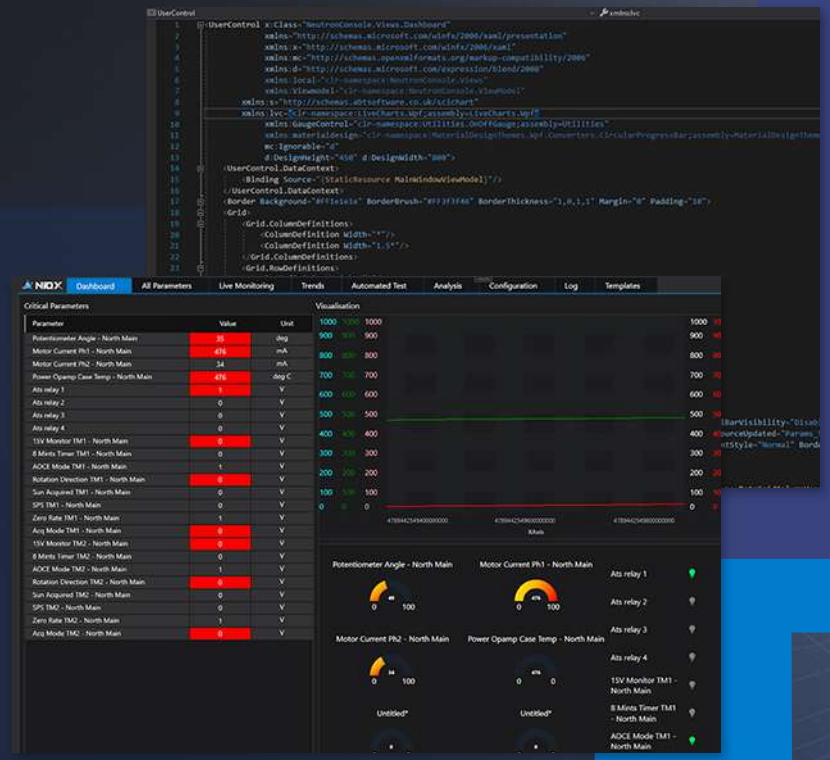
Travancore Analytics

Scalable Multifunction Intelligent Data Acquisition Platform - NiOX 2100



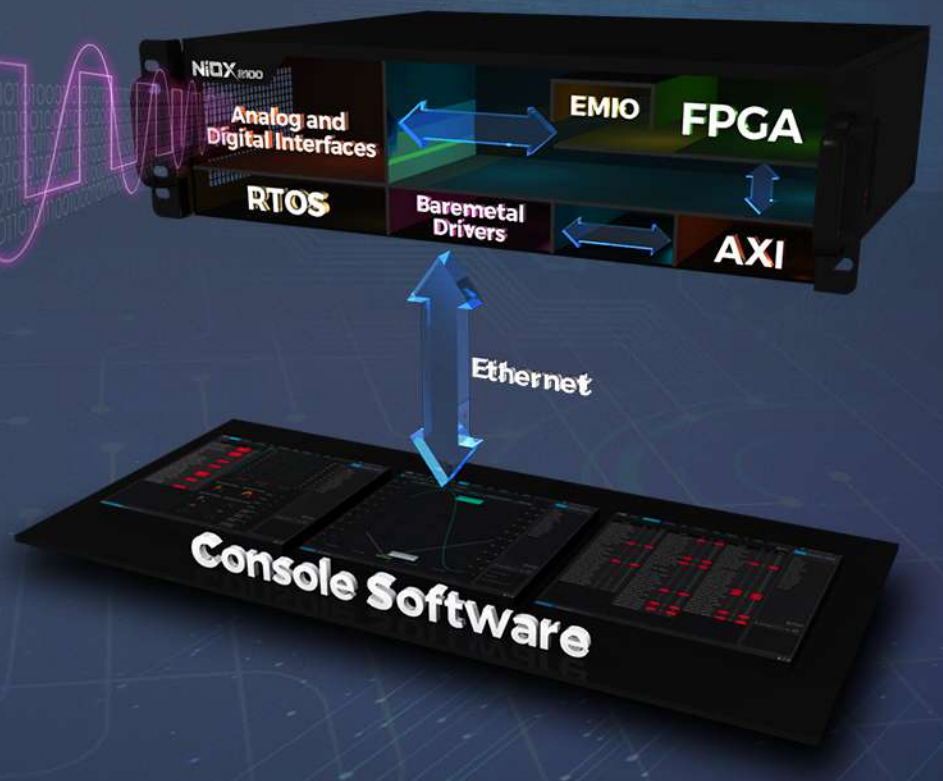
NiOX 2100

www.travancoreanalytics.com

NiOX 2100 is a ready to use reliable DAQ solution for any type of demanding environment. With its robust application software (**Nutron**), NiOX 2100 caters to a vast majority of industrial field scenarios.

The software enables a fast turn-around and customisable solution to any Data Acquisition, Monitoring and Control Environment.

The scalable architecture accommodates any future expansions in the environment, ensuring minimum overheads in System Integration.



Processor, Platform and Host Interface

- Zynq70x0 series (Dual Core ARM Cortex A9 + FPGA)
- Motherboard provides interfacing up to 2 processor modules and 13 input/output boards
- Interface boards designed for testability through USB
- LAN/USB Interface to Host PC, leading to flexibility in Application Software development
- Supports different hardware configurations (downloaded from Host)
- Firmware Update (USB/LAN)
- MIL 24308 connectors for all interfaces
- Scalable to multiple units (daisy chain) through LAN or USB
- Industry standard 19” Rack mountable rugged ATX chassis

External Interfaces - Bus and I/O

Analog Input:

- 16 Channel Differential with on-chip sequencer for performance and flexibility
- 16 bit Dual ADC, Bipolar (+/-2.5 to 10 V configurable), 2x1 MSps, SPI bus
- Measurable Input upto 120 V
- Provision for Thermistor excitation and measurements
- Expandable in multiples of 16 channels to suit majority field requirements

Multifunction Digital I/O:

- 32 channel configurable Digital I/O signals driven by FPGA
- CMOS / TTL drivers, Level translators and higher Voltage / Current drive interface
- Clocked custom bus (multiline) interface implementation through FPGA

Analog Output:

- 16 bit DAC with +/- 5 V output ranges up to +/- 10 V, configurable for Current output
- 16 Channels per card, expandable as multiples of 16 channels

MIL 1553 B Interface:

- MIL 1553B BC / RT and BM capabilities on the same board
- SPI connectivity to controller
- Dual Redundant bus (A&B) implementation with external interface coupling

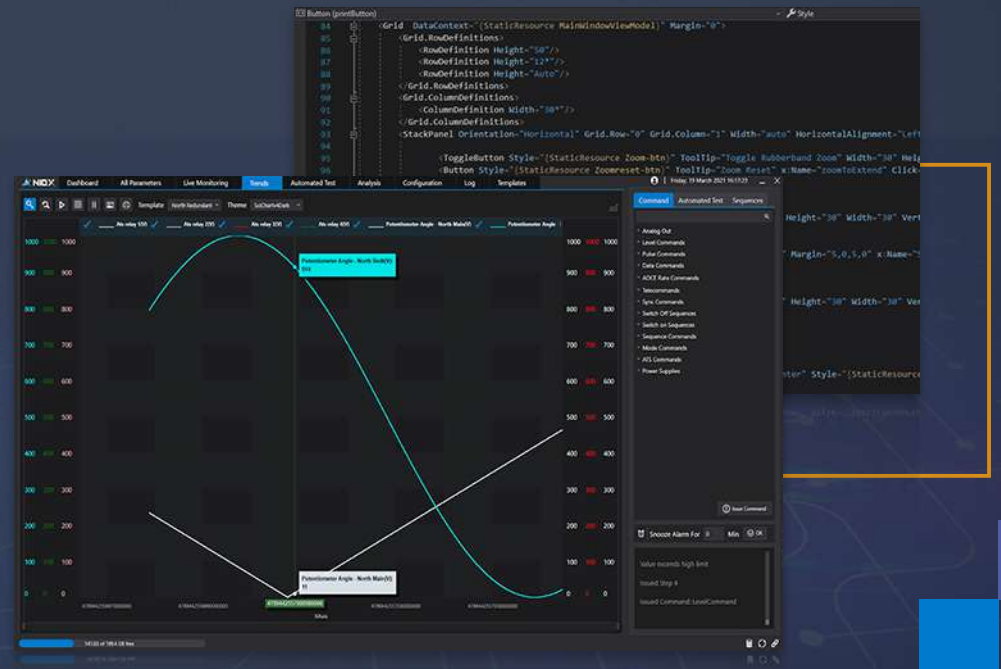
DC Power Control and Monitoring for Device Under Test:

- I/O controls and status monitoring of DC relays along with Voltage and Current monitoring of external DC Power sources
- Programming DC Power sources through buses like RS 485, USB and LAN

Nutron - the Software

The software package consists of data acquisition and controller software designed for Microsoft® Windows PC and controller application software designed for customized FreeRTOS or Linux running in Zynq processors.

- Data Acquisition and Control Software running on the host
  - Acquiring data for display and storage from NiOX 2100
  - Display and Monitoring of Real Time Data
    - Template Driven User Customizable tabular display
    - Rich Plotting Interface (600,000 points, up to 6 parameters)
  - Data Storage with respect to time tags
  - Statistical Analysis of Real Time Data
  - Issue commands
  - Continuous surveillance and Alarm generation
    - Alarm displays
    - Safety features such as switching off the device, regulating parameter values, etc.



- Template driven User customizable Dashboard summary
- Programmable automatic test and Alert response sequences
- Running test sequences
- Automatic Report generation
  - Test Status Reports for users
  - Real Time Data Reports can be exported in the form of CSV file
- Logging of commands and events
- Rich Configuration User Interfaces for Configuring device, commands, users, tests, etc.
- Power Management of Device Under Test
- User Access Management and Data Security

- Data Analysis Software
  - Statistical Analysis under Storage and Data Analysis (Historian)
  - History Data and Test Report Displays
  - Simultaneous display and analysis upto one million points
- Controller Application
  - Real time Data Acquisition by the system
  - Executing commands to and from the Host
  - Data transmission to the Host at defined intervals
  - Drivers for I/O subsystems

Areas of Application:

NiOX 2100 finds its best use in Aerospace, Avionics and Automotive sector as well as the Industrial, Chemical and Food Processing sectors.

- Ensure the test automation of electronic boards, subassemblies, static test facilities, preparation of avionics and aircraft propellants and a lot more
- Test automation of automotive subsystems
- Validate the functioning of different aerospace subsystems
- Suitable variants can be used for simulations, vibration testing and data analysis
- Monitoring data from production plants, assembly lines, quality control stations, pollution control, management of hazardous environments, and a variety of other industrial processes.

About Travancore Analytics:

Travancore Analytics (TA) is a bespoke global Software Development company with 14 illustrious years of experience and prowess in IoT and Industrial Automation, SCADA to Industrial IoT platforms, and Legacy Systems to the latest IoT Architecture.

We are a leading one stop provider for Embedded System Solutions, FPGA, Hardware subsystems to Software and Firmware development services across the globe.

Our excellence and expertise extends into the domains of Mobile & Web Application Development, AR VR Enablement, Mobility Solutions and far more. We engage and specialise in the verticals of Education, Healthcare, Media & Communication, Food & Retails and Manufacturing.

We are ready to take that extra mile to deliver the best value in the industry.

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