

DD Frame - Series Miniature Circuit Breakers



The DD Frame is a compact yet very powerful circuit breaker. Using the hydraulic-magnetic technology which ensures that the breaker performance is unaffected by ambient temperature, the CBI DD Frame series is suitable for various applications in telecom and datacom equipment. These applications include being the main breaker for battery applications, power supplies, distribution breaker for larger loads in DC branch protection, lighting control, UPS, inverters and DC power switching and in power distribution units (PDU). The DD Frame is also available as a switch.

Due to its robustness and ability to withstand harsh environmental conditions, the DD Frame breaker is also used in military applications, railway infrastructure, railway signalling and rolling stock and also in renewable energy solutions for protection in combiner boxes and other battery and storage applications.

DD Frame profile

The DD Frame is available in various configurations and can be structured to suit specific requirements. Available in 1 to 6 poles, this robust and versatile circuit breaker comes in both AC and DC configurations with a choice of various time delay characteristics.

Among the common configurations are the front mount standard handle, rocker handle, flush rocker handle options. As for the termination, Metric and imperial stud terminals, plug-in (bullet terminal), screw, and clamp terminal configurations are available. The breaker comes with the options of having an auxiliary switch and trip alarm. Customer specific configurations, DIN Rail mount and various other options are available.

The DD Frame compact and precision circuit breaker is made of high quality thermoset material, which offers increased electrical and mechanical endurance. The self-cleaning mechanism of the contact actuators ensures that the circuit breaker contacts are kept clean and operate smoothly, offering longer life span.

Approvals

The DD Frame circuit breaker is CE certified and carries various approvals such as VDE, cURus, CSA, EAC and CCC. It is also recognised to UL 1077, UL 1500 and UL 508, and listed to UL 489 and UL 489A.



Note:

The DD Frame replaces CBI's old version of the D Frame, and is similar in fit and form, with enhanced features.

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Features

- AC and DC circuit breaker
- Hydraulic-magnetic technology
- 100% rating capability independent of ambient temperature
- Up to six poles
- VDE, EAC and CCC approved, CE certified
- UL compliant (listed / recognised)
- Ratings 0.1 to 100 A AC and 400 A DC (specific certifications)
- Precision tripping characteristics
- Wide range of circuits, mountings, terminations and time delays
- Two colour handle indication (two tone flush rocker)
- Optional mid-trip indication (standard handle)
- Optional auxiliary switch and trip alarm

Applications

- AC and DC branch circuit installations
- Power conditioning
- Telecom DC power distribution
- Alternative energy equipment
- UPS equipment
- Lighting control
- Mobile power generation equipment
- Battery protection

DD Frame HRC (high current rating)

CBI-electric: low voltage has developed a higher current rated product, capable of handling current ratings up to 125 A in a single pole and 250 A in a two pole configuration.



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Technical Data

Product Type	DD Frame
Operating Temperature Range	-40 °C to +85 °C
Endurance	10000 operations - 1500 electrical at rated current and voltage (IEC 60934) 6000 electrical operations (UL 1077)
Dielectric Strength	1000 - 2000 V, 50 Hz for one minute after testing (IEC 60934)
Weight	100 g per pole (unpacked)
Humidity	35 to 85% relative
Altitude	Certification tests done at altitude ≈ 2000 metres. Will operate at higher altitudes.
Shock	100 G to MIL-STD-202G, test method 213B, test condition 1
Vibration	10 G to MIL-STD-202G test method 204D, test condition A
Flammability	I2 - No ignition at 850 °C with an oxygen index of ≥ 32
Toxicity	F1 - Smoke index of ≤ 20 which determines the fume class
Pollution Degree	PD2 - Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected.

Product Type	Circuit Breaker	Circuit Breaker	Circuit Breaker
Approvals	UL 489, CSA	IEC / EN 60947-2, VDE, CE, CCC	UL 489A, IEC / EN 60947-2, VDE, CE
Number of Poles	1, 2, 3	1, 2	1, 2 - 5 (parallel)
Maximum Voltages	120 V AC, 120 / 240 V AC, 240 V AC, 80 V DC	240 V AC, 80 V DC	80 V DC
Current Ratings	0.1 - 80 A AC, 0.1 - 100 A DC	0.1 - 50 A AC, 0.1 - 100 A DC	20 - 40 A
Interrupting Capacity	5 kA (240 V AC), 10 kA (DC)	10 kA (120 V AC)	10 kA (DC)
HIC	10 kA up to 20 A		

Product Type	Circuit Breaker	Circuit Breaker	Switch
Approvals	IEC / EN 60934, VDE, CE	UL 1077, CSA, cURus	UL 508, IEC / EN 60947-3, VDE, CE
Number of Poles	1 - 4	1 - 4	1, 2
Maximum Voltages	240 / 415 V AC, 80 V DC	277 / 480 V AC, 80 V DC	120 / 240 V AC, 240 V AC
Current Ratings	0.1 - 100 A (1 p), 0.1 - 70 A (2 - 4 p)	0.1 - 100 A (1 p), 0.1 - 70 A (2 - 4 p)	15 - 50 A
Interrupting Capacity	3 kA (AC), 5 kA (DC)	2 kA (AC), 5 kA (DC)	0.6 kA (for 1 s)

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