

Contents

Inside this issue

Test collision control with advanced ABB technology 6

Börje Johansson

At Volvo's new crash test laboratory in Gothenburg, Sweden, cars are programmed to collide with the highest precision on tracks engineered by ABB. The tests – involving almost every conceivable kind of car crash – could have important consequences for road safety in the future.



Page 6
Collision test control

Improving power quality monitoring for utilities 12

David Hart, David Uy, Damir Novosel, Steven Kunsman, Carl LaPlace, Marco Tellarini

ABB implants intelligence and Web-based interrogation capability in traditional relays and distribution control equipment so that customers can access power information at many points in the grid instead of having to rely on dedicated monitoring devices.

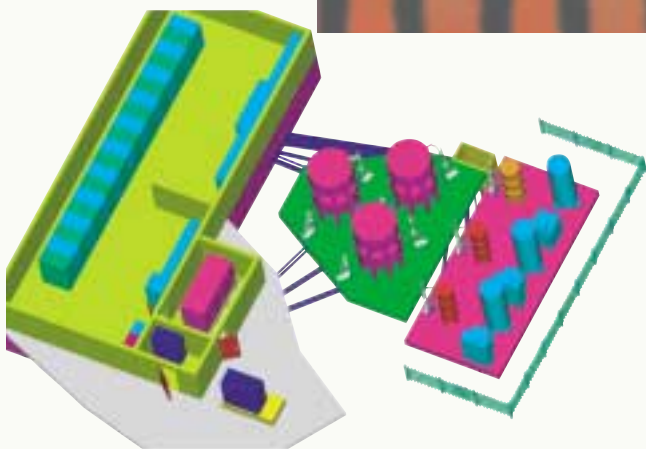


Page 12
Improving power quality monitoring for utilities

Power NetAnalysis: Optimizing industrial networks 20

Lars Hartung, Thomas Eulitz, Wolfgang Biergens

Industrial networks, already complex by nature, are constantly being modified as industry keeps pace with changing markets. Optimizing processes and improving performance, however, can often lead to more energy being consumed. Power NetAnalysis helps industry to identify weak points in its power networks.

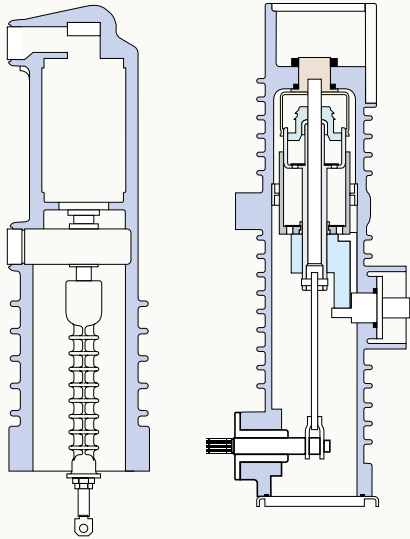


Page 20
Optimizing industrial networks

SF₆ or vacuum? Choosing the right MV circuit-breaker 26

Guenter Leonhardt, Mauro Marchi, Giandomenico Rivetti

A decision in favor of one or the other switchgear technology can depend on a variety of factors. With its vast storehouse of know-how and experience, plus an unrivalled knowledge of the marketplace, ABB is able to give unbiased advice and assistance to customers searching for the circuit-breaker that best suits their needs.



Page 26
Choosing the right MV circuit-breaker



Page 35
High-performance cable technology



Page 45
Power equipment life management

Page 55
Slug flow in offshore pipelines



High-voltage cable technology

35

Björn Dellby, Gösta Bergman, Johan Karlstrand, Johannes Kaumanns

Modern cable systems based on cross-linked polyethylene (XLPE) can successfully compete with overhead lines, while submarine cables with integrated optical fibers and flexible joints can be supplied today in longer lengths than ever before.

Condition-based evaluation:

45

A new platform for power equipment life management

Nicolaie L. Fantana, Lars Pettersson

Condition-based evaluation helps electric utilities decide if and when installed power equipment, such as a power transformer, needs to be repaired, replaced or upgraded to maximize operation and profit.

Taming slug flow in pipelines

55

Kjetil Havre, Karl Ole Stormes, Henrik Stray,

The development of slugs of liquid in multiphase pipelines is a major, and expensive, headache for oil producers. A prototype feedback control algorithm developed to remove terrain-induced slug flow in a North Sea pipeline has been operating since January 2000 – with interesting results.

R&D Digest

64

- Photovoltaic inverter makes use of standard ABB equipment.
- New business decision model for R&D projects.
- Automated test floor speeds up testing of distribution transformers.
- Cyclone technology for single-stage offshore separation of production fluids.
- New lab provides dedicated experimental facilities for gas, oil and automation research.

News

68

ABB building technology ■ Indoor HV substations ■ Offshore gas project ■ Electrical equipment for cement plant ■ Telecom infrastructure ■ Switchgear and cable order ■ Wind power plant equipment ■ Drives and controls for printing works

www.abb.com/abbreviow