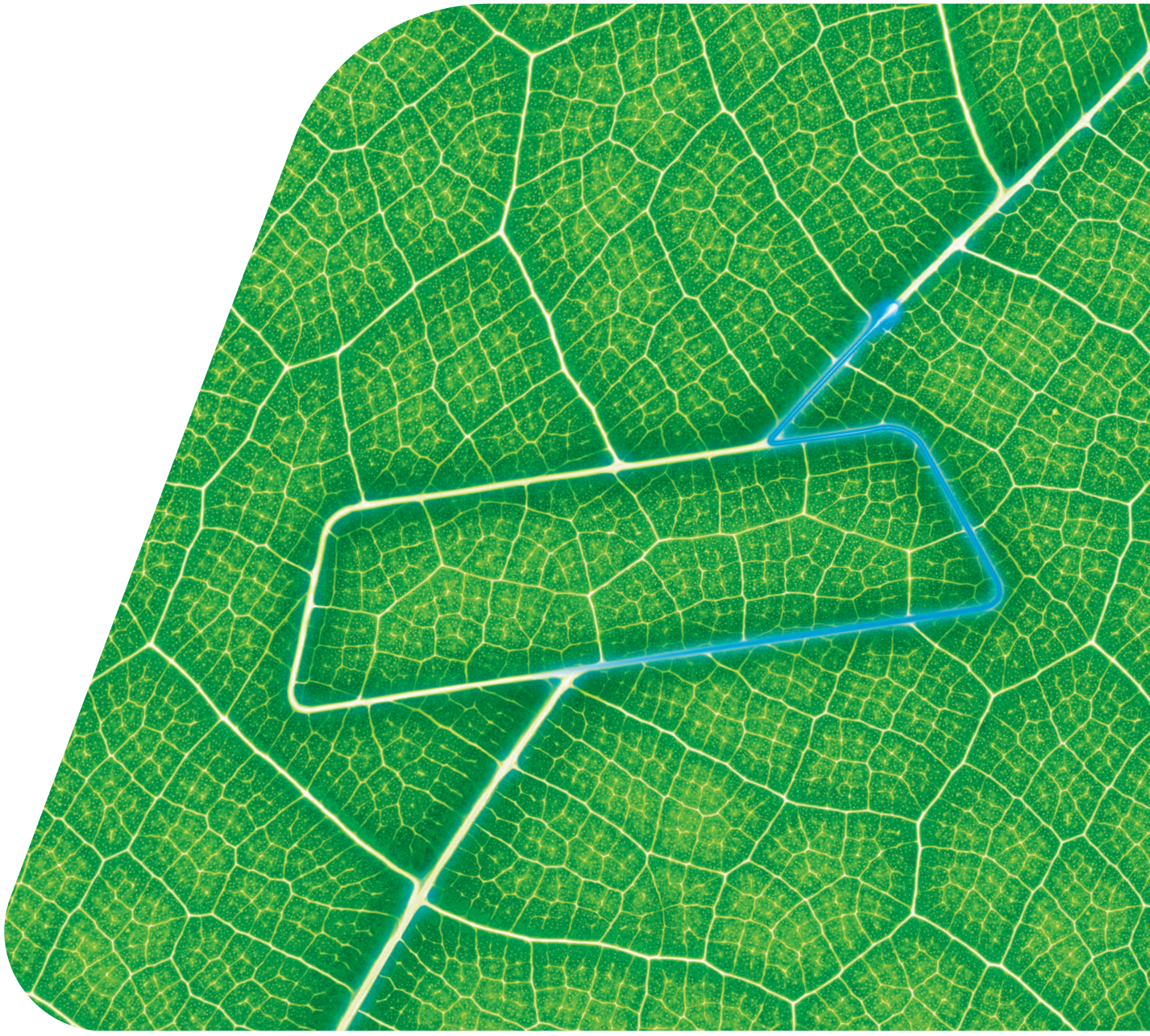
Other BAUR Brochures

Cable testing and diagnostics

Cable test vans and systems

Cable fault location

Further product information is available at:
baur.eu/brochures



BAUR GmbH · Raiffeisenstraße 8 · 6832 Sulz · Austria
T +43 5522 4941-0 · headoffice@baur.eu · www.baur.eu

Item No. 821-081 07/2026

BAUR
ensuring the flow

Cable testing and diagnostics for wind power and photovoltaic installations

Reliable commissioning and condition evaluation for trouble-free networks

“Achilles heel” cables in wind power and photovoltaic installations

Wherever power is generated, cables and cable-related equipment have a key role to play. If cable damage gives rise to downtime, the operator’s losses can rapidly mount up. Security of supply is also at risk, because as our preference for, and use of, clean energy increases, so too does the demand for the reliable availability of green electricity.

Proactive intervention – instead of waiting until it’s too late

BAUR measurement technology for cable diagnostics is used before a potential operational failure actually takes place. It allows weak points in power cables to be detected and located immediately. Damaged or incorrectly installed terminations or joints are identified at an early stage, allowing potential problems to be remedied before they even occur.

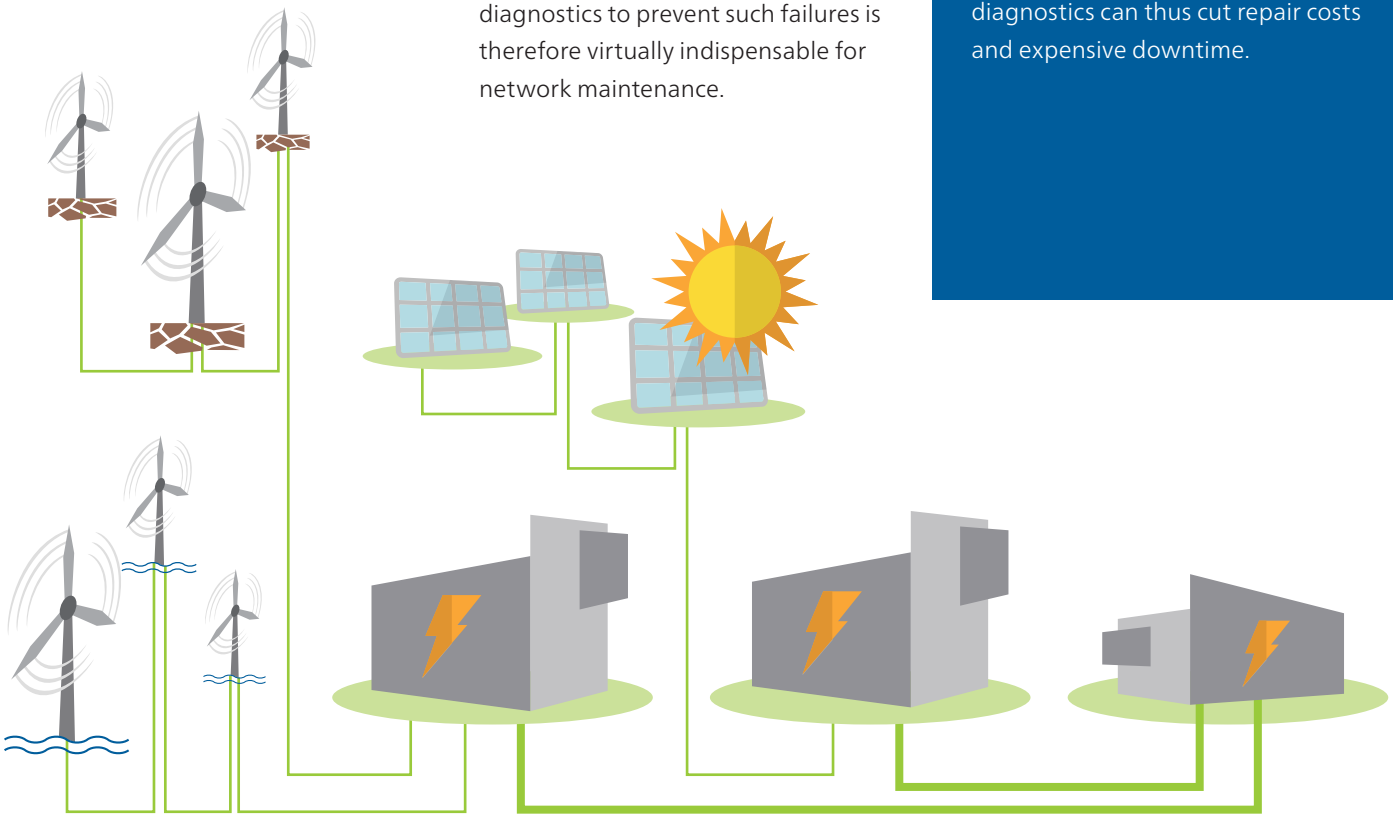
When there is a fault, time is money

Once cable damage has occurred, it can take several days or even weeks before the wind or photovoltaic farm is ready for operation again. And every hour of downtime translates into loss of revenue. The downtime costs of the average offshore turbine with a rated output of 100 MW (wind farm with approx. 20 turbines) add up to around 180,000 euros per day. Comprehensive and precise cable diagnostics to prevent such failures is therefore virtually indispensable for network maintenance.

Operational safety and reliability right from the outset using BAUR technology

Commissioning
Before the wind power or photovoltaic installation can be put into operation for the first time, the cable network must be checked in accordance with the standard. The acceptance test covers all cables from the transformer station to the wind power or photovoltaic installation.

Safety
A condition check on the cable network saves hard cash: defects and damage are detected straight away and can be rectified before commissioning. For example, BAUR partial discharge testing immediately identifies incorrectly fitted joints. Timely diagnostics can thus cut repair costs and expensive downtime.



BAUR in use
Cable testing on the high seas

As the expansion of renewable energies gathers pace, the requirements surrounding commissioning, maintenance and fault location for cable systems are also changing. Installations are built where sun, wind or water are available for most effective exploitation. A challenge for man and machine alike!

Elektroanlagenbau Wenzel go offshore

Early in the morning, the team from family business Elektroanlagenbau Wenzel GmbH based in Pantelitz set off from Rostock for the EnBW Baltic 1 wind farm. Before the 21 wind turbines are commissioned, the Wenzel team want to check the medium-voltage cables they laid and installed a few weeks earlier.

The team are confident that the three 30 kV cables with a cross-section of 120 mm² per tower have been installed perfectly. However, the standards require a final test of operational readiness. Quality is demonstrated by the log of the tests carried out.

Once they reach the wind turbine, the two measurement engineers climb across, attach the BAUR viola test set to the crane hook and pull it onto the platform. The test adapters are screwed into the terminations mounted earlier, the high-voltage cable is connected and the earth point of the test set hooked up to the station earth. After about 2.5 hours, the job at this wind turbine is done and it's on to the next one. The measurement results are "in the box", according to Wenzel. "The device displays the test status immediately and we can notice any irregularity." In addition to the test results, the log shows the external temperature and humidity, the torque with which the terminations were tightened, and the calibration dates of the torque wrench and tester.

Once all 21 EnBW Baltic 1 wind turbines have been tested, the test results are available. The logs show that everything has been done correctly – a success for the team!

The BAUR viola test set is part of the equipment of the three company-owned cable diagnostics and test vans. The specialist measurement engineers can use it to perform fault analysis, fault location, troubleshooting, and the final cable test.
This saves time and consequently money for the customer.

The EnBW Baltic 1 wind farm was commissioned in 2011. The 21 wind turbines have a total capacity of 48.3 MW and generate around 185 million kWh of electricity annually. This covers the annual electricity needs of 50,000 households.

BAUR solutions for diagnostics and cable fault location on renewable energy installations

truesinus® **The market-leading truesinus technology developed by BAUR provides a precise basis for meaningful and reproducible cable tests or condition evaluations using dissipation factor or partial discharge testing, even for simultaneous measurements such as MWT or Full MWT. It permits extremely non-destructive cable testing and condition evaluation of medium-voltage cables in compliance with the VDE, IEC and IEEE standards.**

Area of application	Technology	Advantages	BAUR solution
Commissioning test of newly installed or repaired power cables for wind farms / photovoltaic systems	VLF sine cable testing (portable/ systems)	· Easy to use · Many standards available	 **frida**  **viola**  **PHG** **BAUR Software 4 testing & diagnostics**
	VLF sine cable testing with accompanying diagnostics	· Information on cable condition by dissipation factor diagnostics · Detection of assembly and cable laying errors by partial discharge diagnostics · Option of DC test voltage testing	 **frida TD +**  **viola TD +**  **PHG 80 TD +**  **PD-TaD 62**  **PD-TaD 80** **BAUR Software 4 testing & diagnostics**
	Cable sheath testing	· Easy to use · Detection of sheath faults prevents the penetration of moisture and the resulting long-term faults	 **shirla**
Condition evaluation of power cables for wind farms / photovoltaic installations	Cable diagnostics based on VLF sine	· Information on cable condition by dissipation factor diagnostics · Option of DC test voltage testing	 **frida TD +**  **viola TD +**  **PHG 80 TD +**  **PD-TaD 62**  **PD-TaD 80** **BAUR statex® software –** determination of the remaining life time of cable routes **BAUR Software 4 testing & diagnostics**
Location of faults in power cables for wind farms / photovoltaic installations	Cable fault location systems	· Fast and efficient cable fault location for all areas of application	 **Syscompact**  **transcable** **titron**  **shirla**