

# Data Acquisition and Control Interface (DACI)

A universal laboratory measurement device

**FESTO**



## Highlights

- Computer-based measurements and instrumentation tools
- Software Development Kit (SDK) for third-party programming tools
- Short set-up time
- Safe and affordable

Measuring, observing, analyzing, and controlling numerous parameters in educational laboratory experiments is an important part of the training in various areas, including electric power technology, AC/DC machines, renewable energy, and power electronics, among many others.

For these purposes, the Data Acquisition and Control Interface (DACI) is a versatile USB peripheral that features a set of computer-based instruments and instrumentation tools, which can be accessed through the accompanying software.

## Benefits

- Customizable system with several control functions available to fit specific training needs
- Pre-built SCADA interface facilitates an understanding of the process taking place
- Software Development Kit (SDK) for third-party programming tools
- LVDAC-EMS software included
- Easy connection with other modules
- Compliant with CE regulations

# Data Acquisition and Control Interface (DACI)

## A universal laboratory measurement device

### A versatile, powerful tool

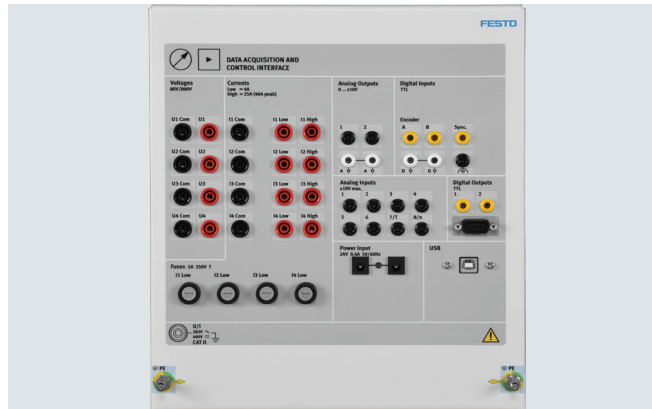
Lab experiments covering a wide range of study areas are achieved quickly, simply, and with precise results. Thanks to its data acquisition properties, its set of flexible acquisition and analysis tools, and its control interface, the DACI is a workstation on its own and an ideal tool in school and university laboratories.

The DACI performs two main functions: data acquisition feeding raw signal data to the computer-based instruments, and data acquisition for implementing a control function. Each DACI can perform these two functions at the same time.

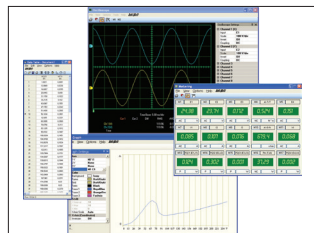
### Front panel of the DACI

- Voltage and current inputs are opto-isolated to suppress problems related to common connections.
- Fully customizable analog input and a digital encoder input can track motor speed, torque, phase shift, power factor, efficiency, frequency, and more.
- Independent analog and digital outputs; the multipins connector to connect up to 6 IGBTs or thyristors, or other types of modules
- The USB port connects a computer running the DACI software

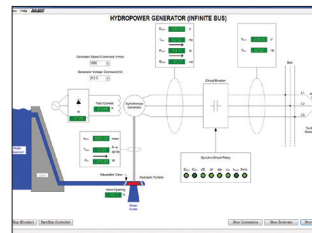
### DACI Interface



### Computer-based instruments



### SCADA window: Hydropower



### DACI Software

The multipurpose software, LVDAC-EMS, assists students during the experiments. The Computer-Based Instrumentation Function includes the following instruments:

- Metering window (up to 18 meters to be configured)
- Oscilloscope (up to 8 waveforms displayed simultaneously)
- Phasor Analyzer
- The Harmonic Analyzer
- Data Table and Graph

The values indicated by the meters or indicators of all computer-based instruments and control functions can be recorded and saved to a file, or used to easily and quickly plot graphs.

### Software Development Kit (SDK)

The Software Development Kit (SDK) offers the possibility to control various inputs and outputs of the Data Acquisition and Control Interface using third-party rapid prototyping software like Mathworks<sup>®</sup> MATLAB, National Instruments<sup>®</sup> LabVIEW, Microsoft Visual Studio and other programming tools that support Microsoft<sup>®</sup> .NET Framework 4.0.

The SDK also gives users the capability to build their own advanced functions.

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