



Relio™ R1 Edge Industrial Computer

Part: R173-config and R154-config | **Model:** Relio R1 Edge

The FCC-Certified R1 Edge is the latest addition to the industry-leading Relio embedded computer line. The R1 Edge incorporates the newest generation of industrial processors and a modernized video interface. With versatile communication options like (2) 2.5 Gigabit Ethernet ports, Cellular 4G LTE, Wi-Fi 6E, and (2) RS-232/422/485, the R1 Edge features (1) USB C port, (2) USB 3.1 ports, (2) locking USB 2.0 ports, (2) DisplayPorts, Audio Line-In/Out 3.5mm ports, and an extreme, wide operating temperature range of up to -40°C to +60°C.

The 4G LTE model of the R1 Edge are certified to operate on AT&T, T-Mobile, and Verizon networks.

Rugged Reliability

The R1 Edge has an extremely rugged, anodized-aluminum enclosure combined with intentional thermal management for unmitigated performance under environmental extremes. The fanless, solid-state design, combined with locking SeaLATCH USB connectors, ensures shock and vibration tolerance as well as long-term reliability.

Configurable I/O & Future-Proof Architecture

Versatile communication comes standard with the R1 Edge, including options like Cellular 4G LTE, Wi-Fi 6E, RS-232/422/485, and 2.5 Gigabit Ethernet. With a robust and flexible I/O mix, this rugged industrial computer is capable of managing a variety of data inputs to interface with legacy systems and the most advanced peripherals, all from the edge. The embedded computer's COM Express architecture allows for technology migration to easily change - and upgrade - the CPU functionality without a complete system redesign or replacement.

Software Flexibility & Fast Deployment

Inside the R1 Edge, a M.2 SATA III SSD slot provides solid-state storage ranging from 128GB to 1TB. The R1 Edge is compatible with Windows 10 IoT Enterprise, Windows 11 Pro, Linux RHEL 8.6 (or later), and Linux Ubuntu Desktop 20.04, and most other Linux distributions based on Kernel 6.7 or newer. The system is also Windows 11 IoT-ready to provide maximum flexibility for evolving, customer-specific software applications. Sealevel's SeaCOM hardware driver is included to provide system I/O. Serial application code samples assist with custom application development and complete support documentation expedites configuration.

Features & Specifications

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Features

Extreme Environmental Tolerance

Operates reliably from -40°C to 60°C in harsh industrial conditions

Future-Proof COM Express Architecture

Easy CPU upgrades without complete system replacement

Flexible Connectivity Options

2.5 Gigabit Ethernet, RS-232/422/485 serial ports, 4G cellular, and Wi-Fi 6E

Carrier-Certified Cellular

Pre-certified for AT&T, T-Mobile, and Verizon networks

SeaLATCH Locking Technology

Proprietary high-retention USB connectors prevent accidental disconnection

Fanless, Solid-State Design

No moving parts for maximum shock/vibration tolerance and long-term reliability

Ready-to-Deploy Software Support

Includes SeaCOM drivers, code samples, and complete documentation

American-Made Quality

The R1 Edge is UL Listed, and manufactured at Sealevel's AS 9100D certified facility in Liberty, South Carolina

Specifications

| | |
|------------------------------|--|
| Family | Relio |
| CPU Type | Intel® Core™ i5, Intel® Core™ i7 |
| CPU | Intel® Core™ i7 1185GRE CPU Intel® Core™ i5 1145GRE CPU |
| Max RAM | 64 GB |
| Storage | 128GB SSD M.2 SATA III, 256GB SSD M.2 SATA III, 512GB SSD M.2 SATA III, or 1TB SSD M.2 SATA III (Not Included) |
| OS | Windows 10 IoT Enterprise Windows 11 Pro Windows 11 IoT - Ready Linux Ubuntu 22 (or later) |
| Display Support | (2) Video DisplayPorts |
| Serial Ports | (2) Full RS-232/422/485 Ports |
| Audio | Line In / Out |
| Networking | (2) 2.5 Gigabit Ethernet Ports (1) M.2 4G LTE Cellular slot – 2 Antennas (1) M.2 Wi-Fi 6E – 2 Antennas |
| Wireless Options | 4G, Wi-Fi 6E |
| USB 3.0 Ports | (2) USB 3.1 Ports |
| USB 2.0 Ports | (2) High-Retention, SeaLATCH Locking USB 2.0 Ports |
| USB C Ports | (1) USB C Port |
| Security | TPM 2.0 |
| Power Requirement | 18-36VDC (15W Typical; Max 25W) |
| Operating Temperature | -40°C to 60°C (-40°F to 140°F) |
| Storage Temperature | -40°C to 85°C (-40°F to 185°F) |
| Humidity Range | 10% – 90% Relative Humidity, Non-Condensing |
| Dimensions | 6.64" (L) x 5.0" (W) x 1.9" (H) |