

Power Quality and Energy Measurement



Design the future
of energy



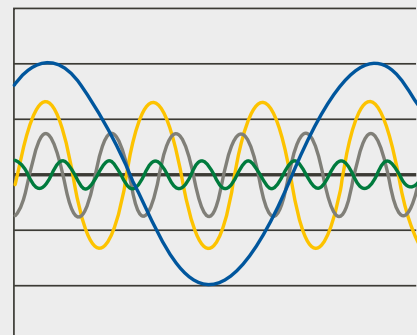
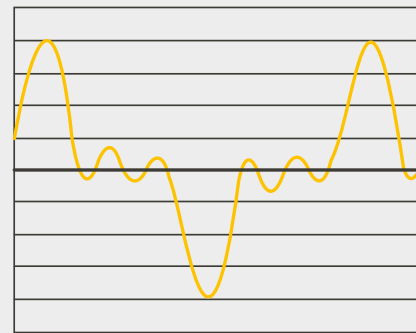
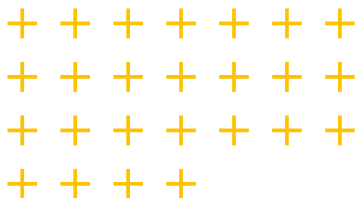
Greater transparency for electrical installations

Is your Power Quality adequate?

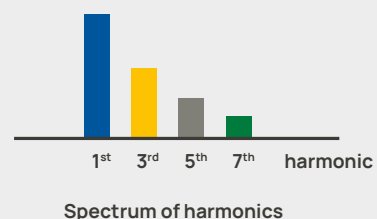
In today's power supply networks, the increased use of modern power electronics is leading to more frequent network disruptions. This is caused by non-linear equipment such as frequency converters, switch mode power supplies or electronic ballasts. Typical network disturbances include harmonics, changes in the effective value of the voltage or fluctuations in luminance (known as flicker).

Permanent monitoring for increased security

High harmonic components in the operating current can cause cable and wiring systems to overload, which can even lead to fire. If there is a risk of the neutral conductor becoming overloaded due to harmonic oscillations, DIN VDE 0100-430 recommends overload detection for the neutral conductor. The effectiveness of such measures depends on the operating condition of the plant. An assessment can only be made by continuously monitoring the harmonic component and measuring the operating currents in order to ensure the long-term safe operation of the system.



— Fundamental component — 5th harmonic
— 3rd harmonic — 7th harmonic





Universal measuring device PEM353

For maximum availability

Electricity supply networks grow over time. It is not uncommon for outages and disruptions to be the result of overloaded networks. With the help of a monitoring system featuring PEM353 universal measuring devices, potential effects on protective measures, hazards due to overloads or changes in energy consumption can be assessed even before the next expansion stage.

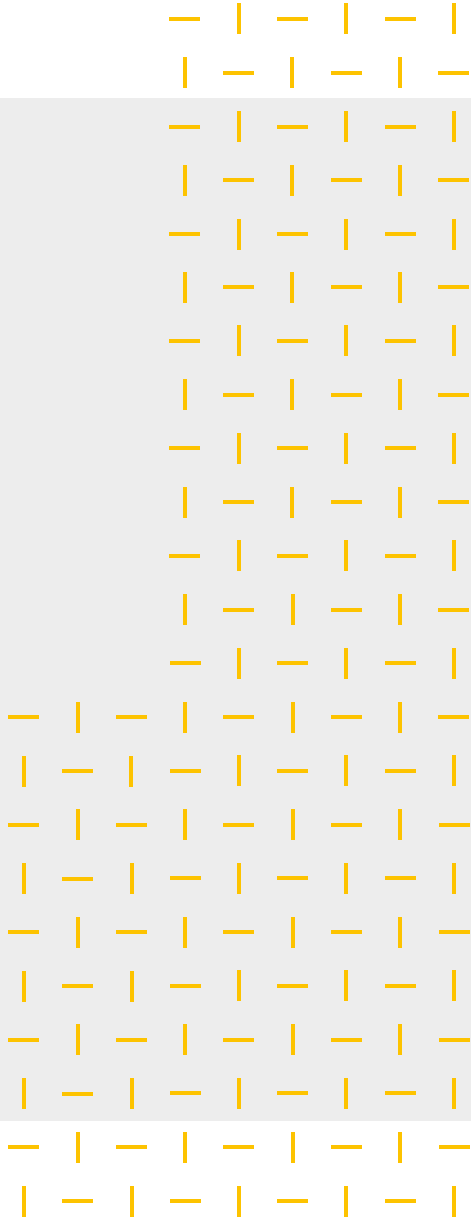
Universal measuring device PEM353

The PEM353 digital universal measuring device records all important measurement parameters such as voltage, current, power, energy and voltage quality. It also features limit value monitoring and connection fault detection, as well as an event memory and operating hours counter. The measured values are displayed on a large display and also made available via a communication interface for forwarding to a higher-level control system.

Type	Nominal measuring voltage	Power input I1, I2, I3	Power input I4	Digital outputs	Item no.
PEM353	3(N) AC 230/400 V	5A / 1A	-	2 relay outputs	B93100355
PEM353-P	3(N) AC 230/400 V	5A / 1A	-	2 solid-state pulse outputs	B93100354
PEM353-N	3(N) AC 230/400 V	5A / 1A	5A	2 relay outputs	B93100353

Measuring current transformers

The PEM 353 can be operated with standard measuring current transformers. Bender offers a selection of measuring current transformers that are suitable for use with devices from the Power Quality and Energy Measurement series.



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