



BENEFITS OF THE DEWETRON NEX[DAQ]

Connectivity & power supply

- > Connection to host PC via USB3 or Ethernet
- > Automatic synchronization of several units via PTP
- > 11-32 V_{DC} power supply supporting PoE or USB-C PD

Sampling capabilities

- > 2 versions: max. 200 kS/s or 1 MS/s sample rate
- > Synchronous sampling with individual 24-bit Sigma-Delta ADC per channel

2 interfaces for CAN-FD and XR module connection



XR modules for low-speed channel expansions, e.g. for many temperature channels or RTD inputs

Compact & durable design

- > Small, rugged data acquisition frontend
- > IP67 housing
- > Various mounting options including DIN-rail
- > Easy integration into test bench applications



Additional inputs & outputs

- > 4 advanced counter inputs
- > 8 digital inputs with parallel basic counter inputs, 4 digital outputs



-20 TO +70 °C



IP67



1 MS/s



FANLESS

8 universal analog input channels (native direct inputs & additional via MSI)

NATIVE INPUTS



V 100

VOLTAGE



BRIDGE



CAN FD

CAN-BUS



DIO

DIGITAL I/O



007

COUNTER

ADDITIONAL INPUT SIGNALS: Every common sensor is supported with DEWETRON's external signal conditioning adapters (MSI).



V 1000

VOLTAGE



I

CURRENT



LVDT



THERMO-COUPLE



POTENTIOMETER



RTD



CHARGE



VIBRATION

5 REASONS WHY CHOOSE DEWETRON

- 1. Extended warranty:** Enjoy our 5-year warranty, ensuring long-term reliability.
- 2. Accredited calibration services:** Benefit from ISO 17025-accredited calibration and adjustment services that guarantee accuracy and compliance.
- 3. Certified quality management:** Our ISO-certified quality management upholds the highest standards across all business processes.
- 4. Straightforward software licensing:** Our simple software license policy ensures ease of use and flexibility.
- 5. Dedicated local support:** Count on our highly responsive service team for personalized support and assistance.

SOLUTIONS FOR NEX[DAQ] TEST BED INTEGRATION

1 OXYGEN TEST BED INTERFACES

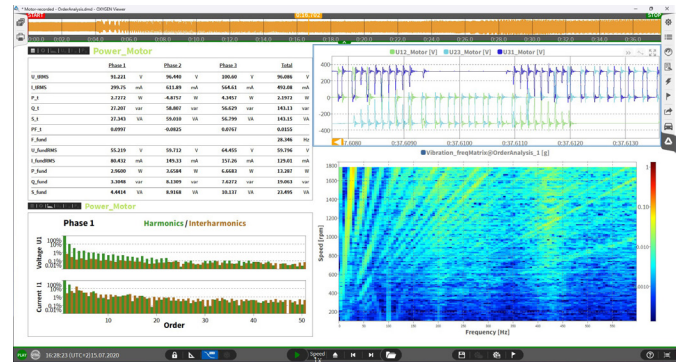
The NEXDAQ integrates seamlessly with DEWETRON's OXYGEN data acquisition software and offers various standardized data interfaces such as SCPI, Ethernet UDP and Modbus TCP. In addition, OXYGEN offers a data streaming interface that allows streaming of data at full sample rate to a data sink via TCP/IP during acquisition. Configuring the NEXDAQ via OXYGEN and streaming the data to your system is the easiest and fastest way to integrate the NEXDAQ into your test bed.

PROS:

- > Simplified communication & configuration with NEXDAQ established through OXYGEN
- > Easy data transfer using a wide range of standardized protocols.
- > Various protocol decoding examples available

CONS:

- > Requires additional software (OXYGEN) to run on your test bed environment.



```

1 #include "dewepxi_load.h"
2 #include "dewepxi_apicore.h"
3 #include "dewepxi_apiutil.h"
4 #include <iostream>
5
6 int main(int argc, char* argv[])
7 {
8     int boards = 0;
9     int avail_samples = 0;
10    int64_t buf_end_pos = 0; // Last position in the ring buffer
11    int buff_size = 0; // Total size of the ring buffer
12
13    // Basic SDK Initialization
14    DeWePxiLoad();
15
16    // boards is negative for simulation
17    DeWeDriverInit(&boards);
18
19    // Open boards
20    // 0: chassis controller
21    // 1: TRION3-1850-MULTI
22    DeWeSetParam_i32(0, CMD_OPEN_BOARD, 0);
23    DeWeSetParam_i32(0, CMD_RESET_BOARD, 0);
24    DeWeSetParam_i32(1, CMD_OPEN_BOARD, 0);
25    DeWeSetParam_i32(1, CMD_RESET_BOARD, 0);
26
27    // Enable AI0 channel on board 1, disable all other
28    DeWeSetParamStruct_str("BoardID1/AI0", "Used", "True");
29    DeWeSetParamStruct_str("BoardID1/AI1", "Used", "False");
    
```



2 TRION-SDK

The TRION software development kit (SDK) allows developers to integrate the NEXDAQ directly into their measurement applications. Hosted on GitHub and freely accessible, TRION-SDK supports any language capable of loading a DLL and calling C-style functions, such as C, C++, C#, and Python. It is compatible with Windows and various Linux distributions.

PROS:

- > Native NEXDAQ integration into your custom software environment
- > No additional software installation required beyond hardware drivers
- > Extensive examples and online documentation provided.

CONS:

- > Advanced programming skills required for communication, hardware configuration, data transfer, and decoding.

More information about the TRION-SDK available here:

3 DEDICATED LABVIEW DRIVER

The LabVIEW driver for NEXDAQ is based on the TRION SDK and enables direct integration into any LabVIEW environment. It includes numerous examples designed similarly to NI DAQmx, assisting users during development.

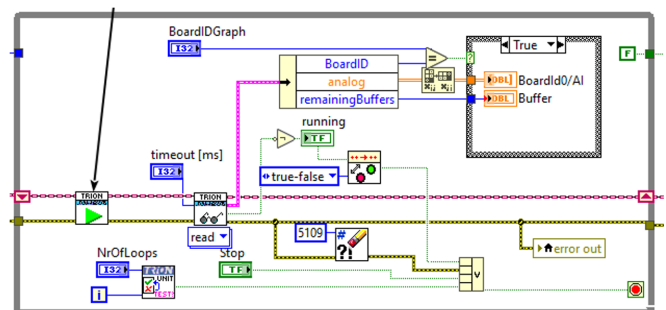
PROS:

- > Direct NEXDAQ integration into your custom software environment
- > No additional software installation required beyond hardware drivers
- > Numerous examples of function calls (similar to NI DAQmx) available
- > Many examples to call different functions available in the same manner as NI DAQmx examples

CONS:

- > Advanced LabVIEW development skills required (i.e. Certified LabVIEW Developer level)

The driver is available free of charge and can be downloaded here:



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