



Magnum DS vs. Square D® Masterpact



This competitive comparison provides important information you can use to sell **Magnum DS Power Breakers** against **Square D® Masterpact Power Breakers**. This comparison is for the exclusive use of Cutler-Hammer Sales Engineers.

Head-to-head comparisons provide you with important information that will support your sales efforts...by helping to make your customers aware of the many unique Magnum DS advantages they should consider when specifying or buying low voltage switchgear and power breakers.

We designed this comparison to complement and expand the Magnum DS Power Breaker Product Aid (PA.22F.01.S.E), Magnum DS Switchgear Product Aid (PA.44A.01.S.E), and the Magnum DS Switchgear Product Brochure (B.44A.01.S.E).

Additionally, the following competitive comparisons are available comparing Magnum DS against:

- Cutler-Hammer DSII Power Breakers (CC.44A.04.S.E).
- Cutler-Hammer SPB Systems Pow-R Breakers (CC.22F.02.S.E).
- GE AKR Power Breakers and AKD-8 Switchgear; and WavePro Power Breakers and AKD-10 Switchgear (CC.44A.01.S.E).
- GE Power Break® II Insulated Case Circuit Breakers (CC.22F.04.S.E).
- Siemens SB Insulated Case Circuit Breakers (CC.22F.05.S.E).
- Siemens RL Power Breakers and Type R Switchgear (CC.44A.02.S.E).
- Square D® Power Breakers and Power-Zone® III Switchgear (CC.44A.03.S.E).

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Power Break is a registered trademark of the General Electric Corporation.

Magnum DS Low Voltage Power Circuit Breaker vs. Square D® Masterpact

Power Circuit Breaker

Key Breaker Feature	Customer Benefit	Magnum DS	Square D Masterpact					
1 Modular Design and Construction	Fewer parts provide for enhanced reliability and decreased maintenance.	Yes.	Yes.					
2 Interruption and Short Time (Withstand) Ratings	Complete offering of ratings provides customers with maximum selectivity and coordination of electrical distribution system requirements and application needs.	Highest available short circuit ratings and short time (withstand) ratings. 800-3200 ampere short circuit ratings up to 100 kA with short time ratings up to 85 kA. 4000-5000 ampere short circuit ratings up to 100 kA with short time (withstand) ratings up to 100 kA. (Refer to chart on page 4.)	Short time (withstand) ratings of 85 kA or above only on 4000 and 5000 ampere frames. 800, 1600, 2000, and 3200 ampere frames short circuit ratings up to 100 kA and short time (withstand) ratings up to 75 kA. 4000 and 5000 ampere frames short circuit ratings up to 125 kA and short time (withstand) ratings of 100 kA. (Refer to chart on page 4.)					
3 Three- and Four-Pole Offering	Common design for three- and four-pole breakers provides system flexibility for differing industrial applications.	Yes.	No. Four-pole fixed 5000 amperes. Three- and four-pole fixed 6300 amperes.					
4 Auxiliary Switches	Provide a capability to remotely indicate if the breaker door is opened or closed.	6 normally opened/6 normally closed.	4 normally opened/4 normally closed. Optional 24 additional auxiliary switches for drawout only. Must order separately.					
5 Contact Wear Indicator	Provides visual indication for status and inspection of contact assembly for wear.	Contact wear indicator on the main contact assembly can be visually inspected.	Contact wear indicator on the main contact assembly can be visually inspected.					
6 Controls and Status Indicators on the Front of the Breaker	Front panel display provides for viewing of trip unit and breaker status without opening the breaker compartment door.	User friendly, front-mounted trip unit status, contact status (opened or closed) and spring status (charged or discharged) indicators.	User friendly, front-mounted trip unit status (opened or closed) and breaker contact status (opened or closed).					
7 Trip Flag Indication	Indicates a fault trip.	Mechanical popout-type fault indicator separate from the trip unit. Does not require resetting for reclosure of the breaker.	Mechanical popout-type indicator mounted on the trip unit. Requires resetting for reclosure of the breaker.					
8 Frame Construction	Dimensional sizes provide for standardization and compactness.	Two physical frame sizes per drawout and fixed frames. Common depth and height across the family.	Four frame sizes in drawout. Five frame sizes in fix mount. Height and width vary.					
9 Field-Installable Accessories	Provide for easy mounting and wiring in the field.	UL listed field-installable kits. Accessories are plug-in and fit all frames.	Accessories are available. Not all are UL listed.					
10 Ability to Manually Charge Electrically Operated Breaker	A safety backup to allow for manually charging to reclose without the presence of control power or a field motor operator.	Yes.	Yes.					
11 Weight	Lighter weight provides ease of handling and installation.	110 lbs. to 310 lbs.	95 lbs. to 727 lbs.					
12 Dimensions	Smaller size provides for higher ratings in less space.	800-3200 ampere frame: 16.40" H x 15.40" D x 16.30" W. 4000-5000 ampere frame: 16.40" H x 15.40" D x 34.20" W.	800-5000 ampere frame: Dimensions within this range vary from 14" to 19" H x 11" to 14" D x 17" to 41" W.					
13 Trip Units	Magnum DS	Square D Masterpact						
Functions	Digitrip 220	Digitrip 520	Digitrip 520M	Digitrip 1150	STR 18M	STR 28D	STR 38S	STR 58U
LSIG Protection	Yes ^①	Yes	Yes	Yes	No ^②	Yes ^③	Yes	Yes
Disable (I)	No	Yes	Yes	Yes	No	No	No	No
GF Protection	No	Yes	Yes	Yes	No	No	Yes	Yes
GF Alarm	No	No	Yes	Yes	No	No	No	No
Display	No	No	Yes ^④	Yes ^⑤	No	Yes	Yes	Yes
Programmable	No	No	No	Yes	No	No	No	No
Metering	No	No	Yes ^⑥	Yes	No	Yes ^⑦	Yes ^⑦	Yes
Power & Energy Values	No	No	No	Yes	No	No	No	No
Relay Protection	No	No	No	No ^⑧	No	No	No	No
Waveform Capture	No	No	No	Yes	No	No	No	No
Power Quality	No	No	No	Yes	No	No	No	No
Communications	No	No	No	Yes	No	No	No	Yes

① Long and Instantaneous only.
② I only.

③ LI only.
④ One-line, (four characters per line) LCD display.

⑤ Three-line, (eight characters per line) LED display.
⑥ Phase, neutral, ground, and high load current only.

⑦ Current only.
⑧ Planned for future capability.

This literature provides a comparative analysis between Cutler-Hammer Magnum DS Power Circuit Breakers and Switchgear and those of other manufacturers based on the similarities and dissimilarities between product offerings. It does not replace Magnum DS product literature. Information contained in this literature about other power circuit breakers and switchgear is from material written and/or published, or made available by the manufacturers.

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ANSI Power Circuit Breakers – Industry Ratings Comparison Guide

Amperes	Voltage	Magnum DS Ratings in kA		Square D Masterpact Ratings in kA	
		Interrupting	Short Time (Withstand)	Interrupting	Short Time (Withstand)
800	240	42	42	50	42
		65	65	65	50
		85	85		
		130	85		
1600	240	65	65	50	50
		85	85	65	50
		130	85		
2000	240	65	65	65	50
		85	85		
		130	85		
3200	240	65	65	65	65
		85	85		
		130	85		
4000	240	85	85	100	100
		130	130		
5000	240	130	130	100	100
800	480	42	42	50	42
		65	65	65	50
		85	85		
		100	85		
1600	480	65	65	50	50
		85	85	65	50
		100	85		
2000	480	65	65	65	50
		85	85		
		100	85		
3200	480	65	65	65	65
		85	85		
		100	85		
4000	480	85	85	100	100
		100	100		
5000	480	100	100	100	100
800	600	42	42	50	42
		65	65	65	50
		85	85		
		100	85		
1600	600	65	65	65	50
		85	85	65	50
		100	85		
2000	600	65	65	65	50
		85	85		
		100	85		
3200	600	65	65	65	65
		85	85		
		100	85		
4000	600	85	85	100	100
		100	100		
5000	600	100	100	100	100

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