

Application Information

You Have a Choice in Protection



Hydraulic-Magnetic

- Precision Custom Calibration
- Requires No Derating (100% Rated)
- Ambient Compensating (-40°C to +85°C)
- Immediate Reset After Fault
- Broad Range of Integral Internal Accessories
- Provides Equipment and Wire Protection



Fuse Protection

- No-Reset Capability
- Fuses Degrade Over Time
- Protection Effected by Ambient Temperature
- Requires More Panel Space
- No Accessories Available
- Provides Equipment and Wire Protection



Thermal-Magnetic

- Fixed Calibration Band, Wide Variation
- Device Must be Derated to 80% Load
- Protection Effected by Ambient Temperature
- Requires "Cooling-Off" Period
- Accessories in Multi-Pole Devices Only
- Provides Basic Wire Protection

Nuisance Tripping Eliminated

Heinemann hydraulic-magnetic circuit breakers offer three major advantages:

- *Elimination of nuisance tripping* caused by high ambient temperatures in or near the installation. The breaker responds only to current variations, not to temperature change.
- *Continuous operation at 100% current.* There is no such assurance with a thermal device, which may fail to carry rated current when subjected to above normal ambient temperatures. A Heinemann breaker rated at 20 amperes, for example, will sustain 20 amperes, even at elevated temperatures. Derating and other forms of temperature compensation are unnecessary.
- *Immediate reset.* Since there are no thermal elements, heat build-up is not a factor. Therefore, no "cooling off" period is required after a fault.

Guaranteed Power Availability

Using a controlled time delay, Heinemann circuit breakers can eliminate nuisance tripping caused by transient current surges. In any installation where a power supply or compressor motor is on the line, an inrush of current occurs when the equipment is first turned on. The bigger the equipment, the larger the surge. Although inrush surges are, in fact, transient overloads, they usually pose no threat of damage to the line or the equipment. So, it's simply not necessary or even desirable to interrupt the power when they occur.

The hydraulically controlled time-delay mechanism of a Heinemann breaker eliminates nuisance tripping without reducing the overload protection. The delay is inversely proportional to the overload; response is quicker on large overloads where greater potential danger exists, and slower on small overloads. For sensitive electronic equipment, Heinemann breakers can be purchased with an instantaneous trip feature to prevent damage.

Precision Protection

The current rating of the hydraulic-magnetic circuit breaker is determined by the number of wire turns in the load sensing coil. By altering the number of turns and the wire size, Heinemann can provide a breaker of virtually any rating within the unit's overall current carrying range. Regardless of your needs, we can deliver custom equipment protection, even at fractional amperages.

Shock and Vibration

A precision, counterbalanced armature design prevents mechanical tripping due to shock and vibration. This makes the Heinemann family of products perfect anywhere shock and vibration are a concern. Some popular applications include railcars, mobile industrial equipment, generators and marine power distribution.

Global Ready

Heinemann breakers are tested to meet global certifications and standards including UL®, CE, VDE, TUV and CSA®.

Mission Control

With a variety of control and indicating options, the Heinemann line of circuit breakers allows you to take control of your complex operations. Available with integral remote trip coils and indicating contacts, Heinemann breakers can be integrated into your control logic. We also offer a lighted handle design that can allow operators to see breaker conditions at a distance.

Self-Adjusting

The time delay feature is self-adjusting to ambient temperature conditions. At high ambients where the overload tolerance of most circuits is lowered, the viscosity of the fluid in the breaker's dashpot is lessened, and the time delay is thereby shortened. At low temperatures, the response is correspondingly longer to allow for cold equipment startups.

Product Families

KD Series



TECHNOLOGY	POLES	VOLTAGE	CURRENT	INT. CAPACITY
Thermal	1	250 Vac	0.25 – 20 A	1 kA
		32 Vdc	0.25 – 15 A	0.2 kA
		50 Vdc	0.25 – 10 A	0.2 kA

A low-cost pushbutton supplementary protector for electrical equipment. Designed to fit a standard 5/8" round or "D" shaped panel cutout. With a variety of accessories, the KD Series is a perfect replacement for traditional panel-mounted fuse holders.

PROPAK Series



TECHNOLOGY	POLES	VOLTAGE	CURRENT	INT. CAPACITY
Hydraulic	1	250 Vac	0.1 – 20 A	1 kA
Magnetic	2	50 Vdc	0.1 – 20 A	1 kA
		72 Vdc	0.1 – 20 A	1 kA

Miniature single- or 2-pole circuit breaker available with paddle or rocker handle. Available with or without illumination and a variety of internal accessories including auxiliary switches and remote tripping options. Carries UL 1077, CSA and VDE approvals.

J Series



TECHNOLOGY	POLES	VOLTAGE	CURRENT	INT. CAPACITY
Hydraulic	1	125 Vac	0.2 – 50 A	1 kA ①
Magnetic	2	250 Vac	0.1 – 50 A	5 kA ①
		415 Vac	0.1 – 30 A	1.5 kA ①
	4	32 Vdc	0.1 – 50 A	5 kA
		72 Vdc	0.1 – 30 A	2 kA
		80 Vdc	0.1 – 20 A	1 kA

① With series fuse.

Small lightweight hydraulic-magnetic circuit breaker perfect for telecom and marine applications. Available in ratings from 0.1 – 50 amperes, the J Series offers a variety of options including snap-in mounting and rocker style handles. The compact size of the J Series makes it well suited for applications where space comes at a premium.

SPHM Series



TECHNOLOGY	POLES	VOLTAGE	CURRENT	INT. CAPACITY
Hydraulic	1	250 Vac	0.1 – 63 A	5 kA
Magnetic	2	480/277 Vac	0.1 – 30 A	3 kA
		80 Vdc	0.1 – 63 A	5 kA
	4			

The SPHM Series Circuit Breaker snaps easily onto a standard 35 mm DIN rail. This saves valuable installation time. Available with a wide range of accessories, the SPHM Series is the perfect alternative to DIN-rail mounted fuse blocks.

AMR Series



TECHNOLOGY	POLES	VOLTAGE	CURRENT	INT. CAPACITY
Hydraulic	1	120/240 Vac	0.2 – 30 A	10 kA ②
Magnetic	2	250 Vac	0.1 – 100 A	3 kA ②
		277 Vac	0.2 – 20 A	10 kA ③
	4	480 Vac	0.1 – 30 A	3 kA ③
		80 Vdc	0.1 – 100 A	5 kA
		125 Vdc	0.1 – 100 A	5 kA

② 5 kA with series fuse.

③ With series fuse.

Ultra-high interrupting circuit breaker for single- or multi-pole applications. The AMR Series delivers significant performance advantages in a compact package. Available as a UL 489 listed device, suitable for branch circuit protection, the AMR can be used in a wide variety of applications, including lighting and power distribution equipment. Also carries UL 1077, CSA and TUV approvals.

Frame Information

J Series



Standard Style JA



Snap-in Mounting JB



Rocker Style JC



Sealed Toggle JE

Eaton's J Series is one of the most versatile breakers offered in the Heinemann product line. The J Series can be used in a wide variety of applications including telecom, rail, marine and mobile equipment. Multiple mounting and handle configurations allow you to customize your equipment. These include rocker handles, snap-in mounting, sealed toggle actuators and color-coded handles.

Compact Size

The J Series breakers are small and lightweight, saving valuable space in crowded control panels or weight in portable equipment. Since the J Series is magnetically actuated, the breaker generates minimal heat, and breakers can be mounted in densely packed panels with no effect on performance.

Easy Installation

The J Series is designed for fast, easy panel mounting. Its round bezel eliminates square cuts during panel fabrication, and shortens panel production time. Cutout preparation is as simple as punching or drilling three common-center holes per breaker.

Terminals

The J Series is ready to accept either standard push-on or screw terminal connections.

Accessories

Available with integral auxiliary switches, shunt and relay trip options, as well as a variety of external accessories including protective shields and adapter plates.

Global Ready

The J Series is ready for your global applications. In addition to UL 1077, the breaker also carries CSA and IEC 380 approvals.

Harsh Environments

In areas where the breaker may be subjected to water spray or splashing, the J Series is available in a sealed mounting version. Utilizing a molded silicone rubber seal, the exposed handle is protected from the elements when used in conjunction with a sealed panel. For areas requiring a completely sealed breaker, the J Series is also available in a UL 1500 Ignition-Protected Construction. Please refer to the Special Application section of this brochure.

Stock Availability

Standard breaker configurations are available from our regional distribution centers or from one of our 2,300 distributor locations worldwide.

Standard Breaker Configurations

The J Series can be ordered in a number of standard configurations utilizing the table to the right. Once you create your catalog number, you can contact our Technical Resource Center for verification and quotations.

Custom Applications

The J Series is also available in a number of custom configurations to meet your specific application needs. To order a special application breaker, you can visit our Web site at www.EatonElectrical.com/heinemann for a list of custom modifications and information on how to obtain a proprietary catalog number. You may also contact the Technical Resource Center for application information and breaker selection assistance.

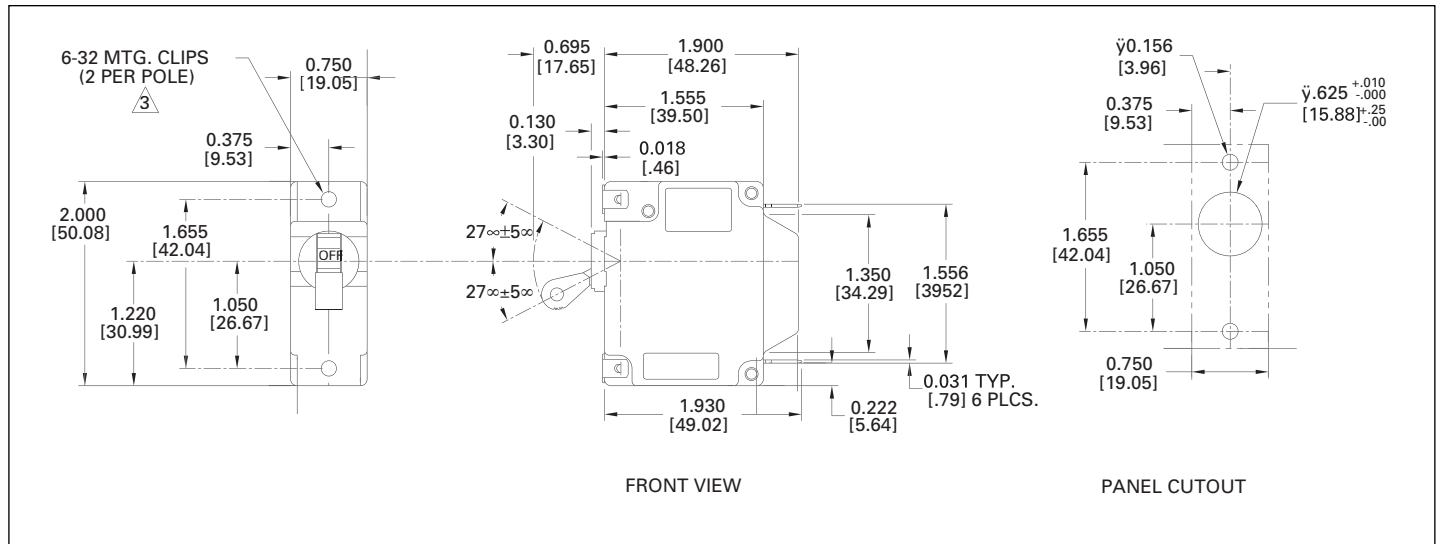
Standard Product Offering

250 Vac/65 Vdc

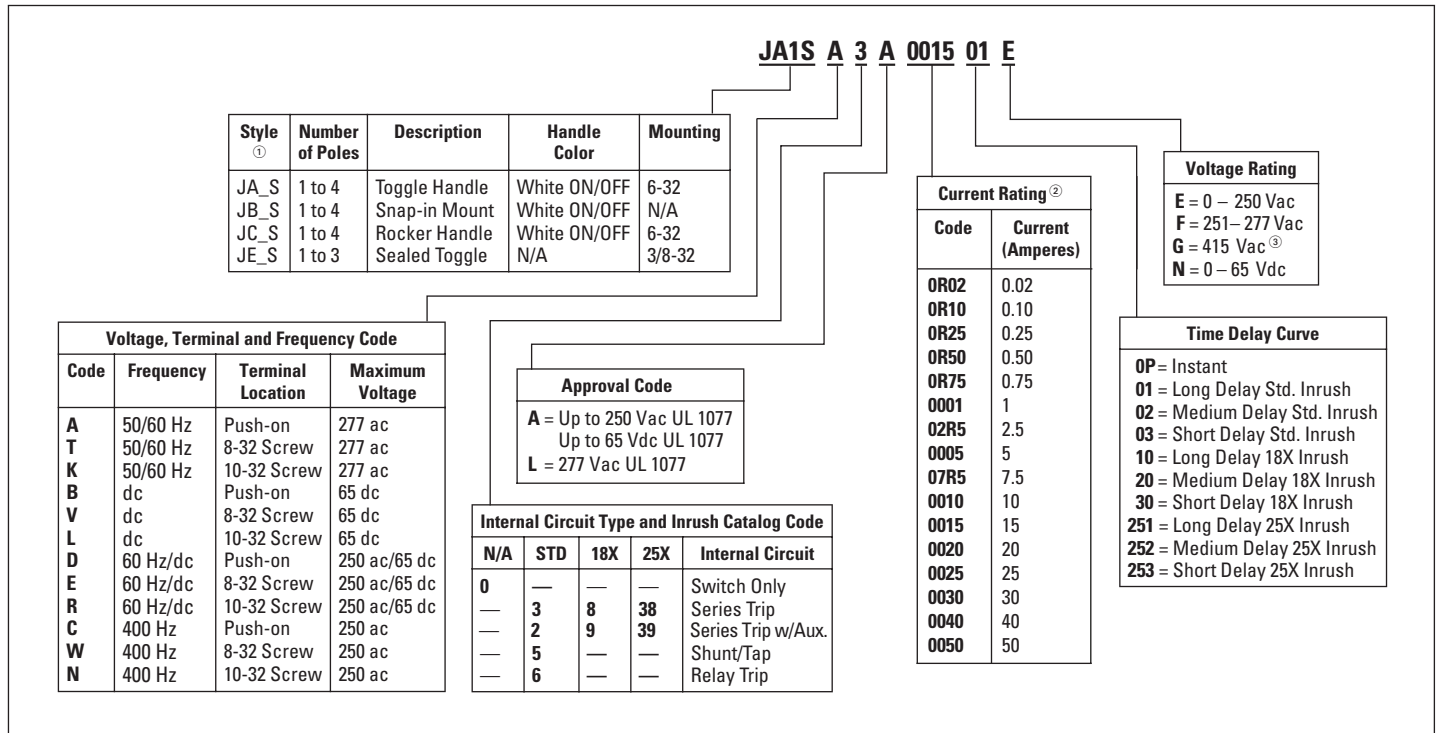
Push-on Terminals

POLES	CURRENT	CURVE	CATALOG NUMBER
1	1 A	2	JA1SD3A000102E
1	1 A	3	JA1SD3A000103E
1	2.5 A	2	JA1SD3A02R502E
1	2.5 A	3	JA1SD3A02R503E
1	5 A	2	JA1SD3A000502E
1	5 A	3	JA1SD3A000503E
1	7.5 A	2	JA1SD3A07R502E
1	7.5 A	3	JA1SD3A07R503E
1	10 A	2	JA1SD3A001002E
1	10 A	3	JA1SD3A001003E
1	15 A	2	JA1SD3A001502E
1	15 A	3	JA1SD3A001503E
1	20 A	2	JA1SD3A002002E
1	20 A	3	JA1SD3A002003E
1	25 A	2	JA1SD3A002502E
1	25 A	3	JA1SD3A002503E
1	30 A	2	JA1SD3A003002E
1	30 A	3	JA1SD3A003003E
2	1 A	2	JA2SD3A000102E
2	1 A	3	JA2SD3A000103E
2	2.5 A	2	JA2SD3A02R502E
2	2.5 A	3	JA2SD3A02R503E
2	5 A	2	JA2SD3A000502E
2	5 A	3	JA2SD3A000503E
2	7.5 A	2	JA2SD3A07R502E
2	7.5 A	3	JA2SD3A07R503E
2	10 A	2	JA2SD3A001002E
2	10 A	3	JA2SD3A001003E
2	15 A	2	JA2SD3A001502E
2	15 A	3	JA2SD3A001503E
2	20 A	2	JA2SD3A002002E
2	20 A	3	JA2SD3A002003E
2	25 A	2	JA2SD3A002502E
2	25 A	3	JA2SD3A002503E
2	30 A	2	JA2SD3A003002E
2	30 A	3	JA2SD3A003003E
3	1 A	2	JA3SD3A000102E
3	1 A	3	JA3SD3A000103E
3	2.5 A	2	JA3SD3A02R502E
3	2.5 A	3	JA3SD3A02R503E
3	5 A	2	JA3SD3A000502E
3	5 A	3	JA3SD3A000503E
3	7.5 A	2	JA3SD3A07R502E
3	7.5 A	3	JA3SD3A07R503E
3	10 A	2	JA3SD3A001002E
3	10 A	3	JA3SD3A001003E
3	15 A	2	JA3SD3A001502E
3	15 A	3	JA3SD3A001503E
3	20 A	2	JA3SD3A002002E
3	20 A	3	JA3SD3A002003E
3	25 A	2	JA3SD3A002502E
3	25 A	3	JA3SD3A002503E
3	30 A	2	JA3SD3A003002E
3	30 A	3	JA3SD3A003003E

BASIC DIMENSIONS



J SERIES CATALOG NUMBERING SYSTEM



- ① Choose style and select from 1 to 4 poles, and enter the number in position 3 of the catalog number. For example, a JA1S would identify a 1-pole JA Series breaker.
- ② Enter the four digit current rating. For example, use code "0015" for a 15 ampere current rating. For fractional amperages, use an "R" to designate the decimal point. For 0.10 ampere, enter the code "0R10."
- ③ Non-standard. Consult technical support 1-800-356-1243.