

# UL 98 Fusible Disconnect Switches

## UL 98 Fusible Disconnect Switches

Mersen's fusible disconnect switches are listed to UL 98 and bear the CE mark as conformance to IEC 60947-3. They are "service entrance" devices capable of fully rated load-break and load-make. While long-term safety, reliability, and functionality are always paramount in the design of our products, these switches are also engineered to have the smallest footprint. The modular design allows placement of the handle anywhere amongst the poles. The fuse doors cannot open when the switch is in the "ON" position, and all switches are double-break, which isolates both fuse clips from voltage during fuse replacement. The switches' "Test" position allows actuation of the auxiliary contacts without main power. Power taps enable energizing a CPT or surge device without the need for a separate terminal block.

A wide range of ergonomic handles is available, as well as all manner of accessories.

### Highlights:

- Multiple Configurations
- Power taps
- Adjustable shaft depth
- Fuse monitoring
- Interlocked fuse doors

### Applications:

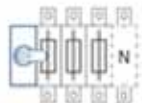
- Main disconnects
- Short circuit protection
- Electrical isolation
- Overcurrent protection
- Safety switch



### Ratings UL:

- Volts** : 600VAC
- Amps** : 30, 60, 100, 200, 400, 600, 800, and 1200A
- SCCR** : Up to 200kA with Class CC, J, or L Fuses

### Configurations

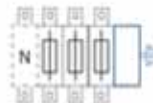


Gearbox on the side



Gearbox in the middle

Side operated



### Catalog Number Designation

|                                      |  | M | 60 | J | 3 | 0 | — | S |
|--------------------------------------|--|---|----|---|---|---|---|---|
| Switch                               | M = Mersen AC Switch   |   |    |   |   |   |   |   |
| Ampacity                             | 30 to 1200   |   |    |   |   |   |   |   |
| Type                                 | CC = CC fused<br>J = J fused<br>L = L Fused                                    |   |    |   |   |   |   |   |
| Number of Poles/Left side of Handle  | 1, 2, 3, 4, etc. (N = neutral)   |   |    |   |   |   |   |   |
| Number of Poles/Right side of Handle | Blank = < 200A non-fused, 0, 2   |   |    |   |   |   |   |   |
| Revision                             | Blank = 0  |   |    |   |   |   |   |   |
| Special Configurations               | S = side-operated<br>N = Non-fused switched Neutral<br>F = Rod-Flange Actuated |   |    |   |   |   |   |   |

### Approvals:

- All UL Fusible Disconnect Switch switches meet UL & CSA requirements
- UL listed guide WHTY, File E191605 for UL 98 (ratings from 30A to 1200A)
- IEC 60947-3



# UL 98 Fusible Disconnect Switches

## Front and Side Operated



**M30CC12**  
30A, CC fused, 3-pole with pole on left side of handle and 2 poles on right side



**M60J30**  
60A, J fused, with 3 poles on left side of handle



**M200J30 with HDF200**  
200A, J fused, 3 poles on left side of direct handle

## Switch Body

| Ampere Rating               | 30               | 60                                 | 100                                | 200    |
|-----------------------------|------------------|------------------------------------|------------------------------------|--------|
| Base Part #                 | M30              | M60                                | M100                               | M200   |
| Fuse Type                   | CC, J            | J                                  | J                                  | J      |
| 3- and 4-pole Configuration | 12, 22, 30F, 30S | 12, 22, 22N, 30, 30F, 30S, 40, 40N | 12, 22, 22N, 30, 30F, 30S, 40, 40N | 30, 40 |

S = Side operated F = Rod-Flange actuated (Direct Side Operated Handles are included with 'S' option)

| Switch Body Ampere Rating | 30    | 60     | 100    | 200    |
|---------------------------|-------|--------|--------|--------|
| Direct Front Operation    | HDF30 | HDF200 | HDF200 | HDF200 |

| External Front Operation - Pistol Style |       |       |              |       |
|---|-------|-------|--------------|-------|
| NEMA 1, 3R, 12, IP65                    | HB45  |       | HB65, HB80   |       |
| NEMA 4, 4X                              | HB45X |       | HB65X, HB80X |       |
| NEMA 4X Stainless Steel                 | HM65X | HM65X | HM65X        | HM65X |

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR45

| Shafts                             |  |  |  |  |
|------------------------------------|--|--|--|--|
| Shaft— SPAxxx (xxx = length in mm) |  |  | SPA130, SPA210, SPA290, SPA360, SPA430 |  |

| Terminal Lugs |          |          |                    |                      |
|---------------|----------|----------|--------------------|----------------------|
| 6 per package | Integral | Integral | LUG100 (#14 - 2/0) | LUG200 (#6 - 300MCM) |

| Terminal Shrouds                      |          |          |           |           |
|---------------------------------------|----------|----------|-----------|-----------|
| 3-pole (3 single shrouds per package) | Integral | Integral | TSF160-13 | TSF200-13 |
| 4-pole (4 single shrouds per package) |          |          | TSF160-14 | TSF200-14 |

| Auxiliary Contacts         |                |        |            |            |
|----------------------------|----------------|--------|------------|------------|
| NO                         | OA1G10, w/OSZ4 | OA1G10 | OA1G10     | OA1G10     |
| NC                         | OA3G01, w/OSZ4 | OA3G01 | OA3G01     | OA3G01     |
| NO, between poles          | OA4B1C         | N/A    | N/A        | N/A        |
| Mounting plate             | OA1G10/OA3G01  | OSZ4   | Not needed | Not needed |
| Module for 8 aux. contacts | OEA28          | OEA28  | OEA28      | OEA28      |

\*Rated 2A max continuous @690VAC

| Flange Operation for Cable Actuation |          |                                    |          |          |
|--------------------------------------|----------|------------------------------------|----------|----------|
| Cable Flange Handle, NEMA 12         | FHC12    | FHC12                              | FHC12    | FHC12    |
| Cable Flange Handle, NEMA 4X         | FHC4X    | FHC4X                              | FHC4X    | FHC4X    |
| Bracket Assembly                     | FOM2     | FOM3 for M60J12<br>FOM4 for M60J30 | FOM4     | FOM4     |
| Cable for FHC handles                | CABLE36* | CABLE36*                           | CABLE36* | CABLE36* |

\*Other cable lengths available: 48", 60", 72", 84", 96", 108". For example, CABLE108.

| Flange Operation for Rod Actuation* |                   |                   |                    |    |
|-------------------------------------|-------------------|-------------------|--------------------|----|
| Flange bracket assembly             | Incl with M30x30F | Incl with M60J30F | Incl with M100J30F | NA |
| Rod Flange handle NEMA 12           | FHR12             | FHR12             | FHR12              | NA |
| Rod Flange handle NEMA 4X           | FHR4X             | FHR4X             | FHR4X              | NA |
| Rod, 16, 21, 26 inch (ex. ROD16)    | RODxx             | RODxx             | RODxx              | NA |

\*These products have not been tested for UL Compliance

## Handles



HB65



HR45



HDF200

## Shafts



## Accessories



OA3G01  
OA1G10



OEA28



FOM4, FHC12, and CABLE36  
with M200J30

# UL 98 Fusible Disconnect Switches

## Front and Side Operated



**M400J30**  
400A, J fused, 3-pole with 3 poles  
on left side of handle



**M800L30**  
800A, L fused, with 3 poles  
on left side of handle

## Switch Body

| Ampere Rating                   | 400    | 600    | 800    | 1200   |
|---------------------------------|--------|--------|--------|--------|
| Base Part #                     | M400   | M600   | M800   | M1200  |
| Fuse Type                       | J      | J      | L      | L      |
| 3-pole and 4-pole Configuration | 30, 40 | 30, 40 | 30, 40 | 30, 40 |

### Direct Front Operation

|  |        |         |         |          |
|--|--------|---------|---------|----------|
|  | HDF400 | HDF800T | HDF800T | HDF1250T |
|--|--------|---------|---------|----------|

### External Front Operation - Pistol Style

|                           |        |        |        |        |
|---------------------------|--------|--------|--------|--------|
| NEMA Type 1, 3R, 12, IP65 | HB125  | HB145  | HB274  | HB274  |
| NEMA Type 4, 4X           | HB125X | HB145X | HB274X | HB274X |
| NEMA 4X Stainless Steel   | HM125X | HM125X | HM175X | HM175X |

*B = Black. Substitute "R" for "B" if red handle is desired. Ex. HR125*

### Shafts

|                                    |  |
|------------------------------------|--|
| Shaft— SFBxxx (xxx = length in mm) | SFB135, SFB280, SFB325, SFB395, SFB535 |
|------------------------------------|--|

### Terminal Lugs

|           |                       |                         |                         |                       |
|-----------|-----------------------|-------------------------|-------------------------|-----------------------|
| 6 per pkg | LUG400<br>#2 - 600MCM | LUG800<br>2 x #2 600MCM | LUG800<br>2 x #2 600MCM | LUG1200<br>4 x 750MCM |
|-----------|-----------------------|-------------------------|-------------------------|-----------------------|

### Terminal Shrouds

|        |          |          |          |            |
|--------|----------|----------|----------|------------|
| 3-pole | TSF400-3 | TSF600-3 | TSF600-3 | TSF1250-13 |
|--------|----------|----------|----------|------------|

*Suffix "-3" indicates a single 3-pole shroud; Suffix "-13" indicates 3 single pole shrouds per package*

### Auxiliary Contacts\*

|                            |        |        |        |        |
|----------------------------|--------|--------|--------|--------|
| Normally open              | OA1G10 | OA1G10 | OA1G10 | OA1G10 |
| Normally closed            | OA3G01 | OA3G01 | OA3G01 | OA3G01 |
| Module for 8 aux. contacts | OEA28  | OEA28  | OEA28  | OEA28  |

*\*Rated 2A max continuous @690VAC*

## Handles



HB125



HDF400

## Shafts



SFB135

## Accessories



OA1G01  
OA1G10



OEA28



TSF400-13

# UL 98 Fusible Disconnect Switches

## Technical Data

| Technical data according to UL/cULus               |   |                  |                 |           |                     |                   |           |
|--|---|------------------|-----------------|-----------|---------------------|-------------------|-----------|
| General purpose amp rating                         | pf= 0.7...0.8   | -40° to 40 °C    | A               | 30        | 60                  | 100               | 200       |
| Max. operating voltage                             |   |                  | VAC             | 600       | 600                 | 600               | 600       |
|  |   |                  | VDC             | 250       | 250                 | 250               | 250       |
| Max. horsepower rating / motor FLA current         | pf= 0.4...0.5 Three phase   | 240 V            | HP/A            | 7.5/22.0  | 15/42.0             | 30/80.0           | 60/154.0  |
|  |   | 480 V            | HP/A            | 15/21.0   | 30/40.0             | 60/77.0           | 125/156.0 |
|  |   | 600 V            | HP/A            | 20/22.0   | 50/52.0             | 75/77.0           | 150/144.0 |
|  | Single phase  | 120 V            | HP/A            | 2/24.0    |                     |                   |           |
|  |   | 240 V            | HP/A            | 3/17.0    |                     |                   |           |
| Short circuit rating with fuse, 3 and 4-pole types |   |                  | kA              | 200       | 200                 | 200               | 200       |
|  | UL/CSA fuse size  |                  | A               | 30        | 60                  | 100               | 200       |
|  | UL/CSA fuse type  |                  |                 | J/C       | J                   | J                 | J         |
| Min. electrical endurance                          | pf= 0.75...0.8  | operation cycles |                 | 6000      | 6000                | 6000              | 6000      |
| Mechanical endurance                               |   | operation        |                 | 20 000    | 20 000              | 20 000            | 16 000    |
| Terminal lug kits                                  |   |                  |                 | Integral  | Integral            | LUG100            | LUG200    |
| Wire range   |   |                  | AWG             | #18-8     | #14-4               | #14-2/0           | #4-300MCM |
| Torque   | Wire tightening   |                  | lb.in           | 17        | 30/35 <sup>5)</sup> | 120               | 275       |
|  | Lug mounting  |                  | lb.in           | N/A       | N/A                 | 50                | 72        |
| Technical data according to IEC 60947-3            |   |                  |                 |           |                     |                   |           |
| Rated insulation voltage                           | Pollution degree 3  |                  | V               | 1 000     | 1 000               | 1 000             | 1 000     |
| Dielectric strength                                |   | 50 Hz 1min.      | kV              | 10        | 10                  | 10                | 10        |
| Rated impulse withstand voltage                    |   |                  | kV              | 12        |                     |                   | 12        |
| Rated thermal current in ambient 40 °C /           | In open air   |                  | A/W             | 32/3.5    | 63/7.5              | 160/12            | 200/17    |
| max. fuse power dissipation <sup>1)</sup>          | In enclosure <sup>2)</sup>  |                  | A/W             | 32/3.5    | 63/7.5              | 160/10,<br>135/12 | 200/15    |
| ...with minimum cable cross section                |   | Cu               | mm <sup>2</sup> | 6         | 16                  | 70                | 95        |
| Rated operational current, AC-23A                  |   | up to 500 V      | A               | 32        | 63                  | 160               | 200       |
|  |   | 690 V            | A               | 32        | 63                  | 160               | 200       |
| Rated operational power, AC-23 <sup>3)</sup>       | The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors. | 230 V            | kW              | 7.5       | 18.5                | 45                | 60        |
|  |   | 400 V            | kW              | 15        | 30                  | 75                | 110       |
|  |   | 415 V            | kW              | 15        | 30                  | 75                | 110       |
|  |   | 500 V            | kW              | 18.5      | 37                  | 90                | 132       |
|  |   | 690 V            | kW              | 22        | 55                  | 132               | 200       |
| Rated breaking capacity in category AC-23          |   | up to 500 V      | A               | 256       | 504                 | 1280              | 1600      |
|  |   | 690 V            | A               | 256       | 504                 | 1280              | 1600      |
| Rated short-time withstand current, 1 s            | r.m.s. -value   |                  | kA              | 1         | 2.5                 | 5                 | 8         |
| Power loss / pole                                  | With rated current, without fuse  |                  | W               | 2         | 4                   | 9                 | 8         |
| Weight without accessories                         | 3-pole switch fuses   |                  | kg              | 0.7       | 1.3                 | 1.5               | 2.6       |
|  | 4-pole switch fuses   |                  | kg              | 0.9       | 1.6                 | 1.8               |           |
| Built-in terminal size                             |   | Cu               | mm <sup>2</sup> | 0.75...10 | 2.5...25            |                   |           |
| Terminal bolt size (included)                      | Metric thread diameter x length   |                  | mm              |           |                     | M6x20             | M8x25     |
| Fuse-links bolts tightening torque                 |   |                  | Nm              |           |                     | 4                 | 4         |

\*) = Utilization category B

1) Ambient temperature 60°C: derating 20%

2) Mounting on "ceiling": derating 10%. Mounting on wall, horizontal fuses: derating 8%.

3) Some fuses limit these figures further. Starting current characteristics must be considered separately.

4) Approval pending

5) 30 lb.in with cable size #14-10, 35 lb.in with cable size #8-4

# UL 98 Fusible Disconnect Switches

## Technical Data

| Technical data according to UL/cULus               |   |                  |                 |             |              |              |                    |
|--|---|------------------|-----------------|-------------|--------------|--------------|--------------------|
| General purpose amp rating                         | pf= 0.7...0.8   | -40° to 40 °C    | A               | 400         | 600          | 800          | 1200               |
| Max. operating voltage                             |   |                  | VAC             | 600         | 600          | 600          | 600                |
|  |   |                  | VDC             | 250         | 250          | 250          | 250                |
| Max. horsepower rating / motor FLA current         | pf= 0.4...0.5 Three phase   | 240 V            | HP/A            | 125.0/312.0 | 200/480.0    | 250/602.0    | 250/602.0          |
|  |   | 480 V            | HP/A            | 250.0/302.0 | 400/477.0    | 500/590.0    | 500/590.0          |
|  |   | 600 V            | HP/A            | 350.0/336.0 | 500/472.0    | 500/472.0    | 500/472.0          |
|  | Single phase  | 120 V            | HP/A            |             |              |              |                    |
|  |   | 240 V            | HP/A            |             |              |              |                    |
| Short circuit rating with fuse, 3 and 4-pole types |   |                  | kA              | 200         | 200          | 200          | 200                |
|  | UL/CSA fuse size  |                  | A               | 400         | 600          | 800          | 1200               |
|  | UL/CSA fuse type  |                  |                 | J           | J            | L            | L                  |
| Min. electrical endurance                          | pf= 0.75...0.8  | operation cycles |                 | 1000        | 1000         | 500          | 500                |
| Mechanical endurance                               |   | operation        |                 | 12 000      | 4000         | 3000         | 2000               |
| Terminal lug kits                                  |   |                  |                 | LUG400      | LUG800       | LUG800       | LUG1200            |
| Wire range   |   |                  | AWG             | #2-600MCM   | (2)#2-600MCM | (2)#2-600MCM | (4)#2-600MCM       |
| Torque   | Wire tightening   |                  | lb.in           | 375         | 500          | 500          | 500                |
|  | Lug mounting  |                  | lb.in           | 240         | 480          | 480          | 480                |
| Technical data according to IEC 60947-3            |   |                  |                 |             |              |              |                    |
| Rated insulation voltage                           | Pollution degree 3  |                  | V               | 1 000       | 1 000        | 1 000        | 1 000              |
| Dielectric strength                                |   | 50 Hz 1min.      | kV              | 10          | 10           | 10           | 10                 |
| Rated impulse withstand voltage                    |   |                  | kV              | 12          | 12           | 12           | 12                 |
| Rated thermal current in ambient 40°C              | In open air   |                  | A/W             | 400/45      | 630/60       | 800/65       | 1250/110           |
| max. fuse power dissipation <sup>1)</sup>          | In enclosure <sup>2)</sup>  |                  | A/W             | 400/30      | 570/50       | 720/55       | 1000/85            |
| ...with minimum cable cross section                |   | Cu               | mm <sup>2</sup> | 240         | 2x185        | 2x240        | 2x400              |
| Rated operational current, AC-23A                  |   | up to 500 V      | A               | 400         | 630          | 800          | 1000 <sup>3)</sup> |
|  |   | 690 V            | A               | 400         | 630          | 800          | 1000 <sup>3)</sup> |
| Rated operational power, AC-23 <sup>3)</sup>       | The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors. | 230 V            | kW              | 132         | 200          | 250          | 315 <sup>3)</sup>  |
|  |   | 400 V            | kW              | 220         | 355          | 450          | 560 <sup>3)</sup>  |
|  |   | 415 V            | kW              | 230         | 355          | 450          | 560 <sup>3)</sup>  |
|  |   | 500 V            | kW              | 280         | 450          | 560          | 710 <sup>3)</sup>  |
|  |   | 690 V            | kW              | 400         | 630          | 710          | 1000 <sup>3)</sup> |
| Rated breaking capacity in category AC-23          |   | up to 500 V      | A               | 3200        | 6400         | 6400         | 8000               |
|  |   | 690 V            | A               | 3200        | 6400         | 6400         | 8000               |
| Rated short-time withstand current, 1 s            | r.m.s. -value   |                  | kA              | 14          | 20           | 20           |                    |
| Power loss / pole                                  | With rated current, without fuse  |                  | W               | 30          | 46           | 75           | 75                 |
| Weight without accessories                         | 3-pole switch fuses   |                  | kg              | 5.7         | 11.5         | 11.5         | 29                 |
|  | 4-pole switch fuses   |                  | kg              |             |              |              |                    |
| Built-in terminal size                             |   | Cu               | mm <sup>2</sup> |             |              |              |                    |
| Terminal bolt size (included)                      | Metric thread diameter x length   |                  | mm              | M10x30      | M12x40       | M12x40       | M12x50             |
| Fuse-links bolts tightening torque                 |   |                  | Nm              | 20          | 40           | 40           | 40                 |

<sup>\*)</sup> = Utilization category B

1) Ambient temperature 60°C: derating 20%

2) Mounting on "ceiling": derating 10%. Mounting on wall, horizontal fuses: derating 8%.

3) Some fuses limit these figures further. Starting current characteristics must be considered separately.

4) Approval pending

5) 30 lb.in with cable size #14-10, 35 lb.in with cable size #8-4

# UL 98 Fusible Disconnect Switches

## UL-Listed Fused Switches - Front-Operated

| Part #   | Description                       | Ref #    | Net wt. (kg) | Pkg |
|----------|-----------------------------------|----------|--------------|-----|
| M30CC12  | Fused switch, 30A, CC, 1+2 pos.   | S1043250 | 0.7          | 1   |
| M30CC22  | Switch.fus 30A CC 2+2 pos.        | J1044231 | 0.9          | 1   |
| M30CC30F | 30A CC-fused for Rod Flange-mount | D1045514 |              | 1   |
| M30J12   | Fused switch, 30A, J, 1+2 pos.    | V1043252 | 0.7          | 1   |
| M30J22   | Switch.fus 30A J 2+2 pos.         | H1044184 | 0.9          | 1   |
| M30J30F  | 30A J-fused for Rod Flange-mount  | C1045513 |              | 1   |
| M60J12   | Fused switch, 60A, J, 1+2 pos.    | X1043254 | 1.2          | 1   |
| M60J22   | Switch.fus 60A J 2+2 pos.         | J1044185 | 1.5          | 1   |
| M60J22N  | Switch.fus 60A J 2+1+N pos.       | K1044186 | 1.5          | 1   |
| M60J30   | Fused switch, 60A, J, 3-p on L    | Y1043255 | 1.2          | 1   |
| M60J30F  | 60A J-fused for Rod Flange-mount  | E1045515 |              | 1   |
| M60J40   | Switch.fus 60A J R 4+0 pos.       | L1044187 | 1.5          | 1   |
| M60J40N  | Switch.fus 60A J R 3+0+N pos.     | M1044188 | 1.5          | 1   |
| M100J12  | Switch.fus 100A J 1+2 pos.        | N1044189 | 2            | 1   |
| M100J22  | Switch.fus 100A J 2+2 pos.        | P1044190 | 2.1          | 1   |
| M100J22N | Switch.fus 100A J 2+1+N pos.      | Q1044191 | 2.1          | 1   |
| M100J30  | Fused switch, 100A, J, 3-p on L   | A1043257 | 1.5          | 1   |
| M100J30F | 100A J-fused for Rod Flange-mount | F1045516 |              | 1   |
| M100J40  | Switch.fus 100A J R 4+0 pos.      | R1044192 | 2.1          | 1   |
| M100J40N | Switch.fus 100A J R 3+0+N pos.    | S1044193 | 2.1          | 1   |
| M200J12  | Switch.fus 200A J 1+2 pos.        | F1048023 | 2.8          | 1   |
| M200J30  | Fused switch, 200A, J, 3-p on L   | C1043259 | 3            | 1   |
| M200J40  | Switch.fus 200A J R 4+0 pos.      | T1044194 | 4            | 1   |
| M400J12  | Switch.fus 400A J 1+2 pos.        | H1048899 | 6.5          | 1   |
| M400J30  | Fused switch, 400A, J, 3-p on L   | D1043260 | 7.3          | 1   |
| M400J40  | Switch.fus 400A J R 4+0 pos.      | V1044195 | 8.5          | 1   |
| M600J12  | Switch.fus 600A J 1+2 pos.        | K1048901 | 12.2         | 1   |
| M600J30  | Fused switch, 600A, J, 3-p on L   | E1043261 | 13.6         | 1   |
| M600J40  | Switch.fus 600A J R 4+0 pos.      | W1044196 | 15           | 1   |
| M800L12  | Switch.fus 800A L 1+2 pos.        | M1048903 | 12.2         | 1   |
| M800L30  | Fused switch, 800A, L, 3-p on L   | F1043262 | 13           | 1   |
| M800L40  | Switch.fus 800A J R 4+0 pos.      | X1044197 | 15           | 1   |
| M1200L30 | Fused switch, 1200A, L, 3-p on L  | G1043263 | 31           | 1   |
| M1200L40 | Switch.fus 1200A J R 4+0 pos.     | Y1044198 | 34           | 1   |

## UL-Listed Fused Switches - Side-Operated

| Part #   | Description                    | Ref #    | Net wt. (kg) | Pkg |
|----------|--------------------------------|----------|--------------|-----|
| M30CC30S | Switch.fus 30A CC R side oper. | T1043251 | 0.70         | 1   |
| M30J30S  | Switch.fus 30A J R side oper.  | W1043253 | 0.70         | 1   |
| M60J30S  | Switch.fus 60A J R side oper.  | Z1043256 | 1.2          | 1   |
| M100J30S | Switch.fus 100A J R side oper. | B1043258 | 1.5          | 1   |

## Other Accessories

| Part #   | Description                     | Ref #    | Net wt. (kg) | Pkg |
|----------|---------------------------------|----------|--------------|-----|
| CABLE36  | Flex cable flange oper 36 inch  | W1043414 | 0.40         | 1   |
| CABLE48  | Flex cable flange oper 48 inch  | P1045501 |              |     |
| CABLE60  | Flex cable flange oper 60 inch  | X1043415 | 0.60         | 1   |
| CABLE72  | Flex cable flange oper 72 inch  | Q1045502 |              |     |
| CABLE84  | Flex cable flange oper 84 inch  | R1045503 |              |     |
| CABLE96  | Flex cable flange oper 96 inch  | S1045504 |              |     |
| CABLE108 | Flex cable flange oper 108 inch | T1045505 |              |     |
| FOM2     | Flange operation M30J12/M30CC12 | Q1043409 | 0.1          | 1   |
| FOM3     | Flange operation M60J12         | R1043410 | 0.1          | 1   |
| FOM4     | Flange operation MxxxJ30        | S1043411 | 0.1          | 1   |
| FHC4X    | Flange handle cable 200A 4X     | T1043412 | 0.3          | 1   |
| FHC12    | Flange hdle cable 200A NEMA 12  | V1043413 | 0.3          | 1   |
| FHR12    | Flange handle rod 200A NEMA 12  | Y1043416 |              |     |
| FHR4X    | Flange handle rod 200A NEMA 4X  | Z1043417 |              |     |
| ROD16    | Rod flange operator 16 inch     | A1043418 | 0.1          | 1   |
| ROD21    | Rod flange operator 21 inch     | B1043419 | 0.1          | 1   |
| ROD26    | Rod flange operator 26 inch     | C1043420 | 0.1          | 1   |
| LUG100   | Lugs #14 - 2/0 100A Switch /6   | S1043365 | 0.43         | 6   |
| LUG200   | Lugs #6 300MCM 200A Switch /6   | B1043396 | 0.20         | 6   |
| LUG400   | Lugs #2 600MCM 400A Switch /6   | C1043397 | 0.60         | 6   |
| LUG800   | Lugs 2x#2 600MCM 800A Switch/6  | T1043366 | 1.70         | 6   |
| LUG1200  | Lugs 4x750MCM 1200A Switch/6    | V1043367 | 1.70         | 6   |
| OA1G10   | Auxiliary Contact NO            | P1043477 | 0.03         | 1   |
| OA3G01   | Aux.Contact NC Switch160-2500A  | R1043479 | 0.03         | 1   |
| OA4B1C   | Aux.Contact 1+1 SF 40A          | K1043473 | 0.03         | 1   |
| OSZ4     | Mounting plate OA1G10/OA3G01    | L1043474 | 0.06         | 1   |
| OEA28    | Module for SF aux. contacts     | M1043475 | 0.04         | 1   |

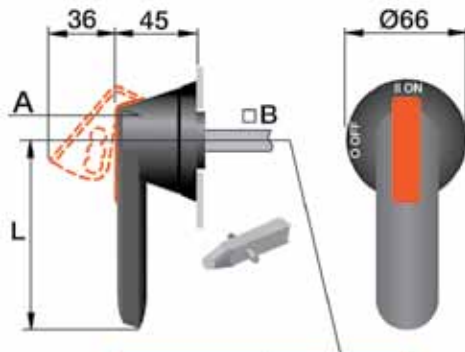
# UL 98 Fusible Disconnect Switches

## Shafts

| Part # | Description                   | Ref #     | Net wt. (kg) | Pkg |
|--------|-------------------------------|-----------|--------------|-----|
| SFB185 | Shaft SwitchFuse 12x12x185mm  | F1048897  | .21          | 1   |
| SFB280 | Shaft SwitchFuse 12x12x280mm  | F1043423  | 0.31         | 1   |
| SFB325 | Shaft SwitchFuse 12x12x325mm  | G1043424  | 0.41         | 1   |
| SFB395 | Shaft SwitchFuse 12x12x395mm  | H1043425  | 0.45         | 1   |
| SFB535 | Shaft, 12x12x535mm            | Z1049673A |              |     |
| SPA130 | Shaft pistol handle 6x6x130mm | V1043919  |              |     |
| SPA210 | Shaft pistol handle 6x6x210mm | P1043431  | 0.11         | 1   |
| SPA290 | Shaft pistol handle 6x6x290mm | Q1043432  | 0.14         | 1   |
| SPA360 | Shaft pistol handle 6x6x360mm | W1043920  |              | 1   |
| SPA430 | Shaft pistol handle 6x6x430mm | X1043921  |              | 1   |

## Terminal Shrouds

| Part #     | Description                   | Ref #    | Net wt. (kg) | Pkg |
|------------|-------------------------------|----------|--------------|-----|
| TSF400-3   | Term.shrd 400A Switch.fus3p   | S1043434 | 0.06         | 1   |
| TSF600-3   | Term.shrd 600A Switch.fus3p   | T1043435 | 0.05         | 1   |
| TSF160-13  | Term.shrd 160A Swch.fus1pL /3 | V1043436 | 0.04         | 1   |
| TSF160-14  | Term.shrd 160A Swch.fus1pL /4 | W1043437 | 0.04         | 1   |
| TSF200-13  | Term.shrd 200A Swch.fus1pL /3 | J1043449 | 0.008        | 3   |
| TSF200-14  | Term.shrd 200A Swch.fus1pL /4 | V1043459 | 0.012        | 4   |
| TSF800-13  | Term.shrd 800A Swch.fus1pL /3 | K1043450 | 0.01         | 3   |
| TSF800-14  | Term.shrd 800A Swch.fus1pL /4 | W1043460 | 0.01         | 4   |
| TSF1250-13 | Ter.shrd 1250A Swch.fus1pL /3 | L1043451 | 0.01         | 3   |
| TSF1250-14 | Ter.shrd 1250A Swch.fus1pL /4 | X1043461 | 0.00         | 4   |
| TSF250-13  | Term.shrd 250A Swch.fus1pL /3 | M1043452 | 0.008        | 3   |
| TSF250-14  | Term.shrd 250A Swch.fus1pL /4 | Y1043462 | 0.012        | 4   |
| TSF400-13  | Term.shrd 400A Swch.fus1pL /3 | N1043453 | 0.008        | 3   |
| TSF400-14  | Term.shrd 400A Swch.fus1pL /4 | Z1043463 | 0.001        | 4   |



| A      | L   | Ø Dia |
|--------|-----|-------|
| HB 45  | 45  | 6     |
| HB 65  | 65  | 6     |
| HB 80  | 80  | 6     |
| HB 95  | 95  | 12    |
| HB 125 | 125 | 12    |
| HB 145 | 145 | 12    |
| HB 175 | 175 | 12    |
| HB 274 | 275 | 12    |

All are NEMA type 1, 3R, 12 except "X" suffix = NEMA type 4, 4X  
B = Black R = Red

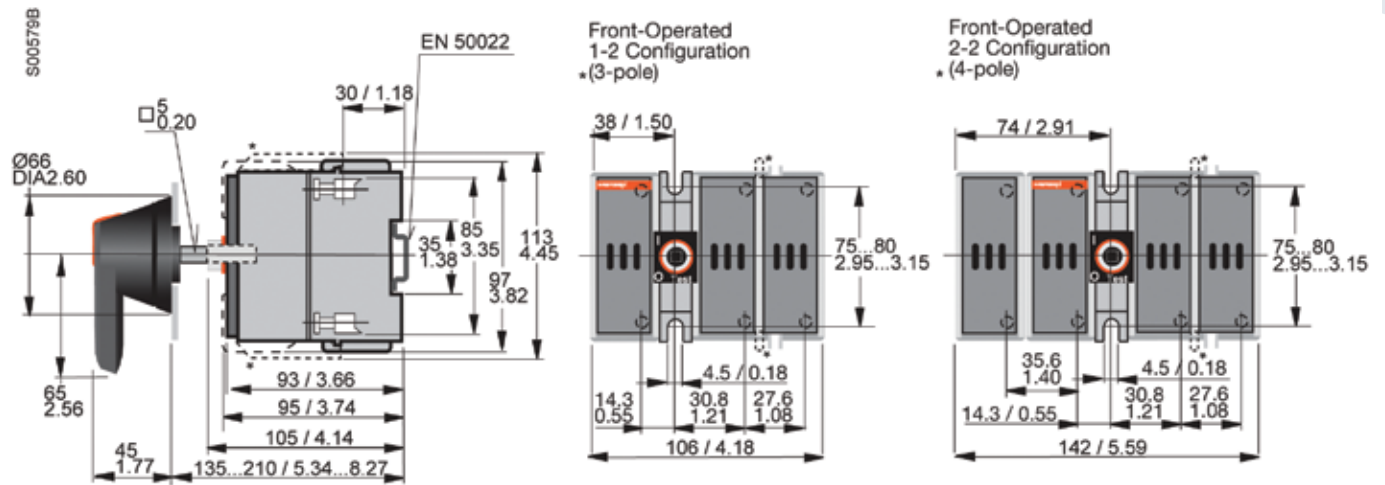
## Handles

| Part #   | Description                     | Ref #    | Net wt. (kg) | Pkg |
|----------|---------------------------------|----------|--------------|-----|
| HDF30    | Handle direct SF 40A max        | P1043408 | 0.05         | 1   |
| HDF200   | Handle direct SF 200A           | P1043385 | 0.14         | 1   |
| HDF400   | Handle direct SF 400A           | Q1043386 | 0.33         | 1   |
| HDF800T  | Handle dir. SF 800A butterfly   | R1043387 | 1.1          | 1   |
| HDF1250T | Handle dir. SF 1250A butterfly  | S1043388 | 1.5          | 1   |
| HDF250T  | Handle dir. SF 250A butterfly   | T1043389 | 0.16         | 1   |
| HDF400T  | Handle dir. SF 400A butterfly   | V1043390 | 0.34         | 1   |
| HB45     | Handle black 45mm IP65 NEMA 3R  | L1043911 | 0.10         | 1   |
| HB45X    | Handle black 45mm IP65 NEMA 4X  | M1043912 | 0.10         | 1   |
| HB65     | Handle black 65mm IP65 NEMA 3R  | W1043368 | 0.12         | 1   |
| HB65S    | Handle black 65mm Right Side    | A1044361 | 0.10         | 1   |
| HB65X    | Handle black 65mm IP65 NEMA 4X  | X1043369 | 0.12         | 1   |
| HB80     | Handle black 80mm IP65 NEMA 3R  | Y1043370 | 0.12         | 1   |
| HB80X    | Handle black 80mm IP65 NEMA 4X  | Z1043371 | 0.12         | 1   |
| HB95     | Handle black 95mm IP65 NEMA 3R  | N1043913 | 0.01         | 1   |
| HB95X    | Handle black 95mm IP65 NEMA 4X  | P1043914 | 0.01         | 1   |
| HB125    | Handle black 125mm IP65 NEMA 3R | A1043372 | 0.16         | 1   |
| HB125X   | Handle black 125mm IP65 NEMA 4X | B1043373 | 0.12         | 1   |
| HB145    | Handle black 145mm IP65 NEMA 3R | C1043374 | 0.17         | 1   |
| HB145S   | Handle black 145mm Right Side   | B1044362 | 0.15         | 1   |
| HB145X   | Handle black 145mm IP65 NEMA 4X | D1043375 | 0.17         | 1   |
| HB274    | Handle black 274mm IP65 NEMA 3R | D1043398 | 0.515        | 1   |
| HB274X   | Handle black 274mm IP65 NEMA 4X | E1043376 | 0.515        | 1   |
| HB330    | Handle black 330mm IP65 NEMA 3R | E1043399 | 0.55         | 1   |
| HB330X   | Handle black 330mm IP65 NEMA 4X | F1043377 | 0.55         | 1   |
| HM65X    | SS handle, 4X, 65mm             | V1045506 |              |     |
| HM125X   | SS handle, 4X, 125mm            | W1045507 |              |     |
| HM175X   | SS handle, 4X, 175mm            | X1045508 |              |     |
| HR45     | Handle red 45mm IP65 NEMA 3R    | Q1043915 | 0.10         | 1   |
| HR45X    | Handle red 45mm IP65 NEMA 4X    | R1043916 | 0.10         | 1   |
| HR65     | Handle red 65mm IP65 NEMA 3R    | G1043378 | 0.120        | 1   |
| HR65X    | Handle red 65mm IP65 NEMA 4X    | H1043379 | 0.12         | 1   |
| HR80     | Handle red 80mm IP65 NEMA 3R    | F1043400 | 0.12         | 1   |
| HR80X    | Handle red 80mm IP65 NEMA 4X    | J1043380 | 0.12         | 1   |
| HR95     | Handle red 95mm IP65 NEMA 3R    | S1043917 | 0.16         | 1   |
| HR95X    | Handle red 95mm IP65 NEMA 4X    | T1043918 | 0.16         | 1   |
| HR125    | Handle red 125mm IP65 NEMA 3R   | K1043381 | 0.17         | 1   |
| HR125X   | Handle red 125mm IP65 NEMA 4X   | L1043382 | 0.17         | 1   |
| HR145    | Handle red 145mm IP65 NEMA 3R   | M1043383 | 0.2          | 1   |
| HR145X   | Handle red 145mm IP65 NEMA 4X   | N1043384 | 0.17         | 1   |
| HR274    | Handle red 274mm IP65 NEMA 3R   | G1043401 | 0.515        | 1   |
| HR330    | Handle red 330mm IP65 NEMA 3R   | H1043402 | 0.55         | 1   |

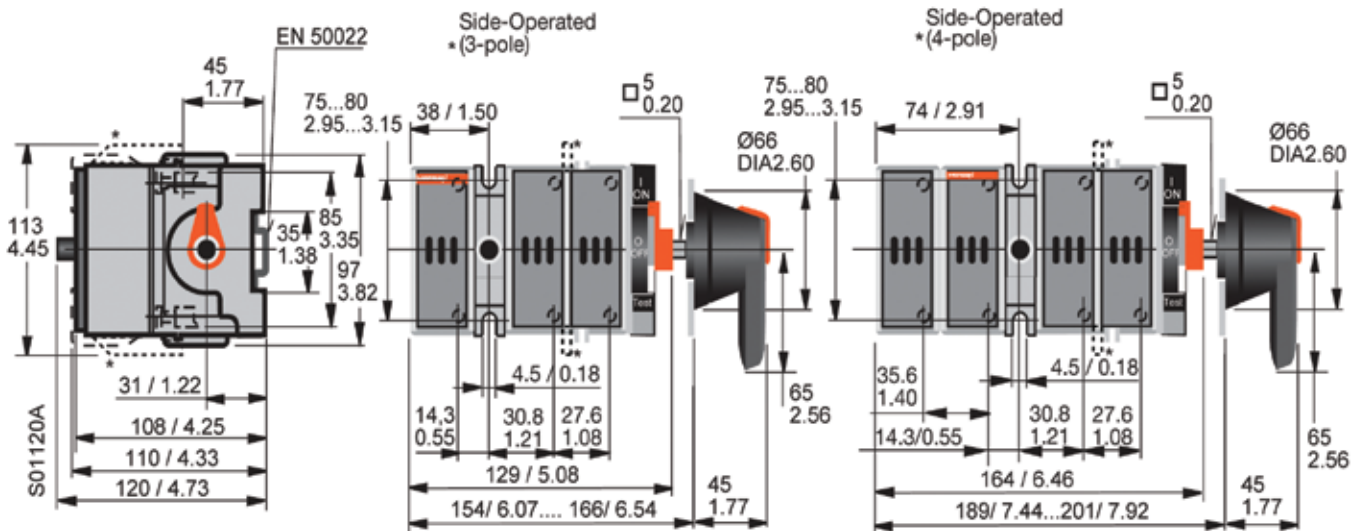


# UL 98 Fusible Disconnect Switches

## M30CC, M30J Front operated



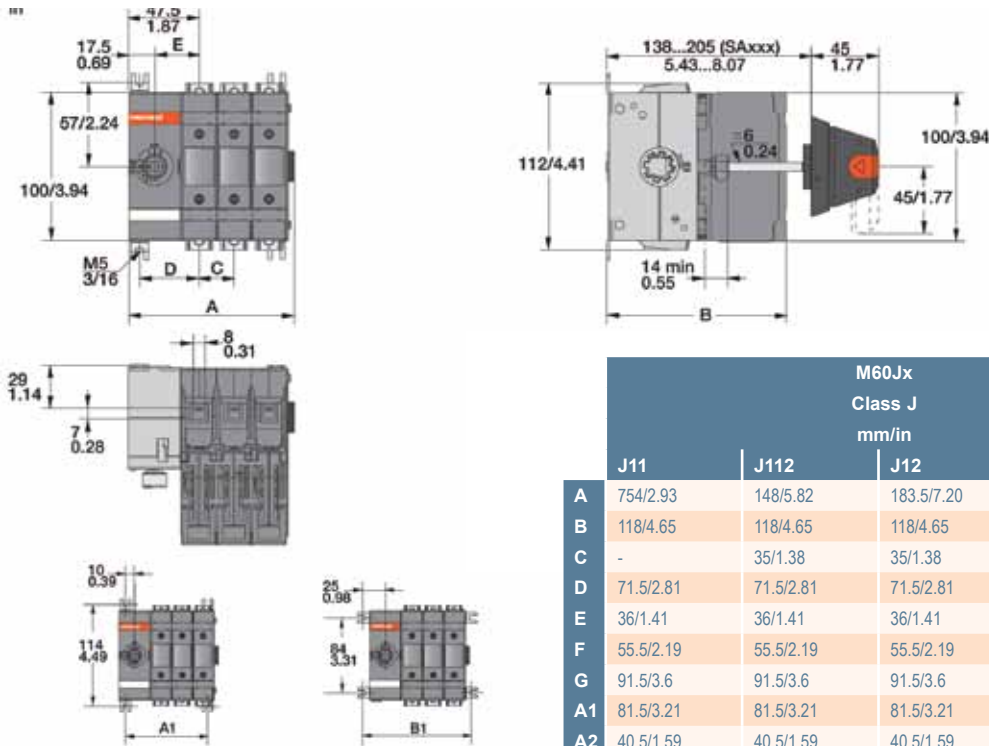
## M30CC, M30J Side operated





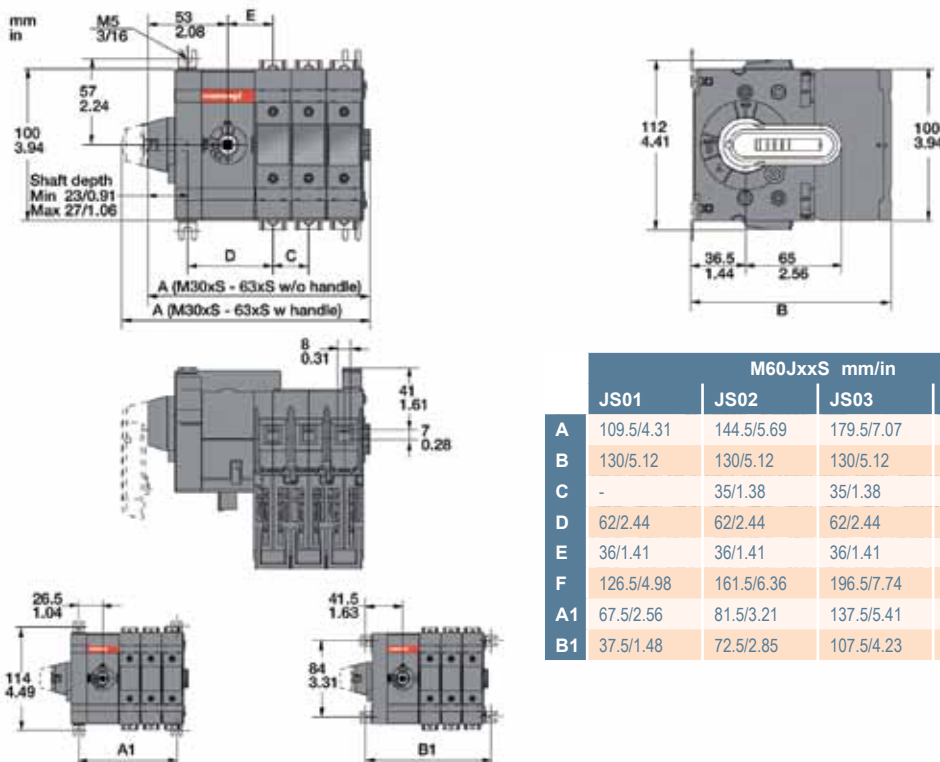
# UL 98 Fusible Disconnect Switches

## M60J, Front operated



| M60Jx<br>Class J<br>mm/in |            |            |            |            |
|---------------------------|------------|------------|------------|------------|
|                           | J11        | J112       | J12        | J22        |
| A                         | 754/2.93   | 148/5.82   | 183.5/7.20 | 179.5/8.58 |
| B                         | 118/4.65   | 118/4.65   | 118/4.65   | 118/4.65   |
| C                         | -          | 35/1.38    | 35/1.38    | 35/1.38    |
| D                         | 71.5/2.81  | 71.5/2.81  | 71.5/2.81  | 71.5/2.81  |
| E                         | 36/1.41    | 36/1.41    | 36/1.41    | 36/1.41    |
| F                         | 55.5/2.19  | 55.5/2.19  | 55.5/2.19  | 90.5/3.56  |
| G                         | 91.5/3.6   | 91.5/3.6   | 91.5/3.6   | 126.5/4.98 |
| A1                        | 81.5/3.21  | 81.5/3.21  | 81.5/3.21  | 151.5/5.96 |
| A2                        | 40.5/1.59  | 40.5/1.59  | 40.5/1.59  | 75.5/2.97  |
| B1                        | 111.5/4.39 | 111.5/4.39 | 111.5/4.39 | 181.5/7.15 |
| B2                        | 70.5/2.78  | 70.5/2.78  | 70.5/2.78  | 105.5/4.15 |

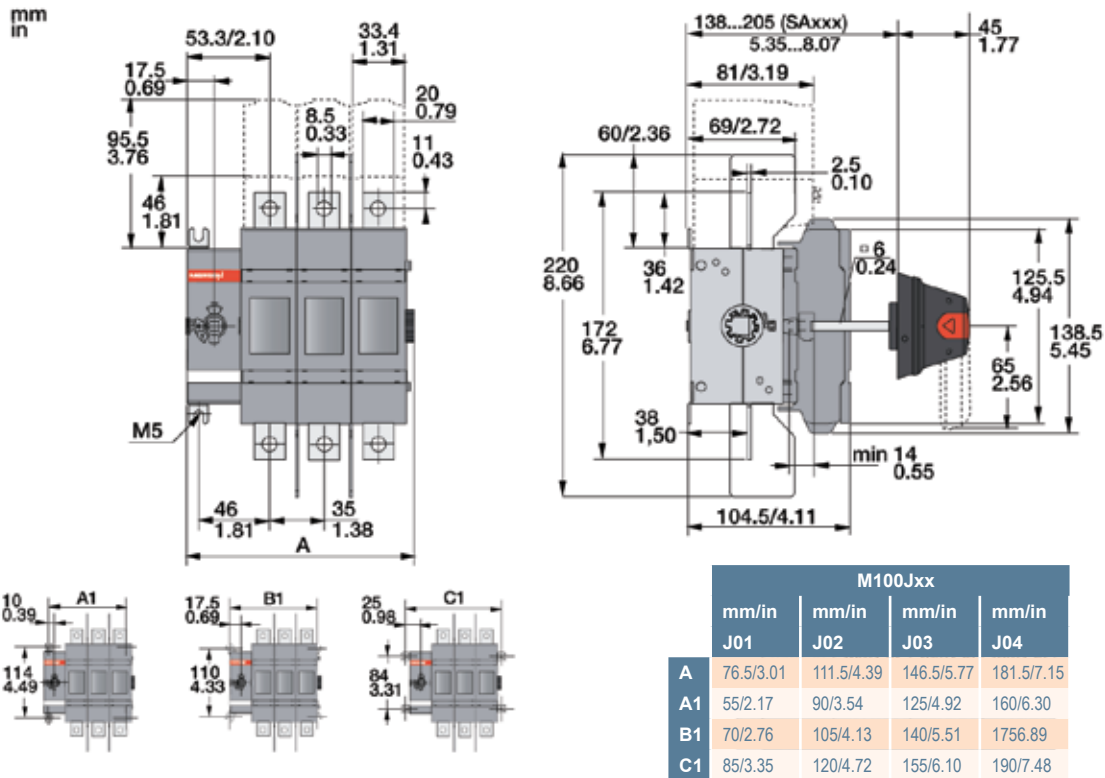
## M60J, Side operated



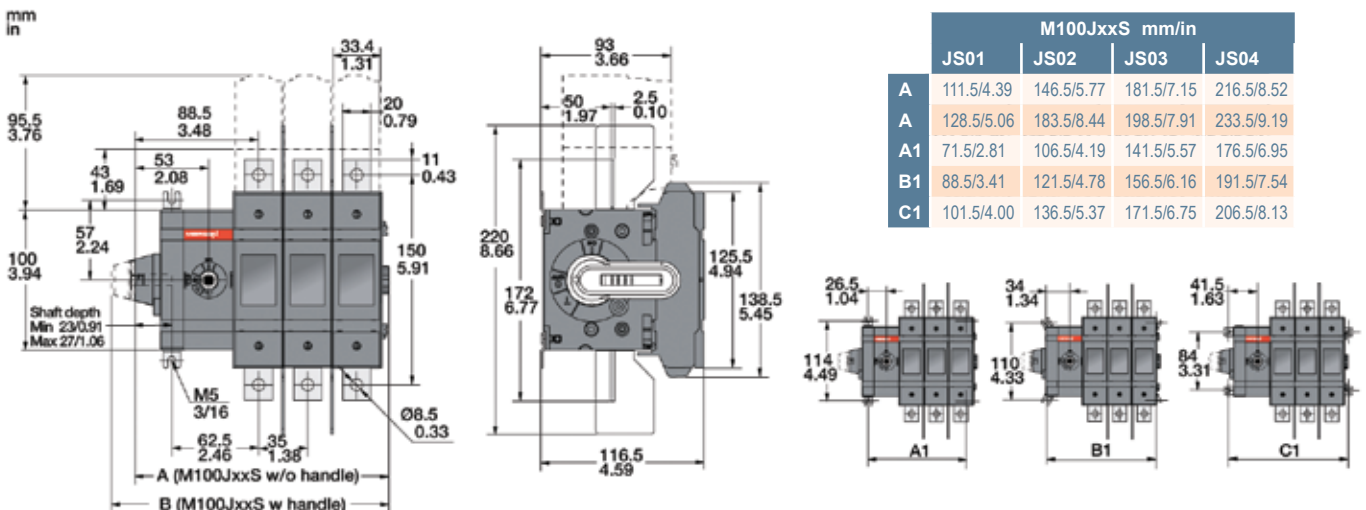
| M60JxxS mm/in |            |            |            |            |
|---------------|------------|------------|------------|------------|
|               | JS01       | JS02       | JS03       | JS04       |
| A             | 109.5/4.31 | 144.5/5.69 | 179.5/7.07 | 214.5/8.44 |
| B             | 130/5.12   | 130/5.12   | 130/5.12   | 130/5.12   |
| C             | -          | 35/1.38    | 35/1.38    | 35/1.38    |
| D             | 62/2.44    | 62/2.44    | 62/2.44    | 62/2.44    |
| E             | 36/1.41    | 36/1.41    | 36/1.41    | 36/1.41    |
| F             | 126.5/4.98 | 161.5/6.36 | 196.5/7.74 | 231.5/9.11 |
| A1            | 67.5/2.56  | 81.5/3.21  | 137.5/5.41 | 172.5/6.79 |
| B1            | 37.5/1.48  | 72.5/2.85  | 107.5/4.23 | 142.5/5.61 |

# UL 98 Fusible Disconnect Switches

## M100J30, Front operated

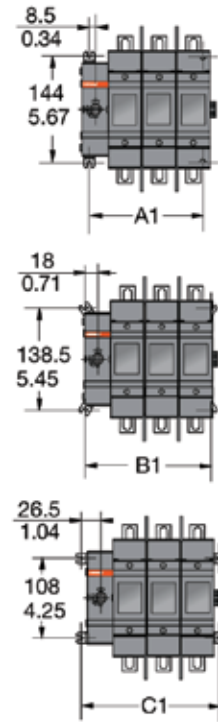
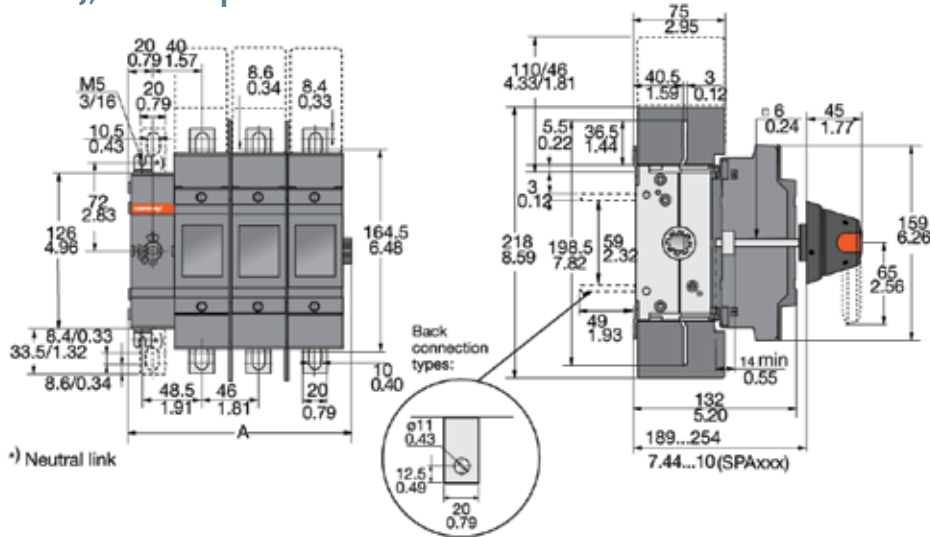


## M100J, side operated



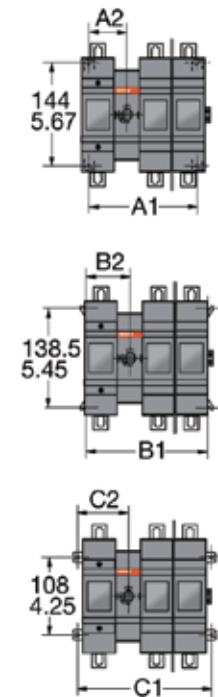
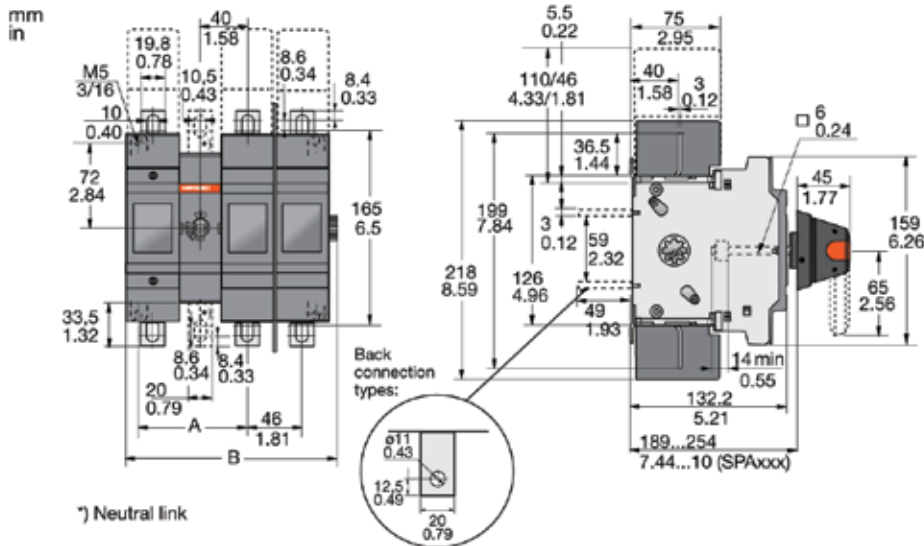
# UL 98 Fusible Disconnect Switches

## M200J, Front operated



For Class J fuse types, 0-3 and 3-0 configurations

|    | M200J01     | M200J02      | M200J03      | M200J04      |
|----|-------------|--------------|--------------|--------------|
|    | mm/in       | mm/in        | mm/in        | mm/in        |
| A  | 89.5 / 3.52 | 135.5 / 5.34 | 181.5 / 7.15 | 227.5 / 8.96 |
| A1 | 60.5 / 2.38 | 106.5 / 4.19 | 152.5 / 6.00 | 198.5 / 7.82 |
| B1 | 79.5 / 3.13 | 125.5 / 4.94 | 171.5 / 6.75 | 217.5 / 8.56 |
| C1 | 96.5 / 3.80 | 142.5 / 5.61 | 188.5 / 7.42 | 234.5 / 9.23 |



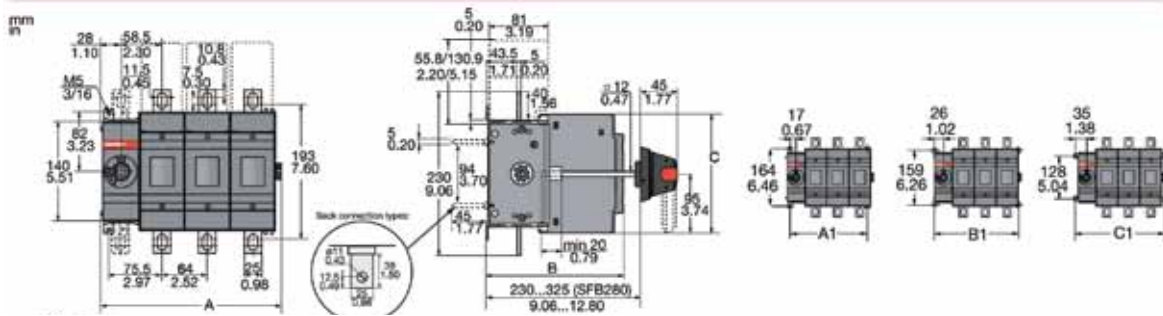
Class J fuse types, 1-1 to 2-2 configurations

M200xx

|    | J11       | J12       | J13       | J22        |
|----|-----------|-----------|-----------|------------|
|    | mm/in     | mm/in     | mm/in     | mm/in      |
| A  | 92/3.12   | 92/3.62   | 92/3.62   | 138/5.43   |
| B  | 132/5.20  | 178/7.01  | 224/8.82  | 224/8.82   |
| A1 | 104/4.09  | 150/5.91  | 196/7.72  | 196/7.72   |
| A2 | 52/2.05   | 52/2.05   | 52/2.05   | 98/3.86    |
| B1 | 106/4.18  | 169/6.65  | 215/8.46  | 215/8.46   |
| B2 | 61.5/2.42 | 61.5/2.42 | 61.5/2.42 | 107.5/4.23 |
| C1 | 140/5.51  | 186/7.32  | 232/9.13  | 232/9.13   |
| C2 | 70/2.76   | 70/2.76   | 70/2.76   | 116/4.57   |

# UL 98 Fusible Disconnect Switches

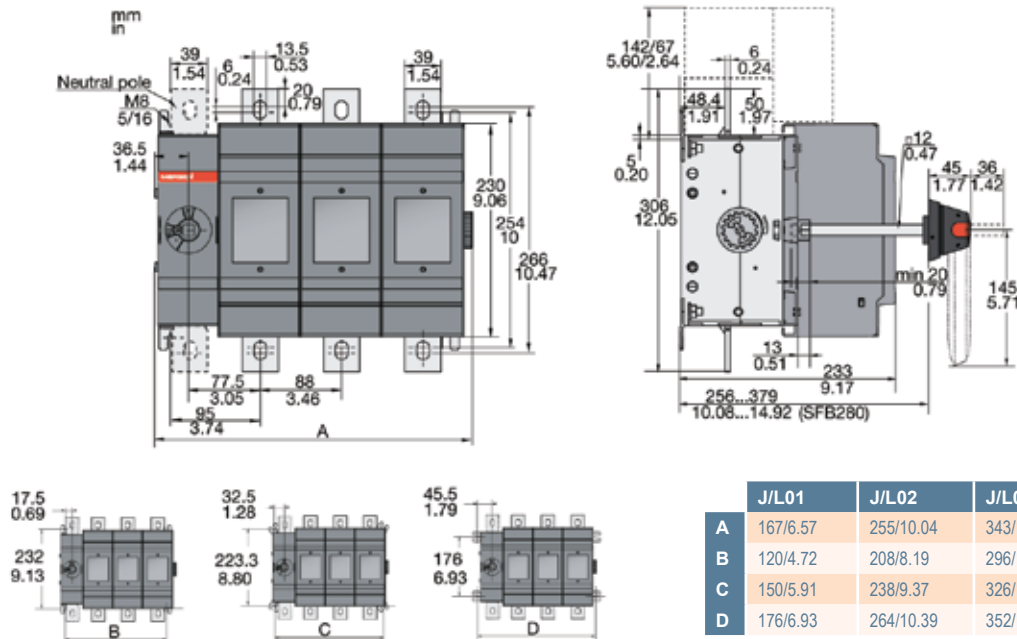
M400J, 30 or 03 configuration, Front operated



| M400J30 |          |          |           |           |
|---------|----------|----------|-----------|-----------|
|         | J01      | J02      | J03       | J04       |
|         | mm/in    | mm/in    | mm/in     | mm/in     |
| A       | 127/5.00 | 191/7.52 | 255/10.04 | 319/12.56 |
| B       | 176/6.93 | 176/6.93 | 176/6.93  | 176/6.93  |
| C       | 194/7.64 | 194/7.64 | 194/7.64  | 194/7.64  |

| M400x |            |            |             |             |
|-------|------------|------------|-------------|-------------|
|       | mm/in      | mm/in      | mm/in       | mm/in       |
| A1    | 98.5/3.88  | 162.5/6.40 | 226.5/8.92  | 290.5/11.44 |
| B1    | 116.5/4.59 | 180.5/7.11 | 244.5/9.63  | 308.5/12.15 |
| C1    | 134.5/5.30 | 198.5/7.81 | 262.5/10.33 | 326.5/12.85 |

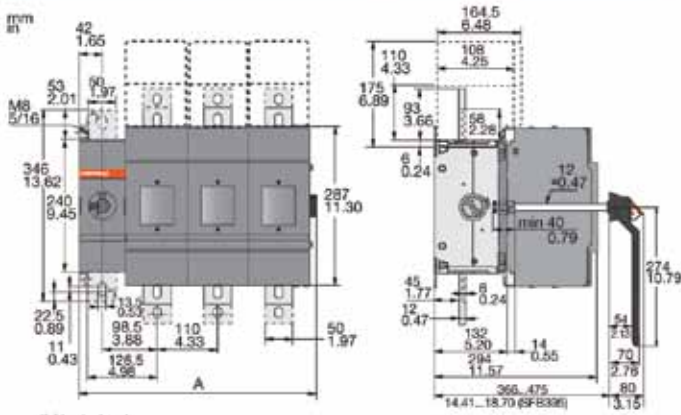
M600J-800L, Front operated



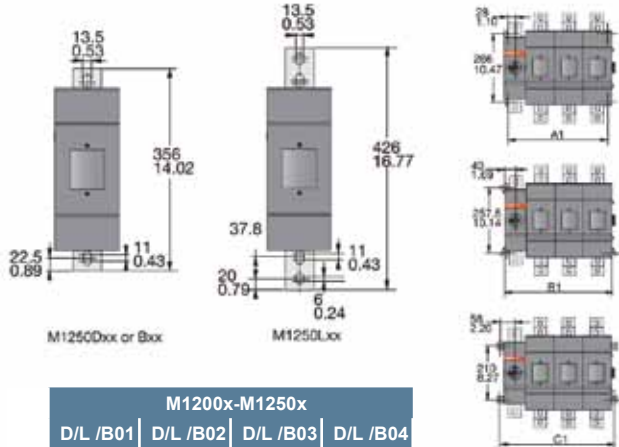
# UL 98 Fusible Disconnect Switches

M1200L, M1250D, Front operated

For DIN, BS and L Fuse Types with gearbox on the side



\*) Neutral pole



M1250Dxx or Box

M1250Lxx

|    | M1200x-M1250x     |                   |                   |                   |
|----|-------------------|-------------------|-------------------|-------------------|
|    | D/L /B01<br>mm/in | D/L /B02<br>mm/in | D/L /B03<br>mm/in | D/L /B04<br>mm/in |
| A  | 209/8.23          | 319/12.56         | 429/16.89         | 539/21.22         |
| A1 | 166/6.54          | 276/10.87         | 386/15.20         | 496/19.53         |
| B1 | 196/7.72          | 306/12.05         | 416/16.38         | 526/20.71         |
| C1 | 222/8.74          | 332/13.07         | 442/17.40         | 552/21.73         |