

IoTCentipede™

Industry 4.0 Serial Interfaces Aggregator
for Fog/Edge Compute Node

Equipped with a 110K LE FPGA with a Dual-Core Arm® Cortex® A9, the IoTCentipede™ gateway board has the computing capability to aggregate data from multiple sensors, meters and controls.

Overview

The IoTCentipede™ serves as an aggregator for a large collection of serial protocols deployed in industrial automation and machinery applications. All serial connectivity ports - UART, I2C, SPI, CAN, IO-Link®, 4-20mA loop - are isolated to allow direct connection to equipment in the real world. Wireless connectivity options include Wi-Fi®, Bluetooth®, ZigBee®, 4G/LTE, and any XBee supported protocols. Data gathered from multiple nodes can be processed in near real-time and sent to remote locations for further analysis or storage. IoTCentipede™ is a development board that can also act as an ideal reference for any new design that requires multiple serial interfaces.

Specifications

- Multi boot support for Intel® Cyclone® V SoC (including recovery boot)

Customization Services

The IoTCentipede™ development board is meant for proof-of-concept testing. NovTech Design Services can help with customized production-ready systems with the following services:

- Custom baseboard design or a single board solution
- Enhance HDL
- Optimize Linux drivers and software
- Customize enclosure to match environmental requirements
- Help with regulatory requirements

Ordering Information

The IoTCentipede™ can be ordered from Arrow. Part # is IoTCentipede_001-129-0102_KIT.

- Serial interfaces
 - Isolated ports: RS232, RS422, RS485, SPI, I²C, CAN, GPIO
 - IO-Link master port x4
 - 4-20mA loop with HART® modem
- High-speed wired connectivity
 - One 1G/100/10 Ethernet PHY connected to HPS (Hard Processor System)
 - Two 1G/100/10 Ethernet PHYs connected to FPGA fabric allowing implementation of Industrial Ethernet, including TSN (Time-Sensitive Networking)
 - USB Host or USB OTG
- Wireless connectivity
 - 802.11/Bluetooth
 - Two XBee modules for ZigBee/Long-Range/4G/LTE
- RTC (Real Time Clock) with battery backup
- Expansion ports
 - Pmod
 - Arduino
 - Dual row 100mil header

Applications

- Equipment upgrading to Industry 4.0
- Programmable Logic Controllers (PLCs)
- Industrial Ethernet gateway
- Production floor
- Office automation

Kit Contents

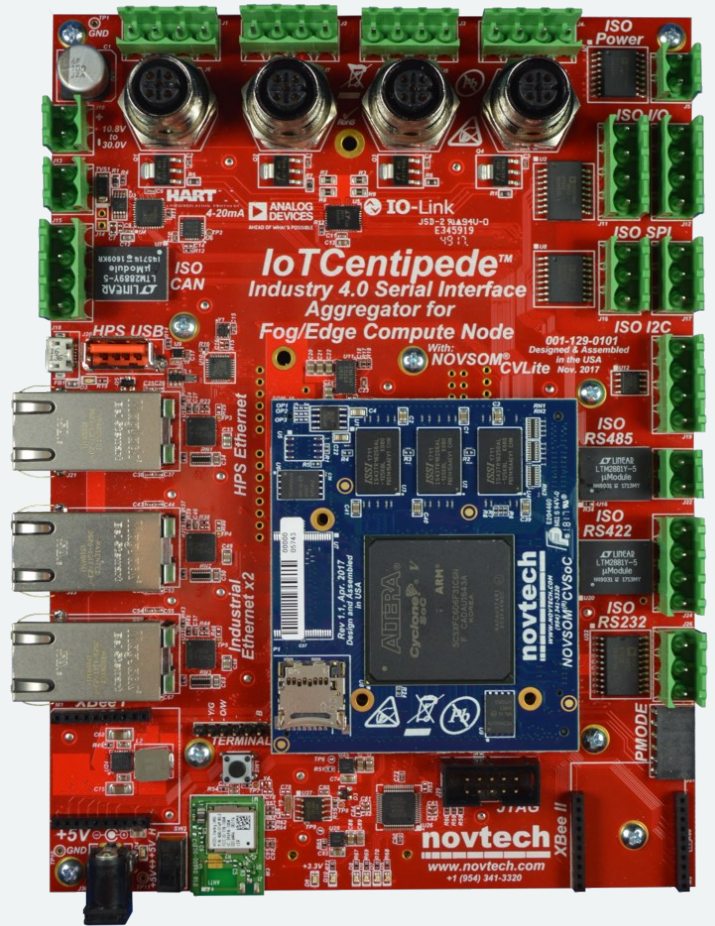
- Hardware
 - NOVSOM®CV (part #: NOVSOMCV6FE28SLQ31E)
 - IoTCentipede™ base board
 - TTL UART to USB cable
 - Power supply
- Software and documentation
 - SD card with Linux image and example code
 - Quick Start Guide
 - Link to the board portal with manuals, documentation, Virtual Machine and tools

Design Resources

- Schematic
- BOM
- Assembly Drawings
- Gerber Files
- HDL and SPL design files/sources
- Linux Virtual Machine with all sources and tool-chain.
- SVN server for latest code updates

Support Resources

- IoTCentipede™ User Guide
- IoTCentipede™ Software Manual
- [Arrow Support](#)
- NovTech Support support@novtech.com



Contact Details

Sales: (954) 507-4471, sales@novtech.com

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