RICI

Real-Time Interface & Conversion Item

Features

- **Fully supported by the SureLine® Software Suite**
- **TCP/IP, UDP/IP, and Serial to LAN Protocol Conversions**
- **Each unit features 4 rear DB25 Serial ports**
- **Dual Front Gigabit Ethernet ports**
- **1U rack mountable or table-top design**

Sunhillo's Real-Time Interface & Conversion Item (RICI) is a versatile and modular platform designed for surveillance and sensor data formatting, filtering, and conversions.

The RICI 6000 is the latest iteration in the highly deployed and successful RICI product line, which is used across the FAA and trusted by ANSP's around the world.The RICI features the latest technology and increased throughput and features a fanless design for high reliability.

The RICI is an ideal solution for networks requiring low-density, high-speed system interfacing to multiple serial ports with the ability to scale to future network demands. Running Sunhillo's SureLine® Core software, the RICI a compact FPGA-based signal processing platform that enables synchronous, asynchronous and BISYNC serial plus LAN inter-connectivity.

Common conversions performed by the RICI include message format transformations between surveillance data in ECGP, SGF, CD-2, ASR-9, ASTERIX, ADS-B, MAR, TPS75, Mode 4, ARTS, AIRCAT-500, and Mode S, in addition to sync, async serial, and LAN formats. Visit the Sunhillo SureLine® Software Suite webpage for a full conversion capability matrix. We are constantly adding new conversions. If the conversion you require is not listed, please contact us.

The RICI provides IP-based network connectivity via dual Gigabit Ethernet ports located on the front panel. Each RICI serves as the interface to 4 serial ports of data. The unit can also be used for LAN-to-LAN data formatting, filtering, and/ or conversion. Standard serial cables connect directly to the rear of each DB25 connector, maintaining independent high speed connectivity in the Serial-to-LAN data configuration.

FIPS 140-3 Inside - certificate #5003 The RICI uses Sunhillo's FIPS 140-3 certified cryptographic module to provide validated cryptography for the protection of sensitive information where encryption is used (i.e., https, ssh).

Front and Rear Panels

Technical Specifications

Part Number / **Description**
- 010-18-R6-S01 — RICI 6000, AC Power
- 010-18-R6-S04 — RICI 6000, AC Power - Tier 1
- 010-U-RMS — Rack Mounting Sleeve Kit

RICI Model
- 6000

Serial Port Controls
- RS-232 (V.28), RS-422, X.21 (V.11), V35 (V.35 & V.28), EIA-530A (V.10 & V.11), RS-449/V.36 (V.10 & V.11)

Ethernet
- 10BASE-T, 100BASE-T, 1000BASE-T, IEEE-802.3

Protocols
- Synchronous, Asynchronous, HDLC/SDLC, Bi-Sync, Mono-Sync, TCP/IP, UDP/IP

Message Formats
- ASTERIX (e.g., CAT 001, 002, FAA 033, 034, 048, and others), CD-2, ASR-9/11, Mode 4, Mode S, MAR, TPS75, ARTS, AIRCAT-500, ECGP, SGF, ADS-B, custom, and more

Encryption Plug-in
- Processor includes Crypto-Accelerator for future plug-ins

Clock Sources
- DCE, DTE, Split Clock (individual clock receive and transmit on each port)

Power
- 17.2 W Max per unit
- 110-230VAC, 50-60Hz, 0.7-0.5A

MTBF
- 1,306,558 Hours at 30°C

Optional Rackmount Sleeve Kit (P/N 010-U-RMS)
- 1U rackmount for standard 19-inch racks
- Captive fasteners allow for fast removal and replacement
- Rackmount sleeve has space for up to two RICIs

Dimensions

Single RICI:
- Height: 1.61 in / 41 mm
- Width: 7.31 in / 185.68 mm
- Depth: 9.17 in / 233 mm

Populated 1U Sleeve:
- Height: 1.75 in / 44.45 mm
- Width: 17 in / 431.8 mm
- Depth: 9.29 in/235.97 mm

Weight (unpackaged)
- Single RICI: 3 lbs / 1.36 kg
- Empty Sleeve: 3 lbs / 1.36 kg
- Fully Populated Sleeve: 9 lbs / 4.08 kg

Environmental (Tested to MIL-STD-810G)
- Storage Temperature: -50°C to +60°C
- Operating Temperature: 0°C to +50°C
- Operating Relative Humidity Range: 10-95%, non-condensing
- Operating Altitude: -300 ft to 10,000 ft

Certifications and Compliance
- CE & UKCA Mark
- RoHS3 Directive EU 2015/863
- REACH
- FCC Part 15, Class B
- UL/CSA/IEC/EN 62368-1
- ETL for Canada and US, 3023031
- FAA-G-2100J: Power
- FIPS 140-3 Level 1 (Certificate #5003)