Warranty - Material
Hubbell Power Systems, Inc. warrants all products sold by it to be merchantable (as such term is defined in the Uniform Commercial Code) and to be free from defects in material and workmanship. Buyer must notify the Company promptly of any claim under this warranty. The Buyer’s exclusive remedy for breach of this warranty shall be the repair or replacement, F.O.B. factory, at the Company’s option, of any product defective under the warranty which is returned to the Company within one year from the date of shipment. **NO OTHER WARRANTY, WHETHER EXPRESS OR ARISING BY OPERATION OF LAW, COURSE OF DEALING, USAGE OF TRADE OR OTHERWISE IMPLIED, SHALL EXIST IN CONNECTION WITH THE COMPANY’S PRODUCTS OR ANY SALE OR USE THEREOF.** The Company shall in no event be liable for any loss of profits or any consequential or special damages incurred by Buyer. The Company’s warranty shall run only to the first Buyer of a product from the Company, from the Company’s distributor, or from an original equipment manufacturer reselling the Company’s product, and is non-assignable and non-transferable and shall be of no force and effect if asserted by any person other than such first Buyer. This warranty applies only to the use of the product as intended by Seller and does not cover any misapplication or misuse of said product.

Warranty - Application
Hubbell Power Systems, Inc. does not warrant the accuracy of and results from product or system performance recommendations resulting from any engineering analysis or study. This applies regardless of whether a charge is made for the recommendation, or if it is provided free of charge.

Responsibility for selection of the proper product or application rests solely with the purchaser. In the event of errors or inaccuracies determined to be caused by Hubbell Power Systems, Inc., its liability will be limited to the re-performance of any such analysis or study.

**WARNING**
These fuse links will not protect personnel from electrocution. Hot gases and high velocity particles are expelled during interruption. This expulsion can cause serious injury. Do not get in line with fuseholder. Stay away from conical space below fuseholder.

**CAUTION:**
The equipment covered in this catalog section should be installed, used, and serviced only by competent personnel familiar with and following good work and safety practices. This equipment is for use by such personnel and is not intended as a substitute for adequate training and experience in safe procedures for this type of equipment.

This catalog information and any related instruction sheets do not cover all details or situations in equipment use nor do they provide for every possible contingency to be encountered in relation to installation, operation or maintenance. Should additional information and details be desired, or if specific situations arise which are not covered adequately for the user’s purpose, the specifics should be referred to Hubbell Power Systems, Inc.
Meets All Applicable ANSI/NEMA Standards
Chance Type K and Type T fuse links are made in complete accordance with ANSI/NEMA standards. Other Chance links meet all the standards except those covering time-current characteristics. Time-current characteristics for links other than K and T links are not covered in the ANSI standards.

Precision - The Standard of Chance® Fuse Links
Chance fuse links assure system protection because they are precision manufactured. The fusible materials used in Chance Fuse Links are under continual control during manufacture. Pre-tested to guarantee their electrical values, these materials are held to precise tolerances. At critical points during the manufacturing process, rigid inspections are made.

Packaging
Chance fuse links come in protective plastic bags with perforations to facilitate quick, easy opening even when lineman’s gloves are worn. Each bag remains completely sealed for all-weather protection and keeps the links protected in the line truck’s bins. Type and amperage is printed on each bag, for easy identification.

Fuse Link Types

- Type K
- Type T
- Type MS
- Type QH
- Type Standard
- SloFast

Relative Speeds of Chance Fuse Links

![Graph showing relative speeds of Chance fuse links with different amperages and types.](chart.png)
Type K Fuse Links

Application
The fast characteristics of Type K fuse links were established by ANSI/NEMA to provide fuse links that would meet existing coordination schemes.

Chance Type K fuse links are designed to carry 150% of their rated current without damage to the fuse link itself or the cutout in which it is installed. This capacity is for special loading situations, such as short-time overloads and cold load pick-ups.

Fuse Elements
The fusible section of the 1 through 3 ampere Type K links consists of a stainless-steel fuse strain wire; the 6 through 10 ampere, stainless-steel strain wire and a copper-alloy fuse wire; 12 through 100 ampere, a stainless steel strain wire and a silver-copper fuse wire; 140 and 200 ampere, a silver-copper fuse wire large enough to serve as both strain and fuse wire.

Buttonheads and Lengths
Conforming to all applicable ANSI/NEMA specifications, Chance Type K links are available with a removable or solid buttonhead.

Note: Catalog Numbers shown are 23” overall length; also available in 26” length. For 26”: *Solid head K or T links, change the last two digits from 23 to 26. †Removable head K or T links, drop the last two digits.

Twin Pigtail Type K and T Fuse Links

The twin pigtail fuse link is convenient to work with and easier to install in the cutout than conventional single pigtail fuse links. The pigtails attach under the clamp with one on each side of the attachment stud.

* †Catalog Numbers shown are 23” in overall length; for 26”, see Note above.

Type T Fuse Links

Application
Chance Type T fuse links provide slower time-current characteristics than the Type K links. Type T links coordinate particularly well with automatic oil-circuit reclosers.

Chance Type T links are designed to carry 150% of their rated current without damage to the fuse link itself or the cutout in which it is installed. This capacity is for special loading situations, such as short-time overloads and cold-load pick-ups.

Fuse Elements
1 through 3 ampere Type T fuse links employ a fusing section consisting of a stainless-steel wire serving as both strain and fuse wire; 6 through 100 ampere, a stainless-steel strain wire and a pure-tin fuse wire in parallel. 140 and 200 ampere T links have a copper element mechanically crimped at one end, soldered at the other end. On overloads or low faults, the solder becomes a fluid and the link separates; on higher fault currents, the link separates when the copper wire melts.

Buttonheads and Lengths
Chance Type T fuse links meet all applicable ANSI/NEMA specifications. They are available with a removable or solid buttonhead.

* †Catalog Numbers shown are 23” overall length; for 26”, see Note above.
Type MS Fuse Links

Application
Chance Type MS fuse links have very slow time-current characteristics. In applications where ANSI/NEMA Type T fuse link characteristics are too fast, the slower characteristics of Type MS can often be utilized.

Fuse-Section Operation
The fuse element of Chance Type MS fuse links is composed of two copper or copper-alloy wires joined by a solder junction. During heavy overloads or low fault currents, the heat generated by the two wires melts the solder, causing fuse operation. Operation under medium or heavy fault current occurs as one of the two wires melt.

Buttonheads and Lengths
Type MS fuse links are only available with a removable head.

*Note: Catalog Numbers shown are 23" overall length; also available in 26" length. †For 26", drop the last two digits.

Type QH Fuse Links

Application
The medium speed characteristics of the Type QH fuse links provide good coordination in distribution applications where other fuse links may not be applicable.

Fuse Elements
The fusible section of the 1 through 7 ampere Type QH links consists of a stainless steel fuse strain wire; the 10 through 100 ampere links consist of a stainless steel strain wire and a silver-copper alloy fuse wire.

Buttonheads and Lengths
Chance Type QH links are available with a removable or solid buttonhead.

*Note: Catalog Numbers shown are 23” overall length; also available in 26” length. For 26” Solid or Removable Head, change the last two digits from 23 to 26.

Type Standard Fuse Links

Application
The speed characteristics of the Type Standard fuse links provide good coordination in distribution applications where other fuse links may not be applicable.

Fuse Elements
The fusible section of the 1 through 5 ampere Type Standard links consist of a stainless steel fuse strain wire; the 7 through 20 ampere links consist of a stainless steel strain wire and a silver-copper alloy fuse wire; the 25 through 100 ampere links consist of a stainless steel strain wire and a silver alloy fuse wire.

Buttonheads and Lengths
Chance Type Standard links are available with a removable or solid buttonhead.

*Note: Catalog Numbers shown are 23” overall length; also available in 26” length. For 26” Solid or Removable Head, change the last two digits from 23 to 26.
SloFast Fuse Links

Transformer Protection
Secondary temporary faults that can be withstood by a transformer will not rupture a SloFast fuse link. If secondary faults persist and become dangerous, the SloFast link will operate, preventing damage to the transformer.

System Protection
When a heavy fault occurs within the transformer primary bushings, a SloFast link clears the transformer from the system before damage can occur, and before any other protective device can operate and cause an unnecessary interruption to any other segment of the system.

Construction and Theory of Operation
The inner construction of the SloFast Fuse Link is illustrated in the cut-away view above. There are two distinct current-responsive elements: one slow, one fast.

The slow current-responsive element is made up of a number of components. The heater coil and the soldered junction are the two primary components. The insulated strain pin serves to carry the tension exerted when the fuse link is installed in a fuse cutout, and as a heat conductor to the soldered junction. The ceramic tube serves as a heat absorber.

The slow current-responsive element functions in the following manner: The heater coil generates heat at a rate which is proportional to the square of the current. This heat is absorbed by the ceramic material and transmitted to the soldered junction via the metallic strain pin. When a certain value of current flows for a specific length of time, sufficient heat is generated and transmitted to the soldered junction to cause melting of the solder, separation of the fuse link, and interruption of the circuit. The time-current curve of the slow current-responsive element is the portion above the "knee" (4 seconds to 5 minutes on the time axis) in the graph on the right.

The fast current-responsive element is constructed like the single element in a conventional fuse link. Operation of the fuse link in time periods of less than 4 seconds is conventional. The time-current curve of the fast current-responsive element is the portion below the "knee" in the time-current graph on the right.

Application Data
A comparison of the time-current curves of the Chance SloFast fuse link with those of conventional fuse links and the safe-loading time current characteristics for distribution transformers illustrates the application potential of the SloFast fuse links. The rather unusual current rating assigned to SloFast fuse links is an aid in their application since the current rating assigned is identical to the continuous current rating of the transformers which they were specifically designed to protect.

If the SloFast link is used in place of ordinary links, the full overload capacity of the transformer is made available, but at the same time the transformer is protected from faults and overloads which could either destroy or shorten its life expectancy. SloFast is the perfect match for transformer protection. Note: For application of SloFast links for transformers, see Bulletin 10-8010.

†Note: Catalog Numbers shown are 23” overall length; also available in 26” length. For 26” links, drop the last two digits.

*Note: Catalog Numbers shown are 23” overall length; also available in 26” length. For 26” links, drop the last two digits.