



## Spectra RMS™ Molded Case Circuit Breakers

ADVANCED  
TECHNOLOGY,  
SOLID-STATE,  
DIGITAL RMS  
SENSING.



# INTRODUCING THE FIRST BREAKER LINE WITH UNIVERSAL ACCESSORIES.

With Spectra RMS™ breakers, there's no need to stock or specify multiple types of accessories. Shunt trips, auxiliary switches, bell alarms and undervoltage releases are the same for every breaker – cutting inventory to the absolute minimum.

Not only is inventory reduced, but installation time, too. Only Spectra RMS™ breakers are designed so that rating plugs and internal accessories can be quickly installed in the field – without breaker disassembly. And GE's exclusive snap-in lugs speed installation further. The bottom line: less time. Less labor. And lower installed cost.

Spectra RMS™ breakers provide true RMS sensing. A short-time function is standard on all breakers – for an extra level of motor and transformer protection. Accessory leads can be either left or right feed. And the entire line is available in IC ratings to 200kA @ 240 Vac and 100kA @ 480 Vac.

Spectra RMS™ breakers. More convenience and greater performance. Only from GE.

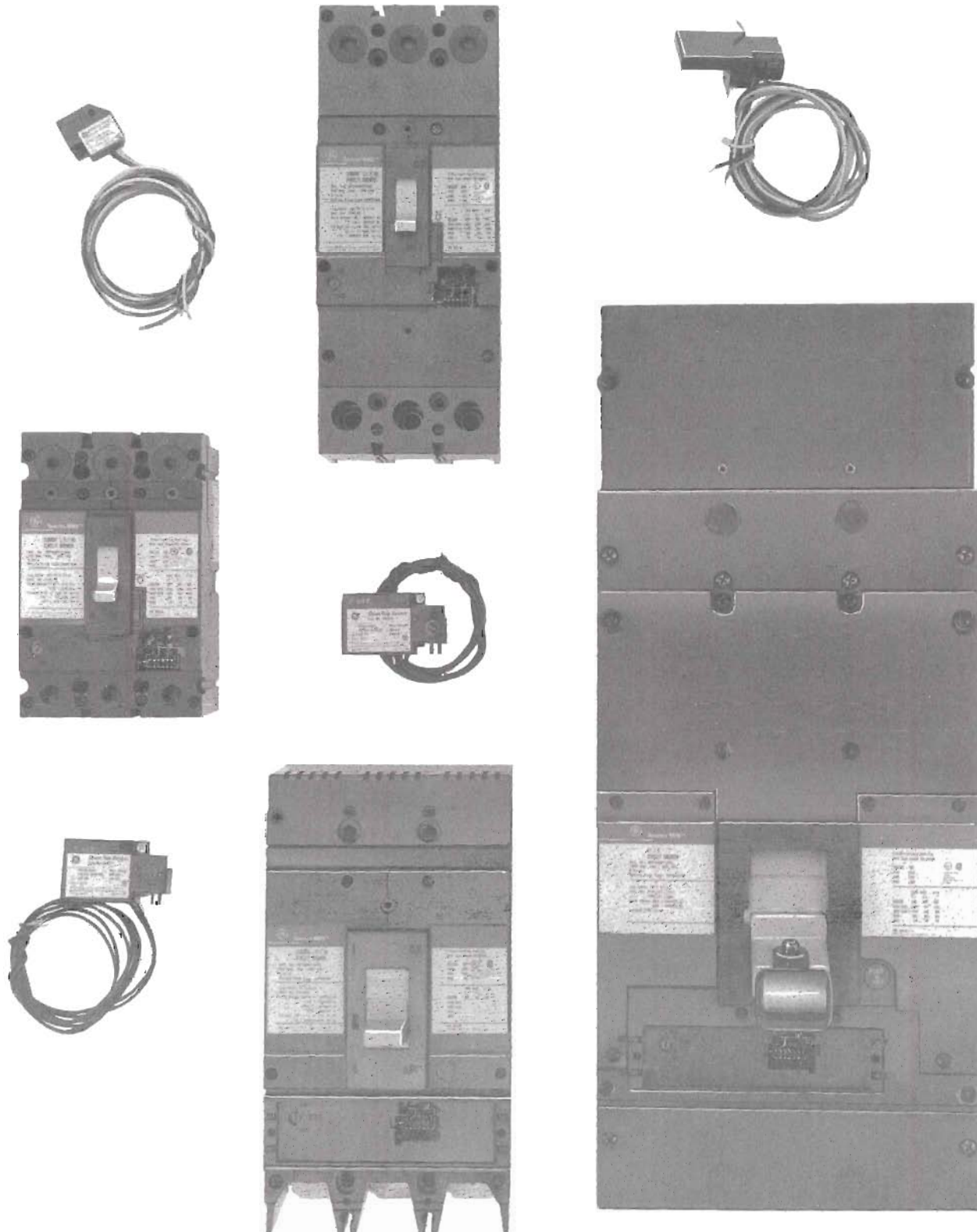
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# GE'S NEW SPECTRA RMS.™

It's Never Been  
Easier  
To Accessorize  
A Breaker.  
Accessories  
Just Drop In.  
They Simplify  
Installation.  
And, Since  
They're  
Common  
Throughout  
The Entire  
Line, They Cut  
Inventory  
Costs.



# Spectra RMS™ Circuit Breakers with



# The Features You've Asked For.

Snap-in lugs (in E & F frames). Lug installation requires no disassembly or removal of cover.

Current limiting by design. E150, F250, and G400/600 provide exceptional equipment protection and less system stress.

An industry first! Common internal accessories. Regardless of frame rating, you only have to stock one type of accessory. Reduces inventory.

Accessory leads can be either right or left exit. And thanks to the side and rear channels, no added space is required for lead exit.

Reverse Feed. Front-mounted interchangeable trips (rating plugs) mean all frames are UL Listed for reverse feed.

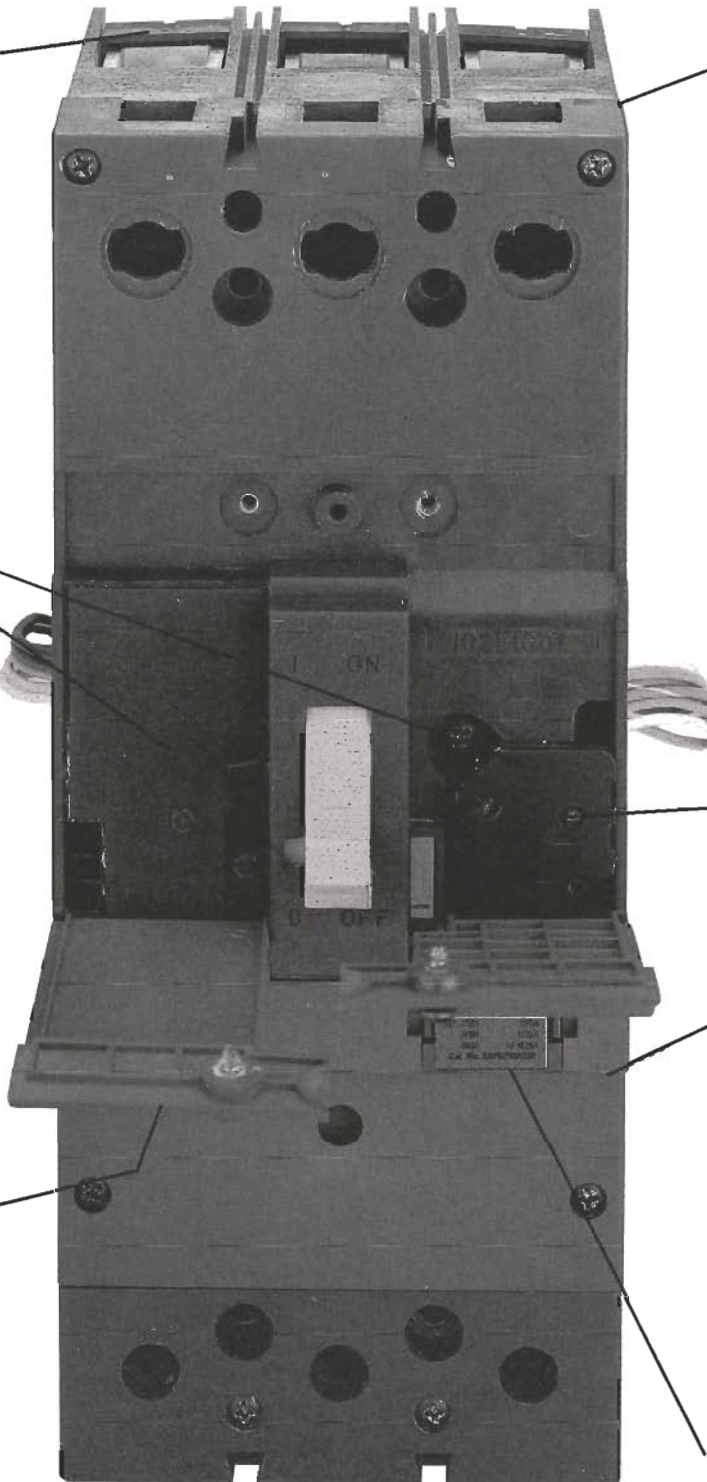
Higher IC ratings. Ratings to 100kA @480V without fuses – and without changing from traditional GE breaker sizes.

Unique, short-time function tracks the adjustable instantaneous setting – for greater motor and transformer protection. Standard for all frames. A new solution in a lower-priced breaker!

Digital RMS trip system – standard. True RMS sensing means accurate response to the high harmonic content current waveforms produced by SCR drives, welders, arc furnaces, computer power supplies, and discharge-type lighting – all without nuisance tripping.

AGE exclusive! Full line of rating plugs as interchangeable trips – including E-frames. Easy field configuration. Better service.

New frame size/current ratings. More amps per cubic inch. F-frame now rated 250 amp. New 5½"-wide 400- and 600-amp G-frame replaces 8¼"-wide J-frame.



# Selection and Ordering Information

## TO ORDER –

### Circuit Breaker

1. Select frame Cat. No. from Table 8.1.
2. Select rating plug from Table 10.1.
3. Select lugs, if required, from Table 11.1.
4. Select internal accessories from Tables 12.1-12.4.

### Mag-Break® Motor Circuit Protector

1. Select frame Cat. No. from Table 9.1.
2. Select rating plug from Table 10.1.
3. Select lugs, if required, from Table 11.1.
4. Select internal accessories from Tables 12.1-12.4.

### Molded Case Switch

1. Select molded case switch from Table 9.2.
2. Select lugs, if required, from Table 11.1.
3. Select internal accessories from Tables 12.1-12.4.

## FRAME DESIGNATION & AMPACITIES

Table 6.1

| Frame Type | Sensor Amp | Rating Plugs |
|------------|------------|--------------|
| SE150      | 30         | 15-30        |
|            | 60         | 40-60        |
|            | 100        | 70-100       |
|            | 150        | 110-150      |
| SF250      | 250        | 70-250       |
| SG600      | 400        | 125-400      |
|            | 600        | 250-600      |
| SK1200     | 800        | 300-800      |
|            | 1200       | 600-1200     |

## INTERRUPTING CAPACITIES

Table 6.2

| Frame Type | Frame Designation Prefix | Interrupting Capacity, RMS Sym kA |     |     |
|------------|--------------------------|-----------------------------------|-----|-----|
|            |                          | 240                               | 480 | 600 |
| SE150      | SEDA                     | 18                                | 14  | 14  |
|            | SEHA                     | 65                                | 25  | 18  |
|            | SELA                     | 100                               | 65  | 25  |
|            | SEPA                     | 200                               | 100 | 25  |
| SF250      | SFHA                     | 65                                | 25  | 18  |
|            | SFLA                     | 100                               | 65  | 25  |
|            | SFPA                     | 200                               | 100 | 25  |
| SG600      | SGDA                     | 65                                | —   | —   |
|            | SGHA                     | 65                                | 35  | 25  |
|            | SGLA                     | 100                               | 65  | 65  |
|            | SGPA                     | 200                               | 100 | 65  |
| SK1200     | SKHA                     | 65                                | 50  | 25  |
|            | SKLA                     | 100                               | 65  | 42  |
|            | SKPA                     | 200                               | 100 | 65  |

## DIMENSIONS

**Table 7.1**

| Circuit Breaker Frame Type | Poles  | Dimensions inches (mm) |             |             |             |             |            |             |
|----------------------------|--------|------------------------|-------------|-------------|-------------|-------------|------------|-------------|
|                            |        | H                      | W           | D           | A           | B           | C          | E           |
| SE150                      | 2<br>3 | 6.31(160.3)            | 4.12(104.8) | 3.38(85.9)  | 2.82(71.6)  | 2.06(52.3)  | .69(17.5)  | .72(18.3)   |
| SF250                      | 2<br>3 | 10.12(257.0)           | 4.12(104.8) | 3.81(96.8)  | 3.88(98.6)  | 3.88(98.5)  | .69(17.5)  | 1.19(30.2)  |
| SG600                      | 2<br>3 | 10.09①(256.3)          | 5.50(139.7) | 3.81(96.8)  | 4.45(113.0) | 3.30(83.8)  | .91(23.1)  | 1.18(30.0)① |
| SK1200                     | 2<br>3 | 15.50②(393.7)          | 8.25(209.6) | 5.50(139.7) | 8.56(217.4) | 5.69(144.5) | 1.38(34.9) | .62(15.8)②  |

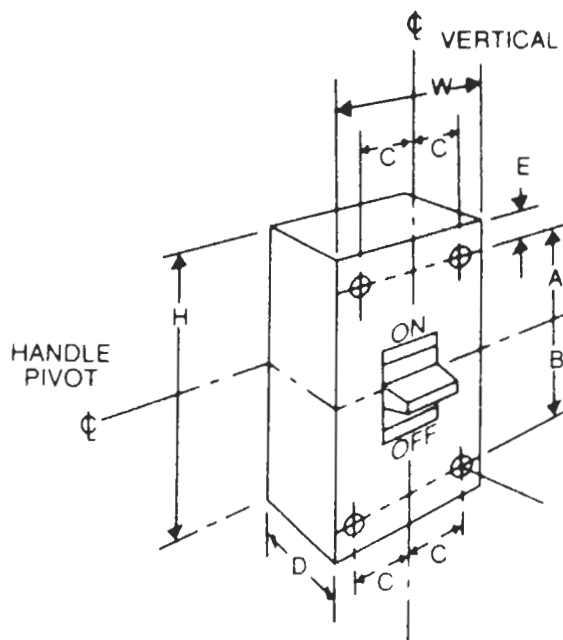
① Add 1.76 inches to each end with lugs/cover installed.

② Add 4.00 inches to upper end for SKPA (100kA-480 Vac).

## UL AND CSA FILE NUMBERS

**Table 7.2**

| Frame Type                                       | UL File No<br>(report date) | CSA File No<br>(report date)             |
|--------------------------------------------------|-----------------------------|------------------------------------------|
| Spectra RMS™ Molded Case Circuit Breakers        |                             |                                          |
| SE                                               | E11592 (7-12-90)            | LR84929-8 (1-11-91)                      |
| SF                                               | E11592 (1-31-90)            | LR84929-1 (7-11-89)                      |
| SG                                               | E11592 (7-16-90)            | LR84929-8 (1-11-91)                      |
| SK                                               | E11592 (1-31-90)            | LR84929-7 (2-21-90)                      |
| Spectra RMS™ Mag-Break® Motor Circuit Protectors |                             |                                          |
| SE                                               | E11592 (7-10-90)            | LR91464-3 (1-10-91)                      |
| SF                                               | E11592 (8-8-89)             | LR84929-1 (7-11-89)                      |
| SG                                               | E11592 (7-19-90)            | LR91464-3 (1-10-91)                      |
| SK                                               | E11592 (2-1-90)             | LR91464-3 (1-10-91)                      |
| Spectra RMS™ Molded Case Switches                |                             |                                          |
| SE                                               | E57546 (7-10-90)            | LR91464-3 (1-10-91)                      |
| SF                                               | E57546 (8-8-89)             | LR91464-2&3 (7-6-90)<br>&(1-10-91) (SFD) |
| SG                                               | E57546 (7-16-90)            | LR91464-3 (1-10-91)                      |
| SK                                               | E57546 (1-31-90)            | LR91464-1 (2-21-90)                      |



# Selection and Ordering Information

## STEP 1 – Select Frame

### CIRCUIT BREAKERS

**Table 8.1.** UL Listed File No. E11592. Suitable for reverse feed. (Line and load lugs not included)

| Frame Type | 480 Vac<br>IC Rating<br>kA RMS Sym <sup>②</sup> | Sensor<br>Amps <sup>③</sup> | Frame Catalog Number |                |
|------------|-------------------------------------------------|-----------------------------|----------------------|----------------|
|            |                                                 |                             | 2 Pole <sup>①</sup>  | 3 Pole         |
| SE150      | 14                                              | 30                          | SEDA 24AT 0030       | SEDA 36AT 0030 |
|            |                                                 | 60                          | SEDA 24AT 0060       | SEDA 36AT 0060 |
|            |                                                 | 100                         | SEDA 24AT 0100       | SEDA 36AT 0100 |
|            |                                                 | 150                         | SEDA 24AT 0150       | SEDA 36AT 0150 |
|            | 25                                              | 30                          | SEHA 24AT 0030       | SEHA 36AT 0030 |
|            |                                                 | 60                          | SEHA 24AT 0060       | SEHA 36AT 0060 |
|            |                                                 | 100                         | SEHA 24AT 0100       | SEHA 36AT 0100 |
|            |                                                 | 150                         | SEHA 24AT 0150       | SEHA 36AT 0150 |
|            | 65 <sup>④</sup>                                 | 30                          | SELA 24AT 0030       | SELA 36AT 0030 |
|            |                                                 | 60                          | SELA 24AT 0060       | SELA 36AT 0060 |
|            |                                                 | 100                         | SELA 24AT 0100       | SELA 36AT 0100 |
|            |                                                 | 150                         | SELA 24AT 0150       | SELA 36AT 0150 |
|            | 100 <sup>④</sup>                                | 30                          | SEPA 24AT 0030       | SEPA 36AT 0030 |
|            |                                                 | 60                          | SEPA 24AT 0060       | SEPA 36AT 0060 |
|            |                                                 | 100                         | SEPA 24AT 0100       | SEPA 36AT 0100 |
|            |                                                 | 150                         | SEPA 24AT 0150       | SEPA 36AT 0150 |
| SF250      | 25                                              | 250                         | SFHA 24AT 0250       | SFHA 36AT 0250 |
|            | 65 <sup>④</sup>                                 | 250                         | SFLA 24AT 0250       | SFLA 36AT 0250 |
|            | 100 <sup>④</sup>                                | 250                         | SFPA 24AT 0250       | SFPA 36AT 0250 |
| SG600      | 65 <sup>④</sup>                                 | 400                         | SGDA 22AT 0400       | SGDA 32AT 0400 |
|            | 35                                              | 400                         | SGHA 24AT 0400       | SGHA 36AT 0400 |
|            | 65 <sup>④</sup>                                 | 400                         | SGLA 24AT 0400       | SGLA 36AT 0400 |
|            | 100 <sup>④</sup>                                | 400                         | SGPA 24AT 0400       | SGPA 36AT 0400 |
|            | 35                                              | 600                         | SGHA 24AT 0600       | SGHA 36AT 0600 |
|            | 65 <sup>④</sup>                                 | 600                         | SGLA 24AT 0600       | SGLA 36AT 0600 |
|            | 100 <sup>④</sup>                                | 600                         | SGPA 24AT 0600       | SGPA 36AT 0600 |
|            |                                                 |                             |                      |                |
| SK1200     | 50                                              | 800                         | SKHA 26AT 0800       | SKHA 36AT 0800 |
|            | 65                                              | 800                         | SKLA 26AT 0800       | SKLA 36AT 0800 |
|            | 100                                             | 800                         | SKPA 26AT 0800       | SKPA 36AT 0800 |
|            | 50                                              | 1200                        | SKHA 26AT 1200       | SKHA 36AT 1200 |
|            | 65                                              | 1200                        | SKLA 26AT 1200       | SKLA 36AT 1200 |
|            | 100                                             | 1200                        | SKPA 26AT 1200       | SKPA 36AT 1200 |

① 2 Pole SE150, SF250 and SG600 rated 480 Vac max.

② Refer to Table 6.2 for complete interrupting ratings.

③ Use rating plugs in Table 10.1 to establish/change ampere rating.

④ UL Listed Current-Limiting circuit breakers.

⑤ At 240 Vac.

## STEP 1 (cont.)

### MAG-BREAK® MOTOR CIRCUIT PROTECTORS

**Table 9.1.** Current limiting, UL Component-Recognized, File No. E11592 (Line and load lugs not included)

| Frame Type          | Sensor Amps <sup>②</sup> | 3-Pole,<br>600 Vac<br>Frame Cat. No. | Interrupting Rating<br>RMS Sym kA at |         |         |
|---------------------|--------------------------|--------------------------------------|--------------------------------------|---------|---------|
|                     |                          |                                      | 240 Vac                              | 480 Vac | 600 Vac |
| SE150               | 7                        | SELA 36AI 0007                       | 100                                  | 65      | 25      |
|                     | 30                       | SELA 36AI 0030                       | 100                                  | 65      | 25      |
|                     | 60                       | SELA 36AI 0060                       | 100                                  | 65      | 25      |
|                     | 100                      | SELA 36AI 0100                       | 100                                  | 65      | 25      |
|                     | 150                      | SELA 36AI 0150                       | 100                                  | 65      | 25      |
| SF250               | 250                      | SFLA 36AI 0250                       | 100                                  | 65      | 25      |
| SG600               | 400                      | SGLA 36AI 0400                       | 100                                  | 65      | 65      |
|                     | 600                      | SGLA 36AI 0600                       | 100                                  | 65      | 65      |
| SK1200 <sup>①</sup> | 800                      | SKLA 36AI 0800                       | 100                                  | 65      | 42      |
|                     | 1200                     | SKLA 36AI 1200                       | 100                                  | 65      | 42      |

① Not current limiting.

② Use rating plugs in Table 10.1 to establish/change instantaneous pick-up range.

### MOLDED CASE SWITCHES

**Table 9.2.** With fixed, high-set instantaneous trip. UL File E57546 (Line and load lugs not included)

| Frame Type | Amp <sup>②</sup><br>Rating | 3-Pole, 600V<br>Switch<br>Cat. No. | Short Circuit Withstand Rating <sup>①</sup><br>when protected by Spectra RMS <sup>™</sup><br>Circuit Breaker of equal or<br>lower ampere rating and<br>equal short circuit rating |         |         |
|------------|----------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|
|            |                            |                                    | 240 Vac                                                                                                                                                                           | 480 Vac | 600 Vac |
| SE150      | 100                        | SEDA 36AN 0100                     | 200                                                                                                                                                                               | 100     | 25      |
|            | 150                        | SEDA 36AN 0150                     | 200                                                                                                                                                                               | 100     | 25      |
| SF250      | 250                        | SFDA 36AN 0250                     | 200                                                                                                                                                                               | 100     | 25      |
| SG600      | 400                        | SGDA 36AN 0400                     | 200                                                                                                                                                                               | 100     | 65      |
|            | 600                        | SGDA 36AN 0600                     | 200                                                                                                                                                                               | 100     | 65      |
| SK1200     | 800                        | SKDA 36AN 0800                     | 100                                                                                                                                                                               | 65      | 42      |
|            | 1200                       | SKDA 36AN 1200                     | 100                                                                                                                                                                               | 65      | 42      |

① In RMS symmetrical kiloamperes.

② No rating plug required.

# Selection and Ordering Information

## STEP 2 – Select Rating Plug

**Table 10.1.** Spectra RMS™ Circuit Breakers and Mag-Break® Motor Circuit Protectors

| Breaker<br>Frame<br>Type | Sensor<br>Amps | Rating<br>Plug<br>Amps | Rating Plug<br>Cat. No. | Adjustable<br>Instantaneous Pickup<br>Range – RMS Sym<br>Amperes – Nominal |       |
|--------------------------|----------------|------------------------|-------------------------|----------------------------------------------------------------------------|-------|
|                          |                |                        |                         | LO                                                                         | HI    |
| SE150                    | 7 <sup>Ⓢ</sup> | 3                      | SRPE 7A 3               | 11                                                                         | 39    |
|                          |                | 7                      | SRPE 7A 7               | 22                                                                         | 90    |
|                          | 30             | 15                     | SRPE 30A 15             | 43                                                                         | 182   |
|                          |                | 20                     | SRPE 30A 20             | 58                                                                         | 254   |
|                          |                | 25                     | SRPE 30A 25             | 73                                                                         | 332   |
|                          |                | 30                     | SRPE 30A 30             | 87                                                                         | 415   |
|                          | 60             | 40                     | SRPE 60A 40             | 118                                                                        | 501   |
|                          |                | 50                     | SRPE 60A 50             | 148                                                                        | 637   |
|                          |                | 60                     | SRPE 60A 60             | 178                                                                        | 777   |
|                          | 100            | 70                     | SRPE 100A 70            | 206                                                                        | 863   |
|                          |                | 80                     | SRPE 100A 80            | 236                                                                        | 999   |
|                          |                | 90                     | SRPE 100A 90            | 267                                                                        | 1138  |
|                          |                | 100                    | SRPE 100A 100           | 297                                                                        | 1280  |
| SF250                    | 250            | 110                    | SRPE 150A 110           | 328                                                                        | 1426  |
|                          |                | 125                    | SRPE 150A 125           | 374                                                                        | 1640  |
|                          |                | 150                    | SRPE 150A 150           | 450                                                                        | 1991  |
|                          |                | 70                     | SRPF 250A 70            | 205                                                                        | 700   |
|                          |                | 90                     | SRPF 250A 90            | 265                                                                        | 900   |
|                          |                | 100                    | SRPF 250A 100           | 295                                                                        | 1000  |
|                          |                | 110                    | SRPF 250A 110           | 325                                                                        | 1100  |
|                          |                | 125                    | SRPF 250A 125           | 370                                                                        | 1250  |
|                          |                | 150                    | SRPF 250A 150           | 440                                                                        | 1500  |
|                          |                | 175                    | SRPF 250A 175           | 515                                                                        | 1750  |
| SG600                    | 400            | 200                    | SRPF 250A 200           | 590                                                                        | 2000  |
|                          |                | 225                    | SRPF 250A 225           | 665                                                                        | 2250  |
|                          |                | 250                    | SRPF 250A 250           | 736                                                                        | 2500  |
|                          |                | 125                    | SRPG 400A 125           | 380                                                                        | 1275  |
|                          |                | 150                    | SRPG 400A 150           | 455                                                                        | 1530  |
|                          |                | 175                    | SRPG 400A 175           | 530                                                                        | 1785  |
|                          |                | 200                    | SRPG 400A 200           | 605                                                                        | 2040  |
|                          |                | 225                    | SRPG 400A 225           | 680                                                                        | 2295  |
|                          |                | 250                    | SRPG 400A 250           | 755                                                                        | 2550  |
|                          |                | 300                    | SRPG 400A 300           | 905                                                                        | 3060  |
| SK1200                   | 800            | 350                    | SRPG 400A 350           | 1060                                                                       | 3570  |
|                          |                | 400                    | SRPG 400A 400           | 1210                                                                       | 4080  |
|                          |                | 250                    | SRPG 600A 250           | 765                                                                        | 2530  |
|                          |                | 300                    | SRPG 600A 300           | 915                                                                        | 3035  |
|                          |                | 350                    | SRPG 600A 350           | 1070                                                                       | 3545  |
|                          |                | 400                    | SRPG 600A 400           | 1220                                                                       | 4050  |
|                          |                | 450                    | SRPG 600A 450           | 1375                                                                       | 4555  |
|                          |                | 500                    | SRPG 600A 500           | 1525                                                                       | 5060  |
|                          |                | 600                    | SRPG 600A 600           | 1830                                                                       | 6075  |
|                          | 1200           | 300                    | SRPK 800A 300           | 940                                                                        | 3015  |
|                          |                | 400                    | SRPK 800A 400           | 1255                                                                       | 4015  |
|                          |                | 500                    | SRPK 800A 500           | 1570                                                                       | 5020  |
|                          |                | 600                    | SRPK 800A 600           | 1875                                                                       | 6195  |
|                          |                | 700                    | SRPK 800A 700           | 2155                                                                       | 7420  |
|                          |                | 800                    | SRPK 800A 800           | 2440                                                                       | 8705  |
|                          |                | 600                    | SRPK 1200A 600          | 1825                                                                       | 6110  |
|                          |                | 700                    | SRPK 1200A 700          | 2125                                                                       | 7125  |
|                          |                | 800                    | SRPK 1200A 800          | 2430                                                                       | 8145  |
|                          |                | 1000                   | SRPK 1200A 1000         | 3040                                                                       | 10180 |
|                          |                | 1200                   | SRPK 1200A 1200         | 3650                                                                       | 12215 |

ⓈMag-Break only

## STEP 3-Select Lugs

Table 11.1

### LUGS, LUG COVERS, AND BUS COVERS

| Accessory                                                               | For Use With | Wire Range (Qty)                      |                                     | Catalog Number          |                   | Description                                                               | Ampacity Range① |
|-------------------------------------------------------------------------|--------------|---------------------------------------|-------------------------------------|-------------------------|-------------------|---------------------------------------------------------------------------|-----------------|
|                                                                         |              | Copper                                | Aluminum                            |                         |                   |                                                                           |                 |
| Plated extruded aluminum lugs for terminating copper or aluminum cables | SE150        | #12-3/0                               | #12-3/0                             | TCAL18                  |                   | single lug                                                                | 15-150          |
|                                                                         | SF250        | #8-350 kcmil                          | #8-350 kcmil                        | TCAL29                  |                   | single lug                                                                | 70-250          |
|                                                                         | SG600        | (2)2/0-400 kcmil or (1)#6-600 kcmil   | (2)2/0-500 kcmil or (1)#6-600 kcmil | TCLK265<br>TCLK365      |                   | 2-pole lug kit<br>3-pole lug kit<br>(with lug cover for line or load end) | 125-600         |
|                                                                         | SK1200       | (3)3/0-500 kcmil                      | (3)3/0-500 kcmil                    | (Upper)<br>TCAL81       | (Lower)<br>TCAL91 | Single lug                                                                | 300-800         |
|                                                                         |              | (4)250-350④ kcmil                     | (4)250-500 kcmil                    | TCAL121                 | TCAL131           |                                                                           | 600-1200        |
| Replacement Lug Covers and End Covers                                   | SE150        | —                                     | —                                   | SE3LCK<br>(252B1661G1)③ |                   | Three lug covers for upper (line) end                                     | —               |
|                                                                         | SF250        | —                                     | —                                   | SF3LCK<br>(252B1659G1)③ |                   | Three lug covers for upper (line) end                                     | —               |
|                                                                         | SG600        | —                                     | —                                   | SG1LCK<br>(331A1770G1)③ |                   | 3-pole lug cover for upper (line) or lower (load) end                     | —               |
|                                                                         |              |                                       |                                     | SG1BCK<br>(331A1770G2)③ |                   | 3-pole end cover for use with bus bars. Fits both ends.                   | —               |
|                                                                         | SK1200       | —                                     | —                                   | SK1LCK<br>(252B1660G1)③ |                   | Lug cover for upper (line) or lower (load) end②                           | —               |
| Plated Copper Lugs                                                      | SE150        | #12-3/0                               | —                                   | TC018                   |                   | Refer to Company for availability                                         | 15-150          |
|                                                                         | SF250        | #8-350 kcmil                          | —                                   | TC029                   |                   |                                                                           | 70-250          |
|                                                                         | SG600        | (2) 2/0-400 kcmil or (1) #6-600 kcmil | —<br>—                              | TCOK265<br>TCOK365      |                   | 2-pole lug kit<br>3-pole lug kit                                          | 125-600         |
|                                                                         | SK1200       | (3) 250-500 kcmil                     | —                                   | (Upper)<br>TC081A       | (Lower)<br>TC091  | Single lug                                                                | 300-800         |
|                                                                         |              | (4) 250-400 kcmil                     | —                                   | TC0121                  | TC0131            | Single lug                                                                | 600-1200        |

① Both copper and aluminum cables may not cover full ampacity range.

② 100kA, 480 Vac (SKPA) uses longer lug cover/arc shield on upper end; Use Cat. No. SKPSHLD for replacement. May be used on other SK1200 devices.

③ Order by new catalog number. Corresponding Part Number in parentheses for reference only.

④ 500 kcmil acceptable for voltage drop considerations.

## STEP 4 – Select Internal Accessories

All Spectra RMS™ circuit breakers from the SE150 through the SK1200, including instantaneous-trip Mag-Break® breakers and Molded Case Switches, use the same UL Listed, field-installable internal accessories that do not require cover removal to install.

UL File No. E57253. Installation instructions – GEH-5551 (Shunt Trip and UVR) and GEH-5593 (Auxiliary Switch and Bell Alarm).

### AUXILIARY SWITCH

Table 12.1

| Auxiliary Switch Cat. No. | No. of Switch Elements | Switch Rating                      |
|---------------------------|------------------------|------------------------------------|
| SAUXPAB1<br>SAUXPAB2      | 1 form C<br>2 form C   | 5A @ 240 Vac/<br>0.5A @ 125 Vdc    |
| SAUXGAB1<br>SAUXGAB2      | 1 form C<br>2 form C   | GOLD-PLATED CONTACTS<br>0.5A @ 30V |

Auxiliary Switches provide remote indication of whether the circuit breaker main contacts are opened or closed via open or closed SPDT switch elements.

### BELL ALARM SWITCH

Table 12.2

| Bell Alarm Switch Cat. No. | No. of Switch Elements | Switch Rating                      |
|----------------------------|------------------------|------------------------------------|
| SABAP1                     | 1 form C               | 5A @ 240 Vac/<br>0.5A @ 125 Vdc    |
| SABAG1                     | 1 form C               | GOLD-PLATED CONTACTS<br>0.5A @ 30V |

The Bell Alarm Switch provides remote indication of whether the circuit breaker has been tripped via open or closed SPDT switch elements, but remains unchanged during "On/Off" circuit breaker operation.

### UNDERVOLTAGE RELEASE

Table 12.3

| Undervoltage Cat. No. | Voltage |     | Peak Current (mA) |
|-----------------------|---------|-----|-------------------|
|                       | ac      | dc  |                   |
| SAUV1                 | 120     | 125 | 200               |
| SAUV2                 | 240     | 250 | 200               |
| SAUV3                 | 24①     | 24  | 100               |
| SAUV4                 | 48①     | 48  | 100               |

① Available 4th quarter 1991.

The Undervoltage Release provides automatic circuit breaker tripping when there is a power loss or major dip

(to 35%-70% of rated voltage) in accessory control voltage. Ac devices are rated for 50-400 Hz and UL Listed for 50-60 Hz. Cat. No. SAUV1 may be used with time delay unit Cat. No. TD110A530 or TD1000 (120 Vac input, 125 Vdc output).

### SHUNT TRIP

Table 12.4

| Shunt Trip Cat. No. | Voltage |     | Current (mA) |      |
|---------------------|---------|-----|--------------|------|
|                     | ac      | dc  | Inrush       | Cont |
| SAST1               | 120     | 125 | 500          | 6.0  |
| SAST2               | 240     | 250 | 400          | 5.0  |
| SAST3               | 24①     | 24  | 300          | 10.0 |
| SAST4               | 48①     | 48  | 300          | 10.0 |

① Available 4th quarter 1991.

For remote tripping of breaker, use with momentary close contact. Not recommended for use with latching relay contact since electronics in Shunt Trip will pulse power to the coil if continuously energized, and breaker shunt tripping upon reclosure will be delayed 1-2 seconds at rated control voltage. (A short circuit trip would be instantaneous.)

If maintained (latching relay) contact must be used and delayed shunt tripping is not acceptable, use bell alarm in series with control power for SE150 and SF250 frames and auxiliary switch for SG600 and SK1200 breakers.

These devices are suitable for use with Ground Fault Sensing and Relaying Equipment. Maximum VA is 75. Ac devices are rated for 50-400 Hz and UL Listed for 50-60 Hz.

### ACCESSORY MOUNTING

All accessories mount in pouches accessible from a front cover. All breakers have a left-side pouch and a right-side pouch. The following combinations may be installed:

**Left-side Pouch** – either shunt trip or under voltage release plus bell alarm.

**Right-side Pouch** – auxiliary switch (single- or double-pole).

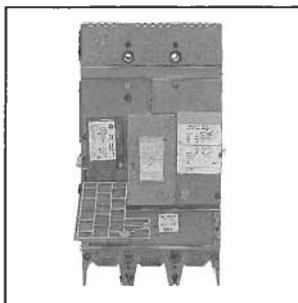


Fig. 12.1. Left-side Pouch

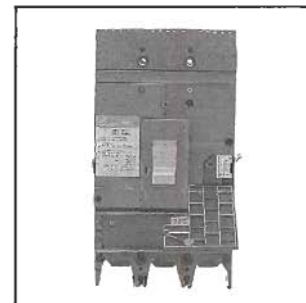


Fig. 12.2. Right-side Pouch

# External Accessories

All external accessories are UL Listed for field installation.

The following external accessories are available (except as noted) for Spectra RMS™ breakers:

- Handle Operators – Type TDA, Type TDM, and Type TDR
- Motor-Operated Mechanisms
- Back-Connected Studs
- Plug-in Mounting Bases
- Handle locks (blocking devices)
- Padlocking devices
- Breaker mounting screw kits

## HANDLE OPERATORS

Type TDA flange handles and variable depth operating mechanisms:

- Designed to meet automotive duty specifications
- NEMA 12 and 13 UL-recognized components
- For right- or left-hand flange mounting – field convertible
- Have mounting dimensions that fit standard flange enclosures 8 inches to 24 inches deep

## Flange Handle Selection

Cat. No. TDA1 (6-inch) and TDA2 (10-inch) flange handles are interchangeable. While the SE150 through SG600 operating mechanisms can be easily operated with the TDA1 handle, the TDA2 may be used to obtain lower operating force and/or to provide a proportionally larger handle on large enclosures.

## Operating Mechanism Selection

Table 13.1

| Spectra RMS™<br>Circuit Breaker<br>Type | Flange<br>Handle<br>Cat. No.                | Operating<br>Mechanism<br>Cat. No. ① |
|-----------------------------------------|---------------------------------------------|--------------------------------------|
| SE150                                   | TDA1<br>(6-inch)<br>or<br>TDA2<br>(10-inch) | SDOM1A                               |
| SF250                                   |                                             | SDOM3                                |
| SG600                                   |                                             | SDOM4                                |
| SK1200                                  |                                             | SDOM6 ②                              |

① Installation Instructions—GEH-5684. UL File E57253.

② Contact GE sales office for availability.

## Flange Handle Construction

- Rugged die cast housing with provision for locking in **OFF** position with up to three 3/16-inch to 5/16-inch diameter padlocks

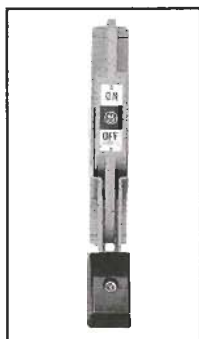


Fig. 13.1. Flange Handle, Cat. No. TDA1

- O-ring seals for dirt-tight/oil-tight duty
- Gusseted, 3/32-inch thick double-sided steel handle with large, red-black self-extinguishing grade plastic grip

## Variable Depth Operating Mechanism Construction

- Plated steel yokes and integral mounting plates are 1/8-inch thick minimum
- Operating yokes have toggle spring assist for positive on/off operation
- Mounting plates include positive yoke stops to prevent undue wear on disconnect and circuit breaker toggle handles

## Accessories

**Auxiliary Contact Kit:** Available SPDT and DPDT and actuated by operating mechanism yoke.

Table 13.2

| Operating<br>Mechanism<br>Catalog<br>Number | Auxiliary Contact Kit Cat. No. |         |             |         |
|---------------------------------------------|--------------------------------|---------|-------------|---------|
|                                             | TDA Handle Mounted on          |         |             |         |
|                                             | Right Flange                   |         | Left Flange |         |
|                                             | SPDT                           | DPDT    | SPDT        | DPDT    |
| SDOM1A<br>SDOM3<br>SDOM4                    | TDAS1L1                        | TDAS1L2 | TDAS1R1     | TDAS1R2 |
| SDOM6                                       | TDAS2L1                        | TDAS2L2 | TDAS1R1     | TDAS1R2 |

## Flange Stiffener Kit or Extended-Length Drive Rod, Cat. No. TDSR

Provides rigid 3/8-inch diameter rod between TDA handle mounting surface (flange or center mullion) and operating mechanism when TDA handle would otherwise not be rigidly supported.

Rod length is 22 inches and may be cut to appropriate length. Also used as extended-length drive rod for SDOM1A and SDOM3 when standard 16-inch rod is not long enough.

Table 13.3

| Operating<br>Mechanism<br>Catalog Number | Flange<br>Stiffener Kit<br>Catalog Number          | Extended<br>Drive Rod<br>Catalog Number |
|------------------------------------------|----------------------------------------------------|-----------------------------------------|
| SDOM1A<br>SDOM3                          | TDSR                                               | TDSR                                    |
| SDOM4<br>SDOM6                           | TDSR<br>(16" supplied with<br>operating mechanism) | TDSR1                                   |

## TDA VARIABLE DEPTH ACCESSORIES (CONT)

**Extended Drive Stud, Cat. No. TDS1, TDS2** This optional drive stud permits locating the operating mechanism  $1\frac{5}{16}$  inches farther to the left (when flange handle is on right side) or to the right (when handle is on left side) to accommodate specific mounting restrictions.

**Table 14.1**

| Operating Mechanism Catalog Number | Extended Drive Stud Catalog Number |
|------------------------------------|------------------------------------|
| SDOM1A, SDOM3                      | TDS1                               |
| SDOM4                              | TDS2                               |

**Note:** Not suitable for use with SDOM6 operating mechanisms.

**Door Hardware (NEMA 12)** Type TDV door hardware provides sealing and interlocking of  $\frac{3}{4}$ -inch nominal door depth hinged on left. Interlocking design requires use of screwdriver to release. When used with TDA flange handle and operating mechanisms disconnect or circuit breaker cannot be turned on unless door and door hardware have been closed. For non-interlocking type, one bracket in kit is not used. Use of third point latch recommended for doors 40 inches or longer.

**Table 14.2**

| Description                              | Catalog Number for Door hinged on left |
|------------------------------------------|----------------------------------------|
| Two-point interlocking door hardware kit | TDV1                                   |
| Auxiliary third point roller latch       | TDV3                                   |

TDA Handles, Operating Mechanisms and Accessory Installation Instructions

|                           |          |
|---------------------------|----------|
| TDA1, TDA2 Flange Handles | GEH-5314 |
| SDOM1A-SDOM6 Mechanisms   | GEH-5684 |
| Door Hardware             | GEH-5322 |
| Auxiliary Contact Kit     | GEH-5323 |
| Flange Stiffener Kit or   |          |
| Extended-Length Drive Rod | GEH-5324 |
| Extended Drive Stud       | GEH-5325 |

## TDM HANDLE OPERATING MECHANISMS, DOOR-MOUNTED

**Table 14.3**

| Spectra RMS™ Breaker Type<br>(Installation Instructions) | Box Depth in Inches                                             | Complete Mechanism with NEMA 1, 3R, 12 Handle | Operating Mechanism Only | Handle Only    |              |
|----------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------|--------------------------|----------------|--------------|
|                                                          |                                                                 | Catalog Number                                | Catalog Number           | NEMA 1, 3R, 12 | NEMA 4 and 5 |
| SE150<br>(GEH-5611)                                      | 4 <sup>3</sup> / <sub>8</sub>                                   | SEFHM1                                        | SEFOM1                   | TH1            | THCH45       |
|                                                          | 6 <sup>1</sup> / <sub>8</sub> -15                               | SEFHM2                                        | SEFOM2                   |                |              |
| SF250<br>(GEH-5611)                                      | 5 <sup>7</sup> / <sub>8</sub>                                   | SEFHM1                                        | SEFOM1                   | TH2            |              |
|                                                          | 7 <sup>3</sup> / <sub>4</sub> -15 <sup>1</sup> / <sub>2</sub>   | SEFHM2                                        | SEFOM2                   |                |              |
| SG600<br>(GEH-5653)                                      | 5 <sup>7</sup> / <sub>8</sub>                                   | SGHM1                                         | SGOM1                    |                |              |
|                                                          | 5 <sup>5</sup> / <sub>8</sub> -15 <sup>5</sup> / <sub>8</sub>   | SGHM2                                         | SGOM2                    |                |              |
| SK1200<br>(GEH-5612)                                     | 7 <sup>1</sup> / <sub>8</sub>                                   | SKHM1                                         | SKOM1                    |                |              |
|                                                          | 7 <sup>1</sup> / <sub>32</sub> -17 <sup>5</sup> / <sub>16</sub> | SKHM2                                         | SKOM2                    |                |              |

## TDR INTEGRAL HANDLE MECHANISM

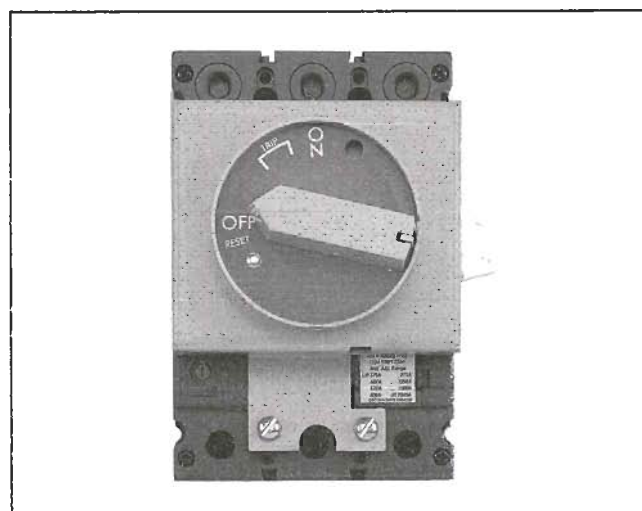
**Table 14.4**

| Spectra RMS™ Breaker Type (Installation Instructions) | Handle                     |                              |          | Door Ring-Interlock Catch Kit | Gasket Kit          |
|-------------------------------------------------------|----------------------------|------------------------------|----------|-------------------------------|---------------------|
|                                                       | Vertical Mounting Cat. No. | Horizontal Mounting Cat. No. | Ship Wt. | Cat. No. ③                    | Cat. No. ③          |
| SE150, SF250 (GEH-5594)                               | SEFR1⊙                     | SEFR1H⊙                      | 17②      | SEFRDACK (343L483G1)          | SEFRGSK (792A489G1) |
| SG600 (GEH-5654)                                      | SGR1                       | SGR1H                        | 5        | SGRDACK (343L483G2)           | SGRGSK (792A489G2)  |
| SK1200 (GEH-5610)                                     | SKR1                       | SKR1H                        | 5        | SKRDACK (343L483G3)           | SKRGSK (792A489G3)  |

① For F250 Frame also order adapter bracket, Cat. No. SFRAC, no charge when ordered with handle.

② Shipped 12 per pack.

③ Order by new catalog number. Corresponding part no. in parentheses for reference only.



**Fig. 14.1.** TDR handle on E-Frame Mag-Break®

## MOTOR-OPERATED MECHANISMS

Table 15.1

| Spectra RMS™<br>Breaker<br>Type | Voltage           |     | Cat. No. | Installation<br>Instructions |
|---------------------------------|-------------------|-----|----------|------------------------------|
|                                 | ac<br>50/60<br>Hz | dc  |          |                              |
| SE150                           | 120               | 125 | SEMOM1   | GEH-5613                     |
|                                 | 240①              | —   | SEMOM2   |                              |
|                                 | —                 | 24  | SEMOM8   |                              |
|                                 | —                 | 48  | SEMOM9   |                              |
| SF250                           | 120               | 125 | SFMOM1   | GEH-5613                     |
|                                 | 240①              | —   | SFMOM2   |                              |
|                                 | —                 | 24  | SFMOM8   |                              |
|                                 | —                 | 48  | SFMOM9   |                              |
| SG600                           | 120               | 125 | SGMOM1   | GEH-5657                     |
|                                 | 240①              | 250 | SGMOM2   |                              |
|                                 | —                 | 24  | SGMOM8   |                              |
|                                 | —                 | 48  | SGMOM9   |                              |
| SK1200                          | 120               | 125 | SKMOM1   | GEH-5614                     |
|                                 | 240①              | 250 | SKMOM2   |                              |
|                                 | —                 | 24  | SKMOM8   |                              |
|                                 | —                 | 48  | SKMOM9   |                              |

① Suitable for use at 208V.



Fig 15.1. Motor-Operated mechanism on SF-Frame breaker.

## BACK-CONNECTED STUDS

Table 15.3

| Spectra RMS™<br>Breaker<br>Type | Max.<br>Amps | Length, Back<br>of Breaker<br>in Inches                                           | Catalog<br>Number | Std<br>Pkg |
|---------------------------------|--------------|-----------------------------------------------------------------------------------|-------------------|------------|
| SE150                           | 50           | 2 <sup>25</sup> / <sub>32</sub> (short)<br>4 <sup>13</sup> / <sub>32</sub> (long) | TEF1<br>TEF2      | 1          |
|                                 |              | 3 <sup>13</sup> / <sub>32</sub> (short)<br>5 <sup>25</sup> / <sub>32</sub> (long) | TEF3<br>TEF4      |            |
| SF250                           | 250          | 2 <sup>23</sup> / <sub>32</sub> (short)<br>5 <sup>31</sup> / <sub>32</sub> (long) | TFK1<br>TFK2      | 1          |
| SG600                           | 600          | 2 <sup>13</sup> / <sub>16</sub> (short)<br>6 <sup>1</sup> / <sub>16</sub> (long)  | SGBCS1<br>SGBCS2  | 2<br>2     |
|                                 |              | 5 <sup>1</sup> / <sub>2</sub><br>8                                                | TKM11<br>TKM12    | 2          |

## PLUG-IN MOUNTING BASE ASSEMBLY

Table 16.1

| Plug-in Mounting Bases – 2 Required per Breaker |                           |           |                            |                     | Optional Mounting Plate |
|-------------------------------------------------|---------------------------|-----------|----------------------------|---------------------|-------------------------|
| Ampere Rating                                   | Spectra RMS™ Breaker Type | No. Poles | Stud Configuration PD1 PD2 | Catalog Number      | Catalog Number          |
| 150                                             | SE150                     | 3         | SLS LSL                    | TE13PD1,2           | TMP1 TMP5               |
| 250                                             | SF250                     | 2 3       | SOS LSL                    | TF22PD1,2 TF23PD1,2 | TMP2                    |
| 400                                             | SG400                     | 3         | SLS LSL                    | SGPC1①SGPC2①        | SMP3                    |
| 600                                             | SG600                     | 3         | SLS LSL                    | SGPC1①SGPC2①        | SMP3                    |
| 800                                             | SK1200                    | 3         | SLS LSL                    | TK83PD1A,2A         | TMP4                    |
| 1000                                            | SK1200                    | 3         | SLS LSL                    | TK103PD1A,2A        | TMP4                    |
| 1200                                            | SK1200                    | 3         | SLS LSL                    | TK123PD1A,2A        | TMP4                    |

① Vertical studs only for G600 frame.



Fig. 16.1. Plug-in mounting base Cat. No. TF23 PD2

Each plug-in mounting base assembly includes all mounting hardware, studs, and connectors for attachment to one end of breaker. Studs are of different length (i.e., PD1 versus PD2), to assure adequate electrical spacing between adjacent breakers; i.e., short-long-short (SLS) unit must be used adjacent to a long-short-long (LSL) unit. All Spectra RMS™ two-pole breakers are three-pole devices with the center pole omitted. When these breakers are to be mounted side by side, a short-open-short (SOS) unit must be used on one end and a long-open-long (LOL) on the other.

Studs for SE-, SF-, and SK-frames are horizontal (flat surface at right angle to long axis of breaker). Suffix PD1 or PD2. Studs for SG-frame are vertical — suffix PC1 or PC2. The optional mounting plate (TMP1, etc.), is supplied at no charge when ordered with a pair of plug-in mounting bases. It accurately locates and supports the base assemblies, provides convenient means to attach the entire unit to a metal structure and serves as a deadfront barrier.

Special mounting hardware for mounting a motor operated mechanism with a plug-in base is provided with the motor operated mechanism.

## HANDLE-LOCKING, HANDLE-EXTENSION DEVICES

Table 16.2

| Spectra RMS™ Breaker Type | Device                         | Cat. No.               |
|---------------------------|--------------------------------|------------------------|
| SE150, SF250              | Handle locking                 | SBD1                   |
| SK1200                    | Handle extension – replacement | SKHDLEXT① (252B1642G1) |

① Order by new catalog number. Corresponding part no. in parentheses for reference only.

## PADLOCKING DEVICES①

Table 16.3

| Spectra RMS™ Breaker Type | Device Catalog Number |
|---------------------------|-----------------------|
| SE150 SF250               | SEPLD                 |
| SG600                     | SGPLD                 |
| SK1200                    | SKPLD②                |

① Suitable for use with circuit breakers used in panelboard and group-mounted switchboard construction only.

② Contact GE Sales Office for availability.

## BREAKER MOUNTING-SCREW KITS

Table 16.4

| Application                                                             | Spectra RMS™ Breaker Type | Kit Catalog Number①  | Screw Size      |
|-------------------------------------------------------------------------|---------------------------|----------------------|-----------------|
| For use on mounting plates with tapped holes (4 screws and lockwashers) | SE150                     | SEMSK1 (343L162G27)  | 10-32x2½ (std.) |
|                                                                         |                           | SEMSK3 (343L162G8)   | 8-32x2½ (opt.)  |
|                                                                         | SF250                     | SFGMSK1 (343L162G16) | 12-24x3¾ (std.) |
|                                                                         |                           | SFMSK1 (343L162G28)  | 10-32x3¾ (opt.) |
|                                                                         | SG600                     | SFGMSK1 (343L162G16) | 12-24x3¾        |
| For use on mounting plates with clearance holes (4 screws, lockwashers) | SE150                     | SKMSK1 (343L162G13)  | ⅝-18x1¼         |
|                                                                         |                           | SEMSK2 (343L162G26)  | 10-32x3 (std.)  |
|                                                                         | SF250                     | SEMSK4 (343L162G2)   | 8-32x3 (opt.)   |
|                                                                         |                           | SFGMSK2 (343L162G21) | 12-24x4 (std.)  |
|                                                                         | SG600                     | SFMSK2 (343L162G29)  | 10-32x4 (opt.)  |
|                                                                         |                           | SFGMSK2 (343L162G21) | 12-24x4         |
|                                                                         | SK1200                    | SKMSK2 (343L162G19)  | ⅝-18x1¾         |

① Order by new catalog number. Corresponding part no. in parentheses for reference only.

### MECHANICAL INTERLOCKS

These face-mounted interlocks prevent two adjacent breakers from being in the ON position at the same time.

**Table 17.1**

| Spectra RMS™ Breaker Type | Face-mounted Interlock Cat. No. | Adapter Kit-Required when using handle operator (TDM) or motor operator. Order separately |
|---------------------------|---------------------------------|-------------------------------------------------------------------------------------------|
| SE150, SF250              | SEFFMI                          | SEFFMIAK                                                                                  |
| SG600                     | SGFMI                           | SGFMIAC①                                                                                  |
| SK1200                    | SKFMI                           | SKFMIAC                                                                                   |

① Compatible with motor operator only. Cat. no. SGFMI cannot be used with handle operator.

### SPECIAL CALIBRATION

Spectra RMS™ breakers are ambient insensitive. Trip times will not vary over the range 10-50°C breaker ambient. Refer to GET-7002 for further application information

### FUNGUS AND MOISTURE PROOFING

Spectra RMS™ circuit breakers contain no functional parts that would support fungus growth and are, therefore, inherently fungusproof.

### OTHER RELEVANT PUBLICATIONS

GET-7002 Technical Application and Selection – Spectra RMS™ Breakers

GET-3550 Short-Circuit Calculations

GEP-1100 Buylog® Catalog – Low- and Medium-Voltage Components and Equipment

### TIME-CURRENT CURVE INDEX

**Table 17.2**

| Breaker    |             |                                                    | Time-current Curve Number |            |
|------------|-------------|----------------------------------------------------|---------------------------|------------|
| Frame Type | Sensor Amps | Rating Plug                                        | Circuit Breaker           | Mag-Break® |
| SE150      | 7           | 3, 7                                               | –                         | K215-181   |
| SE150      | 30          | 15, 20                                             | K215-165                  | K215-182   |
| SE150      | 30          | 25, 30                                             | K215-166                  | K215-183   |
| SE150      | 60          | 40, 50                                             | K215-167                  | K215-184   |
| SE150      | 60          | 60                                                 | K215-168                  | K215-185   |
| SE150      | 100         | 70, 80                                             | K215-169                  | K215-186   |
| SE150      | 100         | 90, 100                                            | K215-170                  | K215-187   |
| SE150      | 150         | 110, 125                                           | K215-171                  | K215-188   |
| SE150      | 150         | 150                                                | K215-172                  | K215-189   |
| SF250      | 250         | 70, 90, 100, 110<br>125, 150, 175<br>200, 225, 250 | K215-173                  | K215-190   |
| SG600      | 400         | 125, 150, 175<br>200, 225, 250<br>300, 350, 400    | K215-174                  | K215-191   |
| SG600      | 600         | 250, 300, 350<br>400, 450, 500, 600                | K215-175                  | K215-192   |
| SK1200     | 800         | 300, 400, 500, 600                                 | K215-176                  | K215-193   |
| SK1200     | 800         | 700, 800                                           | K215-177                  | K215-194   |
| SK1200     | 1200        | 600, 700                                           | K215-178                  | K215-195   |
| SK1200     | 1200        | 800, 1000                                          | K215-179                  | K215-196   |
| SK1200     | 1200        | 1200                                               | K215-180                  | K215-197   |

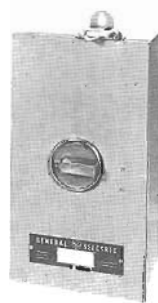
Suitable for use as service equipment. 60°C/75°C conductor ratings. Short-circuit ratings are equal to the rating of the installed breaker.



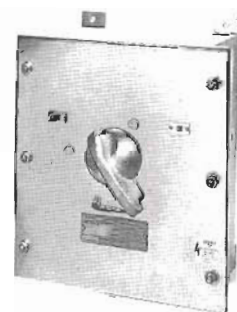
**Fig. 18.1.** Type 1, Indoor surface or flush mounting



**Fig. 18.2.** Type 3R outdoor, raintight



**Fig. 18.3.** Types 12K and 12 rotary handle integral with breaker



**Fig. 18.4.** Types 4/4X stainless steel, water-tight, dust-tight

## CIRCUIT BREAKER ENCLOSURES<sup>⑤</sup>

**Table 18.1** 100-1200 Amps, 240-600 volts ac for 2-pole and 3-pole breakers

| Spectra RMS™ Breaker Type | Max. Amp Rating | Type 1 <sup>①</sup> Indoor                 | Type 3R <sup>②</sup> Outdoor | Type 12 <sup>③</sup> Oil-tight/<br>Dust-tight | Type 4/4X Stainless Steel | Neutral Catalog Number |
|---------------------------|-----------------|--------------------------------------------|------------------------------|-----------------------------------------------|---------------------------|------------------------|
| SE150                     | 100             | TE100F<br>TE100S                           | TE100F                       | SE100D<br>SE100J                              | SE100CS <sup>④</sup>      | Included               |
|                           | 150             | TE150F<br>TE150S                           | TE150R                       | —                                             | —                         | Included               |
| SF250                     | 250             | TF225F <sup>⑥</sup><br>TF225S <sup>⑥</sup> | TF225R <sup>⑥</sup>          | SF225D<br>SF225J                              | SF225CS                   | TNIA225                |
| SG600                     | 400             | SG400F<br>SG400S                           | SG400R                       | SG400D<br>SG400J                              | SG400CS                   | TNIA400                |
|                           | 600             | SG600F<br>SG600S                           | SG600R                       | SG600J                                        | —                         | TNIA600                |
| SK1200                    | 1200            | TK4V1200F<br>TK4V1200S                     | TK4V1200R                    | SK1200J                                       | —                         | TNIA800<br>TNIA1200    |

<sup>①</sup>F-flush; S-Surface.

<sup>②</sup>70-250 amp devices have removable closing cap. Larger amp devices require field cut openings. Order hubs separately.

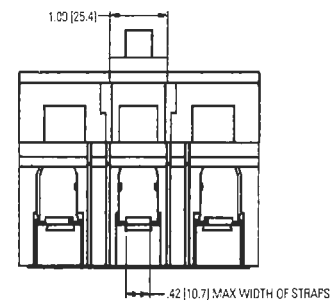
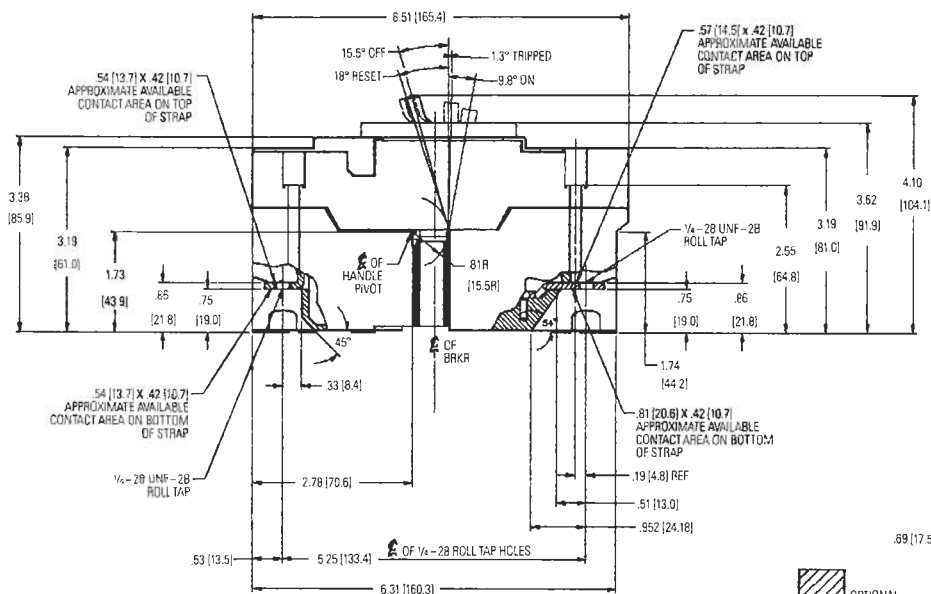
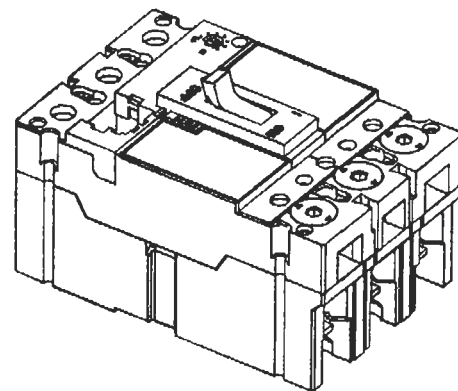
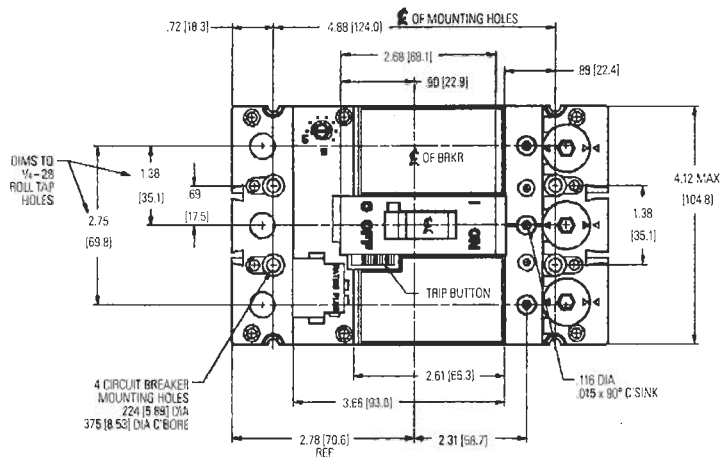
<sup>③</sup>D = Type 12K with KOs. J = Type 12 without KOs.

<sup>④</sup>Neutral not included; if required, order Cat. No. TNIA100.

<sup>⑤</sup>Contact GE sales office for availability.

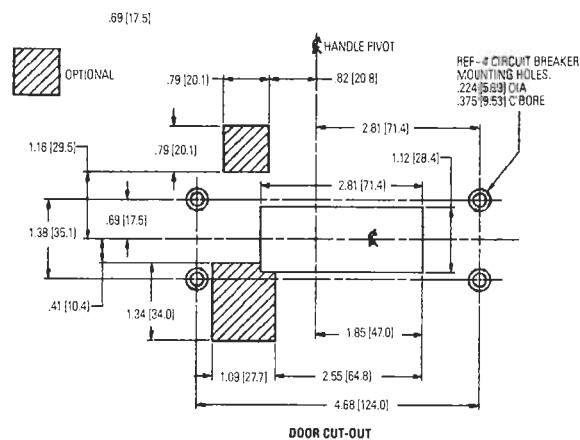
<sup>⑥</sup>For 250A rating use copper cable.

## SE150 FRAME



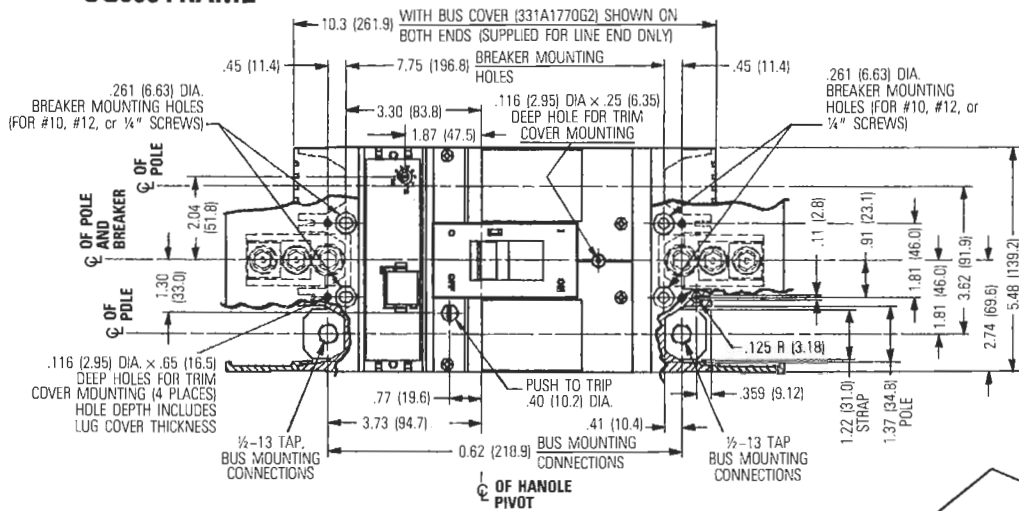
NOTE: 1. DIMENSIONS IN BRACKETS ARE IN MILLIMETERS.

| OPERATING FORCES     |                 |
|----------------------|-----------------|
| TRIPPED TO MAX RESET | 28 LB (12.7 Kg) |
| OFF TO ON            | 13 LB (5.9 Kg)  |
| ON TO OFF            | 14 LB (6.4 Kg)  |

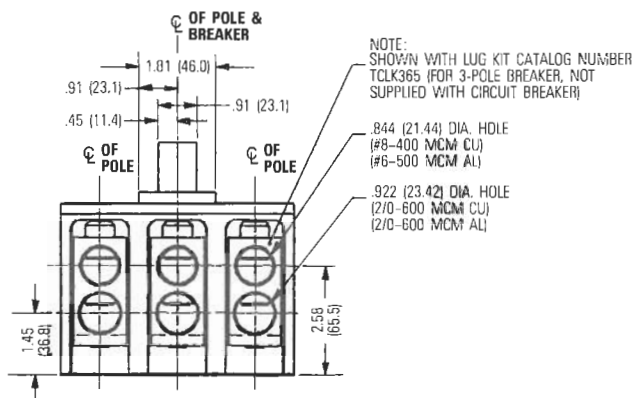
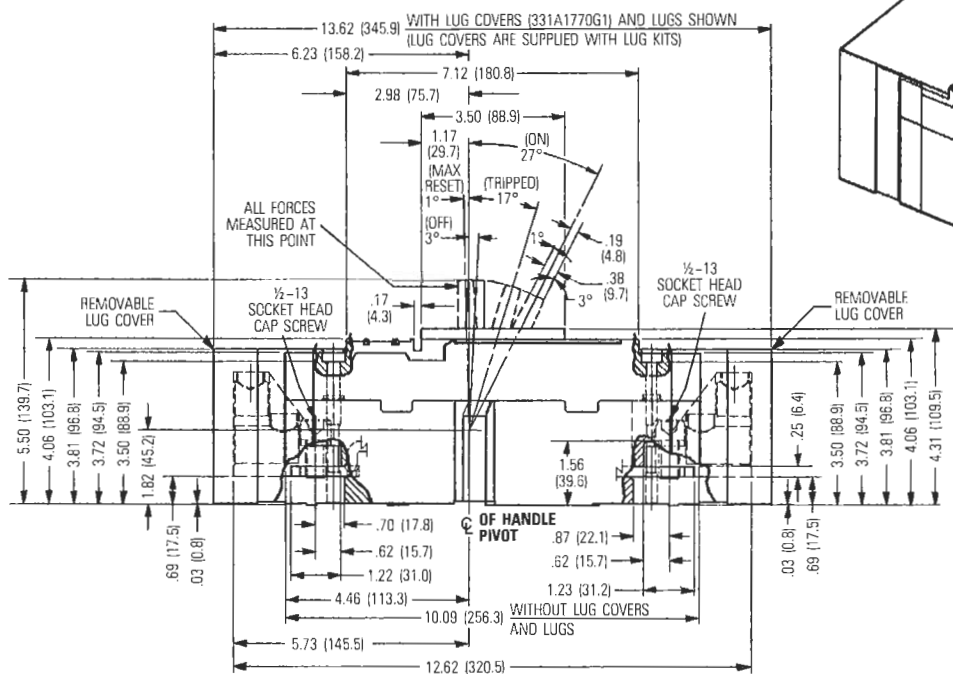
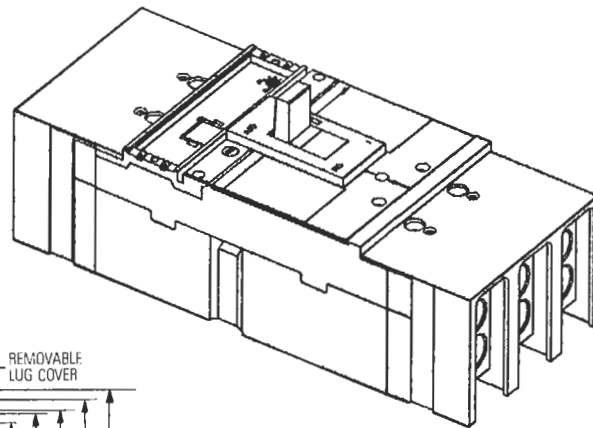




## SG600 FRAME

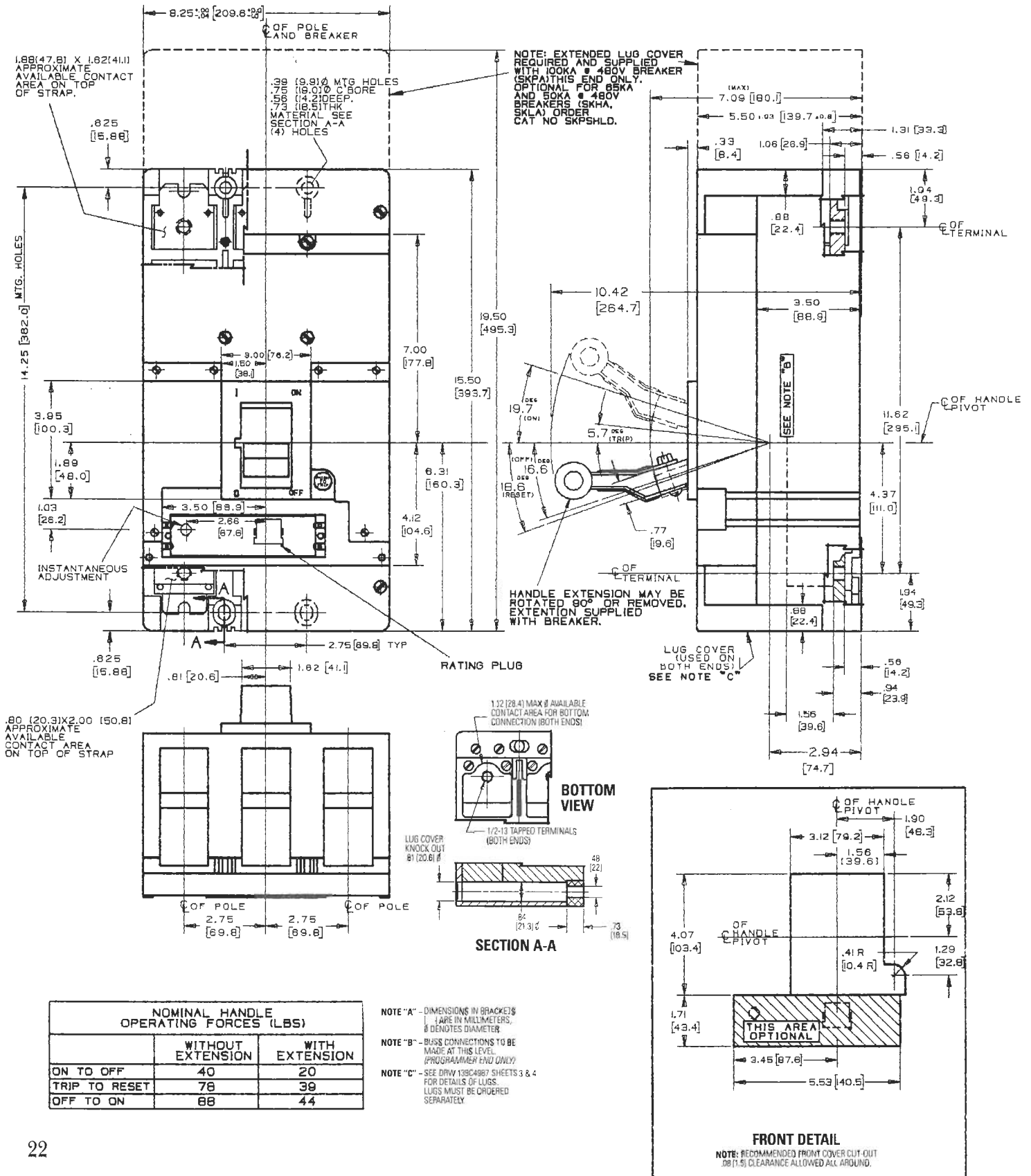


| OPERATING FORCES     |                 |
|----------------------|-----------------|
| TRIPPED TO MAX RESET | 40 LB (18.1 Kg) |
| OFF TO ON            | 40 LB (18.1 Kg) |
| ON TO OFF            | 30 LB (13.6 Kg) |
| PUSH-TO-TRIP BUTTON  | 3 LB (1.4 Kg)   |



NOTE: 1. DIMENSIONS IN BRACKETS  
ARE IN MILLIMETERS.

## SK1200 FRAME



# Guide Form Specifications

## **SPECTRA RMS™ CIRCUIT BREAKERS GUIDE FORM SPECIFICATIONS**

All molded-case circuit breakers shall have an over-center, toggle handle operated, trip-free mechanism with quick-make, quick-break action independent of the speed of the toggle handle operation. The designs shall provide common tripping of all poles. The escutcheon area of the breaker cover shall have molded-in "ON" and "OFF" markings and corresponding "I" and "O" (for "ON" and "OFF" respectively) international markings.

All molded-case circuit breakers shall be GE Spectra RMS™ or equal with digital solid state, ambient insensitive tripping. All frames from 30A to 1200A shall use field-installed, UL Listed rating plugs to establish (or change) the ampere rating and shall be suitable for reverse feed (i.e., no line/load markings). The digital microprocessor trip system shall be applicable for 50 hertz through 400 hertz systems. It shall accurately sense sinusoidal and non-sinusoidal current waveforms (fundamental through the thirteenth harmonic order on a 60 hertz base) by continuously sampling each phase throughout every cycle.

All breaker frame sizes (SE150, SF250, SG600 and SK1200) shall have a single, customer-adjustable, instantaneous pickup knob to set the instantaneous response for all poles. In addition, there shall be a short time pickup with I<sup>2</sup>t slope delay that tracks the instantaneous pickup setting at approximately 50 to 80 percent of the instantaneous pickup.

(Where) (If) required, instantaneous-only breakers shall be Spectra RMS™ Mag-Break® motor circuit protectors or equal employing the same features as the molded-case breakers, except with the long-time (thermal) response omitted. The tracking short-time function and common rating plugs shall be provided on the instantaneous-only breakers.

Molded-case switches (where) (if) required, shall have a fixed, high-set instantaneous pickup set below the popping level of the contacts. The short circuit withstand ratings shall be 100kA @ 480 Vac and 25kA (minimum) @ 600 Vac when protected by any UL Listed circuit breaker or fuse of equal or lower ampere rating.

Circuit breakers and instantaneous-only breakers shall have frame sizes as follows: 30A, 60A, 100A, 150A, 250A, 400A, 600A, 800A, and 1200A. In addition, a 7A instantaneous-only frame shall be available. Rating plugs shall cover all standard ampere ratings from one frame's maximum ampere rating down to the next lower frame ampere rating. A frame shall reject a rating plug not intended for use in it. Mag-Break® or equal breakers shall use the same rating plugs for 15A through 1200A ratings as the Spectra RMS™ circuit breakers and shall additionally have 3A and 7A plugs for the 7A frame.

The circuit breaker frames shall employ high-strength, molded-polyester, glass-reinforced cases and covers. The breaker frame shall have legible, tamper-proof nameplates containing catalog number; maximum frame ampere rating; maximum voltage ratings and interrupting ratings in accordance with UL Standard 489, International Electrotechnical Commission (IEC) Standard 947.2 and Japanese Industrial Standard (JIS) No. C8370; terminal lug catalog number, torque requirements and cable insulation rating and wire ranges; the rating plug type; Underwriters' Laboratories, Inc. Listing mark (or Component Recognition symbol in the case of Mag-Break® instantaneous-only breakers); and, Canadian Standards Association (CSA) certification symbol. The IEC short-circuit ratings shall contain both service (Ics) and ultimate (Icu) values.

All breaker frame sizes shall have Verifier™ tripping means or equal to provide an external means for manually tripping the breaker and exercising the mechanism and trip latch member.

Internal accessories shall be UL Listed for field installation and shall not require circuit breaker cover removal. All internal accessories shall be common to SE150, SF250, SG600, and SK1200 frame sizes. Shunt trips, undervoltage releases, auxiliary switches, and bell alarms shall be available and shall install from the front of the circuit breaker, instantaneous-only breaker, or molded-case switch.

External accessories, such as motor-operated mechanisms, various handle operators, plug-in base assemblies, and back-connected studs, shall be UL Listed for field installation on circuit breakers (including instantaneous-only circuit breakers) and molded-case switches.



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## ***GE Industrial Systems***

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