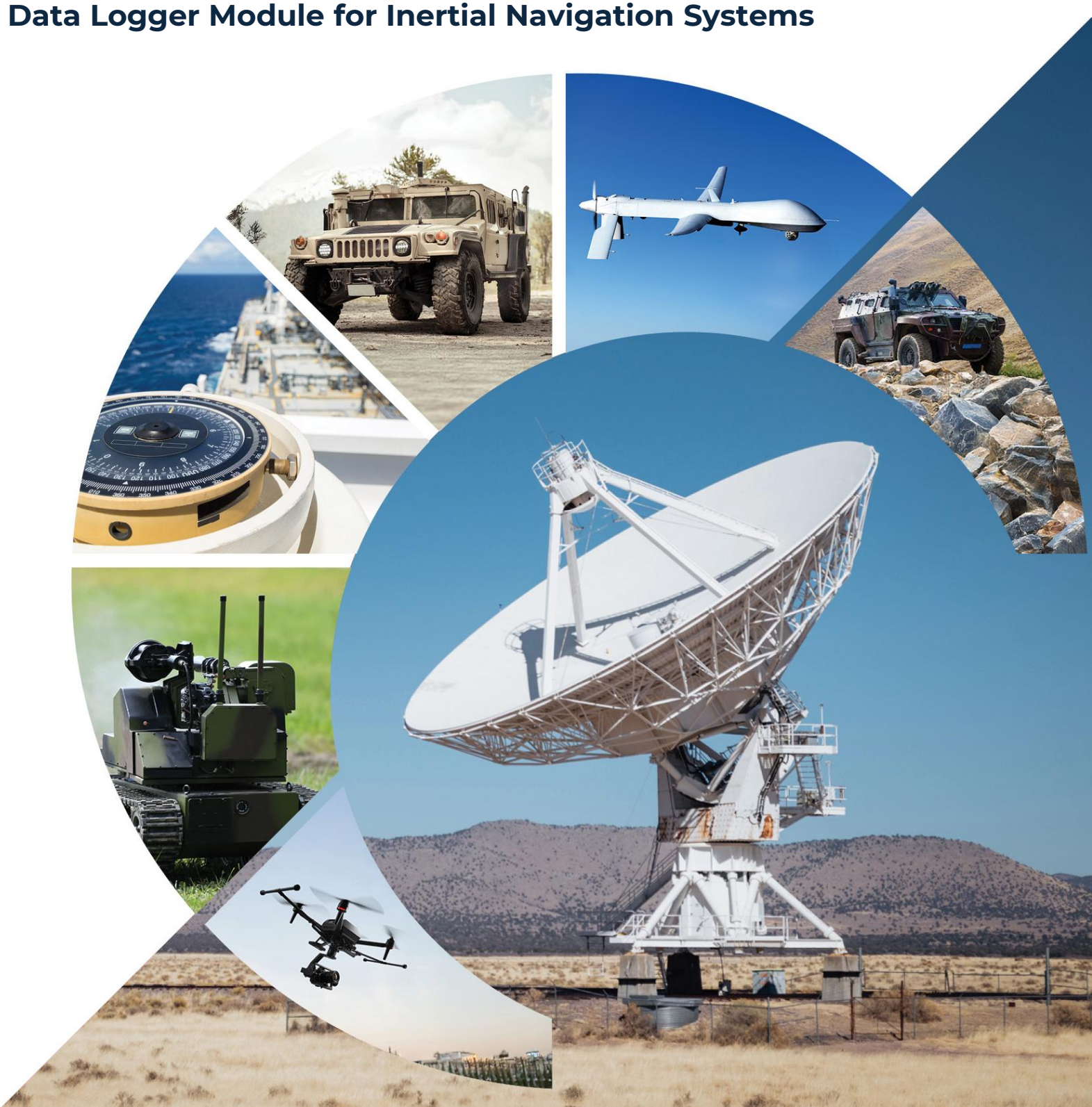
Inertial Labs
a VIAVI Solutions company

MADE IN USA

Standalone Data Logger SDL-64

Data Logger Module for Inertial Navigation Systems



SDL-64

The Inertial Labs Standalone Data Logger (SDL-64) installs in-line between a host and an Inertial Labs device under test, passing RS422, RS232, CAN and GPIO signals through transparently while recording both directions to on-board storage. Sessions are configured, monitored and downloaded through an embedded web panel over Gigabit Ethernet or USB-C.

Product Overview

The **Inertial Labs SDL-64** is a self-contained recording appliance that seamlessly installs between a host system and an Inertial Labs' device under test. Signals pass through the unit transparently on matched 15-pin D-Sub connectors, male on the Host Side and female on the Device Side, while the logger taps and records every byte in both directions. No changes to host software, no changes to device firmware, no lost link.



The unit captures RS422, RS232 and CAN traffic simultaneously, timestamps it, and writes it to on-board industrial storage. Recorded sessions are retrieved over Gigabit Ethernet or over USB-C. A built-in web panel provides start/stop control, peripheral interface configuration, live telemetry view, and file download, with no host-side application required.

Features

- Simultaneous bidirectional capture of RS422, RS232 and CAN traffic.
- Timestamped recording to on-board industrial storage. Temperature and power consumption logs are provided to users.
- Customizable interface configuration from the user web panel.
- Live telemetry monitoring during recording on the user web panel.
- Session download over Gigabit Ethernet, or USB-C.
- Onboard supercapacitor keeps logging for a brief window after power is lost, then flushes buffered data and shuts down safely so no file is corrupted.
- Host specific utilities are provided with the module.

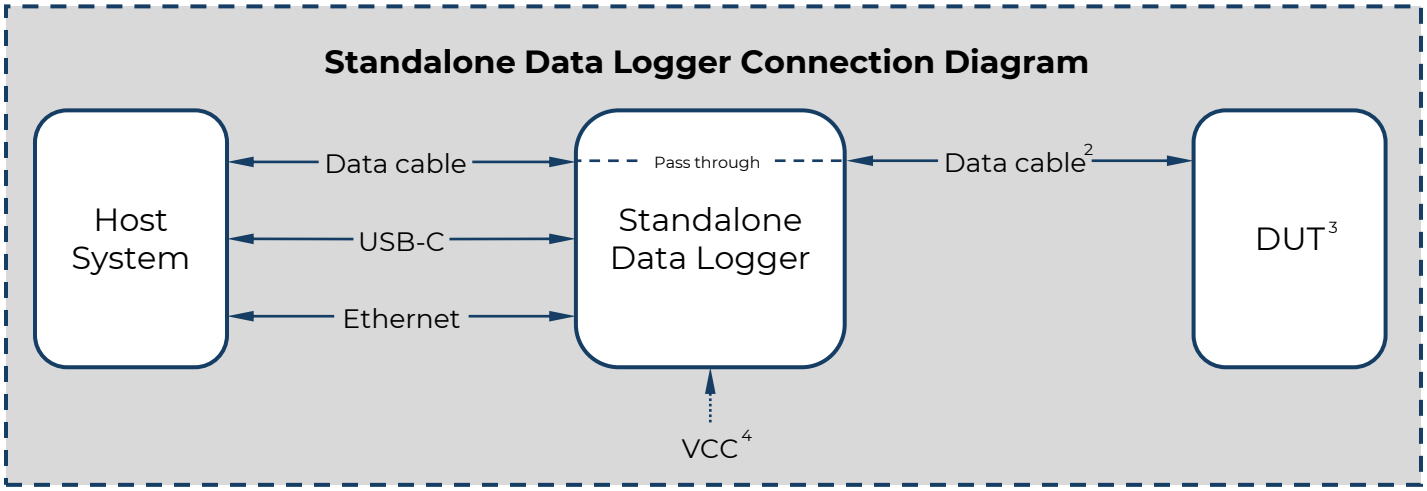
Applications

- Field data collection for post-mission trajectory reprocessing.
- Intermittent-fault and interoperability troubleshooting on deployed serial links.
- Long-duration unattended recording of vehicle CAN and serial buses.
- Protocol verification during customer integration and factory test.

SDL-64 Module Specifications

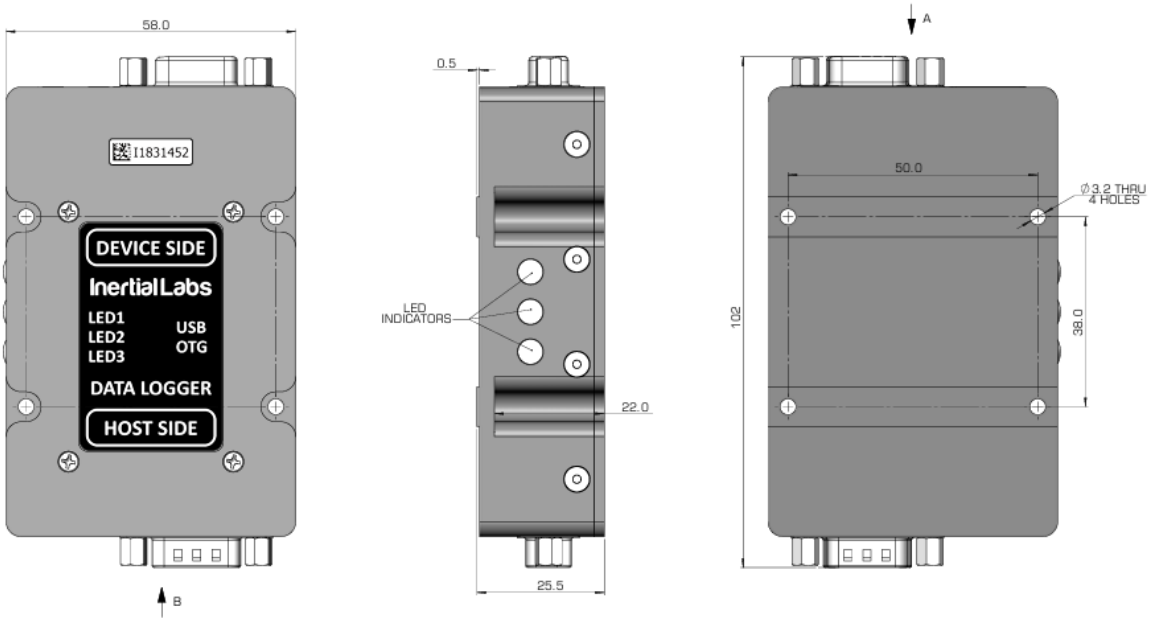
Environmental	
Operating temperature range (°C)	-40 to 80
Storage temperature range (°C)	-50 to 85
MTBF (GM) (h)	100000
Electrical	
Supply Voltage (VDC)	6-32
Power Consumption (W)	<2
Computational Core	
System on Module	Variscite DART-MX6
CPU	Arm Cortex-A9 (Quad Core) 1.2 GHz per core
On-Board Storage [1]	64GB
Physical	
Dimensions (mm)	58 x 102.5 x 25 (W x L x H)
Weight (g)	164
Interfacing	
Output Interface	x3 RS-232/x1 RS-422/x1 CAN/ 1Gb/s Ethernet/USB-C (OTG)/USB 2.0/ GPIO
User Interface (Software)	Embedded web panel served over Ethernet or USB-C

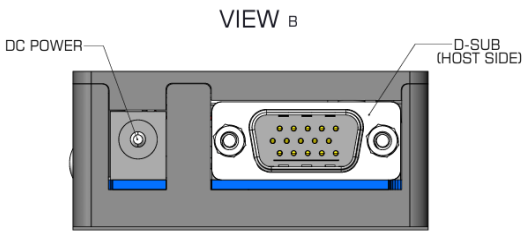
SDL-64 System Architecture

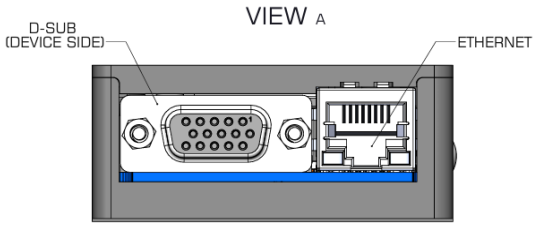


1. Data recycling: When free space drops below the Recycle Threshold (default 5%, adjustable), the third status LED blinks red and the oldest records are deleted to make room for new ones. Logging never stops, but overwritten data is unrecoverable.
2. Available interfaces on the data cable (pigtail): RS232/422, CAN, GPIOs
3. DUT can be any Inertial Labs products, accessories or other modules with supporting interfaces listed above.
4. The SDL can be powered from the DC barrel connector, with the DUT optionally powered from the device-side V_SUPPLY and GND pins (standalone mode). Alternatively, both can be powered from the host-side connector pins. The DUT cannot supply power to the SDL.

SDL-64 Mechanical and Electrical Interface







XP1 D'SUB MALE (HOST SIDE)		
1	VIN	SUPPLY INPUT
2	GND	SUPPLY RETURN
3	RS422_RX1+	RS422 PORT1
4	RS422_RX1-*	RS422 PORT1
5	RS422_TX1+*	RS422 PORT1
6	RS422_TX1-	RS422 PORT1
7	RS232_RX2	RS232 PORT2
8	RS232_TX2	RS232 PORT2
9	RS232_RX3	RS232 PORT3
10	RS232_TX3	RS232 PORT3
11	CAN-H	CAN BUS
12	CAN-L	CAN BUS
13	GPIO1	INS 1PPS OUT
14	GPIO2	INS EV2 INPUT
15	GPIO3	GENERAL I/O

XP1 D'SUB FEMALE (DEVICE SIDE)		
1	VIN	SUPPLY INPUT
2	GND	SUPPLY RETURN
3	RS422_RX1+	RS422 PORT1
4	RS422_RX1-*	RS422 PORT1
5	RS422_TX1+*	RS422 PORT1
6	RS422_TX1-	RS422 PORT1
7	RS232_RX2	RS232 PORT2
8	RS232_TX2	RS232 PORT2
9	RS232_RX3	RS232 PORT3
10	RS232_TX3	RS232 PORT3
11	CAN-H	CAN BUS
12	CAN-L	CAN BUS
13	GPIO1	INS 1PPS OUT
14	GPIO2	INS EV2 INPUT
15	GPIO3	GENERAL I/O

Product Code

Product Code:	Description:
SDL-64-V1	Standalone Data Logger

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