



Cu-PreDetect™



THE ORIGINAL BS NICR SYSTEM IS BEING CONTINUOUSLY DEVELOPED BY US, BUT:

**Who really brings something new
to copper sensor technology?**

We do. Now. Patented.



BRANDES

... for safety today and beyond

Cu-PreDetect™

THE SITUATION

District heating networks with copper sensor technology have been in operation for years.

Why? Some operators say: „It's just what the pipe manufacturers gave us“. The pipes are now older and many operators have found that this type of monitoring is not always sufficient to locate damage in the district heating network early on and allow it to be kept in good condition with as little effort as possible.

To set new standards based on this realisation, BRANDES developed the Cu-PreDetect™ moisture detection system to allow the operating company, at its own discretion,

- to decide for itself about **network transparency** and **security needs**,
- to narrow down faults in the network to a significant degree and locate them more easily
- and to have priorities set for service work.

How Cu-PreDetect™ operates

The BRANDES Cu-PreDetect™ technology forms a system for improving metrological functions and the visualisation of individual monitoring sections on Nordic systems.

Individual leaks and pipe damage can be pre-located using this approach. In the case of multiple leaks, the short partial loops allow faults to be isolated if necessary and evaluated more accurately due to clearer imaging on locating equipment.

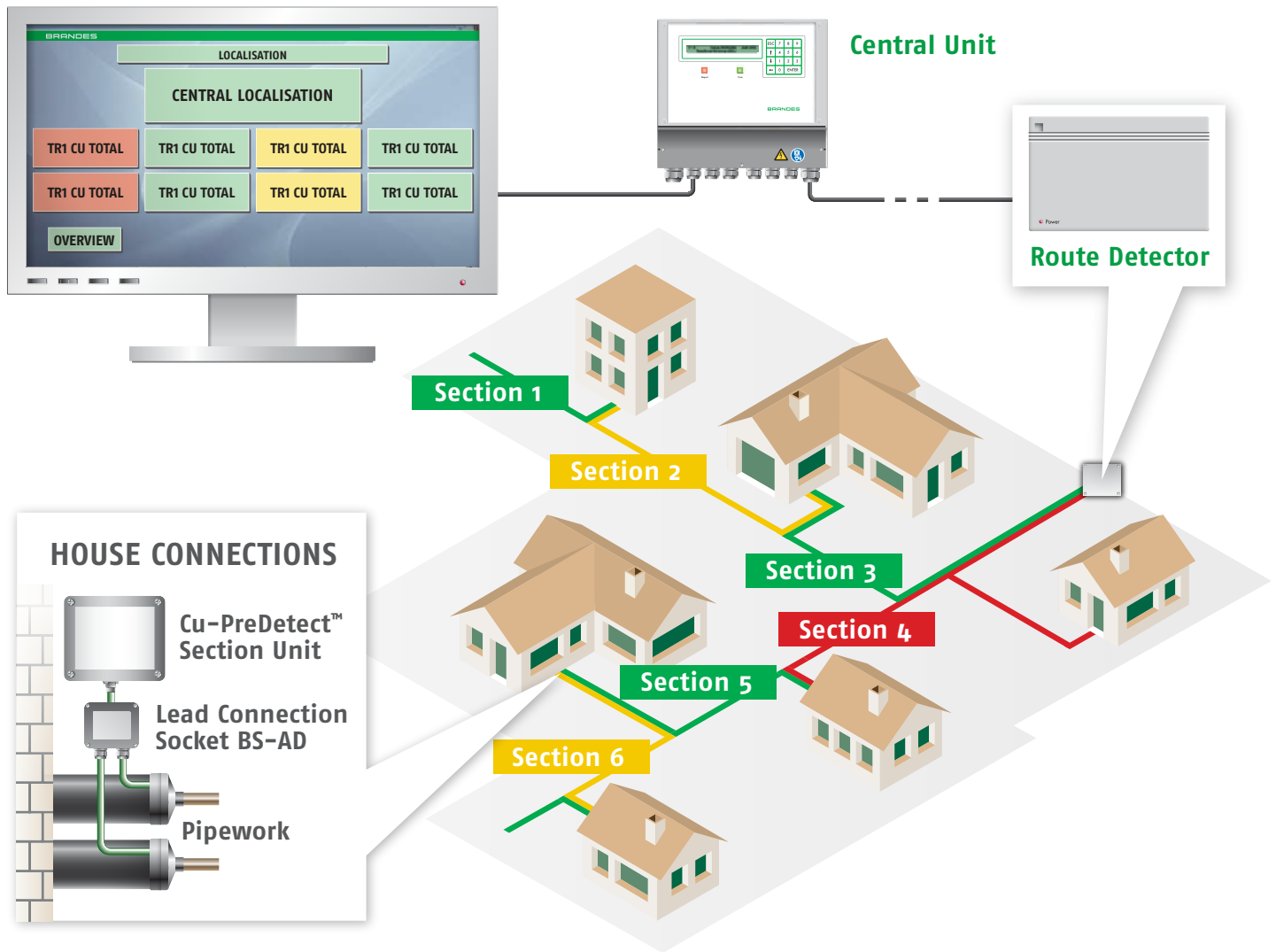
For this purpose, with the help of the **BS-1637 Cu-PreDetect™ section units** the measurement loop of the Nordic systems is divided into suitable sections on which the current conditions in the pipe insulation are measured and evaluated. The communication technology developed and patented by BRANDES, with central power supply via the measuring loop, enables maintenance-free operation of the modules. **Cu-PreDetect™ can be retrofitted and extended on all functional Cu loops of Nordic systems.**

Why is automatic pipe network monitoring and pre-location worthwhile?



So that you are spared such things!

Condition with Cu-PreDetect™



The mission

Especially in existing district heating networks with copper sensors, there is often the problem of distinguishing general moisture from a specific fault so as to locate it more easily. New measures are therefore required to ensure the reliability, integrity and consistency of the monitoring system.

Solution

Cu-PreDetect™ is a modular addition to our route detectors for the monitoring of copper sensors. It enables dialogue with one or several **BS-1637** section units.

The result: By using Cu-PreDetect™, the measuring loops are the measuring loops are automatically divided into short sections. These short sections are measured individually measured individually in a fixed sequence.

Advantage

Optimised for integrity and consistency, this foundation of trust provides better damage visibility across the network.

For system managers, this means:

Reduced costs in locating damage and extent of damage kept to a minimum. **For day-to-day practice, this means:** a clear decision-making basis for risk assessment.

Cu-PreDetect™ system structure

- **StatusDisplay software module for visualisation:**

- **colour-coded display** of good states and fault states as well as alerts in the individual monitoring sections with **3 priority levels**
- colour-coded display of the processing status
- display of fault messages with freely programmed texts
- **adjustable limit values** for loop resistance and insulation resistance
- **automatic transfer and comparison** with the data/parameters stored on the central device of the monitoring system
- storage and reproduction of all measurement data in the preselected time range (**trend curves**)
- **parameterisation** of the monitoring system
- automatic adaptation of the status display to the particular expansion status

- **BS-306-37 central unit for continuous monitoring of monitoring circuits with copper sensors**

The **BS-306-37 central unit** is a microprocessor-controlled central unit for monitoring two monitoring sections equipped with copper sensors. An alert is issued when the **insulation resistance** falls below the **entered limit settings** and in the event of a **loop interruption**.

- **BS-1230-37 path detector** for centralised **continuous monitoring** and **automatic pre-location** of insulation faults on networks with **copper sensors (Nordic)** and other comparable monitoring systems in conjunction with **BS-1637 section units**. The **BS-1230-37 route detector** is used for **early detection of damage during operation**, **differentiation of the extent of damage** and **clear determination of the faulty section** through **permanent monitoring for moisture and dampness**. Can be used for insulated pipes with copper sensors in conjunction with **BS-1637 section units** and **BRANDES central monitoring systems**.

- **BS-1246-37 GSM route detector** for centralised **monitoring of pipe networks**, equipped with copper sensors. The **BS-1246-37 GSM route detectors** are continuous monitoring devices for monitoring pipe routes equipped with **copper sensors (Nordic)**. If the insulation resistance falls below or exceeds the limits set individually for supply and return, an automatic message is sent to the higher-level **alerting control centre (BRANDES StatusDisplay)** via the **integrated GSM/GPRS modem**. In addition, status information and measured values for the recording of changes in insulation resistance (**trend recording**) can be requested from the control centre at any time.

- **BS-1637 section unit**

The measuring section is divided by using the **section units**. The quantity and thus the resolution of the section units can be varied. **A section unit always monitors supply and return together** and performs loop closure of the previous section via supply and return. The queried measurement data of the particular section unit is processed by the corresponding **route detector** or the **central unit**.

For new projects we recommend our original BRANDES NiCr solutions.



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