion compensation and point-cloud visualization. | 1.0  |
| Bindings / ROS       | C++ / Python Driver SDK references; ROS1 and ROS2 driver packages based on the Driver SDK, with RViz visualization and project integration.                                           | 1.0  |
| Feature availability | Real-time SLAM and HPC AI functions are described as not yet open in the existing manual. They are not assumed to be included.                                                        | 1.0  |
| Release control      | Delivered SDK / viewer / ROS builds, operating systems, dependencies, firmware compatibility, calibration files and license terms: TBD.                                               | 1.0  |

## S1 / 12 Appendix F (continued)

| Item                       | Value / condition                                                                                                                                                                                                                                           | Rev. |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Live profile selection     | Choose Sensor Stream and the configuration matching delivered hardware. The software guide lists A0-Correction-5, A2-Correction-basic / advance and A2N-Correction-basic / advance. Selection for this S1 delivery: TBD; do not choose by appearance alone. | 1.0  |
| Configuration / display    | The installation share folder contains configuration references. Upload / download configuration supports backup and changes. Cropping supports coordinate / spherical selection and inverse cropping; sliders or numeric entry may be used.                | 1.0  |
| Selection / colors / views | Select Points plus Spreadsheet filtering; intensity color source by default; color legend, palette and rescaling; point size / grid settings; perspective / orthographic, standard views, rotation, magnifier and view-center controls.                     | 1.0  |
| Playback / frame tools     | Play / pause / seek, playback speed, timestamp in seconds, frame selection and frame capture / export. Delivered UI labels follow the installed build.                                                                                                      | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 13 Appendix G

### Operation, maintenance and troubleshooting

| Item                       | Value / condition                                                                                                                                                                                                           | Rev. |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Basic operation            | Read the manual; confirm supply and cable connections; mount reliably; power off for cleaning, long storage or connector service. Do not open the housing; use authorized service.                                          | 1.0  |
| Heat and optics            | Do not stare into the optical window. Housing may become hot; switch off and allow cooling before contact. Existing handling guidance specifies at least 30 minutes when required.                                          | 1.0  |
| Cleaning                   | For light dust use dry air or a lint-free cloth. For water, oil or mud use room-temperature cleaning solution and a soft sponge / lint-free cloth. Protect the coating, replace dirty cloths and avoid spraying connectors. | 1.0  |
| Interface-box LED off      | Check cables, connector seating, adapter output, required input voltage / current and enclosure condition; power-cycle if needed.                                                                                           | 1.0  |
| Ethernet LED abnormal      | Check a gigabit network adapter, Cat6 or higher cable, PC IP in 192.168.101.x, sensor reachability and normal power.                                                                                                        | 1.0  |
| No viewer / Wireshark data | Check scanner state, cable, power, ping, NIC and managed endpoint controls, then power-cycle. Keep required network permissions under control.                                                                              | 1.0  |
| Abnormal scanner           | Avoid looking into the emission window. Existing manual describes IR-sensitive camera / card checks; check unusual noise, loose parts and web scanner status; refer service issues to authorized personnel.                 | 1.0  |
| Distorted point cloud      | Use the matching calibration file; confirm supply, check mechanical abnormalities and power-cycle.                                                                                                                          | 1.0  |
| Liquids / impact           | Prevent ingress. Stop using a dropped, damaged or abnormally operating unit and arrange inspection.                                                                                                                         | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 14 Appendix H

### Applications and document control

| Item                        | Value / condition                                                                                                                                                                                     | Rev. |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Vehicle and robotics        | ADAS / autonomous vehicle perception; AMR / AGV warehouse navigation, pallet and aisle sensing, dock alignment and obstacle avoidance.                                                                | 1.0  |
| Industrial / infrastructure | Industrial robot perception, material-flow sensing, construction and off-road machinery, roadside object detection, counting and classification.                                                      | 1.0  |
| Research / mapping          | 3D mapping, localization, PCAP datasets, algorithm development, calibration and validation.                                                                                                           | 1.0  |
| Published safety statements | The original manual lists ASIL-B and eye safety as Class 1B. These are retained as source statements; final classification, certificates and test evidence: TBD.                                      | 1.0  |
| Protection boundary         | IP67 / IP6K9K require the approved installation and correctly sealed mating connectors. EMC depends on cable routing, grounding, shielding, supply and host installation.                             | 1.0  |
| Delivery documentation      | This specification does not replace official market approvals or test reports. Confirm final label, firmware, mechanical drawing, harness and purchase-specific records.                              | 1.0  |
| Integrator documentation    | Provide appropriate operating instructions, warnings, service procedures and applicable regulatory information with the final system.                                                                 | 1.0  |
| Revision                    | Version 1.0 consolidates the existing ROGERSENSE S1 product / software specification. Final production configuration and customer-specific changes remain subject to approved delivery documentation. | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

## S1 / 15 Appendix I

### Original drawing callouts and configuration boundary

| Item                     | Value / condition                                                                                                                                                                                                | Rev. |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Body / mounting          | Body 125 $\pm$ 1 x 110 $\pm$ 1 x 35 $\pm$ 1 mm. The original base drawing additionally labels 145, 117, 115, 73, 70 and 14 mm at $\pm$ 0.50; use each leader and datum as shown.                                 | 1.0  |
| Mounting holes           | 4 x M4-6H, depth 4.5 mm; 3 x diameter 4.2 through. Diameter 3 (+0.05 / 0) and width 3 (+0.05 / 0) locating features, depth 4 mm; 2 mm edge callout.                                                              | 1.0  |
| Sensor connector         | 23.6 x 21.5 mm mounting plate; mounting pitch 18.9 x 16.8 mm; diameter 2.3 mm mounting holes. Original pin-pitch callouts include 1.4, 1.8 and 2.3 mm; confirm their original dimension leaders.                 | 1.0  |
| Optional interface box   | 100 $\pm$ 0.50 x 80 $\pm$ 0.50 x 28 $\pm$ 0.50 mm; two M4 threaded mounting holes, depth 8 mm, pitch 88 $\pm$ 0.20 mm. Height confirmed in original rear dimension view. Purchase-specific wiring revision: TBD. | 1.0  |
| Known source differences | Use 120 x 25 degrees from the specification table; 25.6 degrees is a separate optical-design description. Use DC 9-32 V for operating power even though the connector signal table labels VCC 9-36 V.            | 1.0  |
| Configuration control    | Match the sensor, gateway, harness, firmware, calibration, viewer profile and SDK build before acceptance. Final application limits, approved manufacturing drawing and compliance evidence: TBD.                | 1.0  |

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.