

Testing Of Circuit Breaker

6. Dynamic Resistance Measurement (DRM)

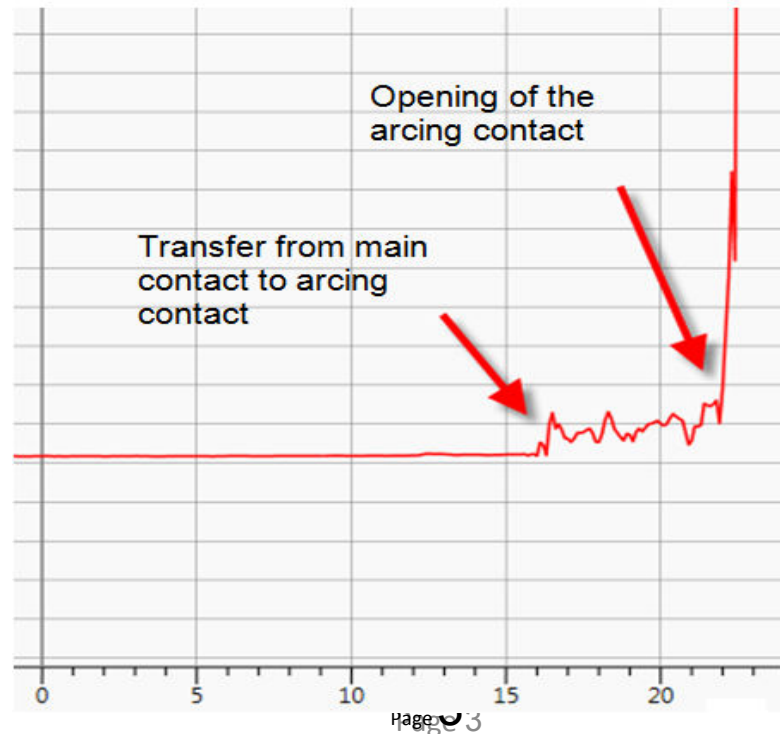
- > Recording the contact resistance during breaker operation (resistance over time)
- > Combination of contact resistance, timing and travel measurements

1. Inject high current
2. Start recording A & V
3. Operate Circuit Breaker
4. Calculate Resistance

6. Dynamic Resistance Measurement (DRM)

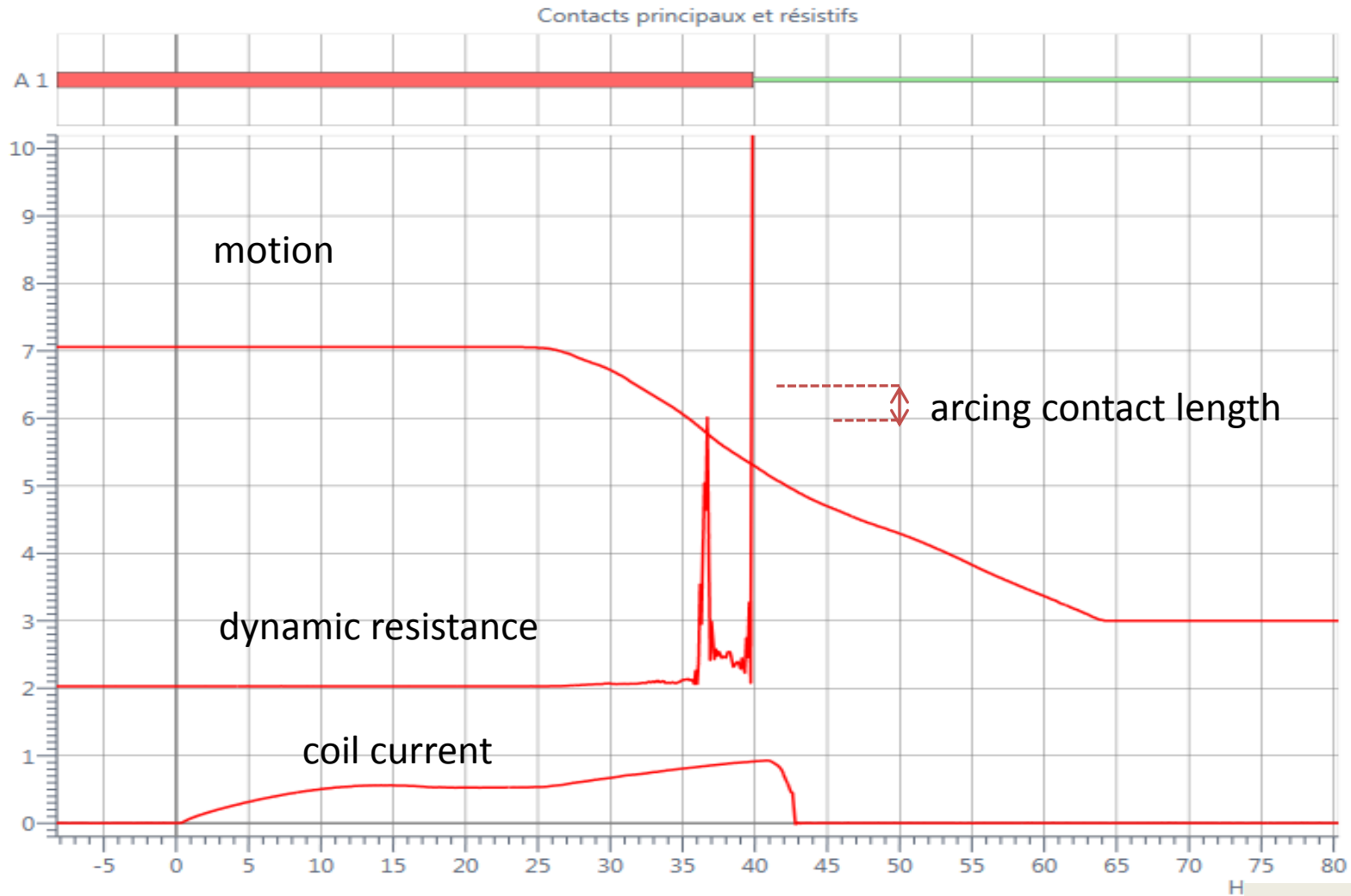
Use DRM to find out

- > Problems with contact fingers
- > Lubrication problems
- > The arcing contact length



6. DRIM Diagnosis: arcing contact length

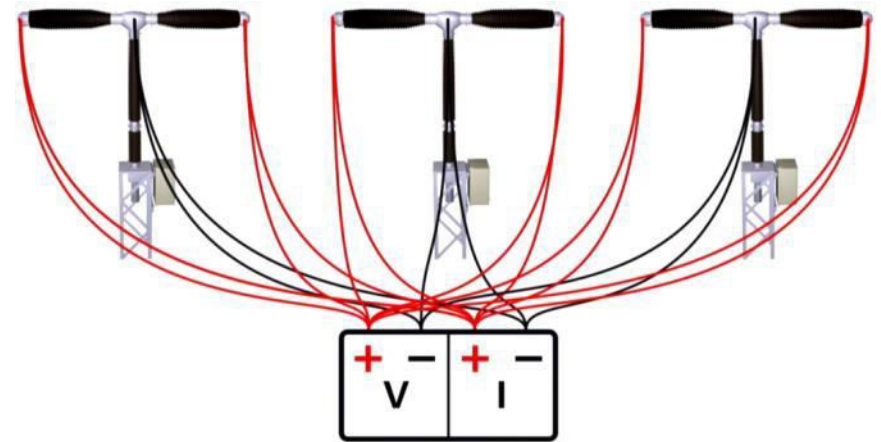
main contact



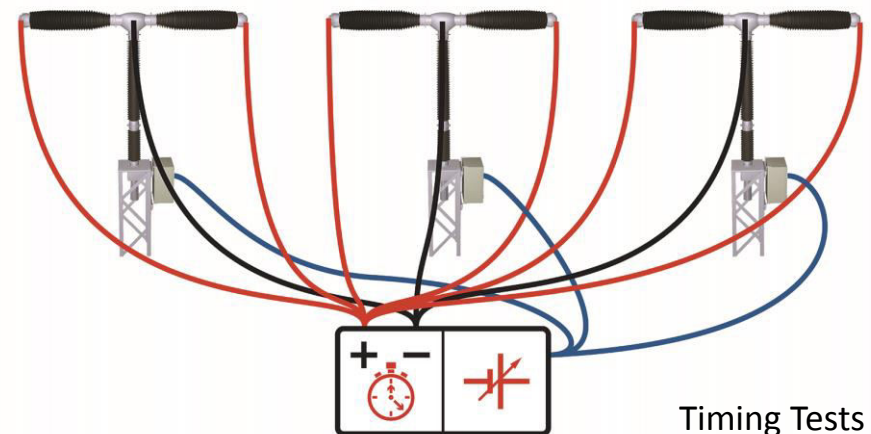
ms

Conventional Setup for Circuit Breaker Testing

- > Rewiring between micro-ohm measurement and timing tests
- > Lots of cables
- > Time-consuming and error-prone
- > Long test cables create inductive loops which catch interferences
- > External supply or station battery required



Micro-ohm measurement



Timing Tests

CIBANO 500 – 3-in-1 Test System

- > **Timing analyzer**
 - > Possible operations: O, C, CO, OC, O-CO, CO-CO, O-CO-CO
 - > Motion measurement is possible in parallel
- > **Micro-ohm meter**
 - > Static AND dynamic contact resistance test
- > **Powerful coil and motor stabilized supply**
 - > Coil/motor current analysis
 - > Undervoltage condition test
 - > Minimum pick-up test
 - > Tests are possible without station battery

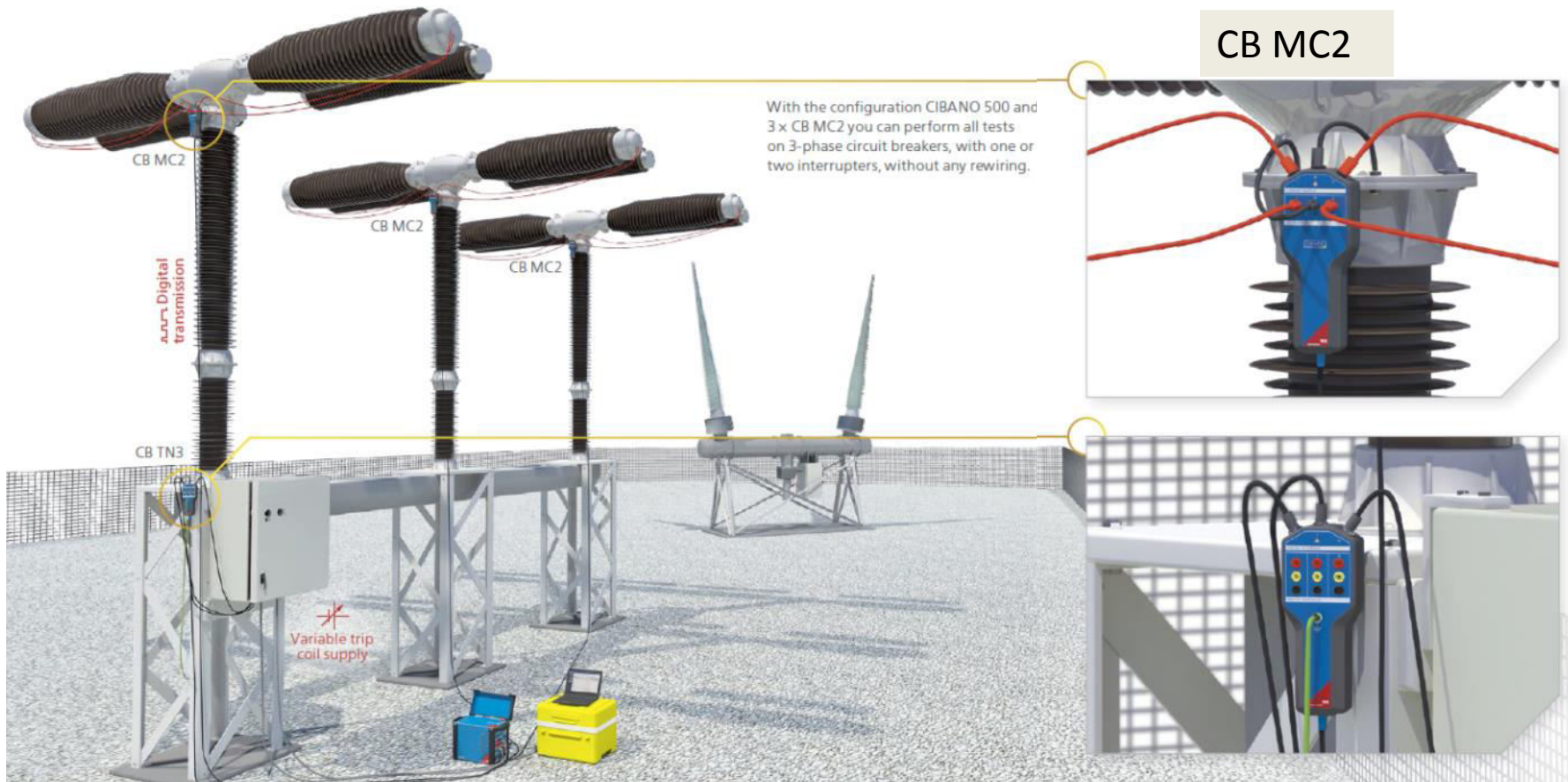


CIBANO 500 – one system for all types of breakers

- > **Medium-voltage circuit breakers**
- > **High-voltage circuit breakers (Live Tank)**
- > **High-voltage circuit breakers (Dead Tank)**

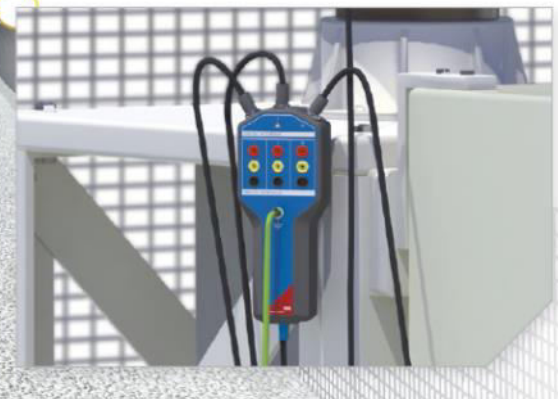
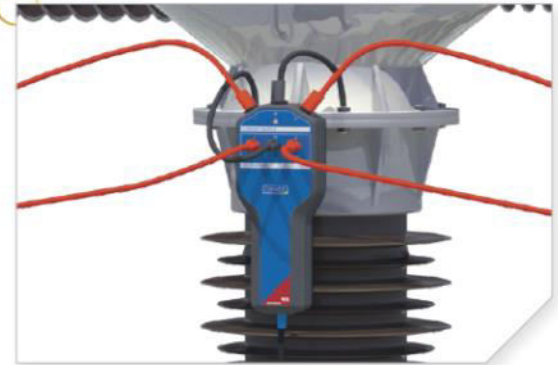


Unique connection concept



CIBANO 500

CB MC2



CB TN3