

ControlSafe™ IOU-UART Module

6-Port Serial I/O Module for the ControlSafe™ Computer

Data Sheet

The IOU-UART is ideal for connecting external serial interface devices, such as GPS receivers, modems or external I/O, to the ControlSafe™ Computer.

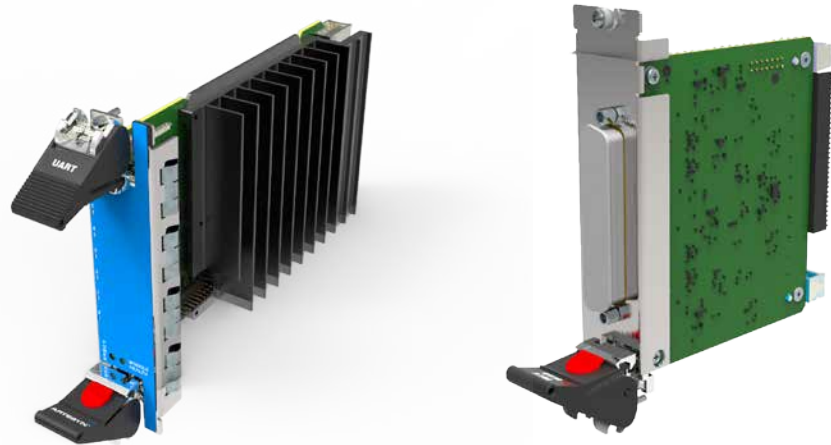
KEY FEATURES:

- 6 serial interface ports
 - 4 RS-422/RS-485
 - 2 RS-422/RS-485/RS-232
- RS-422/RS-485 full/half duplex support
- RS-422/RS-485 receiver hardware-configurable in half duplex
- Bit rate from 1.2 Kbps to 1.5 Mbps (RS-422/485) or 115.2 Kbps (RS-232)
- 500V isolation
- EN 50155 compliance

PRODUCT DESCRIPTION:

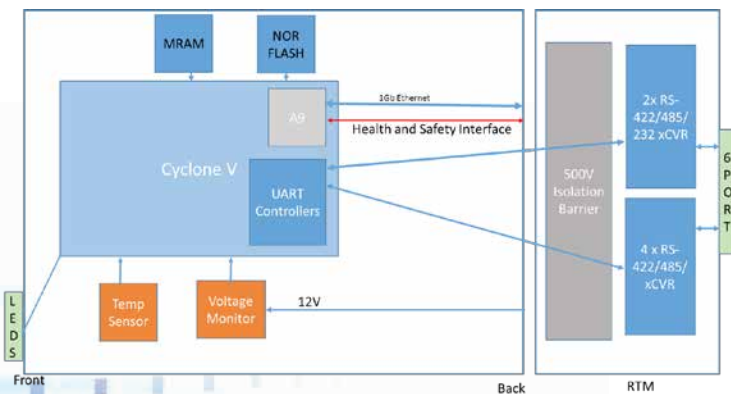
The Artesyn IOU-UART Module for the ControlSafe™ Computer provides 6 serial interfaces offering flexible configuration between RS-485, RS-422 and RS-232 support. With rear access I/O, it is perfect for wayside applications such as Traffic Control Center (TCC), Computer Based Interlocking (CBI), and Positive Ttrain Control (PTC).

All incoming and outgoing serial interface traffic is packetized, and transported to/from the CPU module through a TCP socket. Flexible provisioning allows the module to support fixed-frame, delimited, and time-based serial protocols. This module supports Artesyn's remote management feature, which allows it to be fully provisioned and configured by the application on the CPU module.



As an interference-free (non-vital) communications module, the IOU-UART is designed to be fully certified for installation in a system certified to EN 50126 for reliability, availability, maintainability and safety (RAMS) processes; EN 50128 for safety-related software; and EN 50129 for safety-related electronic systems. It is fully EN 50155 compliant with long term availability.

FUNCTIONAL BLOCK DIAGRAM



Technical Specifications

Processor	Altera Cyclone V SoC with single ARM Cortex-A9	
Operating System	Linux 4.9	
Software Support	Application development and runtime software / firmware package. Includes: <ul style="list-style-type: none"> • Bootloader / POST binaries for Module, FPGA, CPU Core • Linux binaries providing UART<->IP I/O forwarding, supervisory, maintenance, and configuration functions • CPU API libraries for remote HW/SW configuration / management of UART Module and ports • CPU header files / structures for encoding / decoding serial data streams to / from IP packets • CPU Application configuration / IO coding examples 	
Memory	512 MB DDR3	
Flash	2 x 64MB NOR	
MRAM	1 x 512KB MRAM	
EEPROM	1 x 8KB	
Maintenance Ports	RS-232 onboard header	
Data Fabric	1 GigE link to backplane	
Serial Ports	Serial Port 0-3	RS-422/RS-485
	Serial Port 4-5	RS-422/RS-485/RS-232
Board Management	Voltage and Temperature Sensors	
Operating Temperature	-40 °C to 50 °C	in open rack or other environment with low impedance to convection cooling
	-40 °C to 70 °C	with a required airflow measured at the intake to the bottom of chassis; or with an optional integrated fan cooling solution
Power	12V@~8W typical	
Vibration	Compliant with EN 61373, Category 1, Class B (EN 50155 12.2.11)	
Shock	Compliant with EN 61373, Category 1, Class B (IEC 60068-2-27)	
Conformal Coating	ST1 rating for EN 50155 Section 12.2.10 (Salt Mist Test)	
Standards	Designed in accordance with EN50121, EN50124, EN50155, EN50126, EN50128, EN50129, EN55024, EN60529, EN60571, IEC61508. See documentation for specific compliances.	
Safety Certificates	Interference free	

WORLDWIDE OFFICES

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