



Smart CP

New CP contactor series with additional functions
Concept study

Smart CP - Concept study contactor CP series with additional functions

In the future, powerful contactors with integrated sensors and intelligence will play an important role in ensuring system safety and reliability in highly complex systems. Schaltbau's smart contactors can provide a solution for the growing requirements of modern DC and AC applications for supplying critical systems

and infrastructures. Equipped with modern measurement technology, smart devices will monitor physical variables in real time directly on the main contact system and communicate with a higher-level control system.

The concept consists of a well-proven CP power contactor, expanded to include voltage and current measurement as well as the acquisition of additional measurement data. This increases reliability and availability thanks to predictive maintenance based on findings from operational

data and analyses. Data acquisition and processing turn the classic switching element into an intelligent component that can recognise and evaluate operating states and trigger actions independently. Additional functions can be realised through software updates.

Smart Contactor

Mechanical Contactor

Measurement
Data Analysis
Communication

Features and application

Smart contactor: Active, condition-based measurement data acquisition on main contact system

- Measurement of voltage at both terminals against reference terminal
- Non-contact current measuring directly at the terminal
- Predictive maintenance for enhanced reliability and availability thanks to data acquisition and analysis
- Communication with Modbus RTU RS-485

Innovative design

- DC bi-directional or AC up to 60 Hz max.
- Effective arc handling - no critical current range and only reduced wear on the main contact system thanks to permanent magnetic blowout
- High making and breaking capacity and a high short-time withstand current

Main contact system

- 1 pole NC contact, NO contact, disconnect or changeover switch
- Conv. thermal current: 600 A, 800 A or 1,000 A
- Nominal voltage: 1.5 kV
- Double-break contacts

Main contactor, optional with pre-charging contactor and high-voltage discharging contact for:

- Traction converters
- Inverters for auxiliary equipment



Schaltbau products are found in rail vehicles all over the world, ensuring safety and comfort for passengers and goods under tough railway operating conditions: they switch, connect and control electrical systems, and meet all requirements for quality, reliability and service life. Our goal is to support railway operators with sustainable transport solutions which help increase energy efficiency and reliability while minimizing downtime and maintenance costs.