UFCL® Ultra Fast Current Limiter

The fastest limiting and switching device in the world

For systems rated 3.6~40.5kV

and continuous currents through 6300A

Functions

As demand for electricity has grown along with the need for increased system reliability, utilities have added generation and built interconnections to more tightly mesh their networks. Upgrades such as these result in higher fault current levels. As fault levels increase, the ability to interrupt the fault currents and the ability of stationary equipment to withstand the forces associated with them become a concern. Utilities have long employed a variety of fault current mitigation systems and techniques such as fault current limiting reactors, complicated operating schemes and the use of over-rated equipment. However, each of these approaches has distinct drawbacks.

UFCLs are ideal for locations in the grid where high fault currents are approaching or exceeding existing equipment ratings. They limit fault currents starting with the first half-cycle peak, the maxi. instantaneous current occurring remains well below the level of the peak, which thus allowing for more secure and reliable grid operations.

- Reduces substation cost
- Solves short-circuit problems in new substations and substation extensions
- Optimum solution for interconnection of switchboards and substations
- In most cases the only technical solution
- Reliability and function proofed in lots of installations
- The peak short-circuit current will never be reached
- The short-circuit current is limited at the

Features

- Conform to IEC 62271.200 and other standards
- Indoor or outdoor application
- Can also be mounted in a metal-clad switchgear panel
- High duration with climate, land or offshore, cold winter or hot summer
- Easy to be installed and maintained, save money
- High reliability proofed in lots of installations

Stability
Reliability
Proven

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Ultra Fast
Big Capacity

In case of unduly high peak short-circuit currents CB cannot provide any protection, as they are too slow (3~5 cycles). UFCLs are capable of detecting and limiting fault at the first half rise, i.e. in less than 1 ms. The maxi. instantaneous current occurring remains well below the level of the peak.

Benefits

In comparison with complex conventional solutions, the UFCLs have both technical and economic advantages when used in transformer or generator feeders, in switchgear sectionalising, and connected in parallel with reactors. All applications have common benefits as below:

- UFCLs are capable of limiting short-circuit current at the fault point
- No need to upgrade existing underrated switchgear and cables

1. UFCL bypasses a current limiting reactor
   - Avoids current dependent copper losses and the associated operating costs of the reactor
   - Avoids current dependent voltage drop at the reactor, which frequently causes major difficulties on start-up of big motors
   - Control problems with the generator

2. UFCL in system interconnections
   - Reduction of the series network impedance.
   - The voltage drops caused by load surges (e.g. of starting of motors) can be significantly reduced.
   - Improvement of the current distribution at the feeder transformers.
   - The load dependent losses of the feeder transformers are reduced.
   - Increased reliability of the power supply

3. UFCL in generator feeder
   - Generator can be connected independent on the short-circuit capability of the system
   - Existing busbar and cable systems have not to be changed
   - No need of expensive generator breaker

4. UFCL in the incoming of a huge capacity transformer
   - Cost effective over-current protection solution to keep the critical assets of transformers safe

Warranty and Services

- Products designed for a 20-year in-service life
- Providing support through the entire product life cycle, from the pre-sales phase all the way to the engineering, commissioning and maintenance phases.
- Products in the obsolete phase may still be technically supported
- Periodic maintenance and inspection service is available
- 24-hour technical product support from our customer care centre

Power the world with smarter technology

Talk to us

- Solving your most complex power challenge
- Enhancing your competitive advantage
- Improving your system's performance, reliability and profitability

Specifications

Rated voltage	kV	3.6	7.2	12	24	40.5
Rated current	A	630/1250/1500/2000/2500/3150/4000/5000/6300			1600/3150	
Frequence	Hz	50/60				
Breaking capacity	kA	up to 200				
Rated power-frequency withstand voltage	kV	25	32	42	50	95
Rated lightning impulse withstand voltage	kV	40	60	75	125	185
Mounted type		UFCL installed as loose equipment indoor or outdoor				
		UFCL fix mounted in an AIS cubicle indoor				

Our customers

www.innovit.com.cn

sales@innovit.cn