

DT1-362

Dead Tank Circuit Breakers for 362 kV

Due to its robust design, the DT1-362 is a highly reliable circuit breaker even under the most severe operating conditions and is tested to meet or exceed IEEE/ANSI and IEC standards, including the more difficult aspects of the IEEE/ANSI 2009 standards.

Unique Performance

The DT1-362 is suitable for applications up to nameplate ratings, including definite purpose ratings and is qualified under the latest IEEE/ANSI and IEC standards as C2 class for capacitor switching (very low restrike probability) and reactor switching applications. Our spring-spring-operated mechanism and extensive mechanical design testing to 10,000 operations and class M2 certification ensure trouble-free operation for the lifetime of the circuit breaker.

Certified Quality

GE Vernova designs, manufactures, tests, and delivers its circuit breakers in accordance with IEEE/ANSI and IEC standards, maintaining a quality assurance system according to ISO-9001 and ISO-14001. The competence center for dead tank circuit breakers is located in Charleroi, PA (USA).

Leading Gas Testing

Every DT1-362 breaker produced by Grid Solution is subjected to a rigorous SF₆ gas tightness testing protocol. Our state-of-the-art testing system validates the gas integrity of every circuit breaker in the as shipped condition with bushings installed. This proprietary system provides quantifiable evidence of our <0.5% guaranteed leak rate in the exact configuration in which the breaker is delivered to you.

Enhanced Transportation, Installation, and Maintenance

The circuit breaker design is enhanced for quick and easy installation at site. Where truck shipments are possible, individual poles are shipped with bushings and the operating mechanism assembled. In this case, site work involves installing the poles on the common supporting frame and making the necessary low-voltage electrical connections. Each phase is factory set to the proper position, eliminating the need for complex rigging at site.

The DT1-362 is factory tested and adjusted. It does not need any special tools for installation. The option of slip-over bushing current transformers is also available. Due to the low-energy mechanism and lifetime lubricants, every circuit breaker in the DT1 series is virtually maintenance-free.

The DT1-362 is qualified for controlled switching of shunt capacitors, shunt reactors, transformers and unloaded lines with the addition of a point-on-wave controller relay. The DT1-362 can also be equipped with Pre-Insertion Resistors (PIRs) and parallel surge arresters for reactor switching.



Options

The DT1-362 can be supplied with many customized options such as:

- Pre-Insertion Resistors
- Point-on-wave controller relay
- Parallel surge arresters for reactor switching
- Composite or porcelain bushing insulators
- On-line condition monitoring
- Wide phase spacing

Main Characteristics

- Advanced self-blast interrupters
- Leak-resistant single-piece cast aluminum enclosures
- Durable low energy spring/spring-operated mechanisms
- More than 100,000 circuit breakers with self-blast interrupters and FK spring/spring-operated mechanisms in service since 1989

Key Benefits

- SF₆ gas tightness guarantees high performance ratings
- Reliability under the most severe conditions
- Design customization
- Virtually maintenance-free
- Easy to install



GE VERNOVA



Technical Data

	VALUE	UNITS
SF ₆ pressure	67/0.46	psing/Mpa
Motor	1,600	watts
Close coil/Trip coil	440/440	watts
Ambient temperature range*	-40 to +50	°C

	VALUE	UNITS
Seismic capability*	up to 1.0	g
Creepage distance*	230/5.940	inches/mm
Weight (without CTs)	15,000/6,804	lb/kg
Weight of SF ₆	420/191	lb/kg

* Optional values available on request.

Ratings

IEEE/ANSI	IEC	VALUE	UNITS
Rated maximum voltage	Rated voltage	362	kV
Rated power frequency	Rated frequency	50/60	Hz
Rated dielectric withstand capability: • dry withstand	Rated insulation level • at power frequency, dry	555	kV
Rated lightning impulse withstand voltage	at lightning impulse	1,300	kV
Rated chopped wave impulse voltage 2us		1,680	kV
Rated switching impulse		900	kV
Rated continuous current	Rated normal current	3,000/4,000/5,000	A
Rated short-circuit current	Rated short-circuit breaking current	40/50/63	kA
Rated closing, latching and short time carrying current		170	kA
	Rated short-circuit making current	170	kA
Rated capacitance switching*		500	A
	Rated single capacitor bank breaking current	500	ms
Rated interrupting time		2	cycles
	Rated break time	33	ms
Rated standard operating duty	Rated operating sequence	O-0.3s-CO-15s-CO	

*Ratings available upon request.

**Contact Grid Solution for special purpose, operating voltage, generator synchronizing, high TRV, high X/R or other rating requirements.

Gas Data

The functioning of this equipment relies upon SF₆, a fluorinated greenhouse gas.

	DT1-362 SF ₆	DT1-362R WITH PIR SF ₆
Average mass of gas/mixture in the equipment (kg)*	182	284.4
GWP ₁₀₀ of gas/mixture (CO ₂ -equivalent)	24,300	24,300
CO ₂ -eq of gas/mixture in the equipment (t _{co2-eq})*	4,422.6	6,910.9

* For information purposes only. It varies depending on the equipment considered.

For more information, visit
gevernova.com/grid-solutions



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