



Tests according to  
DIN EN 60947  
DIN EN 61439

## COMPONENT TESTING

# ELEC. TESTING OF SWITCHGEARS AND ASSEMBLIES OF SWITCHGEAR AND CONTROLGEAR

Your partner for development and type tests with a comprehensive service portfolio starting with short-circuit tests over operating behavior up to insulating behavior.

Across all industries sectors, we cover the test areas of renewable energies, automotive / e-mobility, railway applications and beyond.



# HIGH PERFORMANCE TEST FIELD

The modern high performance test field provides versatile test applications up to 25,000 A, such as switching capacity, operating behavior, electrical lifetime and short-circuiting.



## TYPICAL DEVICE GROUPS

- Circuit breaker, switch-disconnector and transfer switching equipment
- Fuse-combination units
- Relays, contactors and motor starter
- Terminal blocks and connections
- Heavy connectors
- High current components automotive
- Switchgear and controlgear assemblies

	switching capacity / operating behavior / electrical lifetime	short-circuit
Test voltage	Test current	
AC up to 800 V	up to 15,000 A	up to 25,000 A*
DC up to 1,100 V	up to 15,000 A	up to 20,000 A*
Load type	ohmic, inductive	

\* up to 0.06s or when protected with fuses or another protective device

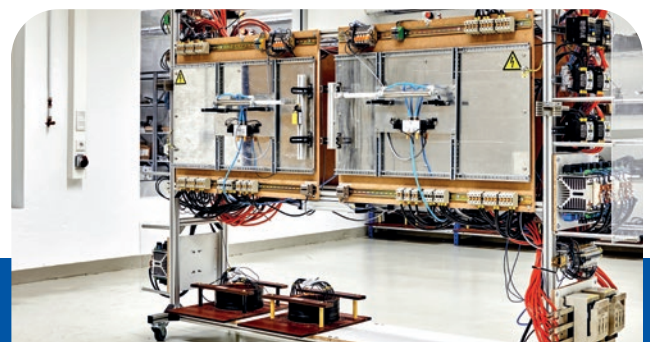
# LIFETIME TESTING

Flexible applicable test fields (16 specimen/test field) for electrical, pneumatic and hand-operated switching devices are available for testing of electrical and mechanical lifetime, operating behavior as well as making and breaking capacity.

## TYPICAL DEVICE GROUPS

- Control circuit devices, proximity switches, alarm switches
- Relays, motor starter
- Fuse-combination units
- Contactors

Test voltage	Test power level	Test current
AC up to 1,000V	140kVA	up to 200 A
DC up to 1,300V	140kVA	up to 200 A
Load type	ohmic, inductive	



# HEATING AND CONTINUOUS CURRENT TESTS

Automated test field with wide-ranging test possibilities for switchgears and assemblies of switchgear and controlgear:

- Continuous data acquisition of:
  - Temperature
  - Current
  - Voltage (Determination of partial and total power loss)
- Cyclical current control (intervals/cycles)
- Superimposition with climate testing

## TYPICAL TESTS

- Heating and continuous current testing
- Overload testing of devices with fuses and thermal release
- Determination of derating curves (current can get controlled up to target temperature, for example at connection area)



Alternating current*	up to 2,000 A (3-phase) up to 5,000 A (1-phase)	controlled
Direct current*	up to 2,000 A	controlled

\* Testing at low voltage  $\leq 5$  V

# INSULATION TESTING

- power-frequency withstand voltage up to 5 kV AC
- impuls withstand voltage up to 24 kV;  
1.2  $\mu$ s/50  $\mu$ s (36 Joule)



# FURTHER TESTING POSSIBILITIES

- Creepage distances and clearances
- Mechanical test rigs force-distance
  - Strength operating units/misapplication forces
  - Mechanical strength of contact points
  - Bending tests
  - Tensile tests
- Protection type testing (IP-code)/ touch protection
- Climatic tests (temperature/humidity), compatible with other tests
- Vibration/shock testing
- Glow-wire testing/flammability

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## PUTTING THE WORLD TO THE TEST

IMA Materialforschung und Anwendungstechnik GmbH (IMA Dresden) is an internationally operating company for engineering services and scientific-technical consulting around qualification, validation and monitoring of materials, components and products. Located between research and industry, we will accompany you, if desired, along the entire development of a product with comprehensive engineering competence. As we work in many sectors involving traffic engineering, plastics and metal industry and others, we can offer you a head-start with our comprehensive know-how.

We work according to German, international standards and we are certified according to DIN EN 9100 and ISO 14001. Nearly all relevant test laboratories are accredited according to DIN EN ISO/IEC 17025. The test labs have most modern test-, measure- and control technology over an area of more than 10,000 m<sup>2</sup> test field.



The testing services of Applus + IMA (IMA Materialforschung und Anwendungstechnik GmbH) are accredited in accordance with the DAkkS accreditation certificate.



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## BENEFIT FROM THE COMPETENCE OF IMA DRESDEN FOR YOUR PRODUCTS OF ELECTRICAL ENGINEERING.

As an independent test provider we guarantee reliable results and strict confidentiality. Our credo of thinking and acting like our customers was not carelessly formulated. It contains an earnest pursuit of engineering perfection, which merges intelligent solutions with sustainable usable result at fair prices. This, of course, also includes the flexibility to respond to all kinds of request and, in doing so, to provide peak performances which are not possible elsewhere. Each of our employees bears a portion of this responsibility.

Please do not hesitate to contact us for any questions or inquiries at [ima@ima-dresden.de](mailto:ima@ima-dresden.de)

