

Comparison of NEW SmartKKS and CCP technology

Features	Conventional CCP technology	SmartKKS technology
CCP system can be controlled via remote access	✓	✓
Collecting measured CCP values and transmission to evaluation centre	✓	✓
Test directives: CE, VDE, AfK, EMC	✓	✓
Time synchronisation DCF77, GPS	✓	✓
Detection of external contact, e.g. impacts from excavator bucket	✗	✓
Economical set-up of remote CCP monitoring as per DVGW Code of Practice GW 16, Category 2c	✗	✓
Continuous, non-stop measurement and evaluation of all electrical signals on the pipeline	✗	✓
Separate evaluation of the electrical signals on the pipeline by disturbance parameters and the proportion caused by the CCP	✗	✓
Smart control of the CCP protective current on pipelines affected by induced AC voltage	✗	✓
Remote access at any time	✗	✓
Data transmission with remote access via GPRS/UMTS wireless communication	✗	✓
Data transmission with remote access via Ethernet, fibre optic cabling	✗	✓
Logger function via remote access	✗	✓
Parametrisation, software updates, data access, control: On site via display input, notebook, tablet, smartphone Remote access via PC, tablet, smartphone with Internet access	✗	✓
Server-based evaluation platform with interfaces to other software products including user administration and data export	✗	✓
Modular design of power electronics and measurement technology for individual requirements	✗	✓

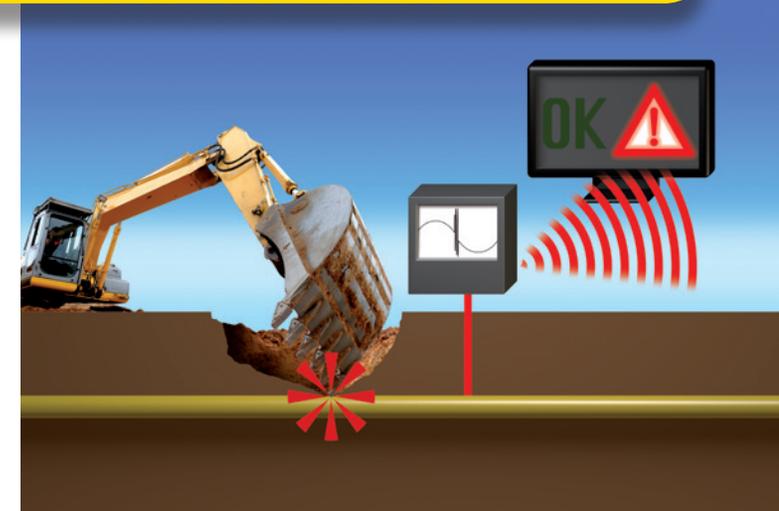
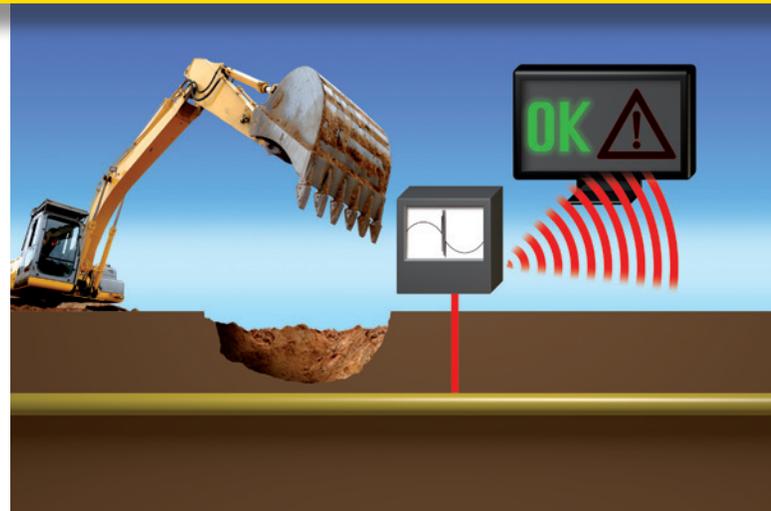


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Make your feel secure
**The Smart Remote
 CCP Monitoring Technology**



The SmartKKS system, an RBS wave development, opens up completely new possibilities for remote CCP monitoring and in the remote control of CCP protective current units to pipeline operators, increasing the safety in operating cathodically protected buried pipelines.



A quick and reliable localisation of defects in buried pipeline networks caused by external impact is of great importance to public utilities, as it directly affects security of supply. The new generation of the SmartKKS system, engineered by RBS wave, ensures this security. The system consists of a CCP protective current unit for an open and closed loop control of the CCP protective current on the one hand and an innovative, powerful and smart measurement technology on the other.

This combination ensures reliable corrosion protection, capturing all CCP measurement parameters as well as all external voltages and currents which affect a pipeline.

With this set-up, the SmartKKS system is capable of detecting external impacts on a cathodically protected buried pipeline, such as from an excavator bucket, any time and transmitting the event immediately as an alarm message to a control centre.

What's more, the SmartKKS system now allows network operators to implement a remote CCP monitoring system according to DVGW GW 16, Category

How the new SmartKKS system works



2c on many pipelines for which this is impossible with the available conventional technology.

The SmartKKS software platform offers a convenient option of operating the SmartKKS system. The configuration of data evaluation and storage, the graphical representation of the measured parameters as well as the control and parametrisation of the installations can be customised for different user groups and implemented from any location via network-based technologies, such

as Internet access. Since it is an open software system, it is basically possible to also operate remote monitoring systems of other software developers.

In addition, the software platform has also been designed to allow a relatively easy integration into software systems which are established at network operators (e.g. GIS, etc.).