

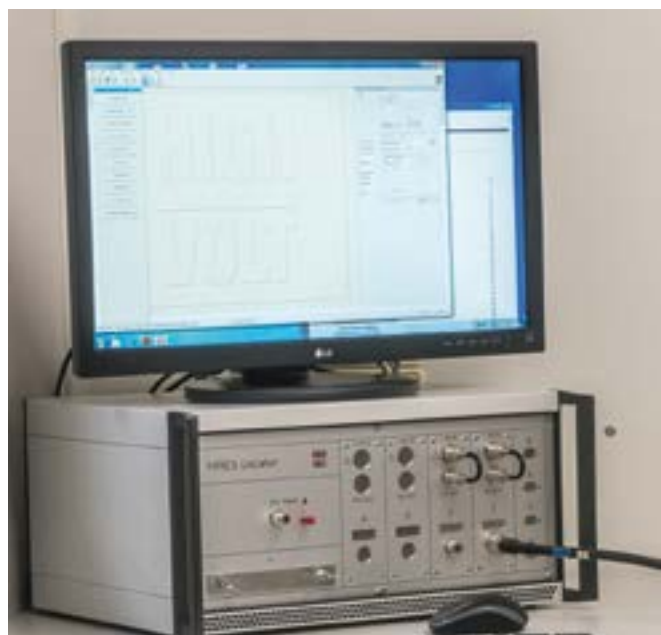
HiRES LOCATOR

Text: Tobias Miebler | Photo: Holger Schütze, Robert Arnold

Where's the breakdown? Finding breakdowns in kilometers of medium and high voltage cables is a little like finding a needle in the proverbial haystack.

Until now, breakdowns could only be located offline after a disruption had occurred. However, that makes measurement labor- and time-intensive, as extensive investigations are often required to find the breakdown.

As a result, HIGHVOLT developed a new measuring device that finds breakdowns quickly, simply and cost-effectively: the HiRES Locator. It's an interesting solution, and not just for grid operators and power utilities that have to monitor increasingly complex cable systems. Cable manufacturers can also benefit from adding the HiRES Locator into their test procedures for quality assurance.



How the HiRES Locator works

During high voltage tests or in ongoing operation, the digital recorder is connected to the cable and locates breakdowns immediately as they occur: online, not after the fact. The measuring principle is based on the pulse reflectometry method, also known as the TDR method (TDR – Time Domain Reflectometry).

Until now, measurement engineers had to generate an artificial breakdown signal retrospective-

ly when trying to find faults. This electric pulse spreads throughout the conductor as a travelling wave. When the wave encounters a material change, it is reflected back. The localization of the breakdown is calculated based on the time difference between when the signal is sent and received. Now, the HiRES Locator can do all of this live and in real time.

For example, it has been used to identify real faults in cable joints during factory and commissioning tests. Breakdowns like these are time- and cost-intensive.

Using the HiRES Locator, the point of breakdown could be found faster and repair work could start immediately, saving end users a lot of time and money.

New member of the HiRES family – the HiRES Probe

Introducing a new addition to the HiRES product range – the remote measuring sensor called HiRES Probe.

With its perfect shielding properties, the award-winning design of this component guarantees high-precision results, even in environments with strong electromagnetic interference like high voltage laboratories.

The HiRES Probe can be used for measurements in high voltage and high current testing.

Data is transferred optically to the evaluating unit, which boosts the measurement accuracy, as do the 250 MS/s sampling rate, 14 bit resolution and the 100 MHz analogue bandwidth.

The ability to use the HiRES Probe in battery mode makes autonomous operation without grid power and measurements on high voltage potential possible.

Customized evaluation software facilitates test sequence automation, as well as offering fully automatic logging of measurement results.

With its compact dimensions, the HiRES Probe can be used in tight spaces (for example in the base frame of a measurement divider), offering customers greater flexibility.

