

PowerPact with Micrologic Molded Case Circuit Breakers

For Mining Applications



Make the most of your energySM

Schneider
 **Electric**TM



Mining is a capital-, process-, energy-, and labor-intensive industry that requires solutions that improve production, save energy and, most importantly, protect people.

For more than 100 years, Schneider Electric™ has provided long-lasting solutions that address the mining industry's power distribution and protection needs.



The Answer for Mining Requirements

No other name in circuit protection is more trusted for reliability and performance than Schneider Electric. Our integration of the Square D™ brand enables us to offer the industry's best range of molded case circuit breakers — PowerPact™ with Micrologic™. PowerPact with Micrologic circuit breakers set the standards of tomorrow with direct access to energy management. Integrated metering enhances their impeccable protective functions. For the first time, Schneider Electric users can monitor energy from 15 A to 3000 A, offering improved performance in a remarkably compact device.

Through numerous design innovations, common accessories, and standardized ratings, PowerPact with Micrologic circuit breakers can save you time and money by streamlining your selection process, speeding up installations, and providing renowned operational performance.

- Meets mining application requirements
- Durable enough for extreme environments and operation
- Reliable in rough applications

Smart Mine Breaker: Protection, Metering, and Communication

All-in-one device

PowerPact with Micrologic brings protection, metering, and communications into one reliable device. When power is critical, you need to trust that your breakers provide the highest level of protection available. That's why Schneider Electric has developed a unique, dual-processing architecture that ensures the protection function operates completely independent of the measurement and communication functions. Protection and measurement units are also tested and certified together, guaranteeing the quality of both the breaker and the metering capability.

Accessibility of information

To keep costs under control and ensure service continuity, relevant information must be available in real time.

- A kilowatt-hour meter helps optimize costs and allocation
- Harmonic distortion rate shows the quality of electrical supply
- Alarm notification secures operational control and maintenance planning
- Event logs and tables, activated continuously, ensure the installed equipment base operates correctly, thus maximizing energy efficiency

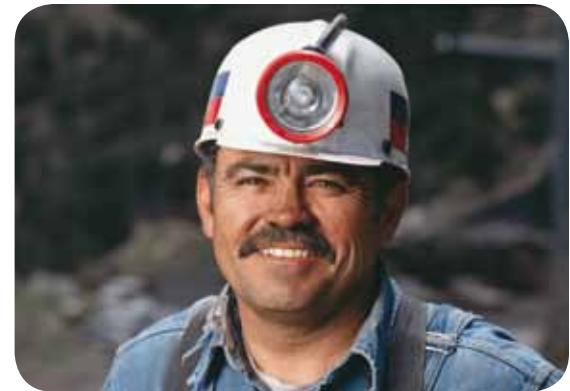
Trailing Cable Protection

Trailing cable protection setting per MSHA 30 CFR 75

Conductor Size (AWG, MCM)	Maximum Instantaneous (A)	Maximum Amperage 75 °C Insulated Conductor	Circuit Breaker Frame/Trip Unit ¹ (p/n example)	Setting	Instantaneous (A)	Adjustment Range (A)
14	50	15	(HLL36030M71)	8 FLA, Im 6x	48	12 – 325
12	75	20	(HLL36030M71)	8 FLA, Im 9x	72	12 – 325
10	150	30	H 60 A – 5.2 A Micrologic (HLL36060U43X)	Ir – 30, li – 2.5	150	90 – 900
8	200	50	H 100 A – 5.2 A Micrologic (HLL36100U43X)	Ir – 50, li – 2	200	90 – 900
6	300	65	H 100 A – 5.2 A Micrologic (HLL36100U43X)	Ir – 65, li – 3	300	90 – 900
4	500	85	H 100 A – 5.2 A Micrologic (HLL36100U43X)	Ir – 85, li – 5	500	150 – 1500
3	600	100	H 100 A – 5.2 A Micrologic (HLL36100U43X)	Ir – 100, li – 6	600	150 – 1500
2	800	115	H 100 A – 5.2 A Micrologic (HLL36100U43X)	Ir – 100, li – 8	800	150 – 1500
1	1000	130	J 250 A – 5.2 A Micrologic (JLL36250U43X)	Ir – 130, li – 4	1000	375 – 3000
1/0	1250	150	J 250 A – 5.2 A Micrologic (JLL36250U43X)	Ir – 125, li – 5	1250	375 – 3000
2/0	1500	175	J 250 A – 5.2 A Micrologic (JLL36250U43X)	Ir – 175, li – 6	1500	375 – 3000
3/0	2000	200	J 250 A – 5.2 A Micrologic (JLL36250U43X)	Ir – 200, li – 8	2000	375 – 3000
4/0	2500	230	J 250 A – 5.2 A Micrologic (JLL36250U43X)	Ir – 230, li – 10	2500	375 – 3000
250	2500	255	J 250 A – 5.2 A Micrologic (JLL36250U43X)	Ir – 250, li – 10	2500	375 – 3000
300	2500	285	L 400 A – 5.3 A Micrologic (LLL36400U43X)	Ir – 285, li – 6	2400	600 – 4800
350	2500	310	L 400 A – 5.3 A Micrologic (LLL36400U43X)	Ir – 310, li – 6	2400	600 – 4800
400	2500	335	L 400 A – 5.3 A Micrologic (LLL36400U43X)	Ir – 335, li – 6	2400	600 – 4800
450	2500	380	L 400 A – 5.3 A Micrologic (LLL36400U43X)	Ir – 380, li – 6	2400	600 – 4800
500	2500	380	L 400 A – 5.3 A Micrologic (LLL36400U43X)	Ir – 380, li – 6	2400	600 – 4800

¹ The Micrologic trip unit family includes five models with varying levels of functionality. The simplest units provide basic overcurrent protection including long-time, instantaneous, and optional short-time adjustments for overloads and short circuits. Advanced units offer sophisticated functions such as ground fault protection and zone selective interlocking.

In parentheses: Part number illustrative example (for 50 kA and trip unit Micrologic 5x) – refer to the catalog for complete product selection and accessories.



PowerPact H-, J-, and L-Frame Circuit Breakers

PowerPact H- and J-Frame with Micrologic circuit breakers – 15 A to 250 A

Well-suited to a wide range of applications, the PowerPact H- and J-Frame molded case circuit breakers feature a full complement of field installable accessories, field installable trip units, and improved interrupting ratings. These molded case circuit breakers deliver unmatched design flexibility and share identical mounting holes, handle locations, trim dimensions, and accessories, allowing customers to standardize equipment designs for 15 A to 250 A applications.

PowerPact H- and J-Frame circuit breakers come in many interruption ratings and are designed to limit let-through currents to provide better protection for downstream components. Interrupting ratings (AIR) include D-18 kA, G-35 kA, J-65 kA, R 200 kAIC at 480 V, and L-100 kA at 480 VAC. Available as standard or 100 percent rated circuit breakers, the H-Frame ranges from 15 A to 150 A and the J-Frame from 70 A to 250 A.

Available trip units:

- Thermal magnetic: circuit protection provided by individual thermal (overload) and magnetic (short circuit) sensing elements in each pole.
- Standard electronic: adjustable overcurrent protection including long-time, instantaneous, and optional short-time.
- Ammeter: adjustable long-time, short-time, instantaneous, and optional ground fault protection is coupled with integrated current metering and maintenance indicators.
- Energy: power and energy metering is integrated with exceptional long-time, short-time, instantaneous, and optional ground fault protections. Beyond energy metering, this trip unit delivers many advanced functions including power quality (harmonics) measurement.

PowerPact L-Frame with Micrologic circuit breaker – 70 A to 600 A

Designed to accept common accessories and the full range of electronic trip options available for PowerPact H- and J-Frame, the newest addition to the PowerPact family of molded case circuit breakers delivers the same impeccable protection and flexibility. PowerPact L-Frame is also available as standard or 100 percent rated, and has a choice of many interruption ratings to support different application needs. Interrupting ratings (AIR) include D-18 kA, G-35 kA, J-65 kA, R 200 kAIC at 480 V, and L-100 kA at 480 VAC.

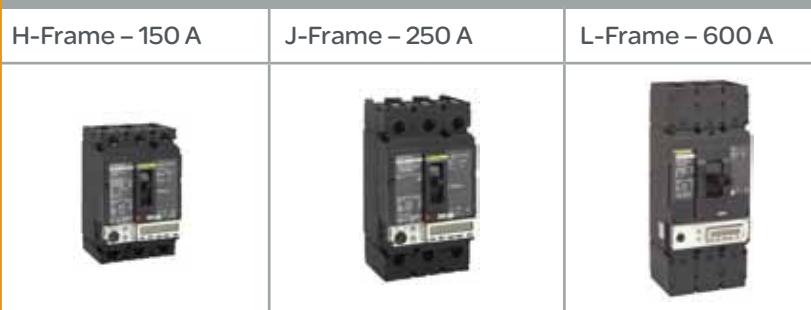
Available trip units:

- Standard electronic: adjustable overcurrent protection including long-time, instantaneous, and optional short-time.
- Ammeter: adjustable long-time, short-time, instantaneous, and optional ground fault protection is coupled with integrated current metering and maintenance indicators.
- Energy: power and energy metering is integrated with exceptional long-time, short-time, instantaneous, and optional ground fault protections. Beyond energy metering, this trip unit delivers many advanced functions including power quality (harmonics) measurement.

Accessories

Common design elements and accessories

Common design features



Auxiliary and alarm switches



Shunt trip and undervoltage release



Accessories

Front display module



Communication module



World-class selection, service, and support

Choose PowerPact with Micrologic circuit breakers for your circuit protection solutions and you know you are choosing a respected brand you can trust — Schneider Electric. Our comprehensive PowerPact with Micrologic product line of molded case circuit breakers complements our full range of electrical distribution products for a single source, one-stop, total solution of the highest quality and durability.

With Schneider Electric, you can be sure you will always be served by the industry's most qualified consultants who will help you choose the products that are best suited for your company's specific applications. Our service and support after the sale is unmatched in the industry, with fast on-time delivery and quick response to questions or problems after installation. With more than 5,000 sales and distribution locations in over 130 countries throughout the world, you can be sure to find a full range of Schneider Electric products, no matter where you or your applications are located.



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