Automotive
Energy & Power Analysis
Aerospace & Defense
Transportation
General Test & Measurement

Power Network Analyzer and Fault Recorder

DEWE-638-PNA and DEWE-838-PNA

The small Power Network Analyzers are the new generation of Instruments for Power Quality Analysis and Power Fault Monitoring. The interface is based on an internal web server and the instruments can be operated with any PC or even a small smart phone with integrated web browser.

Evaluating exactly according the PQ standard EN50160 and fulfilling the measurement requirements of IEC61000-4-30 class A are on one hand the needs for an up-to-date analyzer. On the other hand they need a modern user interface combined with newest IT technology. The file services allow a quick and simple report generation and with the SQL server interface it is possible to build a large scaled monitoring system to maintain a complex power grid.

Both instruments include the complete functionality in terms of measurement functions and communication interfaces. The DEWE-638 ist the portable version with connectors for Rogowsky Coils, Clamps or direct current inputs. The DEWE-838 is the one for permanent installations and to use on the secondary side of VTs and CTs.

Key Features

- *Monitoring of power supply systems*
- *EN50160*
- *IEC 61000-4-30 – class A*
- *10 cycle RMS and half period values*
- *Harmonics, THD*
- *Flicker, unbalance*
- *P, Q, S, D, PF, cos φ*
- *Phase + line voltages*
- *Voltage variations, sags, swells*
- *Web interface*
- *Local storage and distributed SQL system*

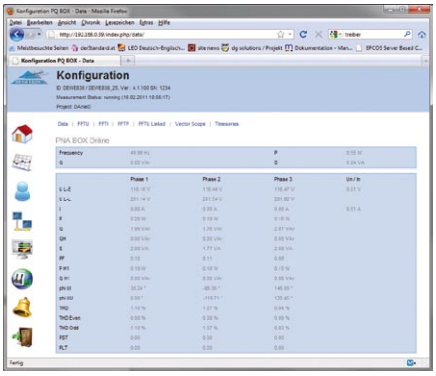
Measurement Instruments DEWE-838-PNA and DEWE-638-PNA

		DEWE-838-PNA-V	DEWE-838-PNA-P	DEWE-638-PNA
Dynamic analog input channels		3 voltage	4 voltage 4 current	4 voltage 4 current
Software		PNA-Browser Application + PMT		
Input specifications				
Voltage range		± 1400 V peak		
Bandwidth of input amplifiers		DC to 300 kHz		
Direct current input		-	5 A	5 A
Maximum input current via clamps		-	-	Depending on clamps
Maximum input current via flexible coils		-	-	10000 A
A/D conversion				
Sampling rate		10 kS/s		
Resolution		16 bit		
Digital I/O				
Digital I/O		220 V_{DC}		-
Safety				
Safety test		IEC -61010-1		
EMC				
ESD		IEC 61000-4-2: 8 kV contact; 15 kV air		
EMC		EN 55011: Class A	EN 55011: Class A	
Power supply	Surge	IEC 61000-4-5: 4 kV		
	Burst	IEC 61000-4-4: 4 kV; L, N, PE	IEC 61000-4-4: 4 kV; L, N, PE	IEC 61000-4-4: 4 kV
Voltage inputs	Surge	IEC 61000-4-5: 4 kV		
	Burst	IEC 61000-4-4: 4 kV		
Current inputs	Surge	IEC 61000-4-5: 4 kV	IEC 61000-4-5: 4 kV	-
	Burst	IEC 61000-4-4: 4 kV	IEC 61000-4-4: 4 kV	-
Shock and vibration				
Shock		Fixed installation only		EN 60068-2-27
Vibration		Fixed installation only		EN 60068-2-6, EN 60721-3-2 class 2M2
Environmental				
Operating temperature		-20 to +50 °C		
Storage temperature		-20 to +70 °C		
Humidity		10 to 80 % non cond., 5 to 95 % rel. humidity		
Data storage [1]				
Technology		SD Card		
Capacity		2 GB		
Main system [1]				
Processor		Low power CPU		
Interfaces		1x Ethernet, 1x RS-232	1x Ethernet, 1x RS-232	1x USB, 1x Ethernet, 1x RS-232
Power supply				
Standard		95 to 260 V_{AC} 50 / 60Hz (internal 10 to 36 V_{DC}) 15 W	95 to 260 V_{AC} 50 / 60Hz (internal 10 to 36 V_{DC}) 15 W	85 to 265 V_{AC} 50 / 60Hz (internal 10 - 36 V_{DC}) 15 W
Dimensions				
Housing		Counter panel mount chassis Wall mount DIN rail		Portable instrument
Dimensions (W x D x H)		160 x 166 x 125 mm (6.2 x 6.5 x 4.9 in.)		200 x 150 x 75 mm (7.9 x 5.9 x 3 in.)
Weight		Typ. 2 kg (4.4 lb.)		Typ. 2.5 kg (5.5 lb.)
Connection		Inside - Screw terminals 4 mm IP65 Option-Ph: External screw terminals 4 mm		Connectors IP65 outside

[1] Please find current specifications in the latest price list

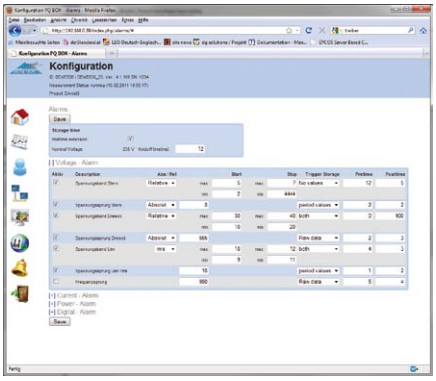
Software DEWE-638-PNA / DEWE-838-PNA

The software is a web application which you can access with any browser (e.g. Microsoft Internet Explorer, Apple Safari, Mozilla Firefox, Tablet PC, Smart Phone, ...)



Online data

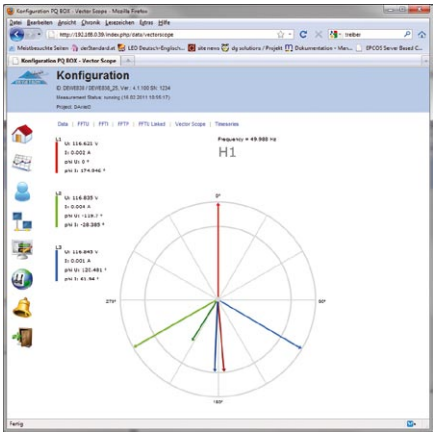
- *U, I of phases, lines and neutral*
- *Power of phases and total*
- *f, P, Q, S, PF*
- *Fundamental values of power*
- *Flicker (IEC 610004-15)*
- *THD*



Fault recorder

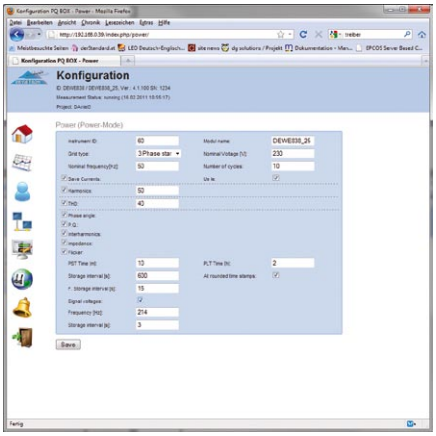
Trigger options for:

- *External (DIOs)*
- *Voltage (level, change rate, line + phase & neutral)*
- *Current (level, rate of change)*
- *Power (level, rate of change)*
- *Frequency (level, rate of change)*



Vector scope

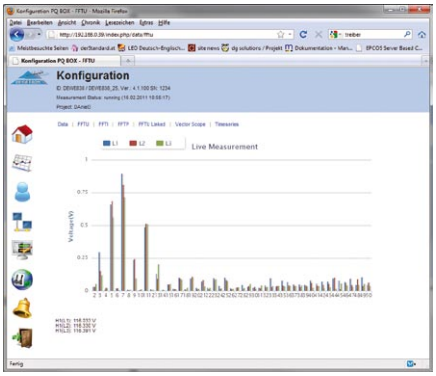
- *U, I*
- *Selectable order of harmonic*



PQ and POWER monitor

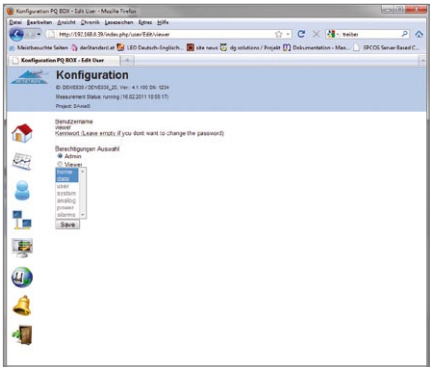
Configure the storing options for the PQ recorder:

- *Harmonics, flicker, voltage, THD,...*
- *Configure the POWER meter: P, Q, S, PF, I, f,...*



Harmonics screen (IEC 61000-4-7)

- *U, I, P, Q, Uline*



Access to the instrument

Different users have different access to the instrument.

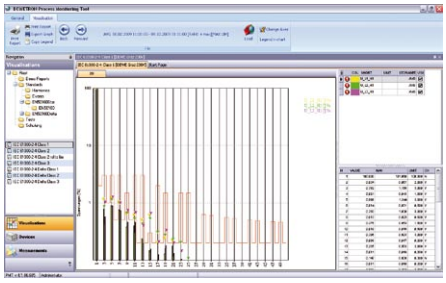
Data Presentation with PMT on any Windows Computer

Diagrams

- Single diagrams or multiple diagrams on one page
- Individual number of channels per diagram
- Min / Max / Avg calculation
- Up to 5 percentage calculations (e.g. 95 % value) per channel
- Math channels
- Histogram calculation, med / stddev / var / mod calculation
- Energy line

FFT Spectra

- Individual number of harmonics (25, 50, ...)
- Voltage, current, active power, reactive power, phase angle, impedance
- Limits according standards (EN50160, IEC61000-2-4, individual definition)
- Max / Avg / 95% calculation and comparison against limits
- Timestamp or intervals of data presentation
- More subgraphs per page possible
- Direct comparison of different locations
- 3D graph



Fault Alarm Lists

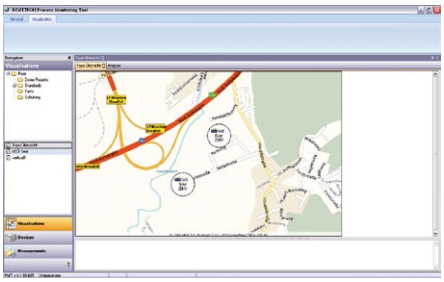
- Listings of faults and alarms
- Filters like time, channel, type etc..
- Automatic update function

Fault Diagrams

- Waveform presentation of faults
- RMS shape calculation
- FFT
- Math channels

DIS DIP Statistics

- Statistics like DISDIP / Unipede etc.
- Individual limits and time settings
- Statistics like CBEMA, SEMI F47 etc..



Topological Overview

- Topological online view of instruments
- Status, faults
- Combination with different diagrams
- Start of different setups

Reports

- Built-in report generator for flexible reports
- Combination of different diagrams in one report
- Sum reports over multiple stations

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