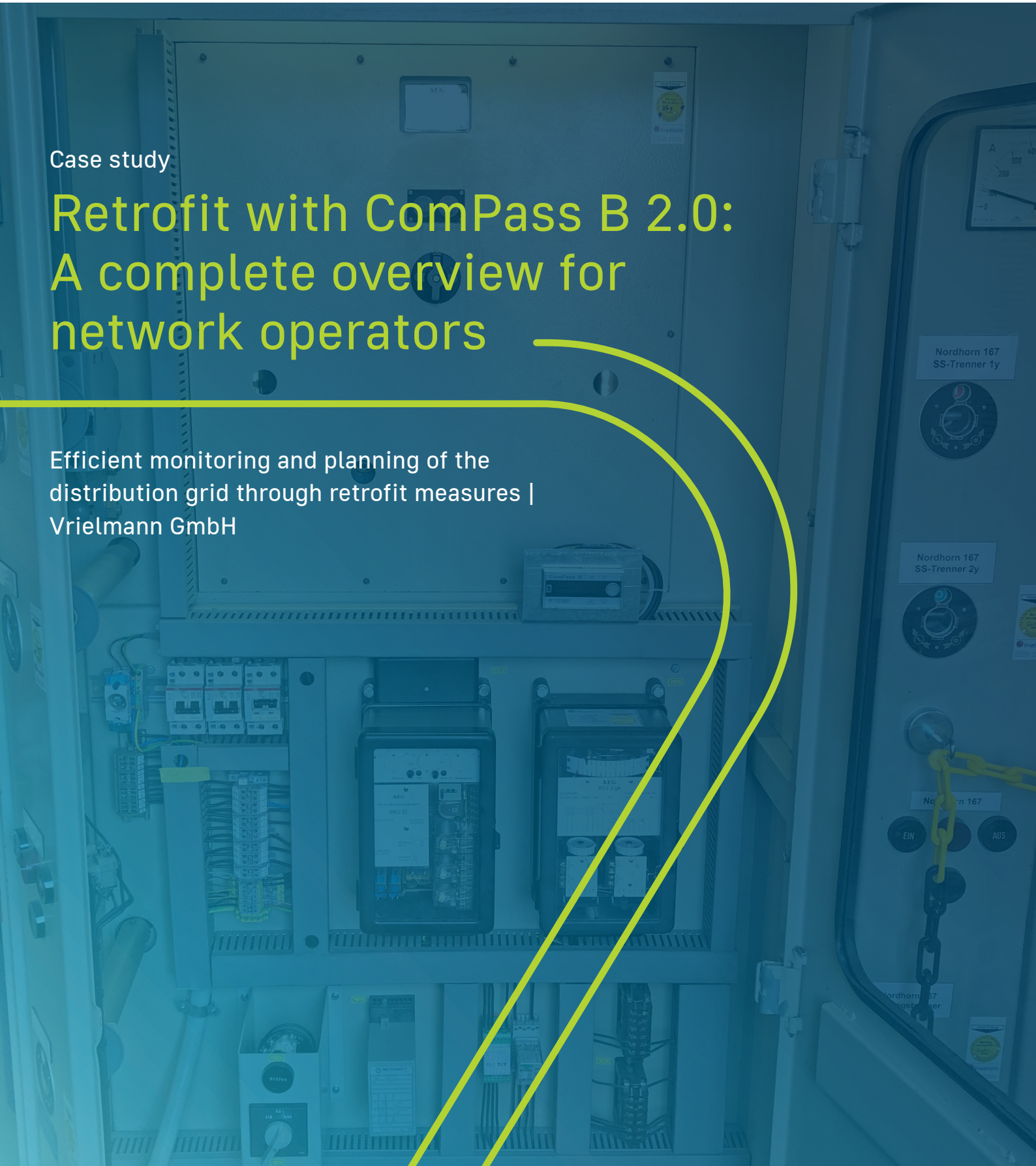
Vrielmann WIR ELEKTRISIEREN!

HORSTMANN GERMANY



Case study

Retrofit with ComPass B 2.0: A complete overview for network operators

Efficient monitoring and planning of the distribution grid through retrofit measures | Vrielmann GmbH

On a joint mission for digital local substations - Horstmann supplies short-circuit and earth fault indicators to Vrielmann

Challenge

As an electrical system manufacturer, Vrielmann offers comprehensive solutions from the production of substations and control cabinets to the installation and commissioning of electrical systems. The customers of Vrielmann GmbH are faced with a challenging task.

In the past, electricity grids were usually planned centrally and operated with a constant load flow direction from high to medium to low voltage.

Today, increasingly complex distribution grids with decentralised feed-in points and changing load flow directions prevail. Among other things, wind and solar farms and the charging infrastructure for e-mobility as well as heat pumps, battery storage and electric vehicles in private households have to be integrated.

Depending on the condition of the grid and the digitalisation goals, retrofit measures, i.e. upgrading a substation by replacing individual components, can make sense. Digital systems allow network operators to significantly reduce service and repair costs and improve network availability.

Solution

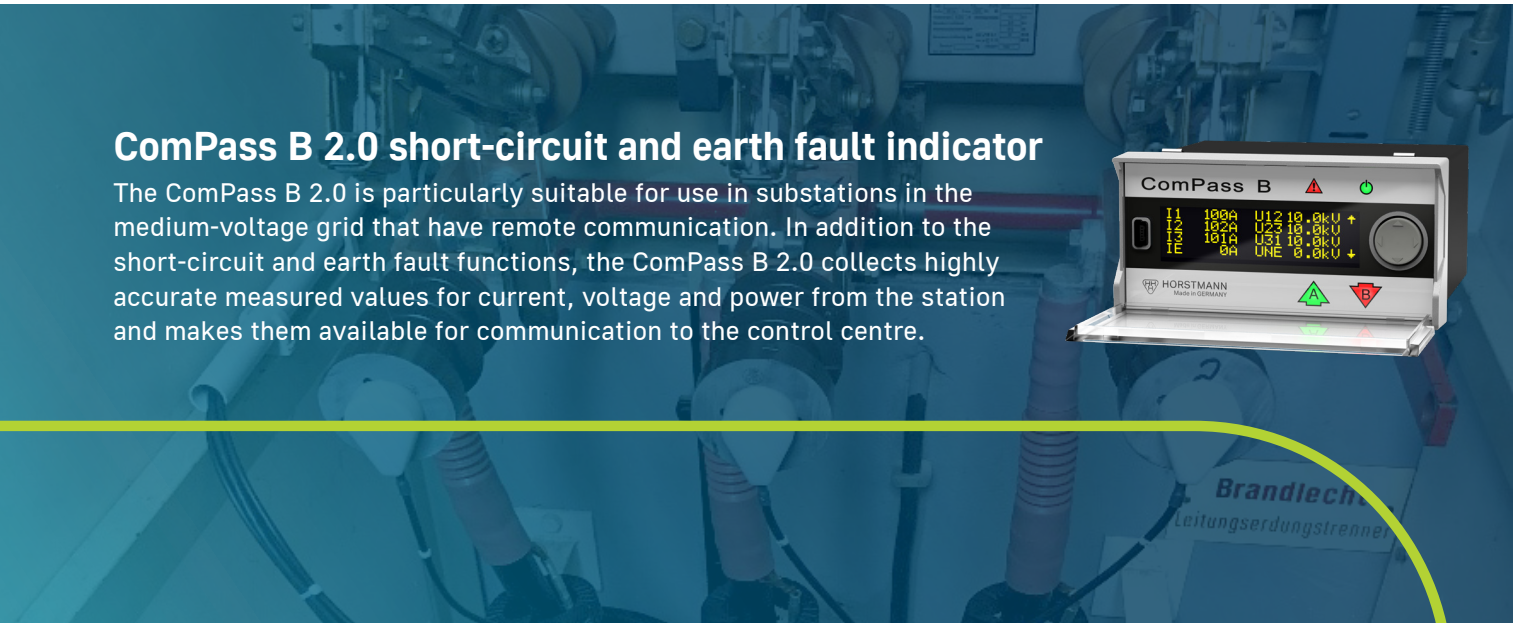
To tackle these challenges, Vrielmann GmbH is working together with Horstmann GmbH.

Vrielmann sees itself as a system integrator, is responsible for project planning and Horstmann supplies the respective components.

The aim of the project was to monitor the load flow direction for each feeder in an existing substation and to implement the connection to endcustomers SCADA.

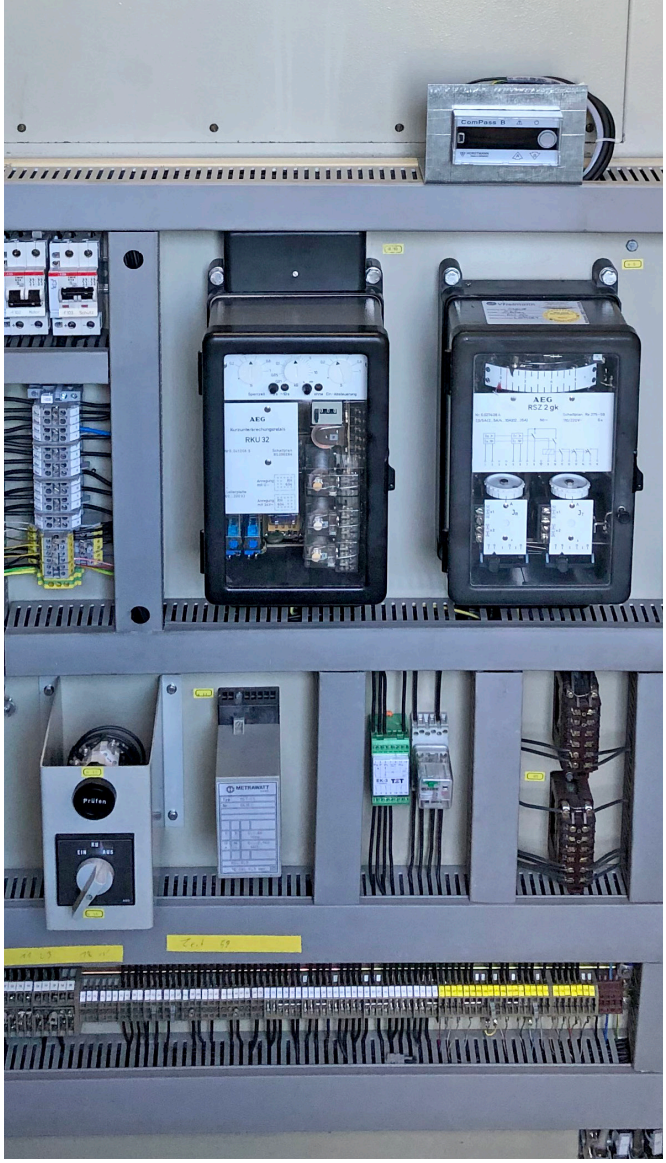
In this project, the combination of capacitive and resistive voltage detection was realised with the ComPass B 2.0 short-circuit and earth fault indicator.

The ComPass B 2.0, specially developed for the medium-voltage grid, monitors in real time, detects short-circuits and earth faults and enables precise fault localisation. This helps the field workers locate faults more efficiently and repair any damage more quickly. It provides highly accurate measurement data for current, voltage and power, which can then be transmitted to the control room. All measured values can be provided with limit values that trigger an alarm in the control room when exceeded or fallen short of.



ComPass B 2.0 short-circuit and earth fault indicator

The ComPass B 2.0 is particularly suitable for use in substations in the medium-voltage grid that have remote communication. In addition to the short-circuit and earth fault functions, the ComPass B 2.0 collects highly accurate measured values for current, voltage and power from the station and makes them available for communication to the control centre.



Retrofit successfully implemented. ComPass B 2.0 and Wega 1.2 C are connected to the retrofitted current and voltage sensors.

Retrofitted current and voltage sensors for load flow detection for each outgoing circuit.

Product features

- Clear fault indicator and on-site reading option - Immediate fault direction detection
- Availability of measured values in the control room and on site
- Highly accurate current and voltage measurement with 0.5%
- Limit value monitoring and remote signal - Immediate detection of limit value violations
- Suitable for all types of network

Customer benefits

Monitoring increases grid availability and enables predictive maintenance. This enables anomalies to be detected before faults occur. The grid becomes transparent – better predictions can be made for further grid planning. The network operator has a full overview of the grid at all times.

In today's world, expertise is everything. Together with Horstmann, we offer our customers first-class solutions in medium-voltage technology. Customers benefit from the complete system comprising innovative solutions, quality products and professional implementation.

Vrielmann GmbH

HORSTMANN
GERMANY

About Vrielmann GmbH

Vrielmann GmbH started as a one-man operation in 1976 and today employs over 145 highly qualified employees who stand for strong cooperation in the interests of the customer. The manufacture of high-quality products, such as transformer stations and control cabinets, as well as comprehensive service, have made Vrielmann a recognised partner for commercial and industrial electrical system construction. For the company, a reliable all-round service is the key to a successful partnership. That's why they offer their customers everything from a single source: from consulting, planning and production to the installation and commissioning of electrical systems.

About Horstmann GmbH

Dipl.-Ing. H. Horstmann GmbH is a medium-sized company with headquarters in Heiligenhaus near Düsseldorf. The company was founded in 1946 by Heinrich Horstmann and has been successfully run by the family ever since. Many years of experience and a consistent willingness to innovate and invest have made Horstmann a leading manufacturer of medium-voltage technology:

- Short-circuit and earth fault indicator
- Voltage detectors and test systems
- Earthing devices and accessories

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