DEWETRON

NEX[DAQ]

COMPACT & ROBUST DAQ SYSTEM FOR OFF-HIGHWAY VEHICLE APPLICATIONS

Picture credits: © iStock.adobe.com & © DEWETRON

distributed by
CALTEST INSTRUMENTS
Binzigstraße 21 | Tel.: +49 7842 99722-0
D-77876 Kappelrodeck | Fax.: +49 7842 99722-29
www.caltest.de | info@caltest.de

DO YOU KNOW THESE PROBLEMS?

COMMON MEASUREMENT SYSTEMS…

… often only support one or few dedicated sensor types

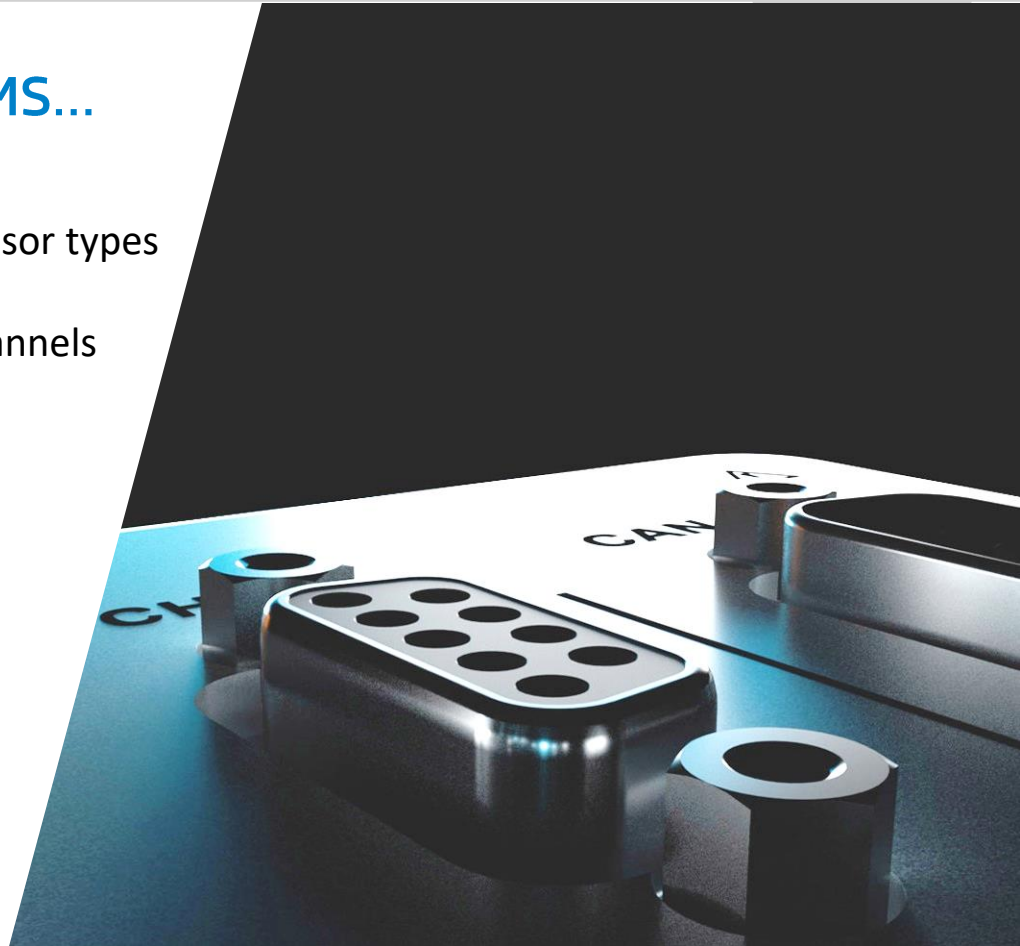
… do not provide enough or the right input channels

… are not made for harsh environments

… are difficult to supply in a vehicle

… are often bulky and heavy

… do not offer SAE J1939



SOLUTION

DEWETRON

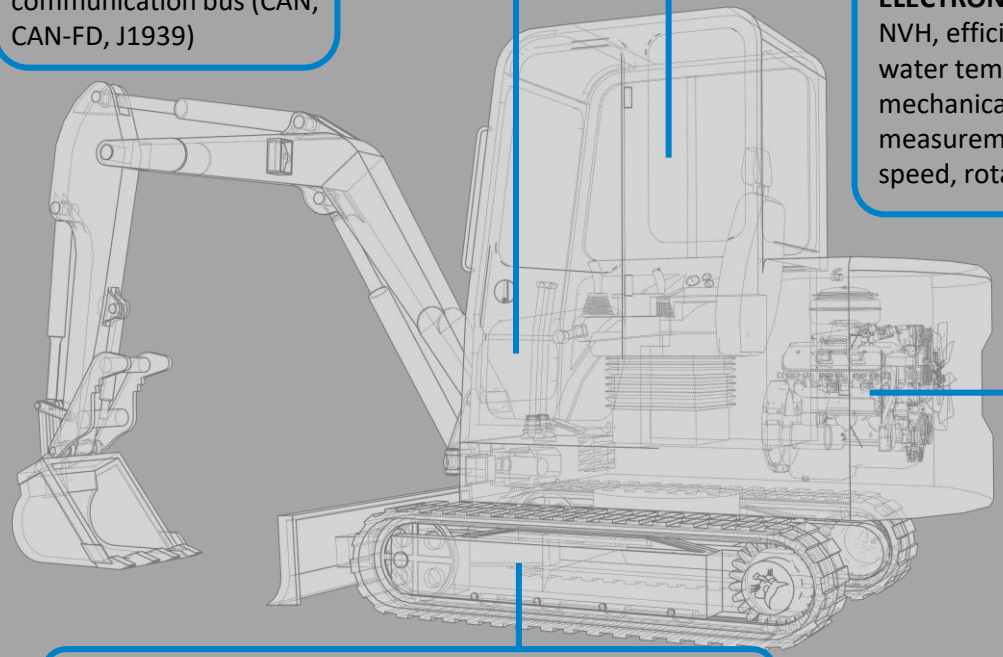
NEX[DAQ]

HOW CAN THE NEX[DAQ] HELP YOU?

INTEGRATED SENSORS:
Precision, sensitivity, reliability, delay, communication bus (CAN, CAN-FD, J1939)

PASSENGER COMPARTMENT:
NVH, pressure, temperature

ICE, ELECTRIC MOTOR, POWERTRAIN & POWER ELECTRONICS:
NVH, efficiency, temperature, water temperature, electrical & mechanical power measurement for BEV and HEV, speed, rotation, acceleration.



DRIVE TRAIN & ROAD CONTACT:
Wheel forces and torques, force measurement on the drive shafts (also during various driving situations), pressure

ENVIRONMENTAL INFLUENCES:
i.e. exterior noises

FOR ELECTRIFIED VEHICLES:

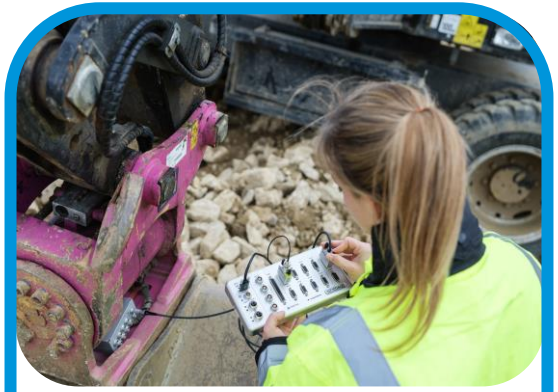
BATTERY: Cell characterization, charge-discharge-cycles, efficiency, losses, life tests under different conditions, SoH, EoL, electrical power, temperature, range test, powertrain, electrical components, etc.

CHARGING:
Charging and charging infrastructure analysis, efficiency, energy loss, power, charging efficiency, flow rate, electromagnetic compatibility (EMC) with charging stations (harmonics), load profile & charging duration.

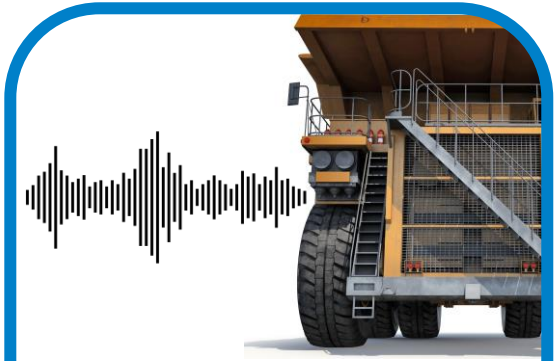
NEX[DAQ] APPLICATIONS

DEWETRON

THERMAL MANAGEMENT TEST:
The NEX[DAQ] and our XR modules are ideal for thermal management tests, temperature monitoring in the cooling circuit but also for electrical power analysis.



FIELD TESTS:
If you do tests on excavators, bulldozers or other heavy machineries you need a rugged & small DAQ systems several analog and digital inputs as well as counter channels. Also, you need several mounting options. The NEX[DAQ] offers you exactly all those things.



SIMPLE NVH TEST:
Microphones and acceleroemters can be connected for air- and structure borne noise related tests. As the NEX[DAQ] is fanless it can be put close to the DUT to minimize the cable lengths.

NEX[DAQ] APPLICATIONS

DEWETRON

POWER MONITORING

The NEX[DAQ] together with a MSI2-V-600 and current clamps is the ideal solution for in-field power measurements on the generator of the DUT. In addition, the signals on the DUT's communication bus can be monitored as reference.

FULFILLMENT OF LABOR REGULATIONS

Strong vibrations and noise are caused by heavy duty machines that can affect the driver. The vibration and noise inside the driver's cabin can be measured to ensure that labor regulations are fulfilled, and the driver is not harmed

COMPONENT TESTS

The NEX[DAQ] can be used to measure strain, force and load on an excavator arm or can measure the pressure at different points in the hydraulic circuit simultaneously. The rugged design allow a mounting on the outside close to the measurement position.

THUS THE NEX[DAQ] IS

the ideal DAQ system...

> to identify the cause of problems - especially when you need several sensors like:
  > Accelerometer
  > Microphone
  > Speed and angle sensors
  > CAN or CAN-FD interface

> with multiple power supply options:
  > Power-over-Ethernet oder USB-C
  > or powered by the vehicle supply or a power bank

> for low-channel-count measurements with per channel sample rate capability up to 1 MS/s

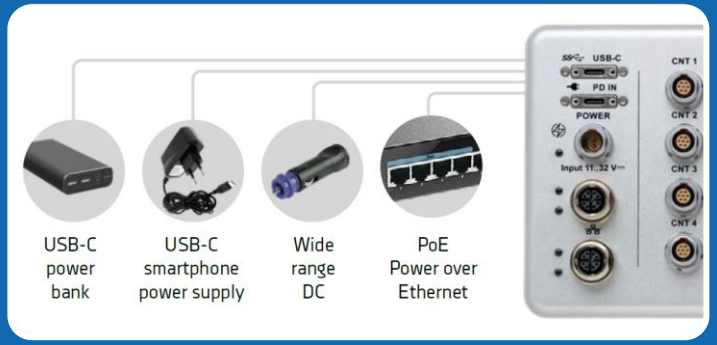
NEX[DAQ] – the ideal DAQ system because …

you can take it everywhere with you

1250 g
2.76 lbs

242 x 120 x 43.3 mm
9.52 x 4.72 x 1.7 in

COMPACT & PORTABLE



MULTIPLE POWER SUPPLY OPTIONS

IP67 RATING

FANLESS

-20 °C TO +70 °C

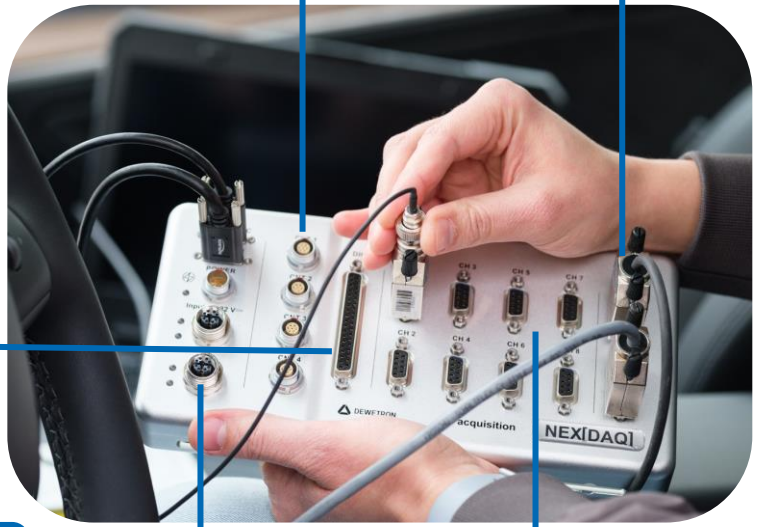
NEX[DAQ] – the ideal DAQ system because …

4 ADVANCED COUNTER
(e.g. for encoder)

8 DI + 4 DO
8 COUNTER

SYNCHRONIZATION via
Ethernet, PTP, IEEE1588

ETHERNET or USB-C
CONNECTION
to PC for data transfer



2 interfaces for CAN-FD and XR-module connection

XR modules for low-speed channel expansion, e.g. for many temperature channels.

UNIVERSAL ANALOG INPUT CHANNELS (native direct inputs + additional via MSI)

NATIVE INPUTS

VOLTAGE · BRIDGE · CAN-BUS · DIGITAL I/O · COUNTER

ADDITIONAL INPUT SIGNALS: Every common analog sensor is supported with DEWETRON's MSI sensor adapters

VOLTAGE · CURRENT · LVDT

THERMO-COUPLE · POTENTIO-METER · RTD · CHARGE · VIBRATION

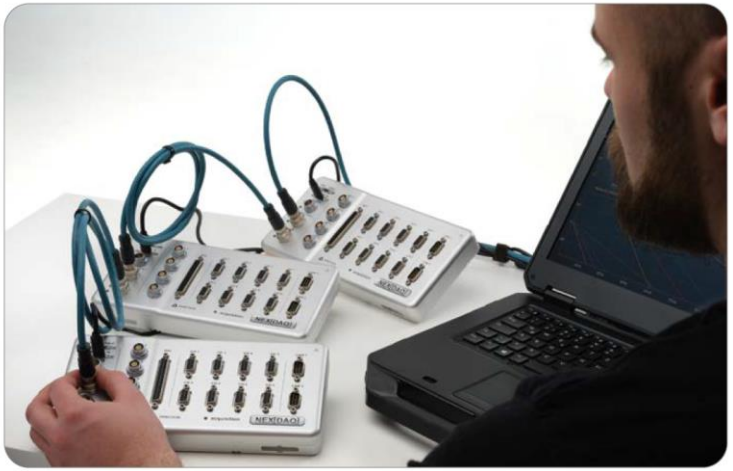
NEX[DAQ] – the ideal DAQ system because …

DEWETRON

it is versatile

MOUNTING OPTIONS

You can fix the NEX[DAQ] in the measurement environment in several ways like with belt, DIN rail or screws.



EXPANDABLE

Dasychain multiple NEX[DAQ]s to a multi-channel-system. A single cable is sufficient for data transfer and synchronization via Ethernet PTP/IEEE1588.

NEX[DAQ] – the ideal DAQ system because …

DEWETRON

it already comes with OXYGEN

OXYGEN is our intuitive & easy-to-use measurement software

Standard Software Features:

- > Analysis & post-processing
- > Visualization
- > Math & calculation
- > Trigger features
- > FFT analysis
- > Export features
- > Reporting
- > … many more features available!

NEX[DAQ] & OXYGEN

DEWETRON

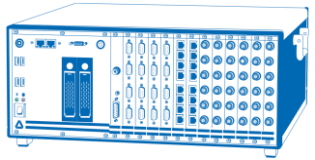
OXYGEN runs without restrictions on **Windows** and **Linux** based operating systems.

The Linux distributions Red Hat Enterprise Linux 8 (RHEL8) and Ubuntu are supported.

ABOUT DEWETRON

DEWETRON

- Founded in 1989
- Head Office in Grambach (AT)
- Subsidiaries in DE, USA, CN & IN
- Since 2016 part of the TKH group
- 120 employees in more than 25 countries



> 25.000
measurement systems

> 400.000
measurement channels