



IoT Octopus™

An Industry 4.0 8-Channels ADC, IoT Node

"NovTech came highly recommended to us by Arrow Electronics for i.MX6-based solution. NovTech took our unique I/O interface requirements for a retail fuel dispenser, coupled this with their i.MX6 expertise, and in mere months we had a fully functional solution in hand. The boards arrived, 24VDC was applied, and we were up and running. Internally, a project of this size would have required at least a year for just a first prototype. NovTech did the equivalent effort delivering a production grade solution in less than five months."

Edward Payne
Principal Engineer, Gilbarco

Target markets for IoT Octopus™ include:

- Industrial & Manufacturing
- Aerospace & Defense
- Agriculture
- Automotive
- Energy
- Transportation
- Utilities
- Mining

Applications

- Smart Grid
- Smart City
- Motor Monitor/Control
- Engine Monitor/Control
- Pump Monitor/Control
- Turbine, Elevator, A/C, Power Generator, Industrial Battery Charging and other electro-mechanical equipment

Kit Includes:

- NOV SOM® CV
- IoT Octopus™ base board
- SD card with Linux image and example code
- UART TTL to USB cable
- USB drive with manuals, documentation, quick start guide and Virtual Machine
- Power supply
- Operational mode usage of crypto function for running the secure application

SUPPORT

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Equipped with Dual-core ARM® Cortex A9 and 110K LE FPGA, the IoT Octopus™ processing power can do complex computing and data analysis in real time

The IoT Octopus™ serves as a high-end industrial IoT node capable of high accuracy and a high sampling rate of electro-mechanical equipment. With its simultaneous 8-channels, 24-bit, 30 KHz sample rate the IoT Octopus™ can provide connectivity from the electrical grid to the drilling pump and from the hydro-electro turbine to the industrial air conditioner. The IoT Octopus™ converts analog signals to digital data, rearranges data, analyzes data, stores data and can transmit data to gateways/local servers/cloud servers.

FEATURES

- Simultaneous 8-Channels 24-bit 30KHz sampling ADC
- 1PPS GPS source for multi-nodes sampling synchronization
- One 1G/100/10 Ethernet PHY connected to HPS (Hard Processor System, dual core Cortex A-9)
- Two 1G/100/10 Ethernet PHYs connected to FPGA
- Up to two RF interfaces, 802.11, ZigBee, 802.15.4, 900Mhz-Long Range, Mesh Network
- RTC (Real Time Clock) with battery backup
- Embedded Security
- 30 HPS signals that can be configured as: HPS GPIO, FPGA I/O signals, CAN BUS x2, Additional UART, SPI
- 30 FPGA signals that can be configured as: FPGA I/O signals, HPS signals, One global clock input

EMBEDDED SECURITY

IoT Octopus™ uses Infineon's Optiga™ Trusted P (SLJ 52ACA150A1) to achieve the following system security features:

- Protected storage of credentials and device configuration information
- Secure boot of the system
- Device authentication to the network
- Secure update of the device firmware and configuration
- Secure communication channel for data exchange of over the network

PRE-PRODUCTION READY

The IoT Octopus™ can be taken into production once these steps are completed:

- Customize Linux to your needs
- Customize an enclosure for the solution
- Pass regulatory requirements

NovTech provides services that assist in achieving these tasks.

Order Information

Arrow Part Number: **NOVPEK_IOTOK** at **\$799.00**

For pre-production orders please contact NovTech at sales@novtech.com