

310+ electronic trip unit Mining molded-case circuit breakers



Enhanced safety and equipment protection in mining applications



Eaton is expanding its line of molded-case circuit breaker (MCCB) solutions to include the new 310+ Mining MCCB Series, which incorporates integrated electronic trip units and arc flash protection to enhance personnel safety, minimize equipment damage and improve uptime.

Engineered for mining applications, the 310+ Mining MCCBs provide trailing cable specific settings and configurations to cover all trailing cable sizes with the new 310+ trip unit—interchangeable between 600 Vac and 1000 Vac frames—to minimize panel design time and reduce inventory requirements.

With integrated Eaton electronic 310+ trip units, the breakers are designed to clear faults faster than microprocessor-initiated instantaneous trip, delivering “faster than instantaneous” clearing times for enhanced safety during maintenance operations. Eaton 310+ electronic trip units also address National Electrical Code® Section 240.87 for arc energy reduction.

Features and benefits

- Arcflash Reduction Maintenance System™ clears faults faster than microprocessor-initiated instantaneous trip
- Larger dial for easier access with hard stop to avoid unintended 360-degree rotation
- Adjustable curve shaping for demanding breaker coordination and circuit customization
- Fault information can be captured and provide trip cause indication
- Protects all sizes of trailing cable defined by MSHA with the 310+ electronic trip unit, minimizing panel design time and reducing inventory requirements
- Tough design and extensive field testing in harsh environments to help ensure the highest levels of quality and dependability

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Key differentiators

- The 310+ electronic trip unit is the latest trip unit technology in Eaton's MCCB Series and is consistent with Eaton's proven industrial circuit breaker technology
- With new short delay settings, the 310+ trip unit helps optimize uptime for high-efficiency motor applications
- Eaton Arcflash Reduction Maintenance System reduces incident energy while in Maintenance Mode to improve personnel safety
- Trailing cable specific settings and configurations to cover all trailing cable sizes with the 310+ trip unit, which is interchangeable between 600 Vac and 1000 Vac frames
- High load alarm option available to make users aware of overload conditions

Features			K-Frame	L-Frame	M-Frame	N-Frame	R-Frame
Rated uninterrupted current, I_u			100–400 A	300–600 A	800 A	400–1200 A	1600–2000 A
Interrupting capacity rating at 480 V, I_{cu}			35 kA	35 kA	35 kA	35 kA	35 kA
Magnetic trip range			50–2500	500–5000	500–4000	500–5000	2–8 x I_n
Ambient temperature (°C)			40	40	40	40	40
Poles			3	3	3	3	3
Dimensions in inches (mm)							
a			5.49 (139.4)	8.25 (209.6)	8.25 (209.6)	8.25 (209.6)	15.50 (393.7)
b			10.13 (257.3)	10.75 (273.1)	16.00 (406.4)	16.00 (406.4)	16.00 (406.4)
c			4.06 (103.1)	4.06 (103.1)	4.06 (103.1)	5.50 (139.7)	9.00 (228.6)
d			4.31 (109.5)	4.38 (111.3)	4.38 (111.3)	6.00 (152.4)	10.00 (254.0)
Accessories							
Undervoltage release	UVR type	Handle reset with LED	120 Vac	120 Vac	120 Vac	120 Vac	120 Vac
	UVR type	Handle reset	110–127 Vac	110–127 Vac	110–127 Vac	110–127 Vac	110–127 Vac
			208–240 Vac	208–240 Vac	208–240 Vac	208–240 Vac	208–240 Vac
			110–125 Vdc	110–125 Vdc	110–125 Vdc	110–125 Vdc	110–125 Vdc
Shunt trip (left pole mounting)			110–240 Vac	110–240 Vac	110–240 Vac	110–240 Vac	110–240 Vac
Voltage rating			110–125 Vdc	110–125 Vdc	110–125 Vdc	110–125 Vdc	110–125 Vdc
Auxiliary switch (mounting location on right)	Number of contact sets (1A and 1B)		1 or 2	1 or 2	1 or 2	1 or 2	2 or 4

Why Eaton?

Eaton understands the importance of effective energy management. At Eaton, our expertise, impactful solutions and customer-focused approach enable us to develop innovative solutions for what matters most to you.

Eaton provides a broad range of circuit protection solutions and expertise that support enhanced safety, reliability and efficiency for global applications. Eaton has a heritage of innovation in circuit protection that dates back to 1914, and continues to invest in research and development to bring to bear industry-leading solutions.

For more information, visit
Eaton.com/mining or call
1-877-ETN-CARE (877-386-2273)

To find a local sales office or distributor, go to
Eaton.com/howtobuy

Eaton
 1000 Eaton Boulevard
 Cleveland, OH 44122
 United States
Eaton.com

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