

BRANDES

... more than leak detection



FluidGuard®

Leakage warning technology for data centres and sensitive rooms

BRANDES FluidGuard® system for monitoring of water conducting pipelines



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The question

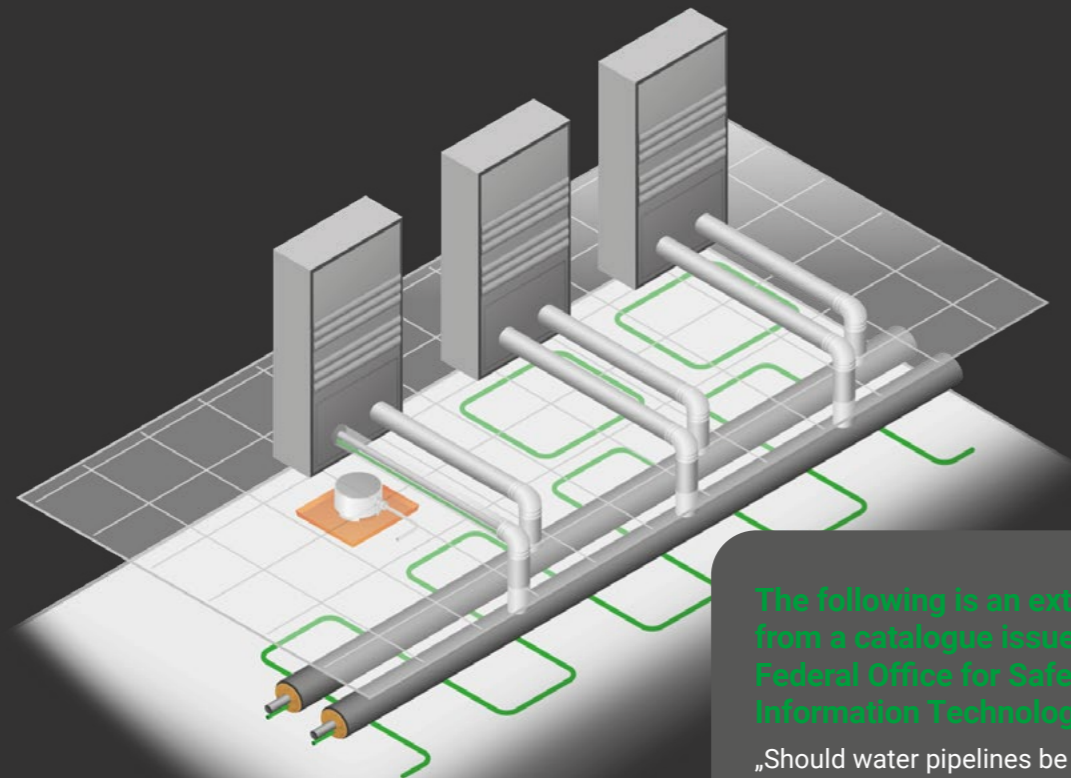
Is there such a thing as complete protection against moisture?

Does your remit include the technical design of a web server or data centre? If so, then undoubtedly you focus on appropriate performance and almost total reliability.

Extensive air conditioning and – increasingly – water cooling is necessary directly in the servers to eliminate the risk of thermal overload. However, the problem with that is that liquids present an extreme hazard in a data centre environment.

Even the smallest leaks or minimal build-up of condensation can lead to momentous damage if they are not immediately localised.

And this can occur along the entire length of a pipeline, which can be up to several kilometres in length in large buildings. The complete failure of a data centre from what initially might seem like insignificant leaks is not uncommon. But is there absolutely reliable protection against this virtually unmanageable risk?



The following is an extract from a catalogue issued by the Federal Office for Safety in Information Technology (BSI):

„Should water pipelines be unavoidable, precautions must be put in place to enable the earliest possible detection of escaping water and minimise the negative impact. All areas [...] in which water can cause damage should [...] be equipped with water detectors.“

The answer

Yes. With Fluidguard® from BRANDES

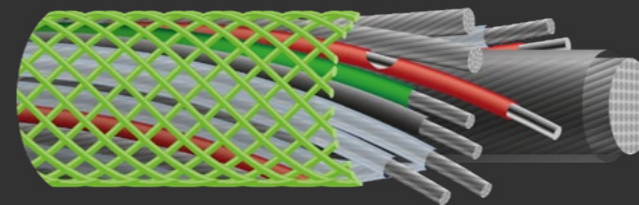
FluidGuard® is probably the only system on the market to recognise the potential build-up of moisture as it is forming – rather than when it's already too late. FluidGuard® also locates marginal amounts of moisture in the insulation, long before they have a chance to cause damage.

Using a combination of reasonably priced yet highly sensitive sensors and BRANDES' established expertise and special software tools, it is possible to reliably protect your investments in the long term.

The monitoring system is ideally installed when the building is still under construction. Experienced specialists at BRANDES look after individual adjustment to meet your requirements, ensure the system's seamless integration to building services technology and look after the servicing of the system. The result: uncompromising safety.

Sensor cable

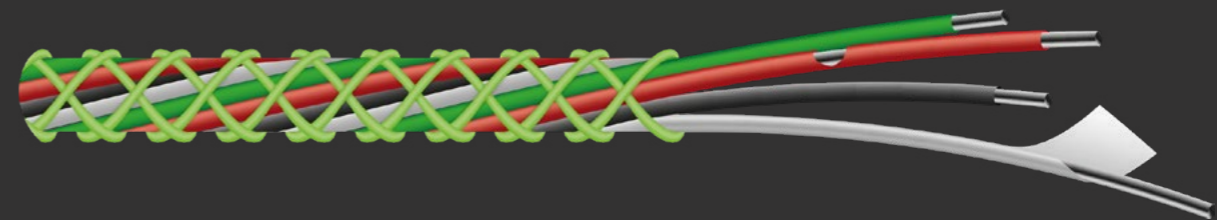
for areas in ceilings and floors



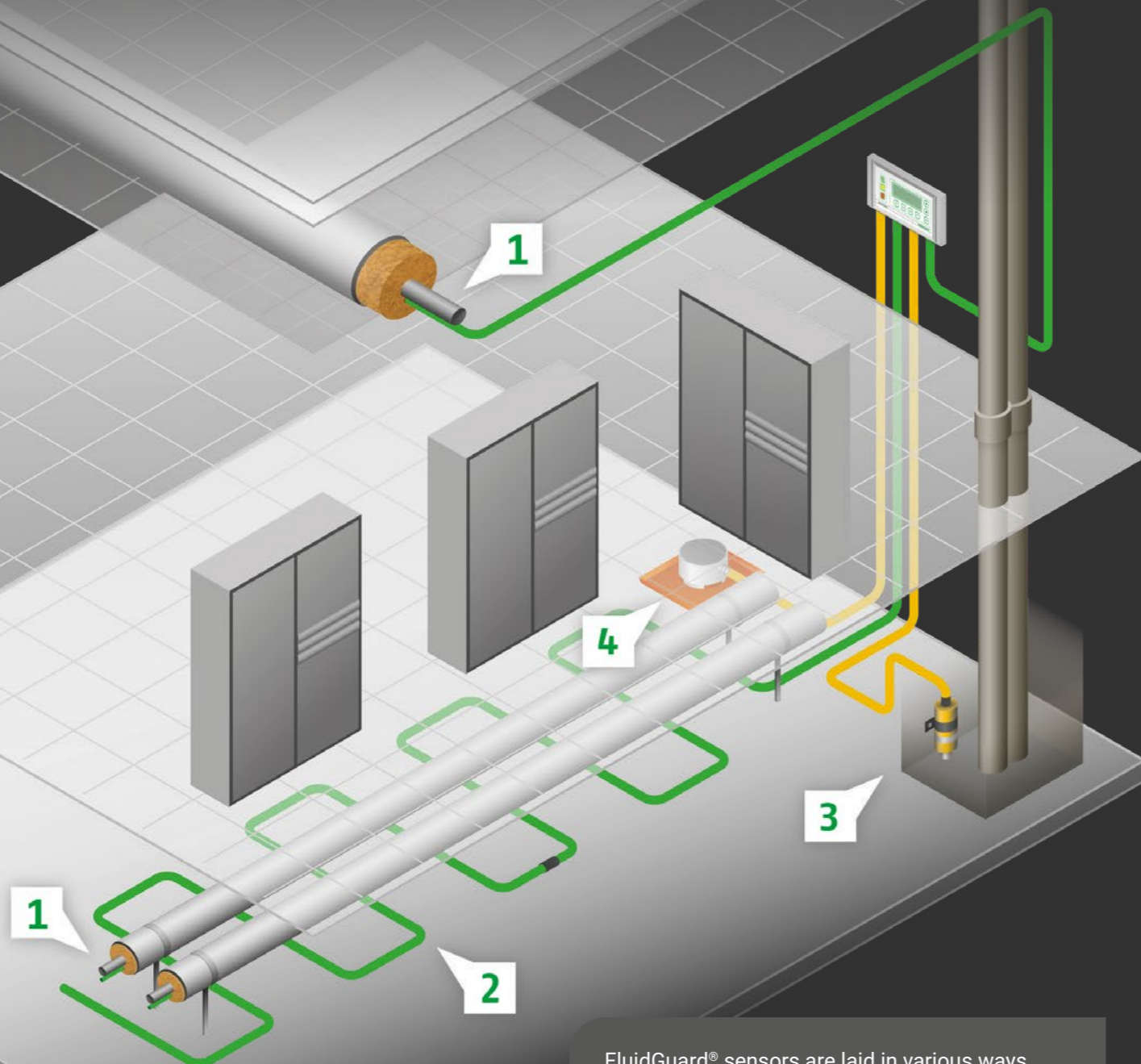
Highly sensitive BRANDES sensor cables are available in a range of different versions depending on the application.

Pipe sensor cable

for integration into pipe insulation



BRANDES FluidGuard® systems in data centres



FluidGuard® sensors are laid in various ways and combined with each other depending on the location of the possible sources of danger and the systems to be protected. These sensors were specifically developed for use in air-conditioned high-tech rooms.

The innovation

Two-phase leakage monitoring

FluidGuard® differentiates between two phases of monitoring for maximum operational reliability and optimum adjustment to individual requirements: primary monitoring direct at the pipeline and secondary monitoring in its immediate environment.

Primary monitoring ensures the early detection of potential risks at particularly susceptible places, such as in the direct vicinity of server racks or in suspended ceilings. The cable sensors integrated in the insulation of the pipeline detect even marginal amounts of moisture, such as might occur with the build-up of condensation, even before they have reached beyond the insulation. This also monitors the quality of the construction work and prevents possible corrosion damage in plenty of time.

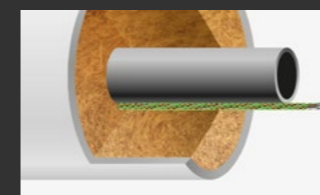
Secondary monitoring reliability registers any accumulation of liquid below pipelines and server cupboards and the directly ensuring danger to computers and electronics. Meandering cables or point sensors positioned at key points react based on a pre-set warning threshold and enable the corresponding pipeline to be shut down.

This two-phase system firstly ensures that any potential dangers are recognised and analysed as they are developing and, secondly, that serious interventions into the system being monitored are only triggered in an actual emergency. You alone decide how to configure your FluidGuard® system.

Applications of FluidGuard® systems in data centres

FluidGuard® solutions monitor everywhere:

- ✓ pipes laid in suspended ceilings (1) and raised floors
- ✓ surfaces in raised floors (2)
- ✓ collection vessels for condensation and escaping media (3)
- ✓ point sensors on surfaces (4)
- ✓ single and double-walled pipes made from a range of materials, insulated, uninsulated, isolated, non-isolated
- ✓ special sensor cables and point sensors for all applications



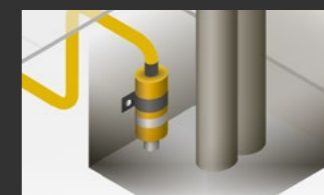
1 Pipe sensor cable

The BS-FKR sensor cable directly monitors pipes.



2 Sensor cable

The BS-FKW sensor cable is used to monitor server rooms.



3 Low point sensor

Used to monitor water levels at deep points, in collectors and shafts: BS-TP 4 sensor.



4 Point sensor

The BS-TP 7 sensor is used for the selective monitoring of areas.

The benefit

Modular construction and maximum precision

FluidGuard® adapts to your individual needs.

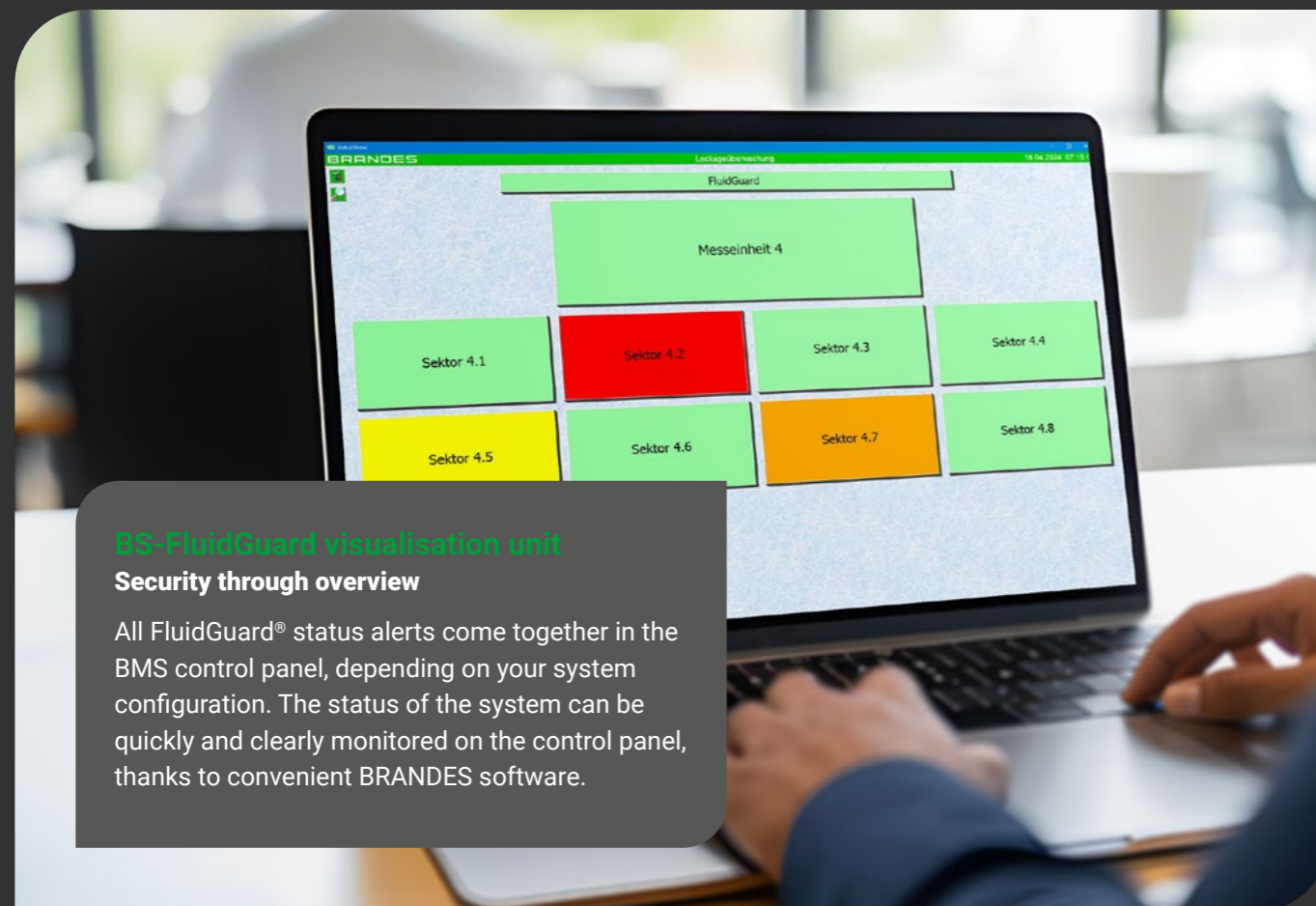
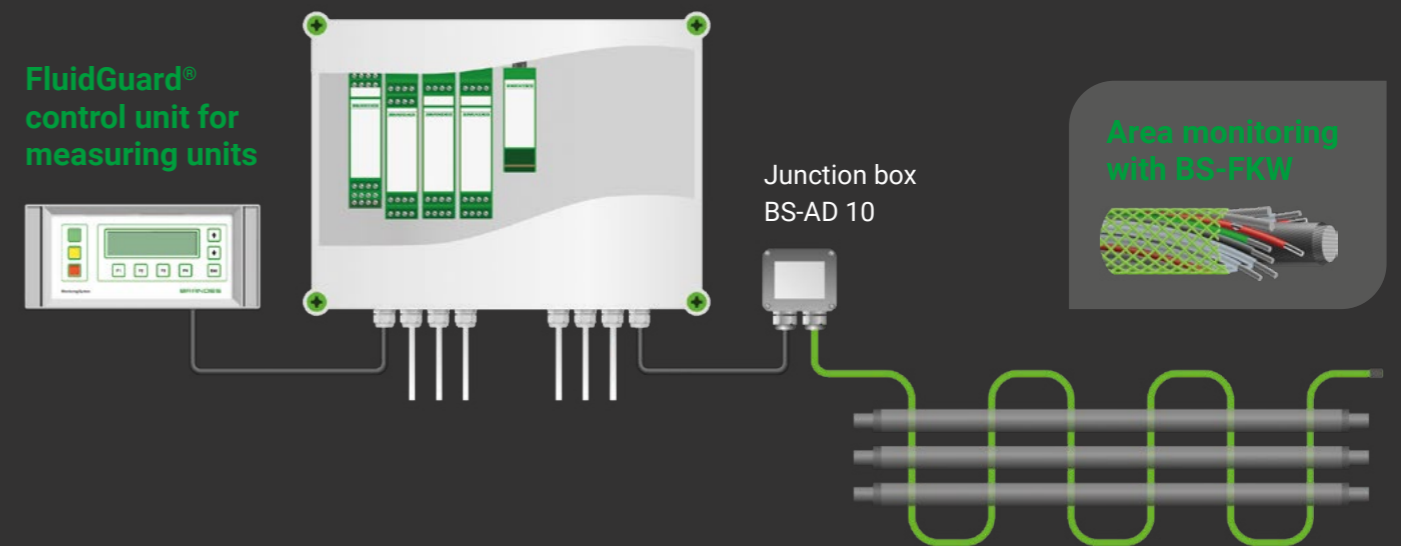
Whether you have a small data processing system or an international web server centre, simple control or comprehensive software evaluation: the modular construction of FluidGuard® makes it suitable for the most diverse practical applications, yet it can also grow with your needs, if required.

A range of different system configurations are available for this, which your BRANDES system advisor would be pleased to present to you in detail, with no obligation on your part. Long-term security for your investments is a matter of course with FluidGuard®.

FluidGuard® is synonymous with unbeatable precision in detecting, reporting and locating problems. Sources of moisture are precisely located – regardless of how extensive the pipework is or how inaccessible the affected area is. The extent of the damage and its location are clearly visualised by BRANDES in-house developed software, depending on your system configuration. Automatic alarm notifications or reports can also be transmitted to PDAs or remote computers, giving you reliable damage assessment and saving repair costs.

FluidGuard® measuring unit

Grouping modules into a single measuring unit saves on sensor feeds.



BS-FluidGuard visualisation unit

Security through overview

All FluidGuard® status alerts come together in the BMS control panel, depending on your system configuration. The status of the system can be quickly and clearly monitored on the control panel, thanks to convenient BRANDES software.

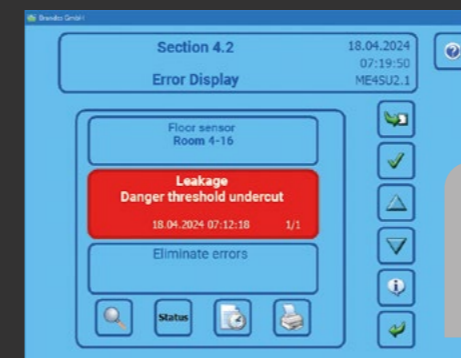


Fig.: Error Display

BMS alerts
Notification via
WEB, OPC, ODBC

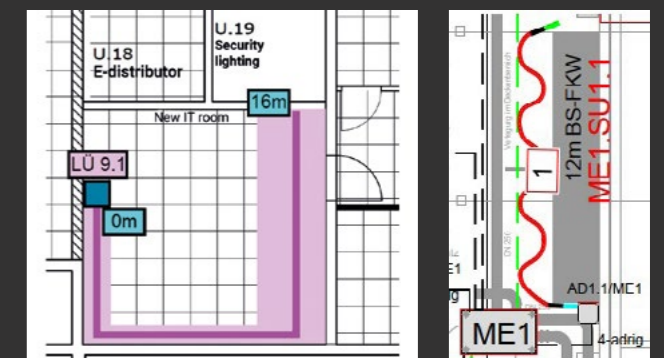


Fig.: Sensor plans

FluidGuard® visualisation unit

All the relevant information from the monitoring sections is centrally visualised. The system is equipped with a visualisation unit for the clear presentation of system statuses and alarm signals. The clearly arranged display diagrammatically shows all the connected monitoring sections. Accumulating alerts are **colour coded**. A **detailed display** can be called up for each section, in which the route of the section is visualised showing prominent points and permitting direct localisation of the point of damage. The need for action can be directly read off from the saved curves of the insulation resistance.

The security

A partner with expertise and experience



Task: security for your investment

- ✓ Pipework systems are exposed to high loads by „hot-cold cycles“.
- ✓ Effective monitoring of the systems is essential to precisely locate damage and avoid failures and expensive repairs.



Solution: BRANDES

- ✓ BRANDES is the market leader for high-quality leak monitoring systems with damage prevention and leakage localisation.
- ✓ BRANDES has been the largest system provider for over 50 years.
- ✓ BRANDES guarantees maximum reliability and product quality coupled with technical compatibility.
- ✓ BRANDES invests > 6 % of its annual turnover in research and development.



BRANDES provides the entire service cycle:

- ✓ initial idea, advice and planning through to construction monitoring
- ✓ one-stop production and installation
- ✓ training and analysis as well as system documentation
- ✓ system maintenance, software updates and phone support
- ✓ recurring technical equipment inspections



References and solutions:

- ✓ BRANDES has been working with many customers for decades.
- ✓ BRANDES develops technology for small and large networks, centralised and decentralised systems.
- ✓ BRANDES has been supplying leak warning technology to data centres for over 15 years.
- ✓ BRANDES delivers to energy utility companies and industrial companies in over 30 countries.
- ✓ BRANDES is the quality seal for leakage monitoring security with its many international patents and industrial property rights.
- ✓ BRANDES has been ISO 9001-certified since 1995.




Security for your investment.


Rely on BRANDES monitoring technology.



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