##  <br> Product Information

## Heavy Duty Safety Switches

## 240 Volt

Class 3110
Visible blade heavy duty safety switches are designed for application where maximum performance and continuity of service are required．All heavy duty safety switches feature quick－make，quick－break operating mechanism，a dual cover interlock and a color coded indicator handle． They are suitable for use as service equipment when equipped with a field or factory installed neutral assembly or equipment grounding kit，unless a $600 \mathrm{Y} / 347 \mathrm{~V}$ or $480 \mathrm{Y} / 277 \mathrm{~V}$ ， 1000 A or greater，solidly grounded WYE system is used，per NEC 215－10．Heavy duty safety switches are UL Listed（except as noted），File E2875 \＆ 154828 and meet or exceed the NEMA Standard KS1．For UL Listed short circuit current ratings，see page 3－6．


NEMA 1


NEMA 3R


NEMA 4，4X and 5 Stainless Steel


NEMA 12

240 Volt－Single Throw Fusible

| System | Amps | NEMA 1 |  | $\begin{gathered} \text { NEMA 3R } \\ \text { Rainproof } \\ \text { (Bolt-on Hubs, } \\ \text { page 3-9) } \end{gathered}$ |  |  |  | NEMA 12K Knockouts （Watertight Hubs，page 3－9） |  | $\begin{gathered} \text { NEMA } \\ \text { 12,3R } \\ \text { Without } \\ \text { Knockouts } \\ \text { (Watertight } \\ \text { Hubs, page 3-9) } \end{gathered}$ |  | Horsepower Ratings－ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 240 Vac | ${ }_{\square}^{250 \mathrm{Vdc}}$ |  |  |  |  |  |  |
|  |  |  |  | Std． <br> （Using Fast Acting， One Time Fuses） |  |  |  | $\begin{gathered} \text { Max. } \\ \text { (Using Dual } \\ \text { Element, Time } \\ \text { Delay Fuses) } \end{gathered}$ |  |  |
|  |  | Cat．No． | Price |  |  |  | Cat．No． |  |  | Price | Cat．No． | Price | Cat．No． | Price | Cat．No． | Price | $1 \varnothing$ | $3 \varnothing$ | $1 \varnothing$ | $3 \varnothing$ |
| 2 Wire（2 Blades and Fuseholders）－240 Vac， 250 Vdc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\left\{\begin{array}{l} 9 \\ \{ \end{array}\right.$ | 30 <br> 30 <br> 60 <br> 100 <br> 200 <br> 400 <br> 600 <br> 800 <br> 1200 | Use 3 Wire Devices For 2 Wire Applications |  |  |  | $\begin{array}{\|c\|} \hline \text { H221DS } \\ \text { H222DS } \\ \text { H222DS } \\ \text { H224DS } \\ \text { H225DS } \\ \text { H226DS } \\ - \\ - \end{array}$ | － | H221A |  | H221AWK |  | 11／2 | 3 ＊ | 3 | 71／2ぇ | 5 |
|  |  |  |  |  |  | － |  | － | H2212AWK |  | $11 / 2$ |  | 3 | － | 5 |
|  |  |  |  |  |  | A |  | － | H222AWK |  | 3 | 71／2 ${ }^{\text {® }}$ | 10 | 15 ぇ | 10 |
|  |  |  |  |  |  | H223A |  |  | H223AWK |  | $71 / 2$ | 15 ＊ | 15 | 30 ぇ | 20 |
|  |  |  |  |  |  |  |  |  | H224A | － | H224AWK H225AWK |  | 15 | 25 ＊ |  | 60 ＾ | 40 |
|  |  | H226 |  | H225R H 2268 |  |  |  | － | － | H225AWK H226AWK |  | － | 75 ＊ | － | $200{ }^{-}$＾ | 50 50 |
|  |  | H227 |  | H227R $\triangle$ |  |  |  | － | － | H227AWK |  | 50 | 75 ＊ | 50 | $200 \star$ | 50 |
|  |  | H228 |  | H228R $\triangle$ |  |  | － | － | － | H228AWK |  | 50 | － | 50 | － | 50 |


| 3 Wire（2 Blades and Fuseholders， 1 Neutral）－240 Vac， 250 Vdc |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 30 | H 221 N <br> H 22 N <br> H223N <br> H224N <br> H 225 N H 226 N <br> H227N <br> H228N | H221NRB H223NRB H225NR H226NR H22NRR $\triangle$H228NR $\triangle$ | Use 2 Wire Devices， Field Installable Solid Neutral Assemblies Order Separately．See page 3－10 |  |  |  |  | $1^{11 / 2}$$3^{1 / 2}$$15^{2}$-5050 | $\begin{gathered} 31 \star \\ 71 / 2 \star \\ 15 \star \\ 25 \star \\ 50 \star \\ 75 \star \\ \ldots \end{gathered}$ | 3 <br> 10 <br> 15 <br> - <br>  <br> 50 <br> 50 |  | 510204050505050 |
|  | 60 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 100 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 400 |  |  | H225NDS |  | － | － | H225NAWK |  |  |  |  |  |
|  | 600 |  |  | H226NDS |  | － | － | H226NAWK |  |  |  |  |  |
|  | 800 |  |  |  | － |  | － | H227NAWK |  |  |  |  |  |
|  | 1200 |  |  | － | － | － | － | H228NAWK |  |  |  |  |  |



4 Wire（3 Blades and Fuseholders， 1 Neutral）－ 240 Vac， 250 Vdc

| $\left.\begin{array}{l} 09 \\ 1 \\ 1 \\ 1 \end{array}\right\}$ | $\begin{array}{r} 30 \\ 60 \\ 100 \\ 200 \\ 400 \\ 600 \\ 800 \\ 1200 \end{array}$ | H321NH322N$H 323$$H 324 N$$H 32 N$$H$$H 32 N$$H$$H$ | H321NRB <br> H32NRB <br> H323NRB <br> H32NRB <br> H325R <br> H32NRR <br> H32NR <br> H328NR $\Delta$ | Use 3 Wire Devices， Field Installable Solid Neutral Assemblies Order Separately．See page 3－10 |  |  |  |  | $\begin{gathered} 1^{1 / 2} \\ 3^{1 / 2} \\ 15^{2} \\ - \\ 50 \\ 50 \end{gathered}$ | 3$71 / 2$15255075100 | 31015--5050 | $7^{11 / 2}$153060125200250250 | 510204050505050 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | H325NDS |  | － | － | H325NAWK |  |  |  |  |  |
|  |  |  |  | H326NDS |  | － | － | H326NAWK |  |  |  |  |  |
|  |  |  |  | － | － | － | － | H327NAWK H328NAWK |  |  |  |  |  |

4 Wire（4 Blades and Fuseholders）
9 Q 9 i
$\{5\}$
30
60
100
200
400
600

Use 600 Vac Devices．See page 3－5．

Complete rating is NEMA 3，3R，4，4X， 5 and 12．For NEMA 3R applications，remove drain screw from bottom endwall．
Refer to page 6－35 for additional motor application data．The starting current of motors of more than standard horsepower may require the use of fuses with appropriate time delay characteristics．
Also suitable for NEMA 3R application by removing drain screw from bottom endwall．
60 ampere switch with 30 ampere fuse spacing and clips．Must use 60 A ．Use switching poles for ungrounded conductors．
$\triangle$ Suitable for NEMA 5 applications with drain screw installed．
－For switching DC，use two switching poles．

600 Volts－Single Throw Fusible

| System | Amps | NEMA 1 Indoor |  | NEMA 3R Rainproof （Bolt－on Hubs， page 3－9） |  | NEMA 4，4X，54 （304 Stainless Steel） Dusttight，Watertight， Corrosion Resistant （Watertight Hubs， page 3－9） |  | NEMA 12K With Knockouts （Watertight Hubs， page 3－9） |  | NEMA 12，3R＊ Without Knockouts （Watertight Hubs， page 3－9） |  |  | Horsep | wer Rat | ngs■ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 480 | Vac |  |  |  | Vac |  |  |  |  |
|  |  |  |  | Std． <br> （Using Fast Acting， One Time Fuses） | Max． （Using Dual Element， Time Delay Fuses） |  |  |  | Max． （Using Dual Element， Time Delay Fuses） |  |  |  |  |
|  |  | Cat．No． | Price |  |  | Cat．No． | Price |  |  | Cat．No． | Price | Cat．No． | Price | Cat．No． | Price | 30 | 30 | 30 | 30 | 250 | 600 |
| 2 Wire（2 Blades and Fuseholders）－600 Vac， 600 Vdc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\left\{\begin{array}{l} 9 \\ \{ \\ 5 \end{array}\right.$ | 30601002004006008001200 | Use 3 Wire Devices For 2 Wire Applications |  |  |  |  |  |  |  |  |  | － | － | － | － | － | － |
|  |  |  |  |  |  |  |  |  |  |  |  | － | － | － | － | － | － |
|  |  |  |  |  |  |  |  |  |  |  |  | － | － | － | － | － | － |
|  |  |  |  |  |  |  |  |  |  |  |  | － | － | － | － | － | － |
|  |  | $\begin{array}{\|l} \hline \mathrm{H} 265 \\ \mathrm{H} 266 \\ \mathrm{H} 267 \\ \mathrm{H} 268 \\ \hline \end{array}$ |  |  |  | H265RH266RH267R $\diamond$H268R $\diamond$ |  |  |  | $\begin{gathered} \mathrm{H} 265 \mathrm{DS} \\ \mathrm{H} 266 \mathrm{DS} \\ - \\ - \end{gathered}$ |  | － | － | H265AWK |  | $\begin{aligned} & 100 \star \\ & 150 \star \end{aligned}$ | 250 ${ }^{\text {® }}$ | － | － | 50 | － |
|  |  |  |  |  |  |  | － | － | H266AWK |  | 400 $\star$ | － | － | －－ |  |  |
|  |  |  |  |  | － |  | － | － | H267AWK |  |  |  | ＊ | － | ＿ | 50 | 50 |
|  |  |  |  |  | － |  | － | － | H268AWK |  |  | － | － | － | － | 50 | 50 |
| 3 Wire（3 Blades and Fuseholders）－600 Vac， 600 Vdc v |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 30 | H361 |  | H361RB |  | H361DS |  | H361A |  |  | H361AWK |  | 5 | 15 | 71／2 | 20 | 5 | 15 |
|  | 30 | H361－2口 |  | H3612RBロ |  |  | － | H361－2A |  | H3612AWKロ |  | 5 | 15 | 71／2 | 20 | － | 15 |
|  | 60 | H362 |  | H362RB |  | H362DS |  | H362A |  | H362AWK |  | 15 | 30 | 15 | 50 | － | 30 |
| 5 | 100 | H363 |  | H363RB |  | H363DS |  | H363A |  | H363AWK |  | 25 | 60 | 30 | 75 | － | 50 |
| 2\} | 200 | H364 |  | H364RB |  | H364DS |  | H364A |  | H364AWK |  | 50 | 125 | 60 | 150 | 40 | 50 |
| 0.0 | 400 | H365 |  | H365R |  | H365DS |  | － | － | H365AWK |  | 100 | 250 | 125 | 350 | 50 | 50 |
|  | 600 | H366 |  | H366R |  | H366DS |  | － | － | H366AWK |  | 150 | 400 | 200 | 500 | 50 | 50 |
|  | 800 | H367 |  | H367R $\diamond$ |  | － | － | － | － | H367AWK |  | 200 | 500 | 250 | 500 | 50 | 50 |
|  | 1200 |  |  | H368R $\diamond$ |  |  |  | － | － | H368AWK |  |  |  | 250 | 500 | 50 | 50 |
| 4 Wire（3 Blades and Fuseholders， 1 Neutral）－600 Vac， $600 \mathrm{Vdc}{ }^{\text {v }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 30 | H361N |  | H361NRBH362NRBH363NRBH364NRBH365NRH366NRH367NRH368NR |  | Use 3 Wire Devices Field Installable Solid Neutral Assemblies．Order Separately．See page 3－10 |  |  |  |  |  | 5152550100150200200 | 153060125250400500500 | $\begin{aligned} & 71 / 2 \\ & 15 \\ & 30 \\ & 60 \\ & 125 \\ & 200 \\ & 250 \\ & 250 \end{aligned}$ | 205075150350500500500 | ---4050505050 | 1530505050505050 |
|  | 60 | H362N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 200 | H364N |  |  |  | H364NDS <br> H365NDS <br> H366NDS <br> - <br> - |  | $\begin{gathered} \text { H364NA } \\ - \\ = \\ - \\ - \end{gathered}$ |  | H364NAWK H365NAWK H366NAWK H367NAWK H368NAWK |  |  |  |  |  |  |  |
|  | 400 | H365N |  |  |  | － |  |  |  |  |  |  |  |  |  |  |
|  | 600 | H366N |  |  |  | － |  |  |  |  |  |  |  |  |  |  |
|  | 800 | H367N |  |  |  | － |  |  |  |  |  |  |  |  |  |  |
|  | 1200 | H368N |  |  |  | － |  |  |  |  |  |  |  |  |  |  |
| 4 Wire（4 Blades and Fuseholders）－600 Vac， 600 Vdc के |  |  |  |  |  |  |  |  |  |  |  | 20 | 20 | 20 | 20 |  |  |
|  | 30 | H461 |  | － | － |  | H461DS |  | － | － | H461AWK |  | $71 / 2$ | 20 | 10 | 25 | 5 |  |
|  | 60 | H462 |  | － | － |  | H462DS |  | － | － | H462AWK |  | 15 | 40 | 20 | 50 | 10 | 30 |
| 55 | 100 | H463 |  | － | － |  | H463DS |  | － | － | H463AWK |  | 25 | 50 | 30 | 75 | 20 | 30 |
| दरち\} | 200 | H464 |  | － | － |  | H464DS |  | － | － | H464AWK |  | 50 | － | 50 | － | 40 | 50 |
| d． 0. | 400 | H465 $\triangle$ |  | － | － |  | － | － | － | H465AWK |  | － | － | － | － | － | － |
|  | 600 | H466 $\triangle$ |  | － | － | － | － | － | － | － | － | － | － | － | － | － | － |
| 6 Wire（6 Blades and Fuseholders）－600 Vac $\stackrel{\text { म }}{ }$ |  |  |  |  |  |  |  |  |  |  |  | 30 | 30 | 30 | $3 \varnothing$ |  |  |
| Q P P P | 100 | － | － | － | － | H663DS |  | － | － | H663AWK |  | 25 | 60 | 30 | 75 | － | － |
| $\text { \{\} \}\{\}\} }$ | 200 | － | － | － | － | H664DS |  | － | － | H664AWK |  | For | plications r apability，use Refe | quiring $m$ to page | otor discon al interlock． 3－9． |  |  |

Complete rating is NEMA 3，3R，4，4X， 5 and 12 ．
Also suitable for NEMA 3R application by removing drain screw from bottom endwall．
$\star$ For corner grounded delta systems only and with neutral assembly installed．Use switching poles for ungrounded conductors．
V On 3－Pole devices，use two outside poles for switching DC．
$\triangle 600 \mathrm{Vac}$ only．
a 60 ampere switch with 30 ampere fuse spacing and clips．Must use 60 A enclosure accessories including electrical interlocks．
$\diamond$ Suitable for NEMA 5 applications with drain screw installed．
Not suitable for use as service equipment．

## Class H Fuse Provisions：

Fusible 30 through 600 ampere heavy duty safety switches accept Class H fuses as standard．With Class H fuses installed，the switch is UL Listed for use on systems with up to 10,000 RMS symmetrical amperes available fault current．

## Class R Fuse Provisions：



Fusible 30 through 600 ampere heavy duty safety switches will accept Class R fuses as standard．A field installable rejection kit is available which，when installed，rejects all but Class R fuses．With the installation of the rejection kit and Class R fuses，the switch is UL Listed for use on systems with up to 200，000 RMS symmetrical amperes available fault current．See Class R fuse kits on page 3－9．

## Class J Fuse Provisions：

Provisions for installing Class J fuses are included in 30 through 400 ampere 600 Volt，and 100 through 400 ampere 240 Volt，fusible heavy duty safety switches．Conversion to Class $J$ fuse spacing requires relocating the load side fuse base assembly from the standard Class H fuse location to an alternate position as marked in the enclosure．With Class J fuses installed，the switch is UL Listed for use on systems with up to 200,000 RMS symmetrical amperes available fault current． Switches rated 600 amperes， 240 or 600 Volt，require the addition of an adapter kit，H600J at One kit per 3－pole switch．

## Class L Fuse Provisions：

Fusible 800 A and 1200 A safety switches use Class L bolt－in fuses and are rated for use on systems with up to 200，000 RMS symmetrical amperes at 600 Vac maximum． 1200 A switches accept class $L$ fuses from 601－1200 A， 800 A switches accept class $L$ fuses from 601－800 A．

Dimensions NEMA 1 and 3R
NEMA 4，4X and 5 Stainless and NEMA 12 ．．．．．．．．．．．．．．．．．．．．．．．．page 3－13
Accessories ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．pages 3－9 through 3－11

##  <br> Product Information

## Heavy Duty Safety Switches

Not Fusible 600 Volt
Class 3110

600 Volt-Single Throw Not Fusible


UL Listed Maximum Short Circuit Current Ratings-AC only
Note: Consult the wiring diagram of the switch to verify the UL Listed short circuit current rating.
Fusible Safety Switches
For the short circuit current rating, refer to the below table.

| Heavy Duty <br> Safety Switch Type | UL Listed <br> Fuse Class | UL Listed Short Circuit <br> Current Ratings <br> (RMS Symmetrical Amperes) |
| :---: | :---: | :---: |
| Fusible | H, K | 10,000 |
|  | R,T,J,L | 200,0000 |

Not Fusible Safety Switches
Any brand of circuit breaker or fuse not exceeding the ampere rating of the switch may be used ahead of an unfused safety switch when there is up to 10,000 A short circuit current available. (See below table.)

| Heavy Duty <br> Safety Switch <br> Type | Switch <br> Ampere Rating <br> (Amperes) $\Theta$ | Upstream Fuse <br> or <br> Circuit Breaker Typer | UL Listed Short Circuit Circuit <br> Current Rating of switch <br> (RMS Symmetrical Amperes) |
| :---: | :---: | :---: | :---: |
| Unfused <br> Switches | all | Any Brand Circuit Breaker | up to <br>  |
|  | H, K | 10,000 |  |

- On $600 \mathrm{~V}, 200 \mathrm{~A}$ switches, $100,000 \mathrm{~A}$ max. on corner grounded delta when protected by Class J or R fuses.

Ampere rating of fuse or circuit breaker not to exceed switch ampere rating.

Maximum $\mathrm{I}^{2} \mathrm{t}$ and $\mathrm{I}_{\mathrm{p}}$ Ratings of Heavy Duty Switches ,

| Switch Rating <br> Ampere | Max. I2t Rating <br> (Amp2 sec) | Max Ip Rating <br> (Amperes) |
| :---: | :--- | :---: |
| 30 | 50,000 | 14,000 |
| 60 | 200,000 | 26,000 |
| 100 | 500,000 | 32,000 |
| 200 | $2,000,000$ | 50,000 |
| 400 | $6,000,000$ | 75,000 |
| 600 | $12,000,000$ | 100,000 |
| 800 | $10,000,000$ | 80,000 |
| 1200 | $15,000,000$ | 120,000 |

↔ Per UL 489, table 7.12.2.1

