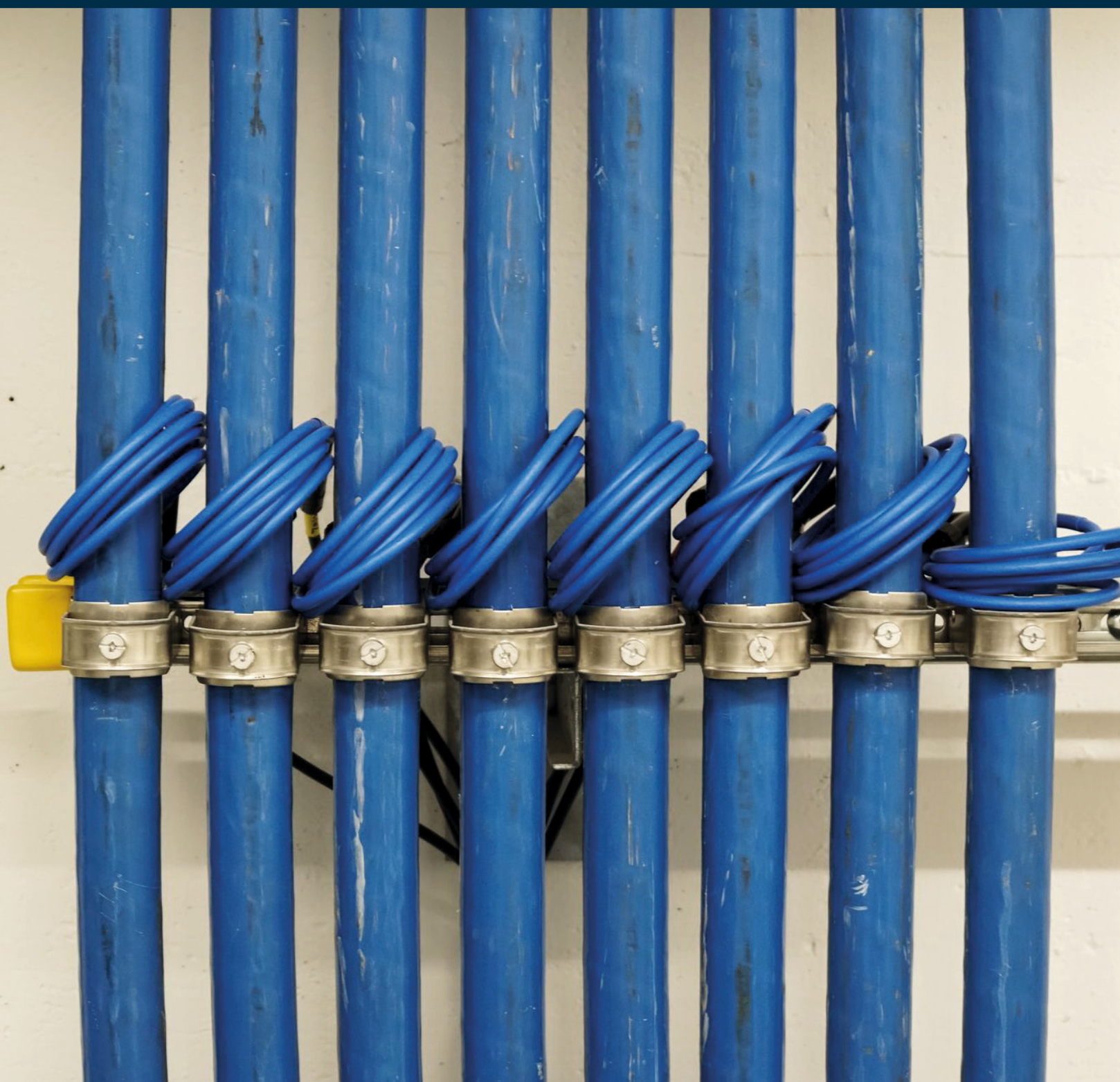
Rail Power Systems

Made in Germany

TracFeed® RCM

Monitoring system for return cables in DC railway applications



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Monitoring system for return cables in DC railway applications

Tasks of the return cable monitoring system

Return cables form the interface between the track return system and the traction substation, usually these are the tracks and the negative return feeder panel in the DC substation.

An undisturbed electrical connection is essential for safe and reliable rail operations.

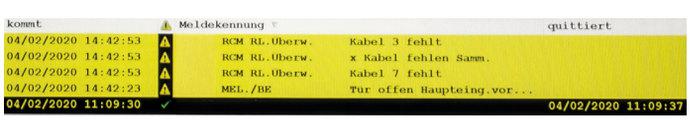
Due to their large cross-sections and large proportion of high-quality non-ferrous metals (copper and / or aluminium), these cables are particularly prone to theft, especially if the cables cannot be continuously buried.

In addition to the direct costs of loss of material and repairs, cable theft also causes high operational risks:

- **Restrictions in train operations due to a lack of power**
- **Changed potential distribution resulting in:**

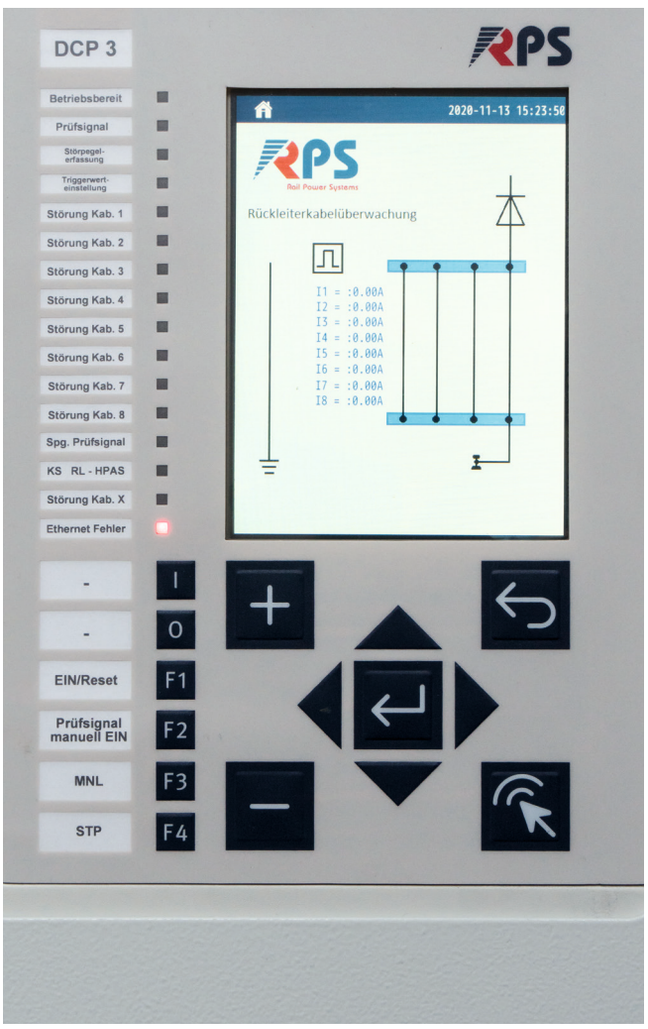
- Creation of inadmissibly high contact voltages
- Possible overloading of voltage-limiting devices due to frequent response
- Increased risk of stray current

Due to the widely distributed networks, it is impossible to prevent cable theft as such, but with rapid theft detection, the operational risks can be significantly reduced.



Messages in the station control system

The new product TracFeed® RCM supports this by cyclically monitoring the electrical condition of the individual return cable, both during rail operations and during operational breaks. Damage to the return cable, for example as a result of theft, is detected and reported to the control center within a few minutes.



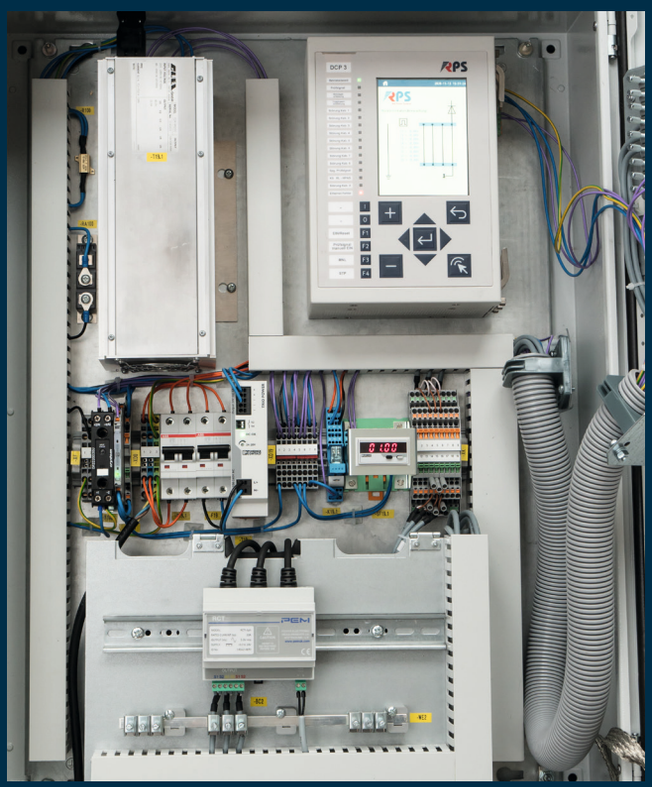
Evaluation and control unit
TracFeed® DCP3-RCM with automatic level detection

How the TracFeed® RCM works

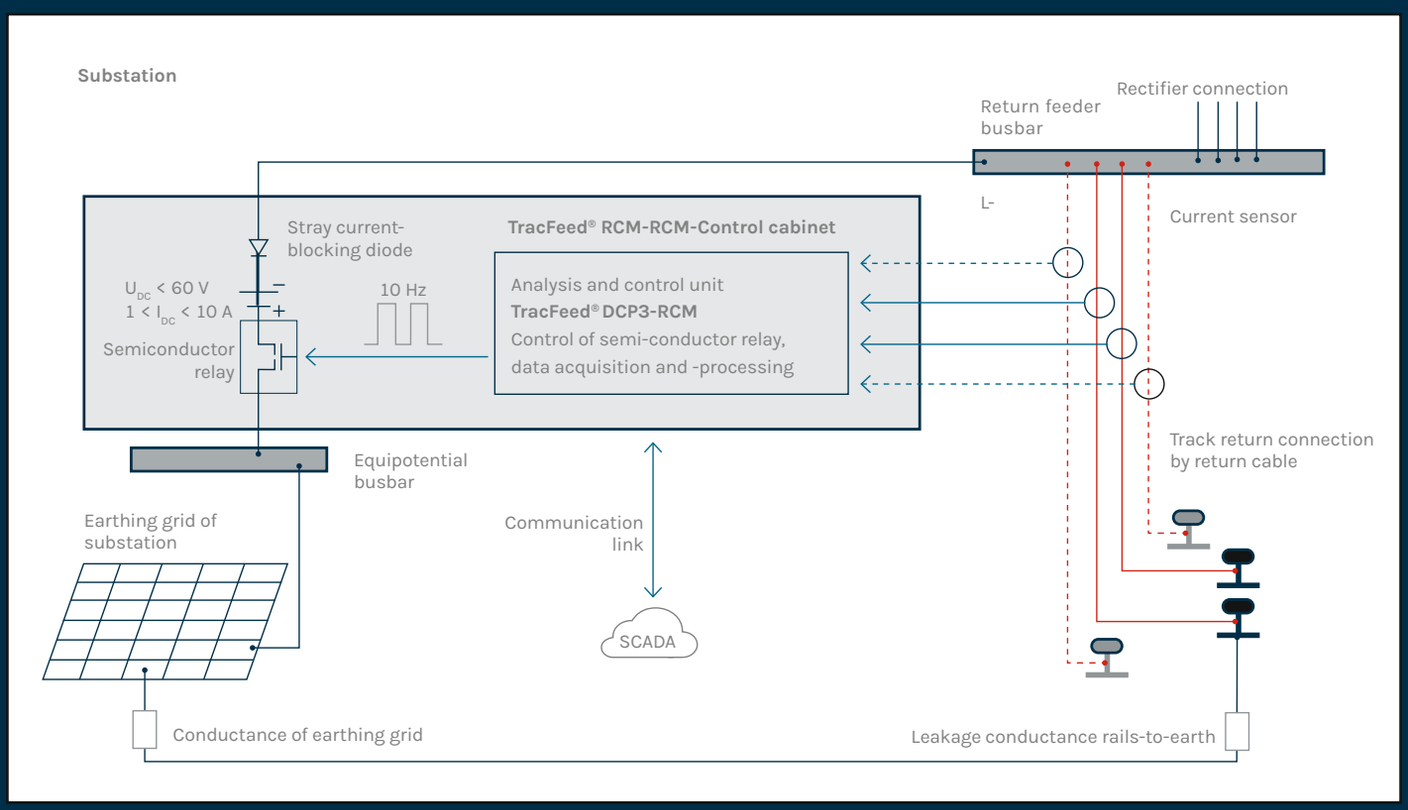
TracFeed® RCM consists of the RCM control cabinet and the current sensors around each return cable to be monitored. TracFeed® DCP3-RCM is the heart of the RCM control cabinet. It monitors the current sensors during

- Rail operation: the traction return currents
- Operational breaks: the periodically injected monitoring currents

TracFeed® RCM allows the monitoring of all commonly used types of return cables, with or without cable shield. Thanks to its simple and flexible design, it can be easily integrated into the DC rail power supply, even in existing systems. Preferably installed in vicinity to the return feeder panel, there is only one additional connection to the auxiliary power and the control system required.



Interior view of the TracFeed® RCM monitoring system control cabinet



Schematic diagram of the return cable monitoring system TracFeed® RCM

RPS/EN/433/0824

The specifications set out in this document apply to conventional applications. They do not represent performance limits.

This means that divergent specifications may be attained in specific applications. The contractually agreed specifications alone shall apply. We reserve the right to effect technical modifications.

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