



LOW VOLTAGE
DISCONNECT SWITCHES

GLOBAL LINE
OF PREMIUM
COMPACT
LOW VOLTAGE
SWITCHGEAR



Disconnect Switches

The safest way to switch power on and off in your industrial control panels.



Your problem: You need a range of disconnect switches for your industrial control requirements ranging from main entrance to motor isolation. You need DIN-rail and direct mountable disconnect switches that conform to today's "finger-safe" IEC standards. You need a range of handles, shafts and accessories to select from.

Our solution: Mersen offers an extensive line of compact IEC fusible and non-fusible disconnect switches ranging from 16A to 4000A. We also offer a full range of compact UL 508 and UL 98 disconnect switches. In addition, you can find handle, shaft and accessory options that you require for all of your applications.

Want more information fast?

ep.mersen.com.

Disconnect Switches

- IEC Non-Fusible Disconnect Switches **p. 5**
- IEC Fusible Disconnect Switches **p. 20**
- PV-Rated Disconnect Switches..... **p. 38**
- UL 508 Non-Fusible Disconnect Switches **p. 43**
- UL 98 Non-Fusible Disconnect Switches **p. 48**
- UL 98 Fusible Disconnect Switches **p. 58**

Mersen's line of premium low voltage switchgear

THE SAFEST WAY TO SWITCH POWER ON AND OFF IN YOUR INDUSTRIAL CONTROL PANELS

You need a range of disconnect switches for your industrial control requirements ranging from "Service Entrance Rated" to motor isolation. You need IEC DIN-rail and direct mountable disconnect switches. You need switches that conform to UL 508 and UL 98. You need a range of handles, shafts and accessories to select from.

Mersen Electrical Power has now the broadest range of switches in the industry, with a full line of accessories to accommodate virtually any application. This range is global and encompasses both IEC and UL standard products for AC and DC applications.

Compact size enables the smallest footprint amongst the competition. Our 40A IEC switches are only 35mm wide! Comfortable pistol-style handles allow greater leverage and gripping force. Robust design incorporates rugged, pivot-able mounting feet.



Non-Fusible Switches

16A to 4000A
690VAC

- **Performance:** Higher power ratings than competition, suitable for many applications
- **Size:** Most compact solution meaning savings in cost
- **Flexibility in installation:** Fast and reliable installation every time
- **Environmental impact:** No harmful material



Fusible Switches

25A to 1250A
690VAC

- **Safety:** Safe to install and safe to the user
- **Performance:** Suitable for all locations in low voltage networks
- **Size:** Space savings due to compactness, very small footprint
- **Flexibility in installation:** Complete range of accessories which support installation flexibility
- **Environmental impact:** No harmful material



PV-Rated Switches

100A to 500A
Up to 1000 VDC

- **Safety:** Touchsafe design with visible contacts
- **Performance:** Higher power ratings than competition, suitable for many applications
- **Size:** Most compact solution meaning savings in cost
- **Flexibility in installation:** Fast and reliable installation every time
- **Environmental impact:** No harmful material



IEC Non-Fusible Disconnect Switches

IEC UL Modular Non-Fused (M163 – M125E3)

The M-series Load Break Switch is the most compact industrial-grade switch on the market. Capable of making or breaking loads up to 690V (IEC), 600V (UL), it is suitable as a motor disconnect. Extremely compact and robust, these switches are modular but also exist in a door-mounting version. A wide assortment of handles, shafts and accessories are available to accommodate any installation requirement.

Highlights:

- Compact
- Robust
- DIN-rail, base, or door-mounting
- Choice of handles and shafts
- Padlockable
- Side-mount auxiliary contacts and additional poles
- Double-break, silver-plated contacts

Applications:

- Line of sight disconnect
- Electrical isolation
- Branch-circuit switch
- Motor disconnect



Ratings IEC:

Volts : 690VAC
Amps : 16, 25, 40, 63, 80, 100, and 125A

Ratings UL:

Volts : 600VAC
Amps : 20, 30, 40, 63, 80, 100, and 125A
 Suitable as motor disconnect up to 40hp

Catalog Number Designation

		M	80	3			
Switch	M = Mersen AC Switch MD = Mersen DC Switch						
Ampacity	16 to 1200						
Type	Blank = non-fused UL508 U = non-fused UL98 J = J fused F = NFC fused	E = IEC non-fused CC = CC fused D = DIN fused B = BS-88 fused					
Number of Poles/Left side of Handle	AC: 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: 0, 1, 2, 3, 4						
Number of Poles/Right side of Handle	AC: Blank = < 200A non-fused, 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: Blank = < 100A, 0, 1, 2, 3, 4						
Revision	Blank = 0						
Special Configurations	S = side-operated CH = Changeover	DM = door-mounting N = Non-fused switched Neutral					

Approvals:

- UL 508 listed E196672
- IEC 60947-3



IEC Non-Fusible Disconnect Switches

IEC Disconnect Switches – Front Operated



M163



M163DM



M633



M633DM



M100U3 - M125E3

Switch Body

Ampere Rating	16	25	40	63	80	100	125
Base Cat #	M163	M253	M403	M633	M803	M100U3	M125E3
Door-mounted version	M163DM	M253DM	M403DM	M633DM	M803DM	M100U3DM	

Handles and Shafts

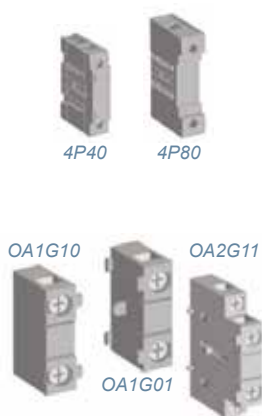


Direct Front Operation Locking Handle							
	HD40	HD40	HD40	HD125	HD125	HD125	HD125

External Front Operation							
Selector Style	IP65, NEMA 1, 3R, 12	HSBX	HSBX	HSBX	HSBX	HSBX	HSBX
Shaft Lengths: 85, 130, 180, 250 Ex. SA130		SA__	SA__	SA__	SA__	SA__	SA__
Door mounted version (no shaft required)		HSBPDM	HSBPDM	HSBPDM	HSBWDM	HSBWDM	HSBWDM
Pistol Style	IP65, NEMA 1, 3R, 12	HB45	HB45	HB45	HB45	HB45	HB45
	NEMA Type 4, 4X	HB45X	HB45X	HB45X	HB45X	HB45X	HB45X
Shaft Lengths: 210, 290 Ex. SPA210		SPA__	SPA__	SPA__	SPA__	SPA__	SPA__

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR65

Accessories



Fourth Poles							
Limited to one additional pole per switch	4P40	4P40	4P40	4P80	4P80	4P125	4P125

Neutral Poles							
Limited to one additional pole per switch	NP40	NP40	NP40	NP80	NP80	NP125	NP125

Terminal Shrouds							
3-pole, 1 terminal shroud for 3 poles	TS40-3	TS40-3	TS40-3	TS63-3	TS63-3	TS125-3	TS125-3
1 to 4-poles, 1 terminal shroud per pole	TS40-1	TS40-1	TS40-1	TS63-1	TS63-1	TS125-1	TS125-1

Auxiliary Contacts							
NC left or right side mounting	OA1G01	OA1G01	OA1G01	OA1G01	OA1G01	OA1G01	OA1G01
NO left or right side mounting	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
NO+NC (Mounting on either side)	OA2G11	OA2G11	OA2G11	OA2G11	OA2G11	OA2G11	OA2G11

IEC Non-Fusible Disconnect Switches

IEC Front and Side Operated



M200E30S



M630E03

Switch Body

Ampere Rating	200	250	315	400	630	800
Base Cat #	M200E	M250E	M315E	M400E	M630E	M800E
3-pole	03, 30S	03, 30S	03, 30S	03, 30S	03, 30S	03, 30S

Handles and Shafts



HD250



HB65

Direct Front Operation Locking Handle						
	HD250	HD250	HD400	HD400	HD800	HD800

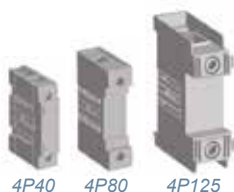
External Front Operation						
Pistol Style NEMA 1, 3R, 12	HB65/HB80	HB65/HB80	HB125	HB125	HB125	HB125
NEMA 4, 4X	HB65X/HB80X	HB65X/HB80X	HB125X	HB125X	HB125X	HB125X
Pistol Type, right side operation	HB65S	HB65S	HB145S	HB145S	HB145S	HB145S
Shaft— Lengths 210, 290, 360, 430 Ex. SPA210	SPA__	SPA__	SFB__	SFB__	SFB__	SFB__
Shaft— Lengths 280, 325, 395 Ex. SFB325						

B = Black. Substitute "R" for "B" if red handle is desired. Ex. HR80.

Fourth Poles						
	4P250	4P250	4P400	4P400	4P800	4P800

Neutral Poles						
	NP250	NP250	NP400	NP400	NP800	NP800

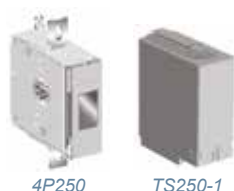
Accessories



4P40

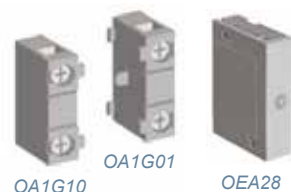
4P80

4P125



4P250

TS250-1



OA1G10

OA1G01

OEA28

Terminal Shrouds						
Kit for 3 poles	TS250-13	TS250-13	TS400-13	TS400-13	TS800-13	TS800-13
Kit for 4 poles	TS250-14	TS250-14	TS400-14	TS400-14	TS800-14	TS800-14

Shorter terminal shrouds versions are also available if desired. Ex. TS250S-13 for switches up to 250A

Auxiliary Contacts						
Normally Open	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
Normally Closed	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01
Module for SF aux. contacts	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28

IEC Non-Fusible Disconnect Switches

IEC Front and Side Operated



M1250E03

Switch Body

Ampere Rating	1000	1250	1600	2000	2500	3200	4000
Base Cat #	M1000E	M1250E	M1600E	M2000E	M2500E	M3200E	M4000E
3-pole	03	03	03	03	03	03	03

Handles and Shafts



Direct Front Operation Locking Handle							
	HD1000	HD1000	HD1000	HD1000	HD1000	HD1000	HD1000

External Front Operation							
Pistol Style	NEMA 1, 3R, 12	HB274	HB274	HB274	HB274	HB274	HB274
	NEMA 4, 4X	HB274X	HB274X	HB274X	HB274X	HB274X	HB274X
Shaft— Lengths: 280, 325,395 Ex. SFB325		SFB__	SFB__	SFB__	SFB__	SFB__	SFB__

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR274

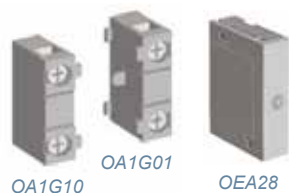
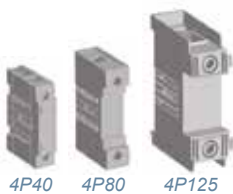
Fourth Poles							
	4P1250	4P1250	4P1600	4P2500	4P2500		

Neutral Poles							
	NP1250	NP1250	NP1600				

Terminal Shrouds							
Kit for 3 poles	TS1600-13	TS1600-13	TS1600-13				
Kit for 4 poles	TS1600-14	TS1600-14	TS1600-14				

Auxiliary Contacts							
Normally Open	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
Normally Closed	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01
Module for SF aux. contacts	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28

Accessories



IEC Non-Fusible Disconnect Switches

Technical Data

Technical data according to IEC 60947-3										
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C	A	16	25	40	63	80	100	125
Rated insulation voltage and rated operational voltage AC20/DC20		Pollution degree 3	V	750	750	750	750	750	750	750
Dielectric strength		50 Hz 1min.	kV	6	6	6	6	6	6	6
Rated impulse withstand voltage			kV	8	8	8	8	8	8	8
Rated thermal current and rated operational current AC20/DC20	ambient 40°C ²⁾	In open air	A	25	32	40	63	80	115	125
	ambient 40°C ²⁾	In enclosure	A	25	32	40	63	80	115	125
	ambient 60°C	In enclosure	A	20	25	32	50	63	80	100
..with minimum conductor cross section		Cu	mm ²	4	6	10	16	25	35	50
Rated operational current, AC-21A		up to 415 V	A	16	25	40	63	80	100	125
		440...690 V	A	16	25	40	63	80	100	125
Rated operational current, AC-22A		up to 415 V	A	16	25	40	63	80	100	125
		440...500 V	A	16	25	40	63	80	100	125
		690 V	A	16	25	40	63	80	100	125
Rated operational current, AC-23A		up to 415 V	A	16	20	23	63	75	80	90
		440 V	A	16	20	24	63	65	65	78
		500 V	A	16	20	23	45	58	60	70
		690 V	A	10	11	12	20	20	40	50
Rated operational current / poles in series, DC-21A		24...48 V ¹⁾	A	16/1	25/1	32/1	63/1	80/1	100/1	125/1
		110 V	A	16/2	25/2	32/2	63/2	80/2	100/2	125/2
		220 V	A	16/3	25/3	32/3	63/4	80/4	100/4	125/4
		440 V	A	16/4	16/4	16/4	16/4	16/4		
		500 V	A	16/4	16/4	16/4	16/4	16/4		
Rated operational current / poles in series, DC-22A		24...48 V ¹⁾	A	16/1	25/1	32/1	63/1	80/1	100/1	125/1
		110 V	A	16/2	25/2	32/2	63/2	80/2	100/2	125/2
		220 V	A	16/3	25/3	32/4	45/4	45/4	63/4	80/4
		440 V	A	10/4	10/4	10/4	10/4	10/4		
Rated operational current / poles in series, DC-23A		24...48 V ¹⁾	A	16/1	25/1	32/1	63/1	80/1	100/1	125/1
		110 V	A	16/2	25/2	32/2	63/2	80/2	100/2	125/2
		220 V	A	16/4	25/4	32/4	45/4	45/4	63/4	63/4
		440 V	A	10/4	10/4	10/4	10/4	10/4		
Rated operational power, AC-23 (These values are given for guidance and may vary according to the motor manufacturer)		220...240 V	kW	3	4	5.5	11	22	22	22
		400...415 V	kW	7.5	9	11	22	37	37	45
		440 V	kW	7.5	9	11	22	37	37	45
		500 V	kW	7.5	9	11	22	37	37	45
		690 V	kW	7.5	9	11	15	18.5	37	45
Rated breaking capacity, AC-23A		up to 415 V	A	128	160	184	360	640	640	720
		440 V	A	128	160	184	360	448	520	624
		500 V	A	128	160	184	360	464	480	560
		690 V	A	80	88	96	160	160	320	40
Rated breaking capacity/poles in series, DC-23A		24...48 V	A	64/1	100/1	128/1	180/1	252/1	400/1	500/1
		110 V	A	64/2	100/2	128/2	180/2	252/2	400/2	500/2
		220 V	A	64/3	100/4	128/4	180/4	180/4	252/4	252/4
		440 V	A	40/4	40/4	40/4	40/4	40/4		
		750 V	A	64/8	64/8	64/8				
Rated conditional short-circuit current I _b (r.m.s.) and corresponding max. allowed cut-off current \hat{i}_c . The cut-off current \hat{i}_c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	I _b (r.m.s.)	50 kA	kA	6.5	6.5	6.5	13	13	16.5	16.5
	Max Fuse rating gG/aM	≤ 415 V	A	40/32	40/32	40/32	100/80	100/80	125/125	125/125
	I _b (r.m.s.)	100 kA	kA				17	17		
	Max Fuse rating gG/aM	≤ 500 V	A				100/80	100/80		
	I _b (r.m.s.)	10 kA	kA						8.2	8.2
	Max Fuse rating gG/aM	≤ 690 V	A						125/100	125/100
Rated short-time withstand current	r.m.s. -value I _{sw}	690 V, 0.25 s	kA							
	-value I _{sw}	690 V, 1 s	kA	0.5	0.5	0.5	1	1.5	2.5	2.5
Rated short-time making capacity	Peak value I _{em}	690 V/500 V	kA	0.705	0.705	0.705	1.4	2.1	3.6	3.6
Rated capacitor power	The capacitor ratings are limited by the fuse link	400...415 V	kVAr	6.5	10	15	25	30	40	50
Power loss / pole	At rated operational current		W	0.3	0.6	1.6	2.8	4.5	4.0	6.3
Mechanical endurance	Divide by two for operation cycles		Oper.	20 000	20 000	20 000	20 000	20 000	20 000	20 000
Weight without accessories		3-pole	kg	0.11	0.11	0.11	0.27	0.27	0.36	0.36
		4-pole	kg	0.15	0.15	0.15	0.35	0.35	0.50	0.50
Cable size	Cu-wire size suitable for terminal clamps		mm ²	0.75...10	0.75...10	0.75...10	1.5...35	1.5...35	10...70	10...70
			AWG	18-8	18-8	18-8	14-4	14-4	8-00	8-00
Terminal tightening torque	Counter torque required		Nm	0.8	0.8	0.8	2	2	6	6
Operating torque	3-pole switch-disconnector		Nm	1	1	1	1.2	1.2	2	2

1) Below 48 V, two poles in parallel up to M80 are recommended particularly in polluted atmosphere.

2) Acc. to IEC 60947-1, § 6.1.1.

IEC Non-Fusible Disconnect Switches

Technical Data

Technical data according to IEC 60947-3									
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C	A	200	250	315	400	630	800
Rated insulation voltage and rated operational voltage AC20/DC20	Pollution degree 3		V	1 000	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10	10
Rated impulse withstand voltage			kV	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20	ambient 40°C ⁴⁾	In open air	A	200	250	315	400	630	800
	ambient 40°C ⁴⁾	In enclosure	A	200	250	315	400	630	800
..with minimum conductor cross section	Cu		mm ²	95	120	185	240	2x185	2x240
Rated operational current, AC-21A		≤ 500 V	A	200	250	315	400	630	800
		690 V	A	200	250	315	400	630	800
		1000 V	A	200	250	315	400	630	800
Rated operational current, AC-22A		≤ 500 V	A	200	250	315	400	630	800
		690 V	A	200	250	315	400	630	800
		1000 V	A	200	250	315	400	630	800
Rated operational current, AC-23A		≤ 500 V	A	200	250	315	400	630	800
		690 V	A	200	250	315	400	630	800
		1000 V	A	135	135	200	200	400	400
Rated operational current / poles in series, DC-21A ¹⁾		24...110 V	A	200/2	250/2	315/1 ²⁾	400/1 ²⁾	630/1	800/1
		220 V	A	200/2	250/2	315/2 ²⁾	400/2 ²⁾	630/1	800/1
		440 V	A	200/3	250/3	315/3	360/3	630/2	800/2
		660 V	A	200/4	230/4 ²⁾	315/4	360/4	630/4 ²⁾	650/4 ²⁾
Rated operational current / poles in series, DC-21B		800 V	A	200/5	250/5	315/5	400/5	600/5	600/5
		1000 V	A	200/6	250/6	315/6	400/6	600/6	600/6
Rated operational power, AC-23 ³⁾		230 V	kW	60	75	100	132	200	250
		400 V	kW	110	140	160	220	355	450
		415 V	kW	110	145	180	230	355	450
		500 V	kW	132	170	220	280	400	560
Rated breaking capacity, AC-23A		≤ 500 V	A	1 600	2 000	2 520	3 200	5 040	6 400
		690 V	A	1 600	2 000	2 520	3 200	5 040	6 400
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current \hat{i}_c . The cut-off current \hat{i}_c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	Max Fuse rating I_p (r.m.s.)	100 kA, 500 V	kA	40.5	40.5	61.5	61.5	90	90
		gG/aM	A	315/315	315/315	500/450	500/450	800/1 000	800/1 000
	Max Fuse rating I_p (r.m.s.)	80 kA, 690 V	kA	40.5	40.5	59	59	83.5	83.5
		gG/aM	A	355/315	355/315	500/500	500/500	800/1 000	800/1 000
Rated short-time withstand current	r.m.s. -value I_{cw}	≤ 1000 V 0,15 s	kA	15	15	31	31	38	38
		≤ 1000 V 0,25 s	kA	15	15	24	24	36	36
		≤ 1000 V 1 s	kA	8	8	15	15	20	20
Rated short-time making capacity	Peak value I_{cm}	≤ 1000 V	kA	30	30	65	65	80	80
Rated capacitor power When no initial charge on the capacitor	The capacitor ratings are limited by the fuse links	415 V	kVAr	100	115	145	180	250	310
		500 V	kVAr	120	135	175	215	300	375
		690 V	kVAr	160	190	250	325	450	550
Power loss / pole		At rated operational current	W	4	6.5	6.5	10	25	40
Mechanical endurance		Divide by two for operation cycles	Oper.	20 000	20 000	16 000	16 000	10 000	10 000
Weight without accessories		3-pole switch	kg	1.2	1.2	2.2	2.2	5.2	5.2
Terminal bolt size		Metric thread diameter x length	mm	M8x25	M8x25	M10x30	M10x30	M12x40	M12x40
Terminal tightening torque		Counter torque required	Nm	15-22	15-22	30-44	30-44	50-75	50-75
Operating torque		3-pole switch-disconnector	Nm	7	7	16	16	27	27

1) Further ratings on request.

2) Category B.

3) These values are given for guidance and may vary acc. to the motor manufacturer.

4) Acc. to IEC 60947-1, § 6.1.1.

IEC Non-Fusible Disconnect Switches

Technical Data

Technical data according to IEC 60947-3								
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C	A	1000	1250	1600	2000	2500
Rated insulation voltage and rated operational voltage AC20/DC20	Pollution degree 3		V	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10
Rated impulse withstand voltage			kV	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20 ...with minimum conductor cross section	ambient 40°C ⁵⁾	In open air	A	1 000	1 250	1 600	2 000	2 500
	ambient 40°C ⁵⁾	In enclosure	A	1 000	1 250	1 600		
	ambient 60°C	In enclosure	A					
	Cu		mm ²	2x300	2x400	2x500	3x500	4x500
Rated operational current, AC-21A		up to 690 V	A	1 000	1 250	1 600	2 000 ²⁾	2 500 ²⁾
		1000 V	A	1 000	1 250	1 600		
Rated operational current, AC-22A		up to 500 V	A	1 000	1 250	1 600	2 000 ^{2) 3)}	2 500 ^{2) 3)}
		690 V	A	1 000	1 250	1 600	2 000 ^{2) 3)}	2 500 ^{2) 3)}
Rated operational current, AC-23A		up to 500 V	A	1 000	1 250	1 250		
		690 V	A	1 000	1 250	1 250		
Rated operational power, AC-23A (These values are given for guidance and may vary acc. to the motor manufacturer)		400...415 V	kW	560	710	710		
		440 V	kW	630	800	800		
		500 V	kW	710	900	900		
		690 V	kW	1 000	1 200	1 200		
Rated breaking capacity, AC-23A		up to 500 V	A	10 000	10 000	10 000		
		690 V	A	10 000	10 000	10 000		
Rated conditional short-circuit current I_p (r.m.s.) and corresponding max. allowed cut-off current \hat{I}_c . The cut-off current \hat{I}_c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	I_p (r.m.s.)	80 kA	kA	100	100	100		
	Max. OFA_fuse size gG/aM	≤ 415 V	A	1 250/1 250	1 250/1 250	1 250/1 250		
	I_p (r.m.s.)	100 kA	kA	106	106	106		
	Max. OFA_fuse size gG/aM	≤ 500 V	A	1 250/1 250	1 250/1 250	1 250/1 250		
Rated short-time withstand current	I_p (r.m.s.)	50 kA	kA					
	Max. OFA_fuse size gG/aM	≤ 690 V	A					
	r.m.s. -value I_{cw}	690 V 0.25 s	kA	50	50	50	80	80
		690 V 1 s	kA	50	50	50	55	55
Rated short circuit making capacity	Peak value I_{cm}	415 V	kA					
		500 V	kA					
		690 V	kA	1104)	1104)	1104)	176	176
	Max. distance from switch frame to nearest busbar/cable support		mm	150	150	150	150	150
Rated capacitor power When no initial charge on the capacitor	The capacitor ratings are limited by the fuse links	415 V	kVAr	460	575	575		
		500 V	kVAr	550	690	690		
		690 V	kVAr	750	950	950		
Power loss / pole		At rated operational current	W	19	29	48	55	85
Mechanical endurance		Divide by two for operation cycles	Oper.	6 000	6 000	6 000	6 000	6 000
Weight without accessories		3-pole	kg	14.1	14.1	15.2	22	22
		4-pole	kg	18	18	19.5	28	28
Terminal bolt size		Metric thread diameter x length	mm	M12x50	M12x50	M12x60	M12x60	M12x60
Terminal tightening torque		Counter torque required	Nm	50...75	50...75	50...75	50...75	50...75
Operating torque		3-pole switch-disconnector	Nm	65	65	65	65	65

1) Extended phase distance (185 mm).

2) IEC 947-3, utilization category B, infrequent operation.

3) Phase barriers or terminal shrouds must be used on both sides of the switch at voltages ≥ 500 V.

4) The value is 92 kA for 4-pole switch-disconnectors.

5) Acc. to IEC60947-1, § 6.1.1.

IEC Non-Fusible Disconnect Switches

Technical Data IEC Products

Technical data according to IEC 60947-3					
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C	A	3200	4000
Rated insulation voltage	Pollution degree 3		V	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10
Rated impulse withstand voltage			kV	8	8
Rated thermal current in ambient 35°C and temporarily 40°C		In open air	A	3200	4 000/ 3 800 ¹⁾
..with minimum conductor cross section	Cu		mm ²	4 x 1 000	5 x 1 000
Rated operational Voltage AC20B, DC20B			V	1 000	1,000
Rated operational current, AC-21B		up to 415 V	A	3,200	4 000/ 3 800 ²⁾
Rated operational current, AC-22B		up to 415 V	A	3,200	4 000/ 3 800 ²⁾
Rated operational current, AC-23A		up to 500 V	A	1 000	4 000/ 3 800 ²⁾
Rated short-time withstand current	r.m.s. -value I _{rw}	690 V 1 s	kA	60	60
Rated short circuit making capacity	Peak value I _{cm}	690 V	kA	176	176
	Max. distance from switch frame to nearest busbar/cable support		mm	150	150
Power loss / pole		With rated current	W	95	130/120 ³⁾
Mechanical endurance		Divide by two for operation cycles	Oper.	5,000	5,000
Weight without accessories		3-pole	kg	24.7	28.9
		4-pole	kg	32.1	37.7
Standard shaft and mounting depth	Square dimension x length of shaft		mm	12 x 280	12 x 280
	Corresponding mounting depth		mm	251 - 380	251 - 380
			Type	HB274	HB274
Terminal tightening torque	Counter torque required		Nm	50...75	50...75
Operating torque	for 3- and 4-pole switches		Nm	65	65

1) The rated thermal current without wide phase distance is 3800A

2) The rated operational current without wide phase distance is 3800A

3) Power loss without wide phase distance is 120W

IEC Non-Fusible Disconnect Switches

IEC Non-Fused switches, front-operated

Cat #	Description	Ref #
M163	IEC UL508 Switch 16A 3p	A1043188
M253	IEC UL508 Switch 25A 3p	B1043189
M403	IEC UL508 Switch 40A 3p	C1043190
M633	IEC UL508 Switch 63A 3p	D1043191
M803	IEC UL508 Switch 80A 3p	E1043192
M100U3	IEC UL98 Switch 100A 3p	F1043193
M125E3	IEC Switch 125A 3p	G1043194
M163DM	IEC UL508 Switch 16A 3p DM	E1043169
M253DM	IEC UL508 Switch 25A 3p DM	F1043170
M403DM	IEC UL508 Switch 40A 3p DM	K1043174
M633DM	IEC UL508 Switch 63A 3p DM	M1043176
M803DM	IEC UL508 Switch 80A 3p DM	N1043177
M100U3DM	IEC UL98 Switch 100A 3p DM	P1043178
M200E03	IEC Switch 200A 3p 0+3 pos.	H1043195
M250E03	IEC Switch 250A 3p 0+3 pos.	K1043197
M315E03	IEC Switch 315A 3p 0+3 pos.	M1043199
M400E03	IEC Switch 400A 3p 0+3 pos.	P1043201
M630E03	IEC Switch 630A 3p 0+3 pos.	R1043203
M800E03	IEC Switch 800A 3p 0+3 pos.	T1043205
M1000E03	IEC Switch 1000A 3p 0+3 pos.	W1043207
M1250E03	IEC Switch 1250A 3p 0+3 pos.	X1043208
M1600E03	IEC Switch 1600A 3p 0+3 pos.	Y1043209
M2000E03	IEC Switch 2000A 3p 0+3 pos.	Z1043210
M2500E03	IEC Switch 2500A 3p 0+3 pos.	A1043211
M3200E03	IEC Switch 3200A 3p 0+3 pos.	B1043212
M4000E03	IEC Switch 4000A 3p 0+3 pos.	C1043213

IEC Non-Fused switches, side-operated

Cat #	Description	Ref #
M200E30S	IEC Switch 200A 3p R side op.	J1043196
M250E30S	IEC Switch 250A 3p R side op.	L1043198
M315E30S	IEC Switch 315A 3p R side op.	N1043200
M400E30S	IEC Switch 400A 3p R side op.	Q1043202
M630E30S	IEC Switch 630A 3p R side op.	S1043204
M800E30S	IEC Switch 800A 3p R side op.	V1043206

Handles

Cat #	Description	Ref #
HD40	Handle direct Switch 40A	L1043405
HSBX	Handle selector black	M1043406
HSRX	Handle selector red	N1043407
HB45	Handle black 45mm IP65 NEMA 3R	L1043911
HB45X	Handle black 45mm IP65 NEMA 4X	M1043912
HR45	Handle red 45mm IP65 NEMA 3R	Q1043915
HR45X	Handle red 45mm IP65 NEMA 4X	R1043916
HD125	Handle direct Switch 125A	K1043404
HD250	Handle direct Switch 250A	W1043391
HD400	Handle direct Switch 400A	X1043392
HD800	Handle direct Switch 800A	Y1043393
HD1000	Handle direct Switch 1000A	J1043403
HB65	Handle black 65mm IP65 NEMA 3R	W1043368
HB65S	Handle black 65mm Right Side	A1044361
HB65X	Handle black 65mm IP65 NEMA 4X	X1043369
HB80	Handle black 80mm IP65 NEMA 3R	Y1043370
HB80X	Handle black 80mm IP65 NEMA 4X	Z1043371
HB95	Handle black 95mm IP65 NEMA 3R	N1043913
HB95X	Handle black 95mm IP65 NEMA 4X	P1043914
HB125	Handle black 125mm IP65 NEMA 3R	A1043372
HB125X	Handle black 125mm IP65 NEMA 4X	B1043373
HB145	Handle black 145mm IP65 NEMA 3R	C1043374
HB145S	Handle black 145mm Right Side	B1044362
HB145X	Handle black 145mm IP65 NEMA 4X	D1043375
HB274	Handle black 274mm IP65 NEMA 3R	D1043398
HB274X	Handle black 274mm IP65 NEMA 4X	E1043376
HB330	Handle black 330mm IP65 NEMA 3R	E1043399
HB330X	Handle black 330mm IP65 NEMA 4X	F1043377
HR65	Handle red 65mm IP65 NEMA 3R	G1043378
HR65X	Handle red 65mm IP65 NEMA 4X	H1043379
HR80	Handle red 80mm IP65 NEMA 3R	F1043400
HR80X	Handle red 80mm IP65 NEMA 4X	J1043380
HR95	Handle red 95mm IP65 NEMA 3R	S1043917
HR95X	Handle red 95mm IP65 NEMA 4X	T1043918
HR125	Handle red 125mm IP65 NEMA 3R	K1043381
HR125X	Handle red 125mm IP65 NEMA 4X	L1043382
HR145	Handle red 145mm IP65 NEMA 3R	M1043383
HR145X	Handle red 145mm IP65 NEMA 4X	N1043384
HR274	Handle red 274mm IP65 NEMA 3R	G1043401
HR330	Handle red 330mm IP65 NEMA 3R	H1043402
HSBPDM	Handle Select black snap door	X1044358
HSBWDM	Handle Select black screw door	Y1044359
HSRPDM	Handle Select red snap door	E1047792
HSRWDM	Handle Select red screw door	D1047791

IEC Non-Fusible Disconnect Switches

Shafts

Cat #	Description	Ref #
SA85	Shaft selector handle 6x6x85mm	J1043426
SA105	Shaft select. handle 6x6x105mm	K1043427
SA120	Shaft select. handle 6x6x120mm	L1043428
SA130	Shaft select. handle 6x6x130mm	M1043429
SA180	Shaft select. handle 6x6x180mm	N1043430
SA250	Shaft pistol handle 6x6x250mm	R1043433
SPA130	Shaft pistol handle 6x6x130mm	V1043919
SPA210	Shaft pistol handle 6x6x210mm	P1043431
SPA290	Shaft pistol handle 6x6x290mm	Q1043432
SPA360	Shaft pistol handle 6x6x360mm	W1043920
SPA430	Shaft pistol handle 6x6x430mm	X1043921
SFB185	Shaft SwitchFuse 12x12x185mm	F1048897
SFB280	Shaft SwitchFuse 12x12x280mm	F1043423
SFB325	Shaft SwitchFuse 12x12x325mm	G1043424
SFB395	Shaft SwitchFuse 12x12x395mm	H1043425

Terminal Shrouds

Cat #	Description	Ref #
TS40-1	Term.shrd 40A switch 1p S	B1043442
TS40-3	Term.shrd 40A switch 3p L	C1043443
TS63-1	Term.shrd 63A switch 1p S	D1043444
TS63-3	Term.shrd 63A switch 3p L	E1043445
TS125-1	Term.shrd 125A switch 1p S	F1043446
TS125-3	Term.shrd 25A switch 3p L	G1043447
TS250-13	Term.shrd 250A switch 1p L /3	P1043454
TS250-14	Term.shrd 250A switch 1p L /4	A1043464
TS400-13	Term.shrd 400A switch 1p L /3	Q1043455
TS400-14	Term.shrd 400A switch 1p L /4	B1043465
TS800-13	Term.shrd 800A switch 1p L /3	R1043456
TS800-14	Term.shrd 800A switch 1p L /4	C1043466
TS1600-13	Term.shrd 1600A switch 1p L /3	S1043457
TS1600-14	Term.shrd 1600A switch 1p L /4	D1043467
TS2500-13	Term.shrd 2500A switch 1p L /3	T1043458
TS2500-14	Term.shrd 2500A switch 1p L /4	E1043468
TS250S-13	KIT 3 Term.shrd M250 1p S	P1048905
TS250S-14	KIT 4 Term.shrd M250 1p S	Q1048906
TS400S-13	KIT 3 Term.shrd M400 1p S	R1048907
TS400S-14	KIT 4 Term.shrd M400 1p S	S1048908
TS800S-13	KIT 3 Term.shrd M800 1p S	T1048909
TS800S-14	KIT 4 Term.shrd M800 1p S	V1048910

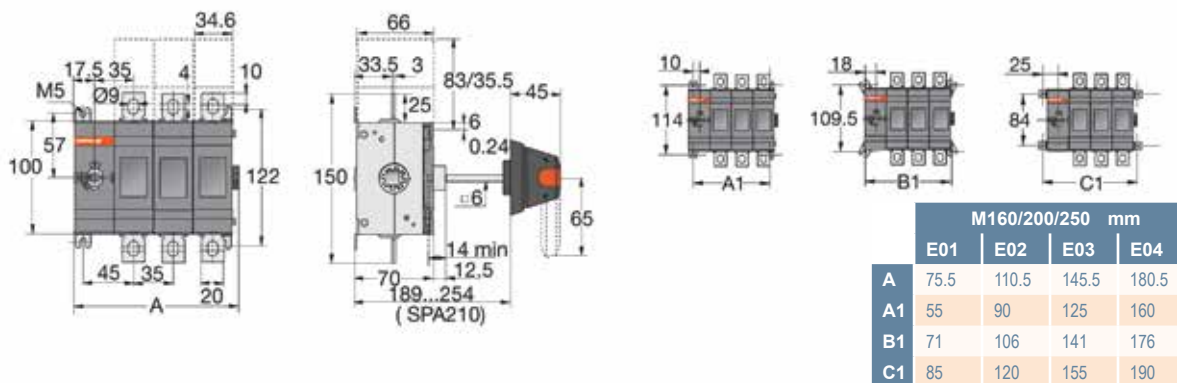
Other Accessories

Cat #	Description	Ref #
OA1G01	Auxiliary Contact NC Right	N1043476
OA1G10	Auxiliary Contact NO left	P1043477
OA2G11	Aux. Contact NO+NC Switch 125A	Q1043478
4P60	Fourth pole for M60 NF switches	T1043481
4P80	Fourth pole for M80 NF switches	V1043482
4P125	Fourth pole for M125 switches	W1043483
NP40	Neutral pole for M40 NF switches	X1043484
NP80	Neutral pole for M80 NF switches	Y1043485
NP125	Neutral pole for M125 switches	Z1043486
OA1G01	Auxiliary Contact NO Right	N1043476
OA1G10	Auxiliary Contact NC left	P1043477
OA2G11	Aux. Contact NO+NC Switch 125A	Q1043478
OA3G01	Aux.Contact NC Switch160-2500A	R1043479
OA4B1C	Aux.Contact 1+1 SF 40A	K1043473
OSZ4	Mounting plate OA1G10/OA3G01	L1043474
OEA28	Module for SF aux. contacts	M1043475
4P125	Fourth pole for M125 NF switches	W1043483
4P250	Neutral pole for M250 NF switches	A1043487
4P400	Neutral pole for M400 NF switches	B1043488
4P800	Neutral pole for M800 NF switches	C1043489
4P1250	Neutral pole for M1250 NF switches	D1043490
4P1600	Neutral pole for M1600 NF switches	E1043491
4P2500	Neutral pole for M2500 NF switches	F1043492

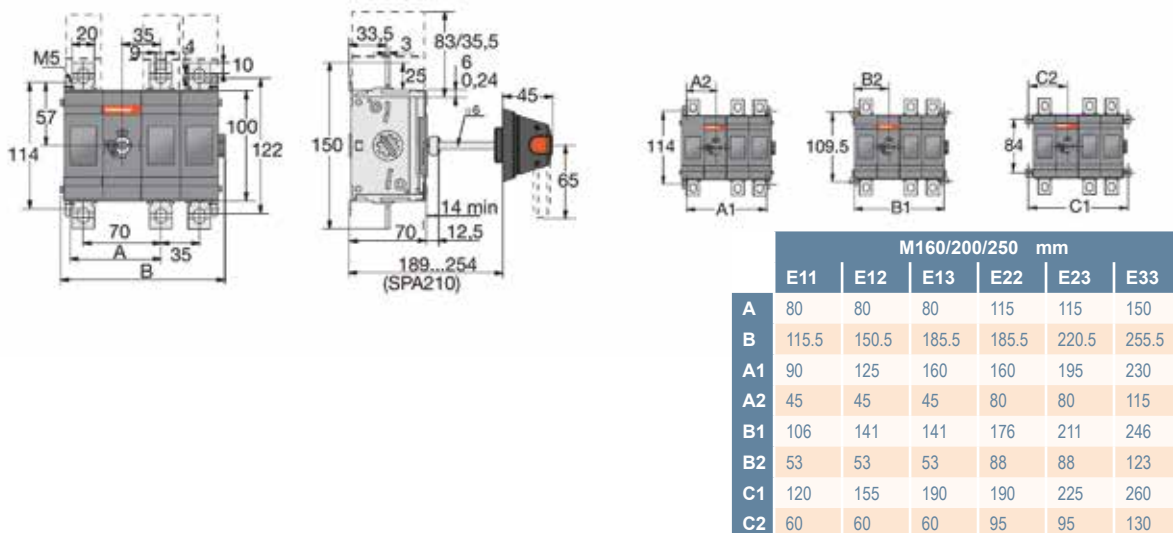
IEC Non-Fusible Disconnect Switches

M160Ex/M200Ex/M250Ex, Front operated

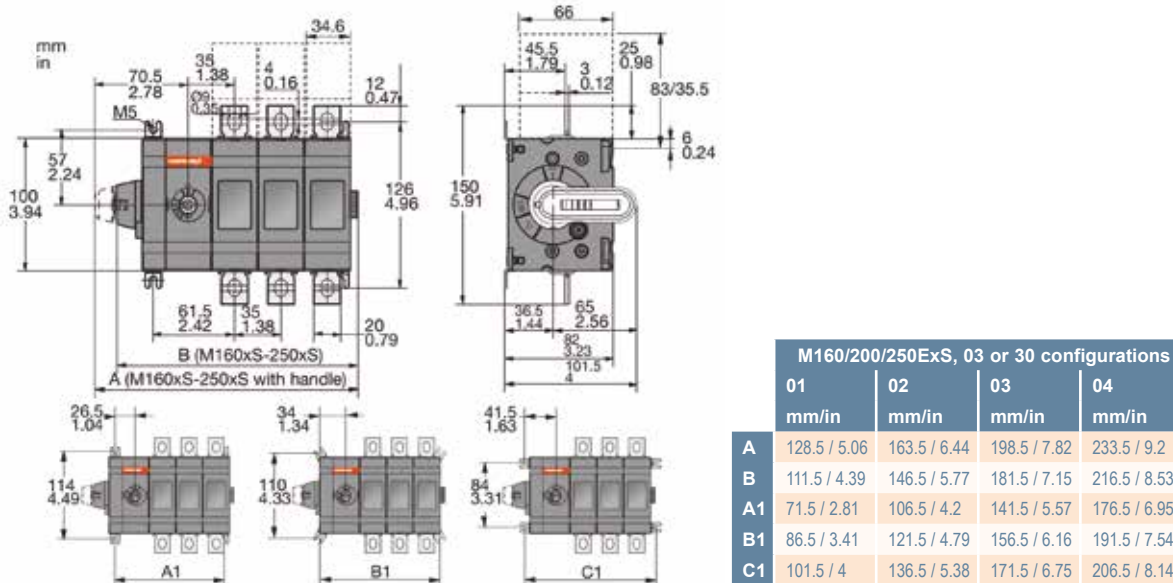
M160-250E, 03 or 30 configuration



M160-250E, 11 or 22 configuration



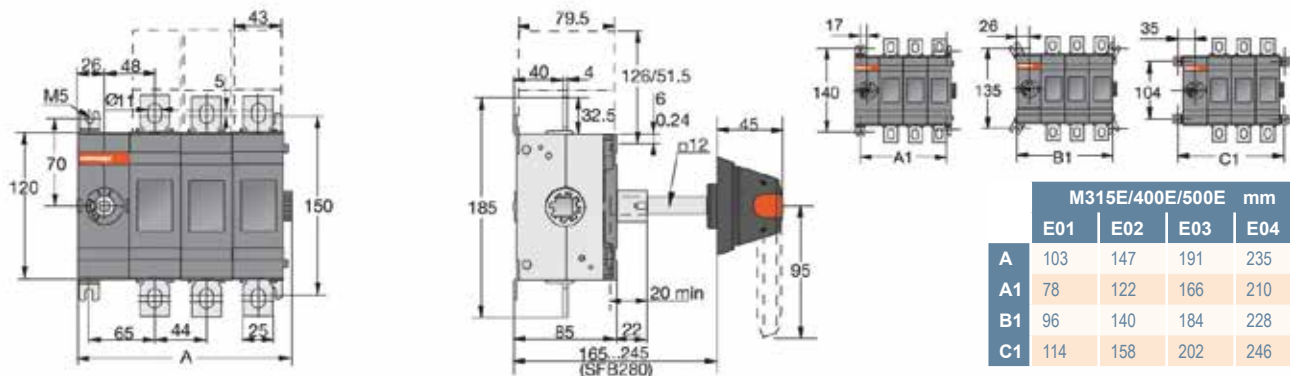
M160ExS/M200ExS/M250ExS, Side operated



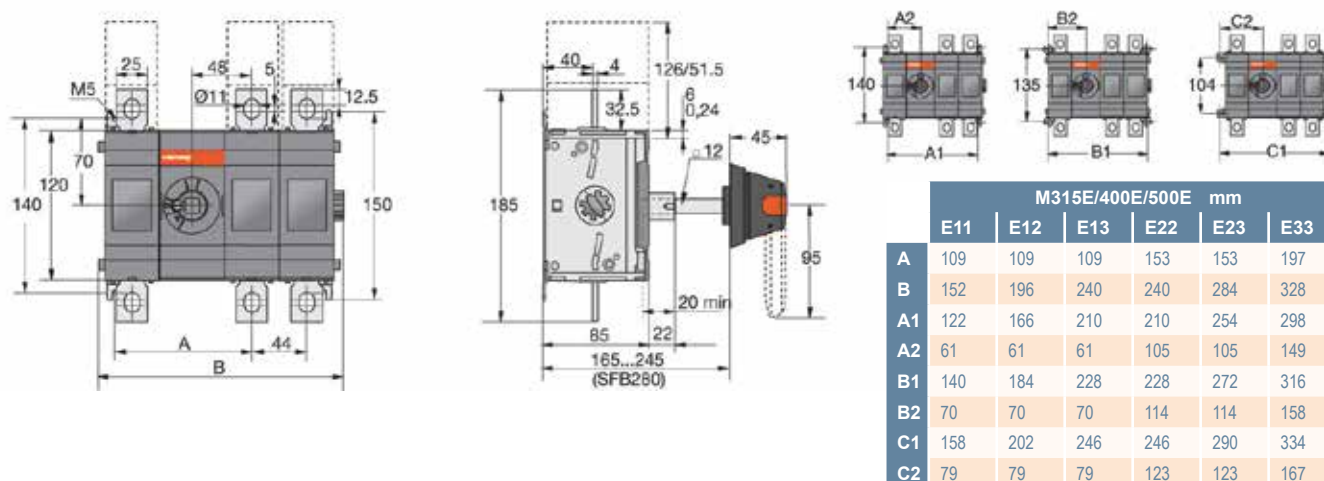
IEC Non-Fusible Disconnect Switches

M315-500x, Front operated

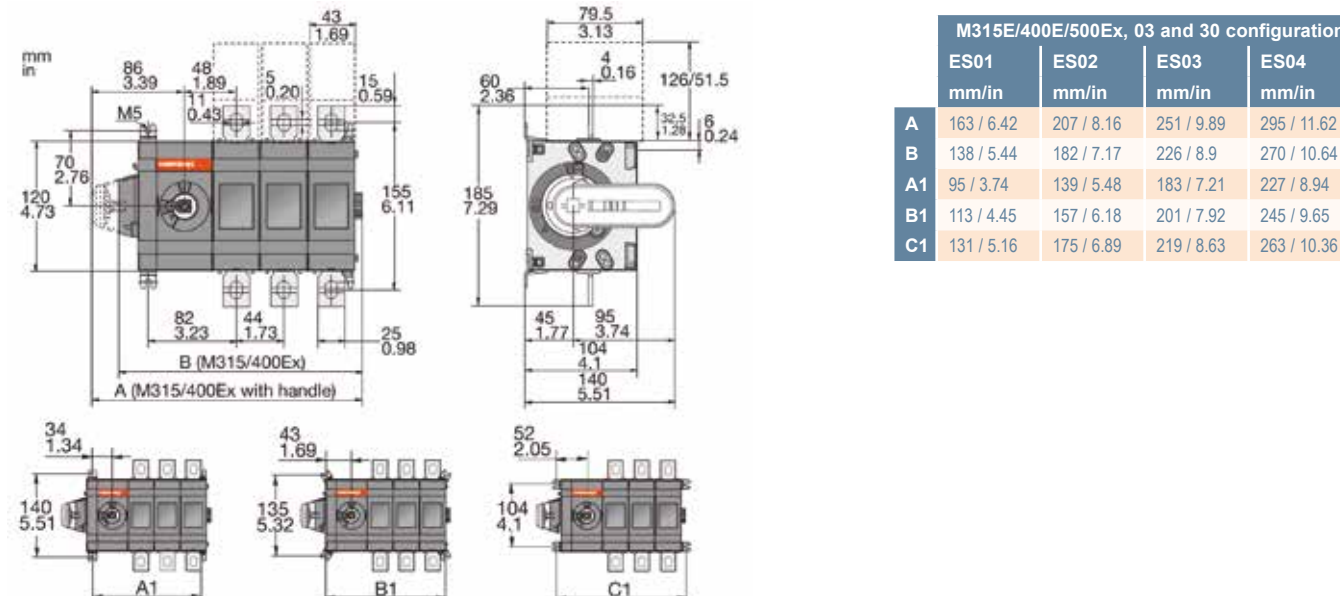
M315E-500E, 03 or 30 configuration



M315E-500E, 11 to 22 configurations

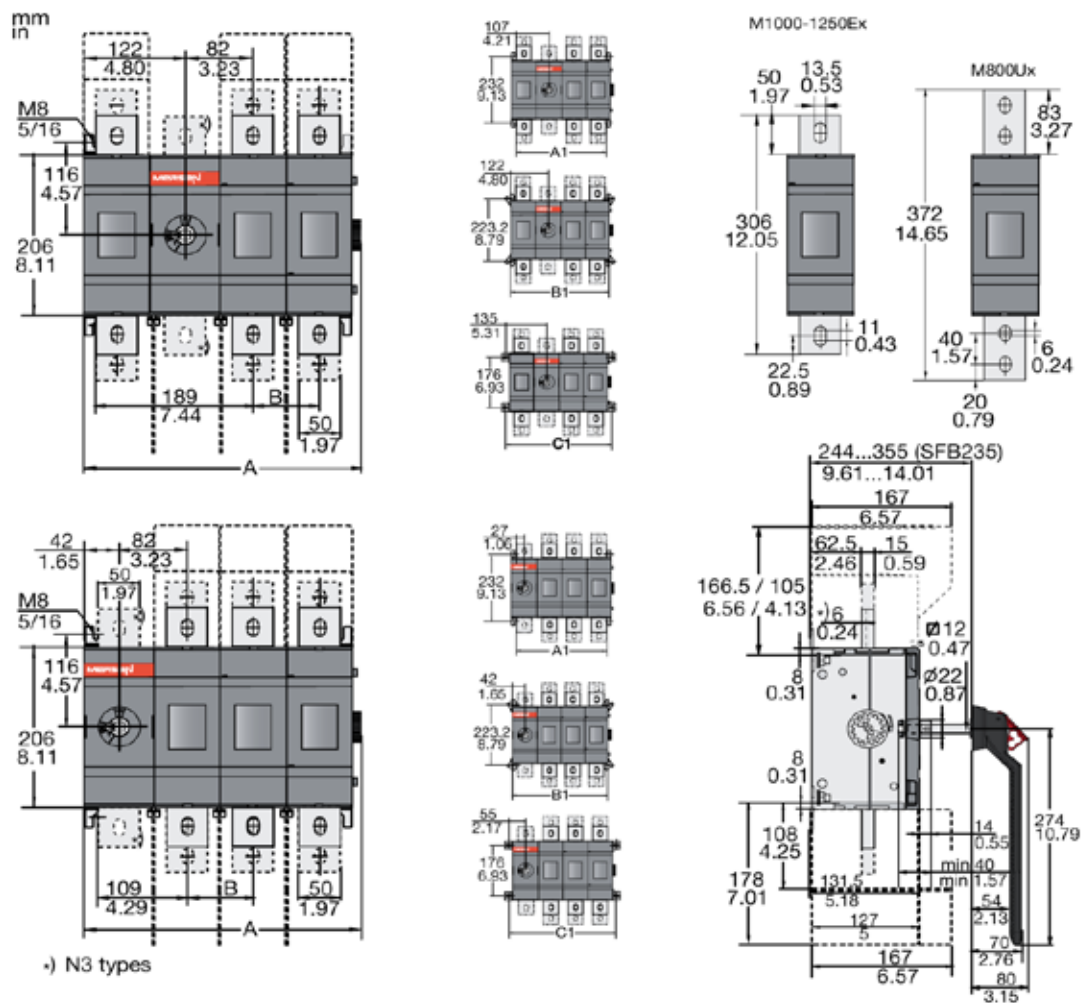


M315-500xS, Side operated



IEC Non-Fusible Disconnect Switches

M1000-1600x, front operated

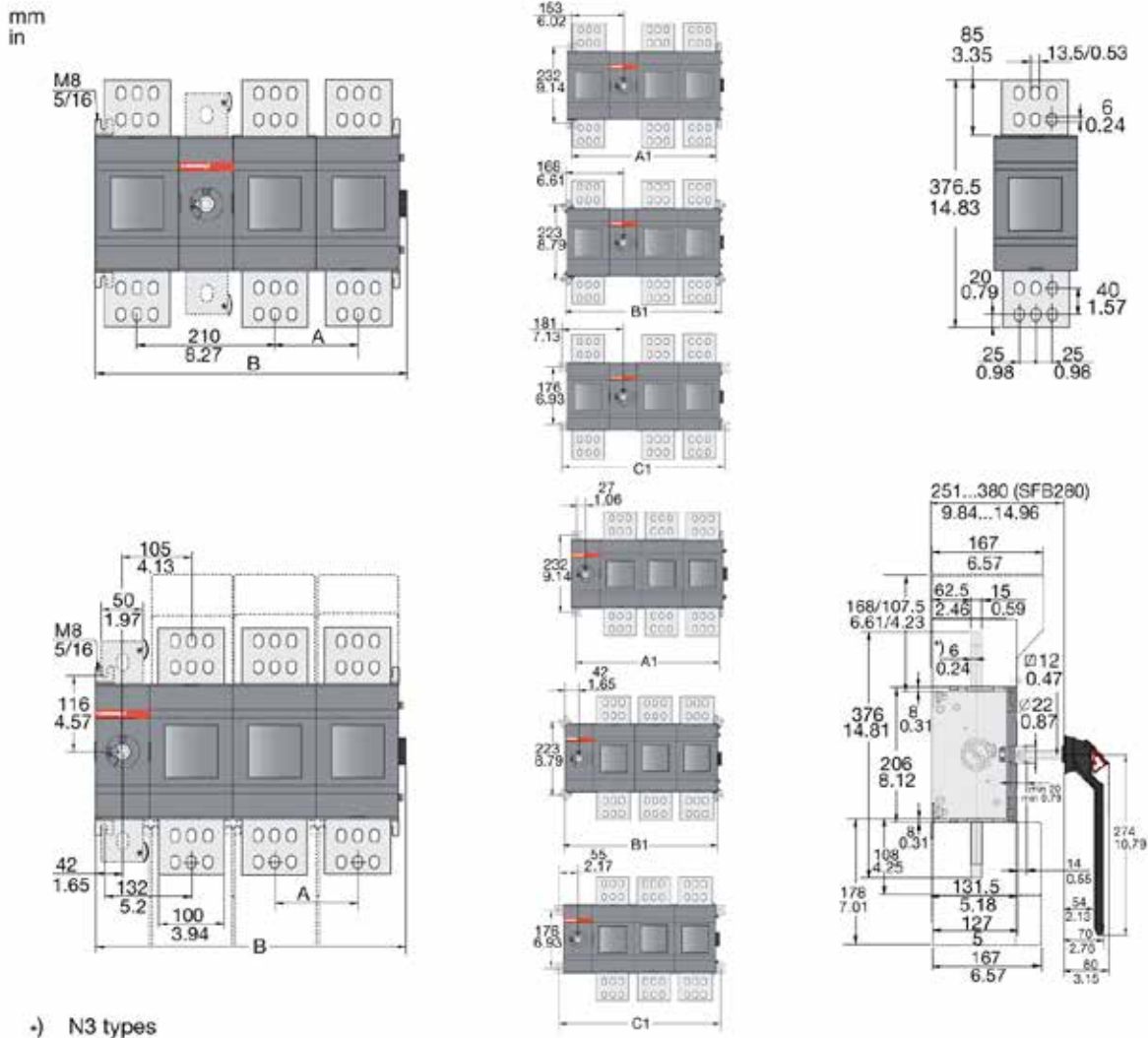


M1000/1250/1600Ex, M800U/1200U

	01 mm/in	02 mm/in	03 mm/in	04 mm/in	11 mm/in	12 mm/in	13 mm/in	22 mm/in
A	174.50 / 6.87	254.50 / 10.02	334.50 / 13.17	414.50 / 16.32	254.50 / 10.02	334.50 / 13.17	414.50 / 16.32	414.50 / 16.32
B		80 / 3.15	80 / 3.15	80 / 3.15		80 / 3.15	80 / 3.15	80 / 3.15
A1	134 / 5.28	214 / 8.43	294 / 11.57	374 / 14.72	214 / 8.43	294 / 11.57	374 / 14.72	374 / 14.72
B1	164 / 6.46	244 / 9.61	324 / 12.76	404 / 15.91	244 / 9.61	324 / 12.76	404 / 15.91	404 / 15.91
C1	190 / 7.48	270 / 10.63	350 / 13.78	430 / 16.93	270 / 10.63	350 / 13.78	430 / 16.93	430 / 16.93

IEC Non-Fusible Disconnect Switches

M2000-2500x, Front operated

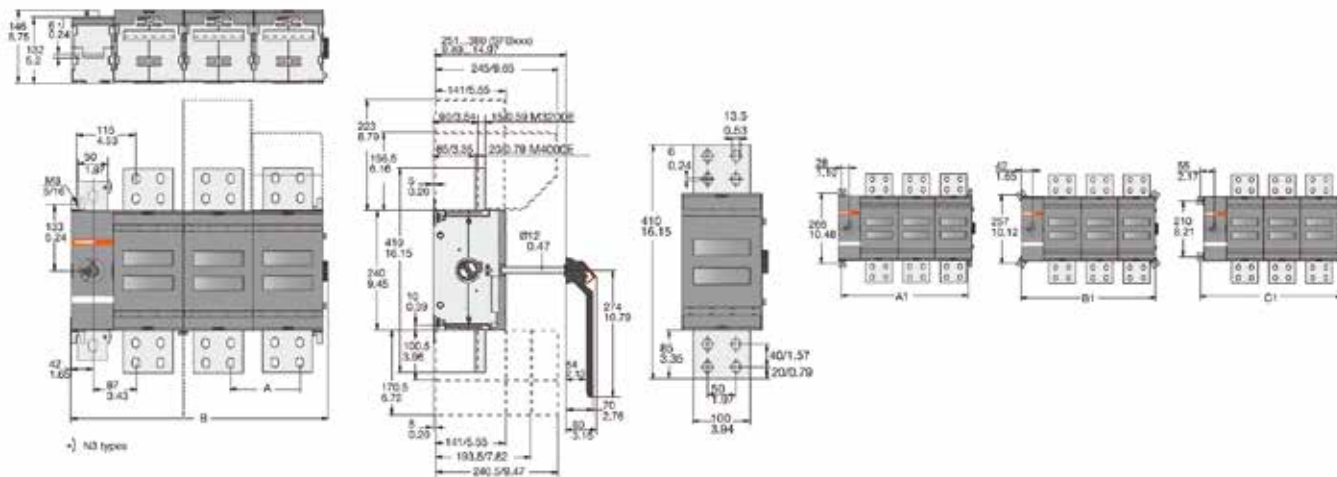


		M2000/2500Ex							
		01	02	03	04	11	12	13	22
		mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in
A		126 / 4.96	126 / 4.96	126 / 4.96	126 / 4.96	126 / 4.96	126 / 4.96	126 / 4.96	126 / 4.96
B		220.5 / 8.68	346.5 / 13.64	472.5 / 18.60	598.5 / 23.56	346.5 / 13.64	472.5 / 18.60	598.5 / 23.56	598.5 / 23.56
A1		180 / 7.09	306 / 12.05	432 / 17.01	558 / 21.97	306 / 12.05	432 / 17.01	558 / 21.97	558 / 21.97
B1		210 / 8.27	336 / 13.23	462 / 18.19	588 / 23.15	336 / 13.23	462 / 18.19	588 / 23.15	588 / 23.15
C1		236 / 9.29	362 / 14.25	488 / 19.21	614 / 24.17	362 / 14.25	488 / 19.21	614 / 24.17	614 / 24.17

IEC Non-Fusible Disconnect Switches

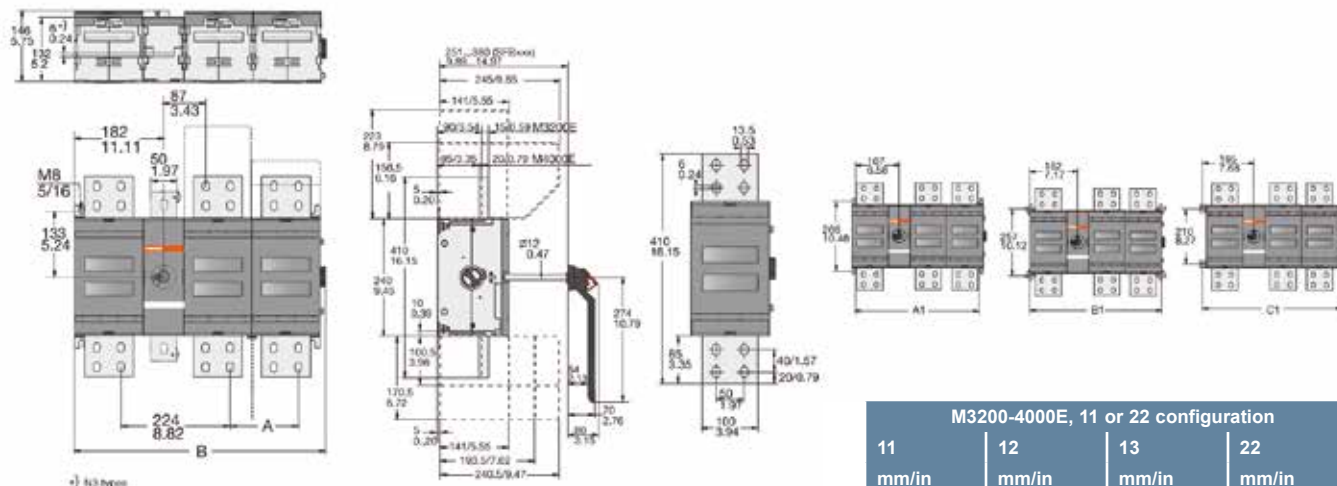
M3200-4000x, Front operated

M3200-4000E, 03 to 30 configuration



M3200E-400E, 03 or 30 configuration						
	01	02	03	04	03W8	04W8
	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in
A		140 / 5.51	140 / 5.51	140 / 5.51	185 / 7.28	185 / 7.28
B	234 / 9.21	374 / 14.72	514 / 20.24	654 / 25.75	604 / 23.78	789 / 31.06
A1	195 / 7.68	335 / 13.19	475 / 18.70	615 / 24.21	565 / 22.24	750 / 29.56
B1	224 / 8.82	364 / 14.33	504 / 19.84	644 / 25.35	594 / 23.39	779 / 30.67
C1	250 / 9.84	390 / 15.35	530 / 20.87	670 / 26.38	805 / 31.69	619 / 24.37

M3200-4000E, 11 to 22 configuration



M3200-4000E, 11 or 22 configuration				
	11	12	13	22
	mm/in	mm/in	mm/in	mm/in
A		140 / 5.51	140 / 5.51	140 / 5.51
B	374 / 14.72	514 / 20.24	654 / 25.75	654 / 25.75
A1	334 / 13.15	474 / 18.66	614 / 24.17	614 / 24.17
B1	363 / 14.29	503 / 19.80	643 / 25.31	643 / 25.31
C1	389 / 15.31	529 / 20.83	669 / 26.34	669 / 26.34

IEC Fusible Disconnect Switches

IEC 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 are available, as are all manner of accessories.

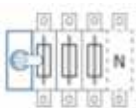
Highlights:

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

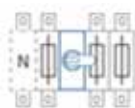
Applications:

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

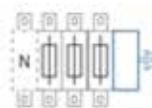
Configurations



At the end of the switch fuse
Mxxx03, 04, 30,
or 40, S, N



Between the poles
Mxxx12,
22, 22N, S



Side operated types Mxxx03, 04, 30, or 40, S, N

Catalog Number Designation

		M	30	J	3	0	—	S
Switch	M = Mersen AC Switch MD = Mersen DC Switch							
Ampacity	16 to 1200							
Type	Blank = non-fused UL508 U = non-fused UL98 J = J fused F = NFC fused E = IEC non-fused CC = CC fused D = DIN fused B = BS-88 fused L = L Fused							
Number of Poles/Left side of Handle	AC: 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: 0, 1, 2, 3, 4							
Number of Poles/Right side of Handle	AC: Blank = < 200A non-fused, 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: Blank = < 100A, 0, 1, 2, 3, 4							
Revision	Blank = 0							
Special Configurations	S = side-operated CH = Changeover DM = door-mounting N = Non-fused switched Neutral							



Ratings IEC:

Volts : 690VAC
Amps : 25, 50, 63, 125, 160,
200, 250, 400, 630,
800, and 1250A

Approvals:

- IEC 60947-3



IEC Fusible Disconnect Switches

Front and Side Operated



M25F30S
25A, F fused, with 3 poles on left side of handle,
side operated



M63D03
63A, D fused, with
3 poles on right side of handle

Switch Body

Ampere Rating	25	50	125	63	160	200	250
Base Cat #	M25	M50	M125	M63	M160	M200	M250
Fuse Type	F	F	F	D	D	D	D
3-pole Configuration	12, 30S	03, 30S	03, 30S	03, 30S	03, 30S	03, 30S	03, 30S
Fuse Size	10x38	14x51	22x58	000	00	0	0-1

Handles



Switch Body Ampere Rating	25	50	125	63	160	200	250
Fourth Pole							
Fusible Fourth Pole						4PD200	4PD250

Direct Front Operation							
	HDF30	HDF200	HDF200	HDF200	HDF200	HDF250T	HDF250T

External Front Operation - Pistol Style							
NEMA Type 1, 3R, 12, IP65	HB45/65	HB45/65	HB65	HB65	HB65	HB65	HB65
NEMA Type 4, 4X	HB45X	HB45X	HB65X	HB65X	HB65X	HB65X	HB65X

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

External Right-Side Operation - Pistol Style							
NEMA 1, 3R, IP65	HB65S	HB65S	HB65S	HB65S	HB65S	HB65S	HB65S

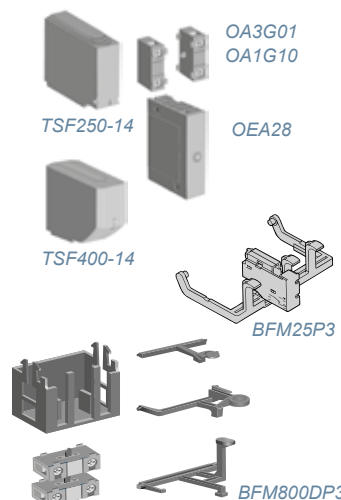
Shafts



Shafts							
	SPA__	SPA__	SPA__	SPA__	SPA__	SPA__	SPA__

Lengths: 210, 290, 360, 430 Ex. SPA210

Accessories



Terminal Shrouds							
3-pole			TSF160-13		TSF160-13	TSF200-13	TSF250-13
4-pole			TSF160-14		TSF160-14	TSF200-14	TSF250-14

Auxiliary Contacts							
NO, use with OSZ4	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
NC, use with OSZ4	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01
NO, between poles	OA4B1C						
Mounting plate OA1G10/OA3G01	OSZ4	Not needed	Not needed	Not needed	Not needed	Not needed	Not needed
Module for 8 aux. contacts	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28

Blown fuse indicators (DPMM), Striker type fuse needed							
Kit 3 poles 1 contact	BFM25FP3						
Kit 3poles 3 contacts		BFM50FP3	BFM125FP3				
Kit 3poles 3NO+NC							BFM800DP3

IEC Fusible Disconnect Switches

Front and Side Operated



M400D03S
400A, DIN fused, 3 poles on left side of handle



M800D03
800A, DIN fused, with 3 poles on right side of handle



M1250D03
1250A, DIN fused, with 3 poles on the right side of handle

Switch Body

Ampere Rating	400	630	800	1250
Base Cat #	M400	M630	M800	M1250
Fuse Type	D	D	D	D
3-pole Configuration	03, 30S	03, 30S	03, 30S	03
Fuse Size	0-2	3	3	4

Handles



HB125



HDF400

Shafts



SFB135

Accessories



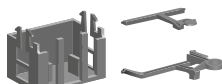
OA1G01
OA1G10



OEA28



TSF400-14



BFM800DP3

Fourth Pole				
Fusible Fourth Pole	4PD400	4PD800	4PD800	4PD1250

Direct Front Operation				
	HDF400T	HDF800T	HDF800T	HDF1250T

External Front Operation - Pistol Style				
NEMA Type 1, 3R, 12, IP65	HB95	HB145	HB274	HB274
NEMA Type 4, 4X	HB95X	HB145X	HB274X	HB274X

B = Black. Substitute "R" for "B" if a red handle is desire. Ex. HR95.

External Right-Side Operation - Pistol Style				
NEMA Type 1, 3R, 12, IP65	HB145S	HB145S	HB145S	HB145S

Shafts				
Shaft	SFB__	SFB__	SFB__	SFB__
Lengths: 280, 325, 395mm Ex. SFB280				

Terminal Shrouds				
3-pole	TSF400-13	TSF800-13	TSF800-13	TSF1250-13
4-pole	TSF400-14	TSF800-14	TSF800-14	TSF1250-14

Auxiliary Contacts				
Normally open	OA1G10	OA1G10	OA1G10	OA1G10
Normally closed	OA3G01	OA3G01	OA3G01	OA3G01
Module for 8 aux. contacts	OEA28	OEA28	OEA28	OEA28

Blown fuse indicators (DPMM), Striker type fuse needed				
Kit 3poles 3NO+NC	BFM800DP3	BFM800DP3	BFM800DP3	

IEC Fusible Disconnect Switches

Technical Data

Technical data according to IEC 60947-3								
General purpose amp rating			A	25	50	125	63	160
Rated insulation voltage	Pollution degree 3		V	1 000	1 000	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	10
Rated impulse withstand voltage			kV	12	12	8	12	8
Rated thermal current in ambient 35 °C / and temporarily 40 °C ⁵⁾	In open air		A/W	25/3.5	50/7.5	125/12	63/7.5	160/12
max. fuse power dissipation ¹⁾	In enclosure ²⁾		A/W	25/3.5	50/7.5	125/12	63/7.5	160/12
...with minimum cable cross section	In enclosure with solid links		A/W	32				
Rated operational voltage AC-20 and DC-20			V	1 000	1 000	1 000	1 000	1 000
Rated operational current, AC-21A		up to 500 V	A	25	50	125	63	160
		690 V	A	25	50	125	63	160
Rated operational current, AC-22A		up to 500 V	A	25	50	125	63	160
		690 V	A	25	50	125	63	160
Rated operational current, AC-23A		up to 500 V	A	25	50	125	63	160
		690 V	A	25	50	125	63	160
Rated operational current / poles in series DC-21A		48 V	A	25/2	50/2	125/2	63/2	160/2
		110-120 V	A	25/2*	50/2*	125/2*	63/2*	160/2*
		440 V	A	25/4*	50/4*	125/4*	63/4*	160/4*
Rated operational current / poles in series DC-22A		48 V	A	25/2	50/2	125/2	63/2	160/2
		110-120 V	A	25/2	50/2	125/2	63/2	160/2
		440 V	A					
Rated operational current / poles in series DC-23A		48 V	A	25/2	50/2	125/2	63/2	160/2
		110-120 V	A	25/2	50/2	125/2	63/2	160/2
		440 V	A					
Rated operational power, AC-23 ⁴⁾	The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors.	230 V	kW	5.5	11	37	18.5	45
		400 V	kW	11	22	55	30	75
		415 V	kW	11	22	55	30	75
		500 V	kW	15	30	75	37	90
		690 V	kW	22	37	110	55	132
Rated breaking capacity in category AC-23		690 V	A	256	504	1280	504	1280
Rated breaking capacity/poles in series In category DC23		up to 220 V	A	128/2	252/2	640/2	252/2	640/2
		440 V	A	128/2				
Rated conditional short-circuit current I _p (r.m.s.) and corresponding max. allowed cut-off current I _c	at prospective SC-current Max. fuse rating gG / aM	80 kA, 415 V	kA	9	13.5	23.5	13.5	23.5
			A		80/63	160/160	80/63	160/160
The cut-off current I _c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	at prospective SC-current Max. fuse rating gG / aM	100 kA, 500 V	kA	8	12.5	25.5	12.5	25.5
			A		63/50	160/160	63/50	160/160
	at prospective SC-current Max. fuse rating gG / aM	50 kA, 690 V	kA	7	9.5	17.5	9.5	17.5
			A		63/50	125/160	63/50	160/160
	at prospective SC-current Max. fuse rating gG / aM	80 kA, 690 V	kA	7.5	11.5	20.5	11.5	20.5
			A		50/50	125/160	50/50	125/160
Rated short-time withstand current, 1 s	r.m.s. -value		kA	1	2.5	5	2.5	5
Rated capacitor power when no initial charge on the capacitor	The capacitor rating of the switch-fuse is limited by the fuse link.	400 V	kVAr	12.5	20	50	25	60
		415 V	kVAr	12	25	55	32	65
		690 V	kVAr	20	42	90	50	100
Power loss / pole	With rated current, without fuse		W	1.3	2.5	5	4	9
Mechanical endurance	Divide by two for operation cycles		Oper.	20 000	20 000	20 000	20 000	20 000
Fuse types, IEC 60269-2-1	DIN 43620, Neozed DIN49522					000, 00	000	000, 00
	NFC 63210, 63211			10x38	14x51	22x58		
	BS 88-2, -6 -size /					A2-A4 ³⁾	A2-A3 ⁵⁾	A2-A4 ³⁾
	distance of fuse-link bolts		mm			M5/73, M8/94	M5/73	M5/73, M8/94
Weight without accessories	3-pole switch fuses		kg	0.7	1.1	1.5	1.1	1.5
	4-pole switch fuses		kg	0.9	1.3	1.8	1.3	1.8
Built-in terminal size		Cu	mm ²	0.75...10	2.5...25		2.5...25	
Terminal bolt size (included)	Metric thread diameter x length		mm			M8x25		M8x25
Terminal tightening torque	Counter torque required		Nm	2	3/4 ⁷⁾	15-22	3/4 ⁷⁾	15-22
Fuse-links bolts tightening torque			Nm			M5:3.5 M8:5	3.5	M5:3.5 M8:5
Operating torque	Typical for 3-pole switch fuses		Nm	3	5	7	5	7

*) = Utilization category B

1) Ambient temperature 60°C: derating 20%. Mounting on ceiling: derating 10%

2) M160: Mounting on wall, horizontal fuses: derating 5%.

3) Max. fuse body diam. 32 mm

4) Some fuse links limit these figures further. Starting current characteristics must be considered separately

5) Acc. to IEC 60947-1, § 6.1.1. Minimum ambient temperature -5°C. Category B: -5°C...-35°C

6) Max. fuse body diam. 22 mm

7) 3 Nm with cable sizes 2.5...6 mm², 4 Nm with cable sizes 10...25 mm²

IEC Fusible Disconnect Switches

Technical Data

Technical data according to IEC 60947-3						
General purpose amp rating			A	200	250	400
Rated insulation voltage and rated operational voltage AC-20 and DC-20	Pollution degree 3		V	1 000	1 000	1 000
Dielectric strength		50 Hz 1min.	kV	10	10	10
Rated impulse withstand voltage			kV	12	12	12
Rated thermal current						
in ambient 35 °C and temporarily 40 °C ⁵⁾	In open air		A/W	200/17	250/23	400/45
max. fuse power dissipation ¹⁾	In enclosure		A/W	200/15	250/20	400/30
...with minimum cable cross section		Cu	mm ²	95	120	240
Rated thermal current of detachable neutral	In open air / Cu cable or bar cross section	In "N3" types	A/mm ²	290/120	290/120	450/240
Derating, mounting on wall horizontal fuses	In open air or ventilated enclosure		%	0	0	4
	Totally enclosed		%	5	5	8
Derating, mounting on ceiling			%	10	10	10
Derating at 60 °C	In open air / in enclosure		%	20/20	20/20	20/20
Rated operational current, AC-21A		≤ 500 V	A	200	250	400
		690 V	A	200	250	400
Rated operational current, AC-22A		≤ 415 V	A	200	250	400
		500 V	A	200	250	400
Rated operational current, AC-23A		690 V	A	200	250	400
		≤ 415 V	A	200	250	400
Rated operational current, AC-23A		500 V	A	200	250	400
		690 V	A	200	250	400
Rated operational current / DC-21A, DC-22A and DC-23A		≤ 220 V	A	200/1	250/1	400/2
		440 V	A	200/2	250/2	400/3 ⁴⁾
		660 V	A	200/3	250/3	400/4 ⁴⁾
		750 V	A	180/4	230/4	400/4 ⁴⁾
		880 V	A	180/4	230/4	
Rated operational power, AC-23 ¹⁾	The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors.	230 V	kW	60	75	132
		400 V	kW	110	140	220
		415 V	kW	110	145	230
		500 V	kW	132	170	280
		690 V	kW	200	250	400
Rated breaking capacity in category AC-23		≤ 690 V	A	1600	2000	3200
Rated conditional short-circuit current I _p (r.m.s.) and corresponding max. allowed cut-off current I _c	at prospective SC-current	80 kA, 415 V	kA	35	40.5	59
	Max. fuse rating gG / aM		A	250/200	355/315	500/500
	at prospective SC-current	100 kA, 500 V	kA	37.5	37.5	63.5
	Max. fuse rating gG / aM		A	250/200	250/250	500/500
	at prospective SC-current	80 kA, 690 V	kA	25	32.5	46
	Max. fuse rating gG / aM			160/	200/250	315/400
The cut-off current I _c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)	at prospective SC-current	50 kA, 415 V		28	28	44
	Max. BS fuse size gG / aM		A	200/200M315	250/200M315	400/400M500
	at prospective SC-current	80 kA, 690 V	kA	8	28	48
	Max. BS fuse size gG / aM		A	200/200M250	250/200M250	400/400M450
Rated short-time withstand current, 1 s	r.m.s. -value		kA	8	8	14
	Max. distance from switch frame to nearest busbar/cable support		mm	150	150	150
Rated capacitor power when no initial charge on the capacitor	The capacitor rating of the switch-fuse is limited by the fuse link.	400 V	kVAr	90	105	180
		415 V	kVAr	100	115	200
		500 V	kVAr	120	135	215
		690 V	kVAr	160	190	325
Power loss / pole	With rated current, without fuse		W	8	13	30
Mechanical endurance	Divide by two for operation cycles		Oper.	20 000	20 000	16 000
Fuse types, IEC 60269-2-1	Sec. I, DIN 43620			0	0-1	0-2
	Sec. IA, NFC 0-3 Ref.A, 4a Ref.B			1		3
	Sec. II, BS 88			B1-B2	B1-B3 ³⁾	B1-B4 ³⁾
	Size / distance of fuse-link bolts		mm	M6/111	M8/111	M8/111
Weight without accessories	3-pole switch fuses		kg	2.6	3.1	5.7
Terminal bolt size (included)	Metric thread diameter x length		mm	M8x25	M10x30	M10x30
Terminal tightening torque	Counter torque required		Nm	15-22	30-44	30-44
Fuse-links bolts tightening torque			Nm	4	5	20
Operating torque	Typical for 3-pole switch fuses		Nm	7	7	19

1) These values are given for guidance and may vary acc. to the motor manufacturer

2) Max fuse body dia 52 mm

3) Max fuse body dia 62 mm

4) Category B

5) Acc. to IEC 60957-2, IEC 60947-1, § 6.1.1. Minimum ambient temperature -5°C. Category B: -5°C...-35°C

IEC Fusible Disconnect Switches

Technical Data

Technical data according to IEC 60947-3							
General purpose amp rating			A	630	800	1250	
Rated insulation voltage and rated operational voltage AC-20 and DC-20	Pollution degree 3		V	1 000	1 000	1 000	
Dielectric strength		50 Hz 1min.	kV	10	10	10	
Rated impulse withstand voltage			kV	12	12	12	
Rated thermal current							
in ambient 35 °C and temporarily 40 °C ⁵⁾	In open air		A/W	630/60	800/65	1250/110	
max. fuse power dissipation ¹⁾	In enclosure		A/W	570/50	720/55	1000/85	
...with minimum cable cross section		Cu	mm ²	2 x 185	2 x 240	2 x 400	
Rated thermal current of detachable neutral	In open air / Cu cable or bar cross section	In "N3" types	A/mm ²	900/2 X 240	900/2 X 240	1250/2 x 400	
Derating, mounting on wall horizontal fuses	In open air or ventilated enclosure		%	0	4	4	
	Totally enclosed		%	5	8	8	
Derating, mounting on ceiling			%	10	10	10	
Derating at 60 °C	In open air / in enclosure		%	20/20	20/20	20/20	
Rated operational current, AC-21A		≤ 500 V	A	630	800	1250 ⁴⁾	
		690 V	A	630	800	1250 ⁴⁾	
Rated operational current, AC-22A		≤ 415 V	A	630	800	1250	
		500 V	A	630	800	1250 ⁴⁾	
Rated operational current, AC-23A		690 V	A	630	800	1250 ⁴⁾	
		≤ 415 V	A	630	800	1000	
Rated operational current / DC-21A, DC-22A and DC-23A		500 V	A	630	800	1000 ⁴⁾	
		690 V	A	630	800	1000 ⁴⁾	
		≤ 220 V	A	630/1 ⁴⁾	800/1 ⁴⁾		
		440 V	A	630/2 ⁴⁾	800/2 ⁴⁾		
Rated operational power, AC-23 ¹⁾	The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors.	660 V	A	630/3 ⁴⁾	720/3 ⁴⁾		
		750 V	A	630/4 ⁴⁾	720/4 ⁴⁾		
		880 V	A	630/4 ⁴⁾	720/4 ⁴⁾		
		230 V	kW	200	250	315	
Rated breaking capacity in category AC-23		400 V	kW	355	450	560	
		415 V	kW	355	450	560	
		500 V	kW	450	560	710	
		690 V	kW	630	710	1000	
Rated conditional short-circuit current I _p (r.m.s.) and corresponding max. allowed cut-off current I _c The cut-off current I _c refers to values listed by fuse manufacturers (single phase test acc. to IEC60269)		≤ 690 V	A	6400	6400	8000	
		at prospective SC-current	80 kA, 415 V	kA	77	77	89
		Max. fuse rating gG / aM		A	800/800	800/800	1250/1250
		at prospective SC-current	100 kA, 500 V	kA	83	83	105
		Max. fuse rating gG / aM		A	800/800	800/800	1250/-
		at prospective SC-current	80 kA, 690 V	kA	55	55	88
		Max. fuse rating gG / aM			500/630	500/630	1000/1000
		at prospective SC-current	50 kA, 415 V		67	28	90
Rated short-time withstand current, 1 s	r.m.s. -value Max. distance from switch frame to nearest busbar/cable support		kA	18	18	40	
			mm	150	150		
		400 V	kVAr	250	310	440	
		415 V	kVAr	270	340	460	
Rated capacitor power when no initial charge on the capacitor	The capacitor rating of the switch-fuse is limited by the fuse link.	500 V	kVAr	300	375	550	
		690 V	kVAr	450	550	750	
Power loss / pole	With rated current, without fuse		W	46	75	75	
Mechanical endurance	Divide by two for operation cycles		Oper.	10 000	10 000	6000	
Fuse types, IEC 60269-2-1	Sec. I, DIN 43620			3	3	4, 4 a	
	Sec. IA, NFC 0-3 Ref.A, 4a Ref.B			3		4 a	
	Sec. II, BS 88			C1-C2	C1-C3	D1	
Weight without accessories	Size / distance of fuse-link bolts		mm	M10/133, 184	M10/133, 184	2xM12/149	
Terminal bolt size (included)	3-pole switch fuses		kg	11.5	11.5	29	
Terminal tightening torque	Metric thread diameter x length		mm	M12x40	M12x40	M12x50	
Fuse-links bolts tightening torque	Counter torque required		Nm	50-75	50-75	50-75	
Operating torque	Typical for 3-pole switch fuses		Nm	M10:30 M12:40	M10:30 M12:40	M12:40	
				38	38	65	

1) These values are given for guidance and may vary acc. to the motor manufacturer

2) Max fuse body dia 52 mm

3) Max fuse body dia 62 mm

4) Category B

5) Acc. to IEC 60957-2, IEC 60947-1, § 6.1.1. Minimum ambient temperature -5°C. Category B: -5°C...-35°C

IEC Fusible Disconnect Switches

IEC Fused Switches - Front Operated

Cat #	Description	Ref #	Weight	Pkg
M25F12	Switch.fus 25A FR10 1+2 pos.	H1043264	0.70	1
M50F03	Switch.fus 50A FR14 0+3 pos.	K1043266	1.3	1
M63D03	Switch.fus 63A 000 0+3 pos.	M1043268	1.3	1
M125F03	Switch.fus 125A FR22 0+3 pos.	P1043270	1.5	1
M160D03	Switch.fus 160A 00 0+3 pos.	R1043272	1.52	1
M200D03	Switch.fus 200A 0 0+3 pos.	T1043274	3.3	1
M250D03	Switch.fus 250A 0-1 0+3 pos.	W1043276	3.93	1
M400D03	Switch.fus 400A 0-2 0+3 pos.	Y1043278	7.1	1
M630D03	Switch.fus 630A 3 0+3 pos.	A1043280	13	1
M800D03	Switch.fus 800A 3 0+3 pos.	C1043282	13	1
M1250D03	Switch.fus 1250A 4 0+3 pos.	E1043284	45	1

IEC Fused Switches - Side Operated

Cat #	Description	Ref #	Weight	Pkg
M25F30S	Switch.fus 25A FR10 R side op.	J1043265	0.70	1
M50F30S	Switch.fus 50A FR14 R side op.	L1043267	1.2	1
M63D30S	Switch.fus 63A 000 R side op.	N1043269	1.2	1
M125F30S	Switch.fus 125A FR22 Rside op.	Q1043271	1.6	1
M160D30S	Switch.fus 160A 00 R side op.	S1043273	1.6	1
M200D30S	Switch.fus 200A 0 R side op.	V1043275	3.3	1
M250D30S	Switch.fus 250A 0-1 R side op.	X1043277	4.15	1
M400D30S	Switch.fus 400A 0-2 R side op.	Z1043279	7.18	1
M630D30S	Switch.fus 630A 3 R side op.	B1043281	13.9	1
M800D30S	Switch.fus 800A 3 R side op.	D1043283	13.9	1

IEC Fourth Poles

Cat #	Description	Ref #	Weight	Pkg
4PD200	Fourth Fusible pole for M200D	J1045473		1
4PD250	Fourth Fusible pole for M250D	K1045474		1
4PD400	Fourth Fusible pole for M400D	L1045475		1
4PD800	Fourth Fusible pole for M800D	M1045476		1
4PD1250	Fourth Fusible pole for M1250D	N1045477		1

Weight in kg without packaging.

Handles

Cat #	Description	Ref #	Weight	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 black45mm IP65 NEMA 3R	L1043911	0.10	1
HB45X	Handle black 45mm IP65 NEMA 4X	M1043912	0.10	1
HB65	Handle black65mm 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 black125mm IP65 NEMA 3R	A1043372	0.16	1
HB125X	Handle black125mm IP65 NEMA 4X	B1043373	0.12	1
HB145	Handle black145mm IP65 NEMA 3R	C1043374	0.17	1
HB145S	Handle black 145mm Right Side	B1044362	0.15	1
HB145X	Handle black145mm IP65 NEMA 4X	D1043375	0.17	1
HB274	Handle black274mm IP65 NEMA 3R	D1043398	0.515	1
HB274X	Handle black274mm IP65 NEMA 4X	E1043376	0.515	1
HB330	Handle black330mm IP65 NEMA 3R	E1043399	0.55	1
HB330X	Handle black330mm IP65 NEMA 4X	F1043377	0.55	1
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 red125mm 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

IEC Fusible Disconnect Switches

Shafts

Cat #	Description	Ref #	Weight	Pkg
SFB280	Shaft SwitchFuse 12x12x280mm	F1043423	0.31	1
SFB325	Shaft SwitchFuse 12x12x325mm	G1043424	0.41	1
SFB395	Shaft SwitchFuse 12x12x395mm	H1043425	0.45	1
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

Other Accessories

Cat #	Description	Ref #	Weight	Pkg
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
BFM25FP3	Kit DPMM 3p 1 contact M25F	E1048896		1
BFM50FP3	Kit DPMM 3P 3Cont. M50F	P1045478		1
BFM125FP3	Kit DPMM 3P 3Cont. M125F	Q1045479		1
BFM800DP3	Kit DPMM 3P 3NO+3NC M250-800D	R1045480		1

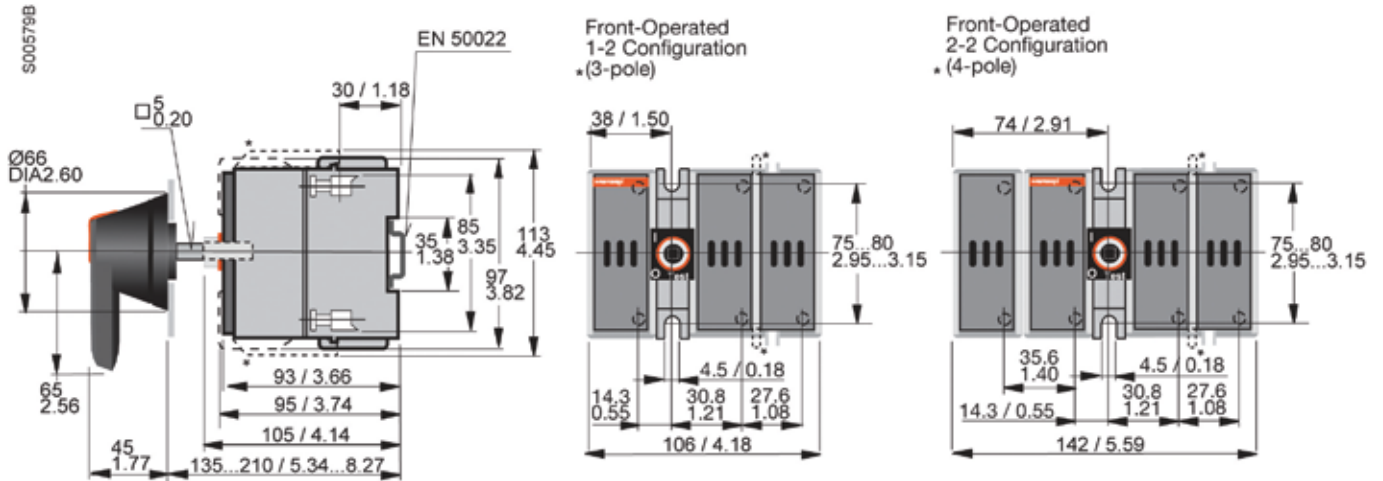
Weight in kg without packaging.

Terminal Shrouds

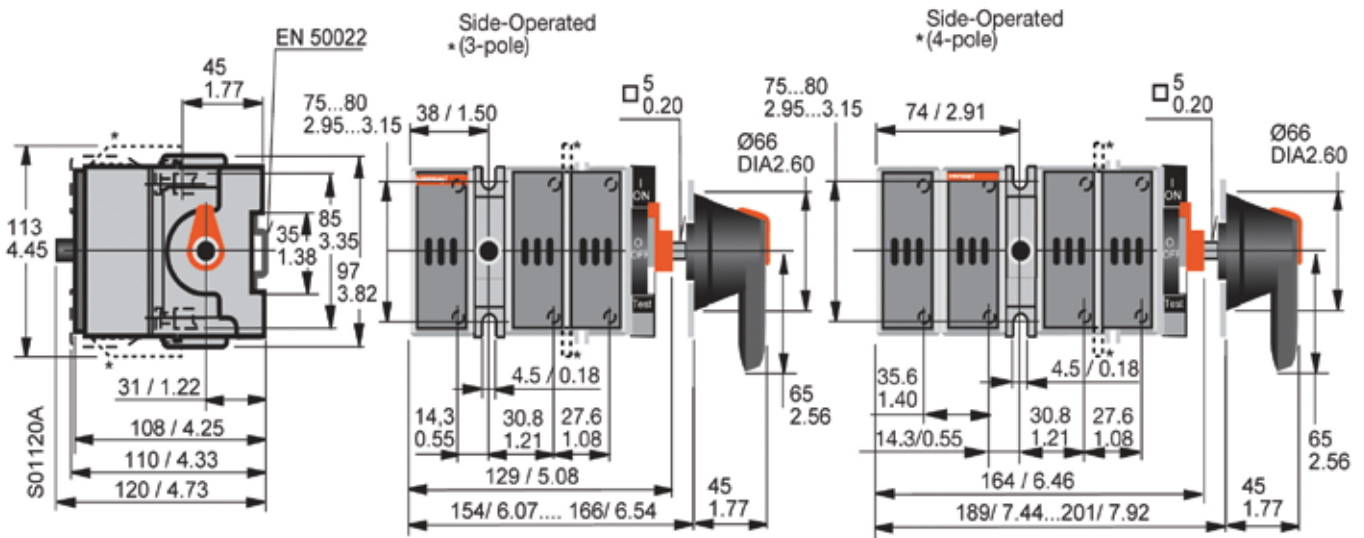
Cat #	Description	Ref #	Weight	Pkg
TSF160-13	Term.shrd 160A Swch.fus1pL /3	V1043436	0.04	1
TSF160-14	Term.shrd 160A Swch.fus1pL /4	W1043437	0.04	1
TSF200-13	Term.shrd 200A Swch.fus1pL /3	J1043449	0.008	3
TSF200-14	Term.shrd 200A Swch.fus1pL /4	V1043459	0.012	4
TSF800-13	Term.shrd 800A Swch.fus1pL /3	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

IEC Fusible Disconnect Switches

M25F, M30CC, M30J Front operated

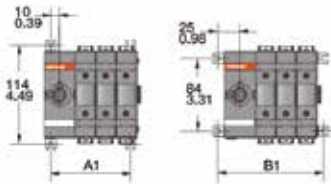
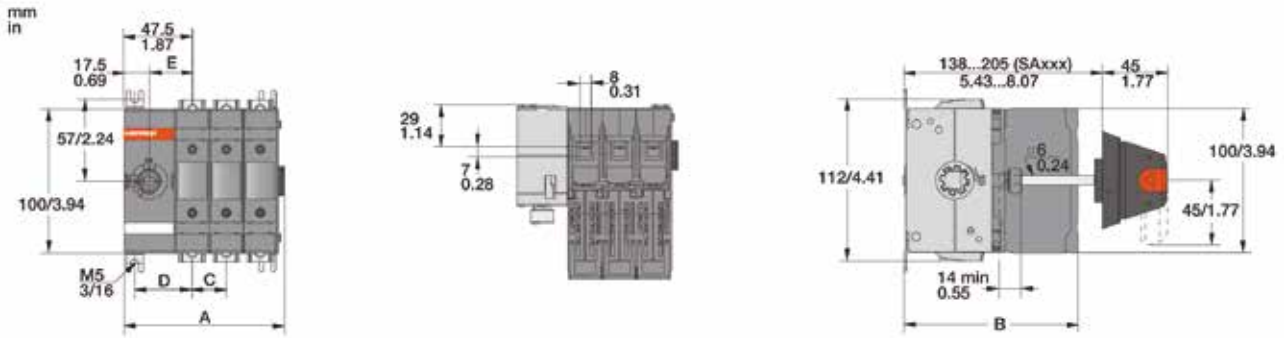


M25F, M30CC, M30J Side operated



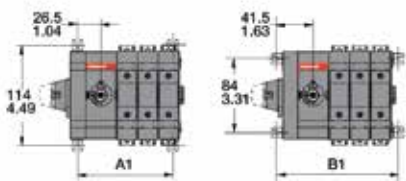
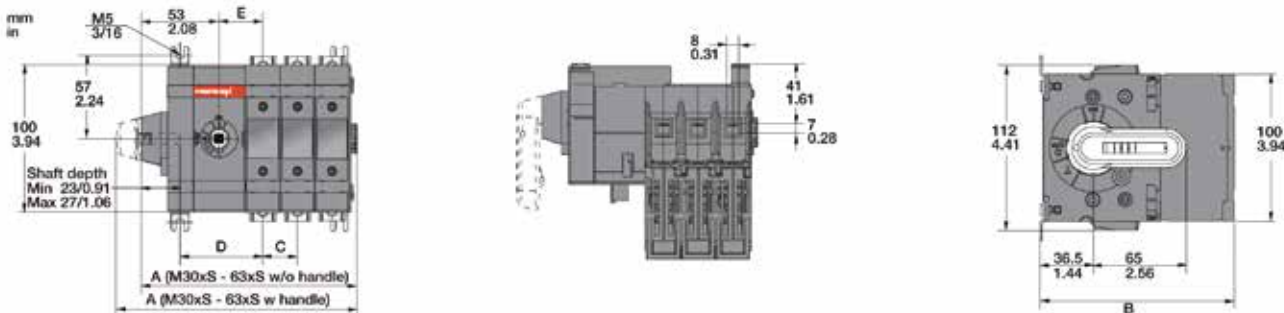
IEC Fusible Disconnect Switches

M50F, M63D, M60J, Front operated



	M30x - 63x DIN mm				M30x - 63x BS/NFC mm				M60Jx Class J mm/in			
	D11	D12	D13	D22	B/F11	B/F12	B/F13	B/F22	J11	J112	J12	J22
A	91	114.5	138	138	91	114.5	138	138	754/2.93	148/5.82	183.5/7.20	179.5/8.58
B	120.5	120.5	120.5	120.5	108.5	108.5	108.5	108.5	118/4.65	118/4.65	118/4.65	118/4.65
C	-	23.5	23.5	23.5	-	23.5	23.5	23.5	-	35/1.38	35/1.38	35/1.38
D	60	60	60	60	60	60	60	60	71.5/2.81	71.5/2.81	71.5/2.81	71.5/2.81
E	30	30	30	30	30	30	30	30	36/1.41	36/1.41	36/1.41	36/1.41
F	44	44	44	67.5	44	44	44	67.5	55.5/2.19	55.5/2.19	55.5/2.19	90.5/3.56
G	74	74	74	97.5	74	74	74	97.5	91.5/3.6	91.5/3.6	91.5/3.6	126.5/4.98
A1	70	93.5	117	117	70	93.5	117	117	81.5/3.21	81.5/3.21	81.5/3.21	151.5/5.96
A2	35	35	35	58.5	35	35	35	58.5	40.5/1.59	40.5/1.59	40.5/1.59	75.5/2.97
B1	75	123.5	147	147	75	123.5	147	147	111.5/4.39	111.5/4.39	111.5/4.39	181.5/7.15
B2	50	50	50	73.5	50	50	50	73.5	70.5/2.78	70.5/2.78	70.5/2.78	105.5/4.15

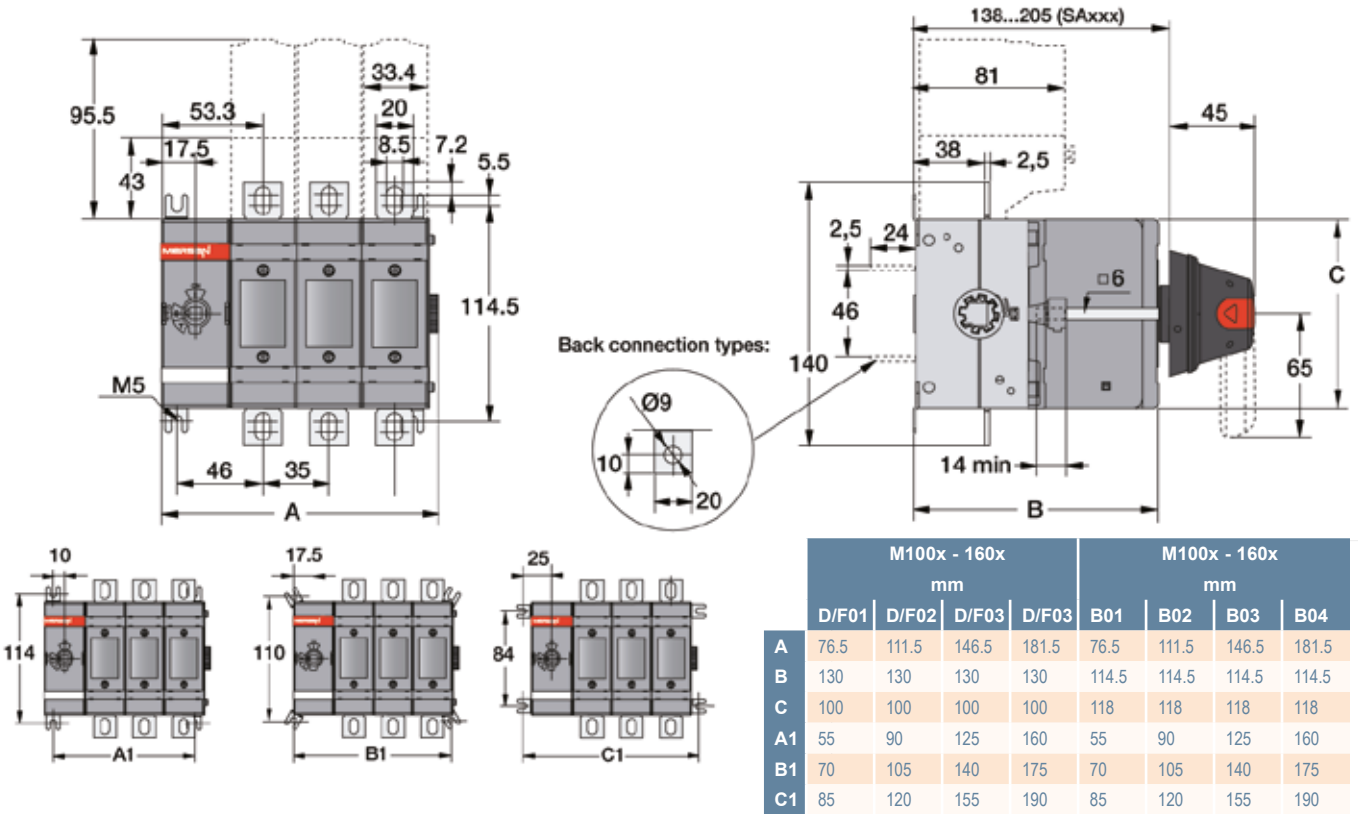
M50F, M63D, M60J, Side operated



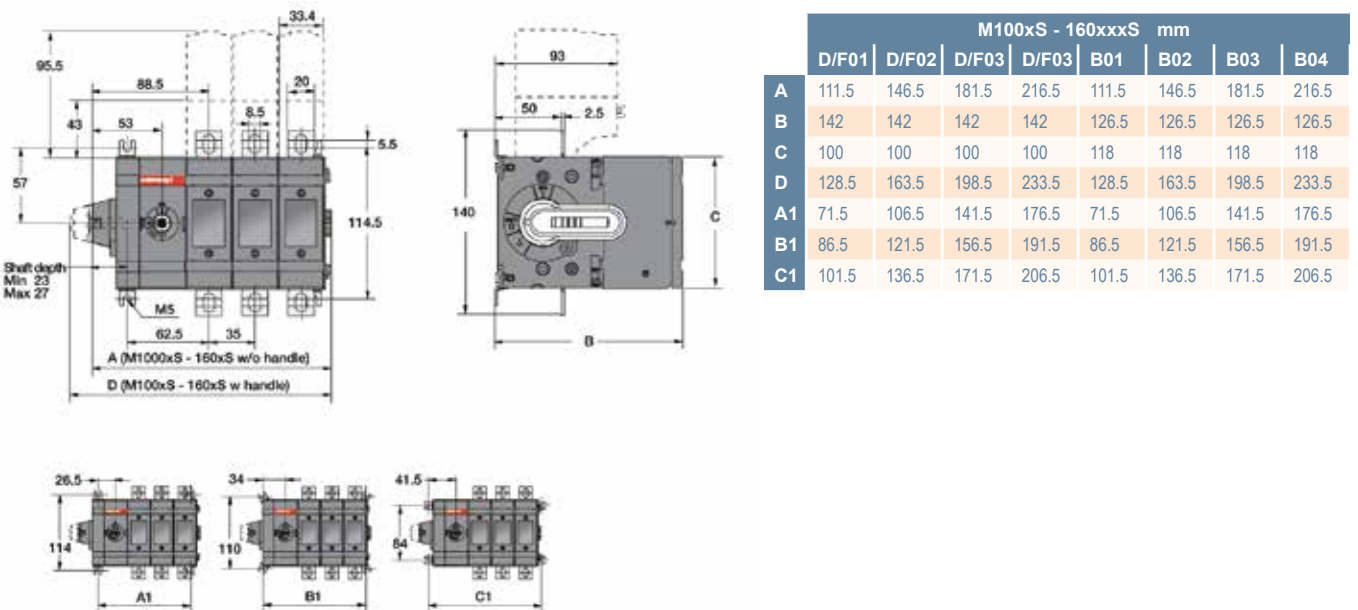
	M30xxxS - 63xxxS mm								M60JxxS mm/in			
	DS01	DS02	DS03	DS04	B/FS01	B/FS02	B/FS03	B/FS04	JS01	JS02	JS03	JS04
A	99.5	123	146.5	170	99.5	123	146.5	170	109.5/4.31	144.5/5.69	179.5/7.07	214.5/8.44
B	132.5	132.5	132.5	132.5	120.5	120.5	120.5	120.5	130/5.12	130/5.12	130/5.12	130/5.12
C	-	23.5	23.5	23.5	-	23.5	23.5	23.5	-	35/1.38	35/1.38	35/1.38
D	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	62/2.44	62/2.44	62/2.44	62/2.44
E	30	30	30	30	30	30	30	30	36/1.41	36/1.41	36/1.41	36/1.41
F	116.5	140	163.5	187	116.5	140	163.5	187	126.5/4.98	161.5/6.36	196.5/7.74	231.5/9.11
A1	61.5	85	108.5	132	61.5	85	108.5	132	67.5/2.56	81.5/3.21	137.5/5.41	172.5/6.79
B1	91.5	115	138.5	162.5	91.5	115	138.5	162.5	37.5/1.48	72.5/2.85	107.5/4.23	142.5/5.61

IEC Fusible Disconnect Switches

M125F, M160D, Front operated

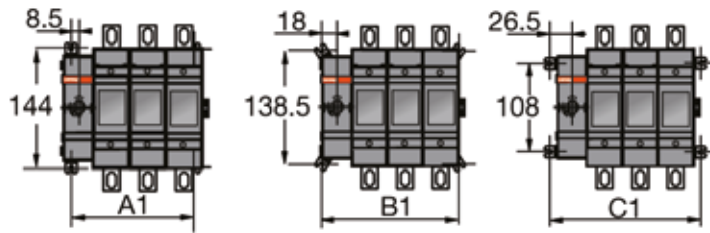
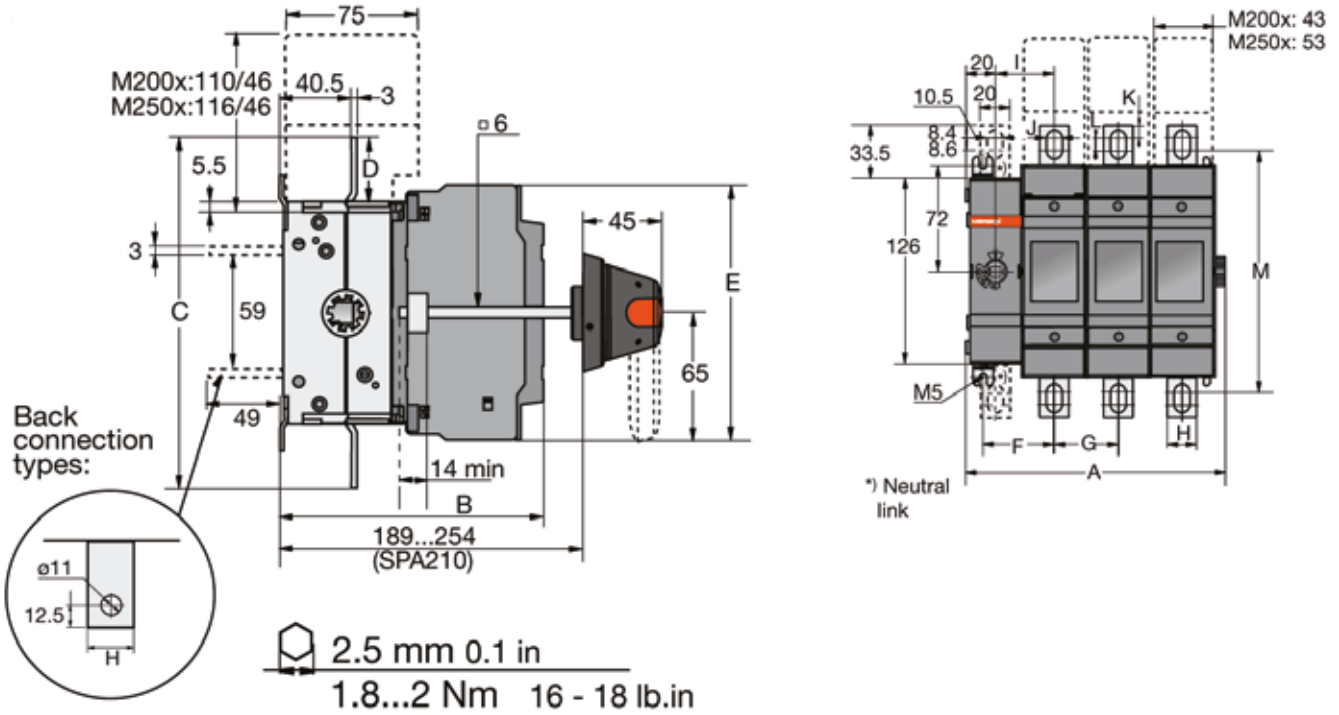


M125F, M160D, Side operated



IEC Fusible Disconnect Switches

M200-250D, Front operated

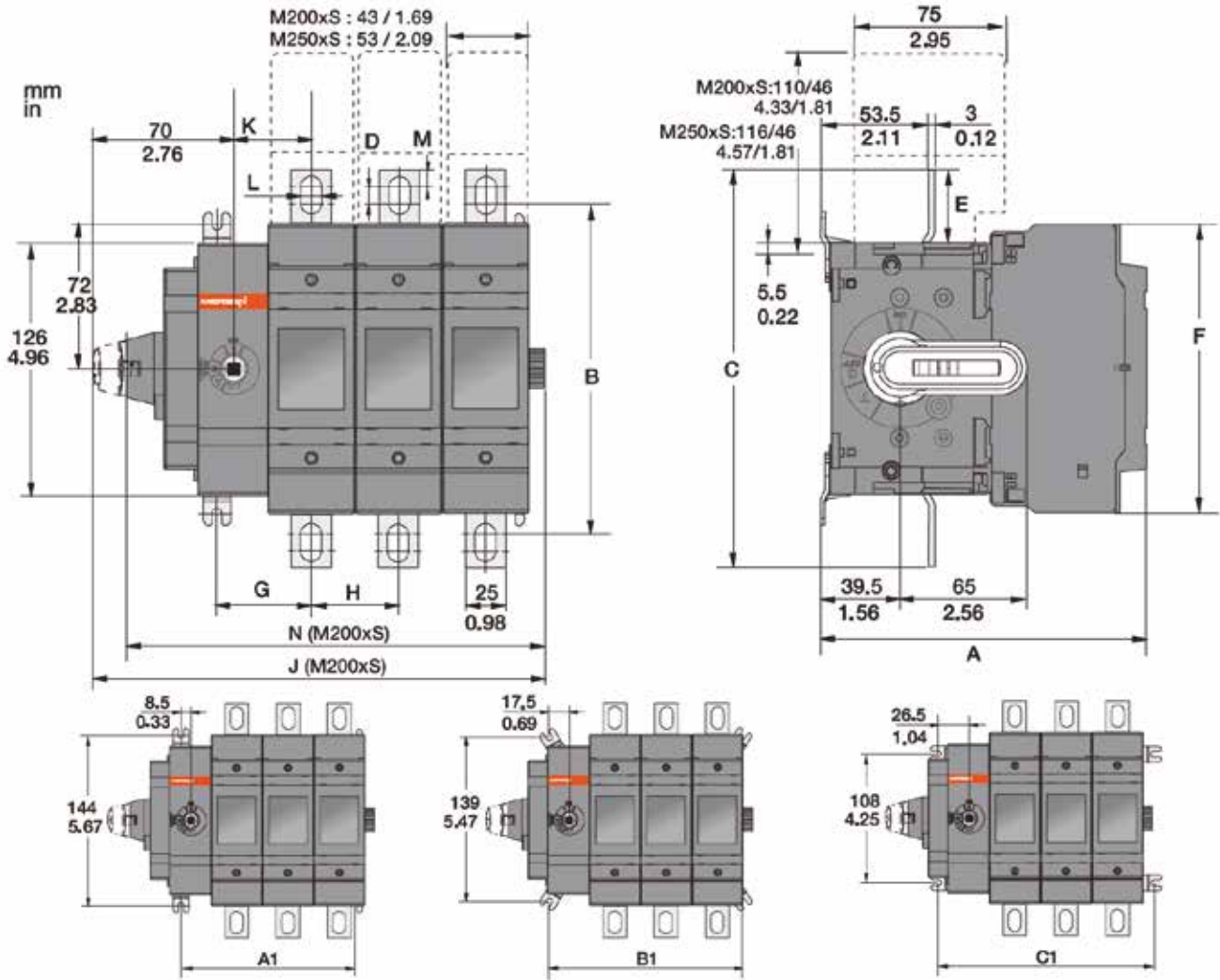


For DIN and BS fuse types, 0-3 and 3-0 configuration

	M200x								M250x			
	D01	B01	D02	B02	D03	B03	D04	B04	D01/B01	D02/B02	D03/B03	D04/B04
A	89.5	89.5	133	133	176.5	176.5	220	220	99.5	153.5	207.5	261.5
B	149	130	149	130	149	130	149	130	154	154	154	154
C	198.5	198.5	198.5	198.5	198.5	198.5	198.5	198.5	193	193	193	193
D	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	33.5	33.5	33.5	33.5
E	144.5	144.5	144.5	144.5	144.5	144.5	144.5	144.5	148.5	148.5	148.5	148.5
F	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	53.5	53.5	53.5	53.5
G	-	-	43.5	43.5	43.5	43.5	43.5	43.5	-	54	54	54
H	20	20	20	20	20	20	20	20	25	25	25	25
I	40	40	40	40	40	40	40	40	45	45	45	45
J	10	10	10	10	10	10	10	10	11	11	11	11
K	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	11.5	11.5	11.5	11.5
L	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	4	4	4	4
M	164.5	164.5	164.5	164.5	164.5	164.5	164.5	164.5	162	162	162	162
A1	60.5	60.5	104	104	147.5	147.5	191	191	70.5	124.5	178.5	232.5
B1	79.5	79.5	123	123	166.5	166.5	210	210	89.5	143.5	197.5	251.5
C1	96.5	96.5	140	140	183.5	183.5	227	227	106.5	160.5	214.5	268.5

IEC Fusible Disconnect Switches

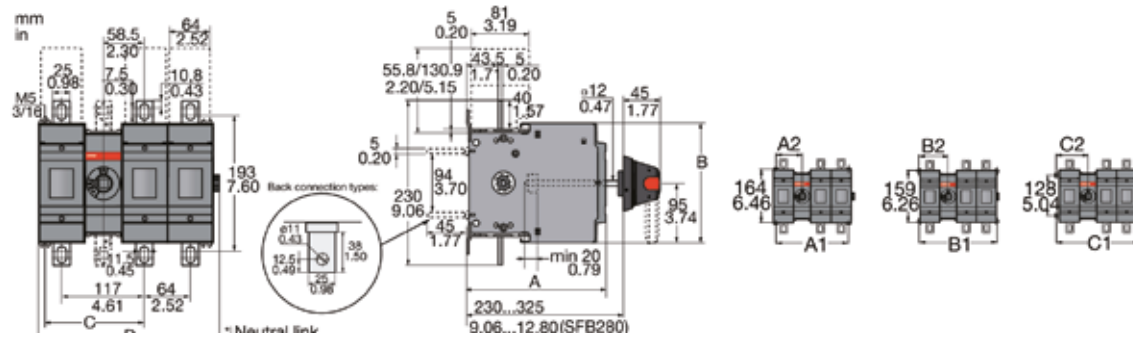
M200-250D, Side operated



	M200xS												M250xS											
	DS01	BS01	DS02	BS02	DS03	BS03	DS04	BS04	DS01	DS02	DS03	DS04	DS01	DS02	DS03	DS04								
A	149.0	5.87	130.0	5.12	149.0	5.87	130.0	5.12	149.0	5.87	130.0	5.12	149.0	5.87	154.0	6.06	154.0	6.06	154.0	6.06	154.0	6.06		
B	164.5	6.48	164.5	6.48	164.5	6.48	164.5	6.48	164.5	6.48	164.5	6.48	164.5	6.48	162.0	6.38	162.0	6.38	162.0	6.38	162.0	6.38		
C	198.5	7.81	198.5	7.81	198.5	7.81	198.5	7.81	198.5	7.81	198.5	7.81	198.5	7.81	193.0	7.60	193.0	7.60	193.0	7.60	193.0	7.60		
D	8.5	0.33	8.5	0.33	8.5	0.33	8.5	0.33	8.5	0.33	8.5	0.33	8.5	0.33	4.0	0.16	4.0	0.16	4.0	0.16	4.0	0.16		
E	36.5	1.44	36.5	1.44	36.5	1.44	36.5	1.44	36.5	1.44	36.5	1.44	36.5	1.44	33.5	1.32	33.5	1.32	33.5	1.32	33.5	1.32		
F	144.5	5.69	144.5	5.69	144.5	5.69	144.5	5.69	144.5	5.69	144.5	5.69	144.5	5.69	148.5	5.85	148.5	5.85	148.5	5.85	148.5	5.85		
G	48.5	1.91	48.5	1.91	48.5	1.91	48.5	1.91	48.5	1.91	48.5	1.91	48.5	1.91	53.5	2.11	53.5	2.11	53.5	2.11	53.5	2.11		
H	-	-	-	-	43.5	1.71	43.5	1.71	43.5	1.71	43.5	1.71	43.5	1.71	-	-	54.0	2.13	54.0	2.13	54.0	2.13		
I	20.0	0.79	20.0	0.79	20.0	0.79	20.0	0.79	20.0	0.79	20.0	0.79	20.0	0.79	25.0	0.98	25.0	0.98	25.0	0.98	25.0	0.98		
J	138.5	5.45	138.5	5.45	182.0	7.17	138.5	5.45	225.5	8.88	225.5	8.88	269.0	10.59	269.0	10.59	148.5	5.85	202.5	7.97	256.5	10.10	310.5	12.22
K	40.0	1.57	40.0	1.57	40.0	1.57	40.0	1.57	40.0	1.57	40.0	1.57	40.0	1.57	45.0	1.77	45.0	1.77	45.0	1.77	45.0	1.77		
L	10.0	0.39	10.0	0.39	10.0	0.39	10.0	0.39	10.0	0.39	10.0	0.39	10.0	0.39	11.0	0.43	11.0	0.43	11.0	0.43	11.0	0.43		
M	8.5	0.33	8.5	0.33	8.5	0.33	8.5	0.33	8.4	0.33	8.5	0.33	8.5	0.33	11.5	0.45	11.5	0.45	11.5	0.45	11.5	0.45		
N	121.5	4.78	121.5	4.78	165.0	6.50	165.0	6.50	208.5	8.21	208.5	8.21	252.0	9.92	252.0	9.92	131.5	5.18	186.0	7.32	240.0	9.45	294.0	11.57
A1	60.5	2.38	60.5	2.38	104.0	4.09	104.0	4.09	147.5	5.81	147.5	5.81	191.0	7.52	191.0	7.52	70.5	2.78	124.5	4.90	178.5	7.03	232.5	9.15
B1	79.5	3.13	79.5	3.13	123.0	4.84	123.0	4.84	166.5	6.56	166.5	6.56	210.0	8.27	210.0	8.27	89.5	3.52	143.5	5.65	197.5	7.78	251.5	9.90
C1	96.5	3.80	96.5	3.80	140.0	5.51	140.0	5.51	183.5	7.22	183.5	7.22	227.0	8.94	227.0	8.94	106.5	4.19	214.5	8.44	268.5	10.57	322.5	12.70

IEC Fusible Disconnect Switches

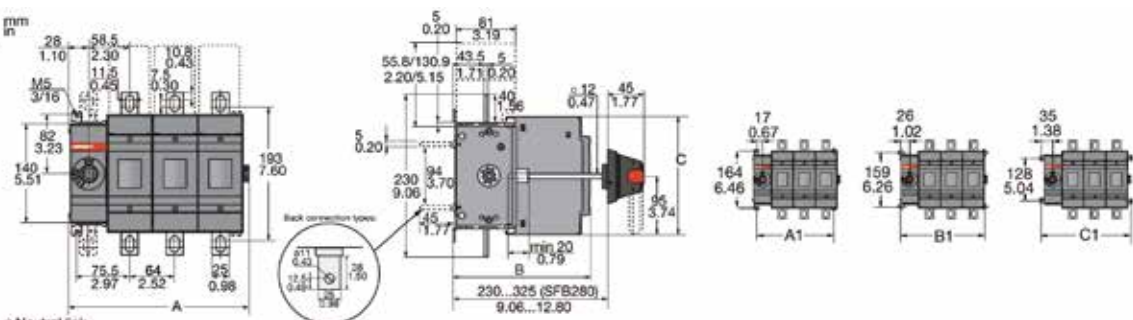
M400D, M400J, 11 to 22 configuration, Front operated



	M315B30 - M400B30					M400D30 - M400J30									
	B11	B12	B13	B21	B22	D11	D12	D13	D21	D22	J11	J12	J13	J21	J22
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm/in	mm/in	mm/in	mm/in	mm/in
A	176	176	176	176	176	193	193	193	193	193	176/6.93	176/6.93	176/6.93	176/6.93	176/6.93
B	194	194	194	194	194	166	166	166	166	166	194/7.64	194/7.64	194/7.64	194/7.64	194/7.64
C	140	140	140	204	204	140	140	140	204	204	140/5.51	140/5.51	140/5.51	2048.08	2048.03
D	190	254	318	254	318	190	254	318	254	318	190/7.48	254/10.0	318/12.52	254/10.0	318/12.52

	M315x					M400x				
	B11	B12	B21	B22	B13	B11/D11/J11	B12/D12/J12	B21/D21/J21	B22/D22/J22	B13/D13/J13
	mm	mm	mm	mm	mm	mm/in	mm/in	mm/in	mm/in	mm/in
A1	163	227	227	291	291	163/6.42	227/8.94	227/8.94	291/11.46	291/11.46
A2	81.5	81.5	145.5	145.5	81.5	81.5/3.21	81.5/3.21	145.5/5.73	145.5/5.73	81.5/3.21
B1	181	245	245	309	309	181/7.13	245/9.65	245/9.65	309/12.17	309/12.17
B2	90.5	90.5	154.5	154.5	90.5	90.5/3.56	90.5/3.56	154.5/6.08	154.5/6.08	90.5/3.56
C1	199	263	263	327	327	199/7.83	263/10.35	263/10.35	327/12.87	327/12.87
C2	99.5	99.5	163.5	163.5	99.5	99.5/3.92	99.5/3.92	163.5/6.44	163.5/6.44	99.5/3.92

M400D, M400J, 30 or 03 configuration, Front operated



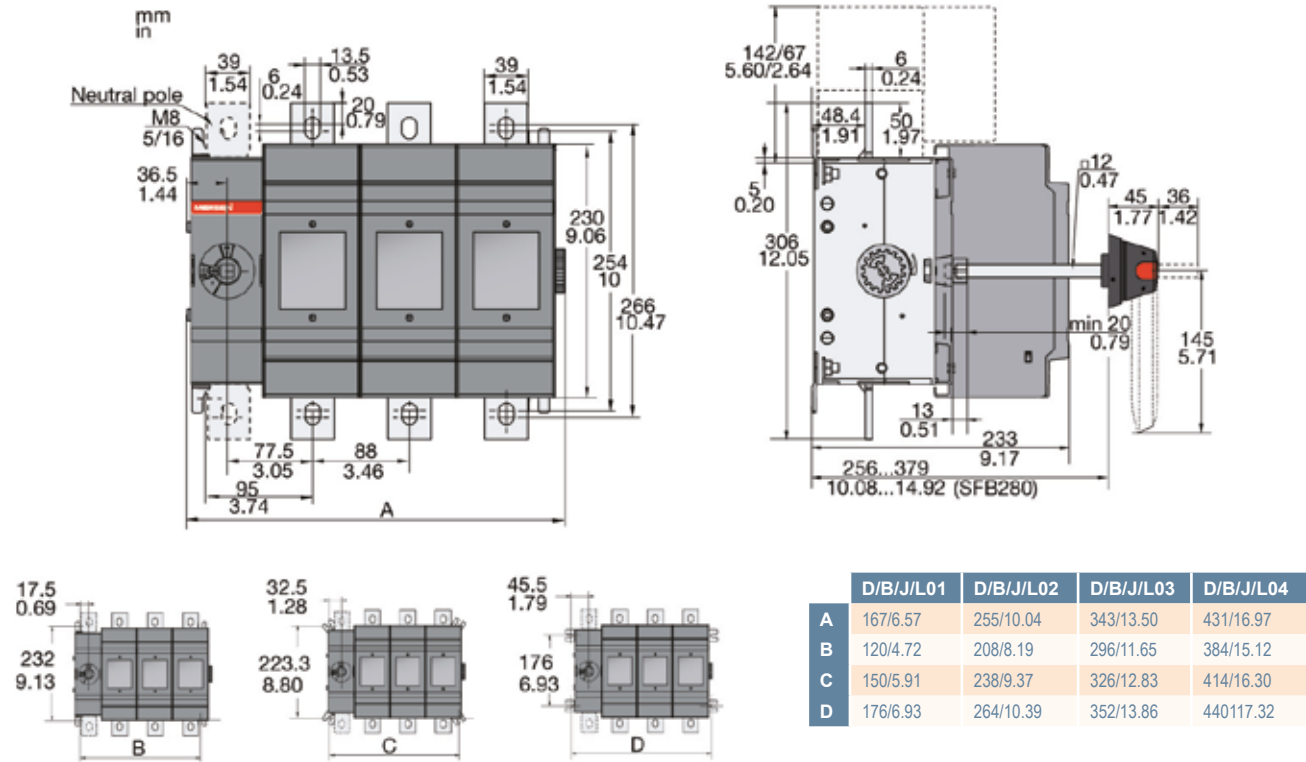
	M315B30 - M400B30				M400D30 - M400J30							
	B01	B02	B03	B04	D01	D02	D03	D04	J01	J02	J03	J04
	mm	mm	mm	mm	mm	mm	mm	mm	mm/in	mm/in	mm/in	mm/in
A	127	191	255	319	127	191	255	319	127/5.00	191/7.52	255/10.04	319/12.56
B	176	176	176	176	193	193	193	193	176/6.93	176/6.93	176/6.93	176/6.93
C	194	194	194	194	166	166	166	166	194/7.64	194/7.64	194/7.64	194/7.64

	M315x				M400x			
	B01	B02	B03	B04	B01/D01/J01	B02/D02/J02	B03/D03/J03	B04/D04/J04
	mm	mm	mm	mm	mm/in	mm/in	mm/in	mm/in
A1	98.5	162.5	226.5	290.5	98.5/3.88	162.5/6.40	226.5/8.92	290.5/11.44
B1	116.5	180.5	244.5	308.5	116.5/4.59	180.5/7.11	244.5/9.63	308.5/12.15
C1	134.5	198.5	262.5	326.5	134.5/5.30	198.5/7.81	262.5/10.33	326.5/12.85

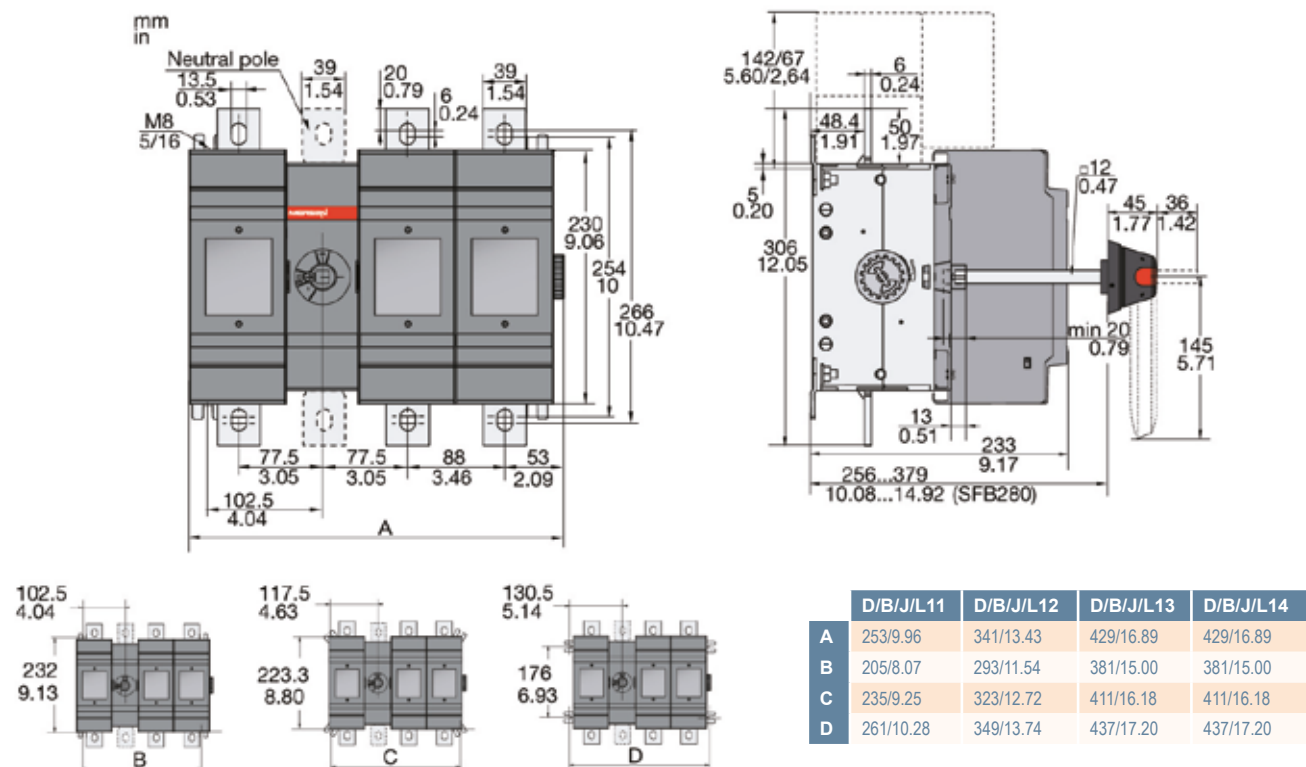
IEC Fusible Disconnect Switches

M630-800D, M600J-800L, Front operated

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

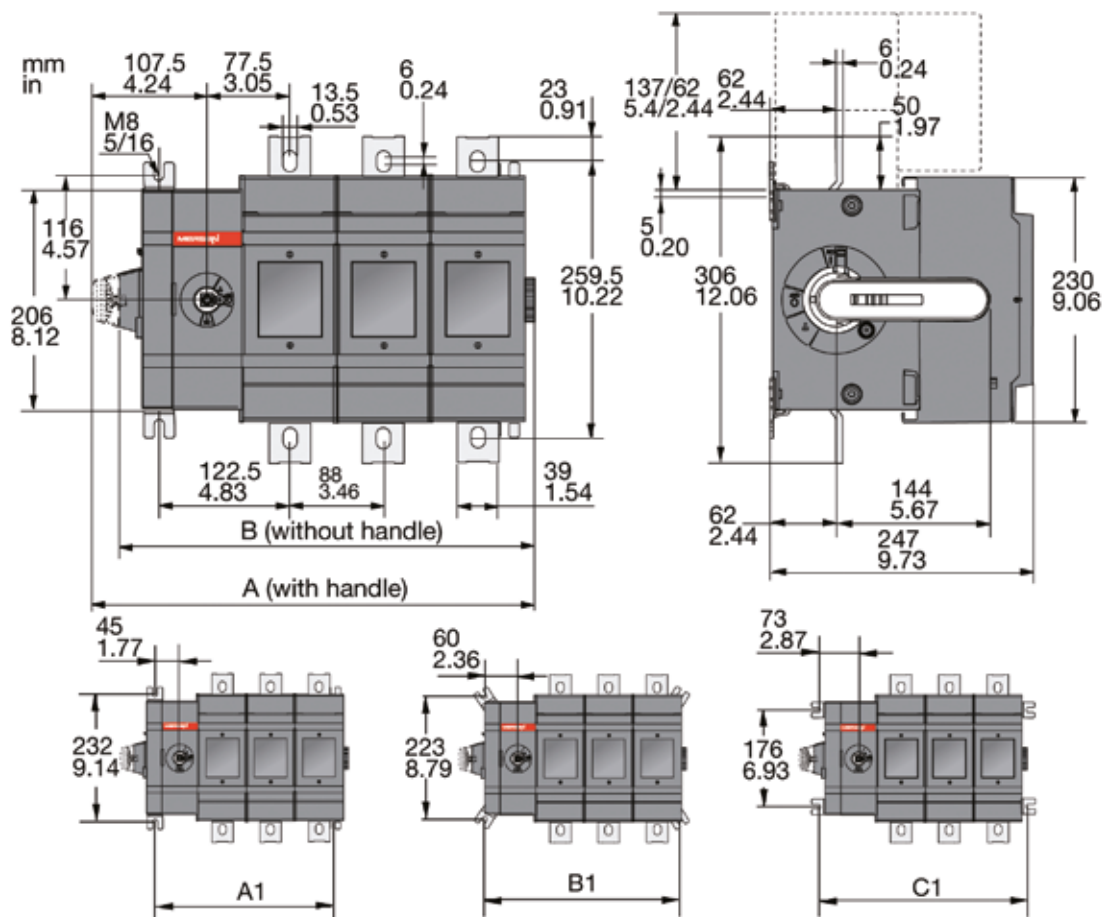


For DIN, BS, J and L Fuse Types with gearbox on the middle



IEC Fusible Disconnect Switches

M630-800D, M600J-800L, Side operated

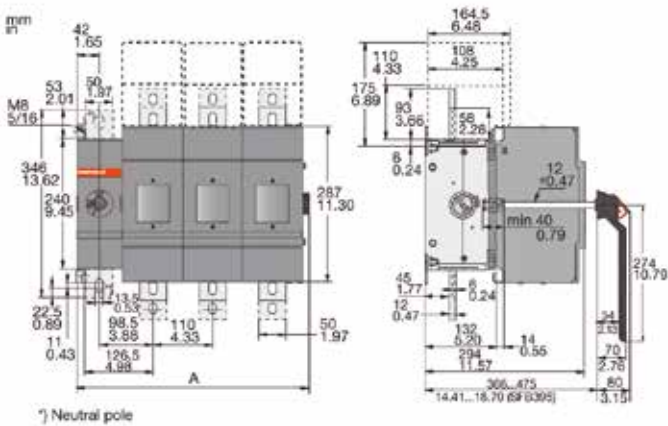


M600xS-M800xS				
	DS/BS/JS/LS01	DS/BS/JS/LS02	DS/BS/JS/LS03	DS/BS/JS/LS04
	mm/in	mm/in	mm/in	mm/in
A	238/9.38	326/12.84	414/16.31	502/19.78
B	213/8.39	301/11.86	389/15.32	477/18.79
A1	147.5/5.81	235.5/9.28	323.5/12.75	411.5/16.21
B1	177.5/6.99	265.5/10.46	353.5/13.93	441.5/17.39
C1	203.5/8.02	291.5/11.48	379.5/14.95	467.5/18.42

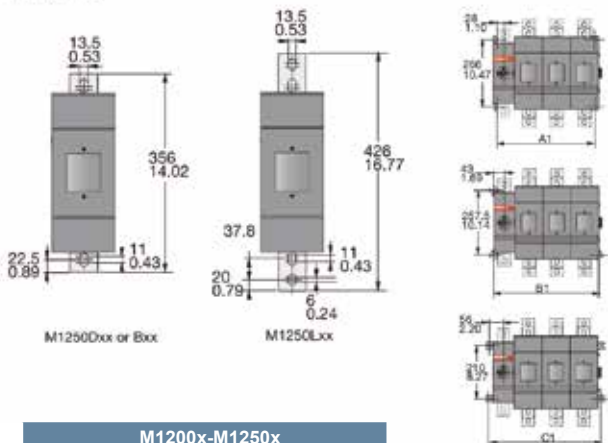
IEC Fusible Disconnect Switches

M1200L, M1250D, Front operated

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



*) Neutral pole

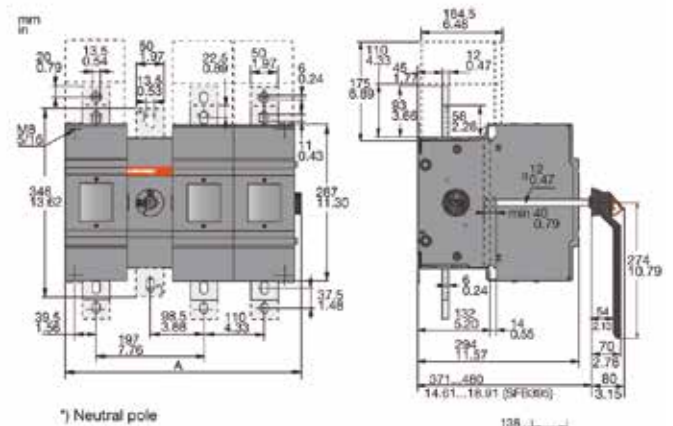


M1250Dxx or Box

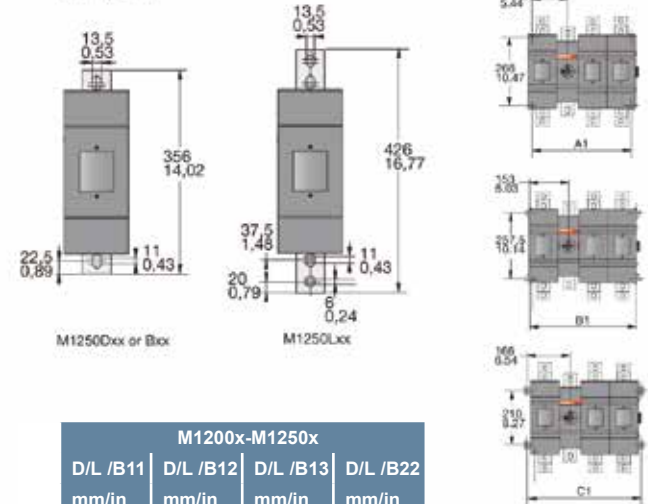
M1250Lxx

	M1200x-M1250x			
	D/L /B01 mm/in	D/L /B02 mm/in	D/L /B03 mm/in	D/L /B04 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

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



*) Neutral pole



M1250Dxx or Box

M1250Lxx

	M1200x-M1250x			
	D/L /B11 mm/in	D/L /B12 mm/in	D/L /B13 mm/in	D/L /B22 mm/in
A	322/12.68	432/17.01	542/21.34	542/21.34
A1	276/10.87	386/15.20	496/19.53	496/19.53
B1	306/12.05	416/16.38	526/20.71	526/20.71
C1	322/13.07	442/17.40	552/21.73	552/21.73

PV-Rated Disconnect Switches

IEC and UL 98-Rated DC Switches

Mersen offers a range of DC disconnect switches especially designed for PV applications, in 2 poles and 2x2 poles configurations for double circuit applications. The technology inside the switch and the visible contacts allow a quick, safe, and reliable DC breaking power at all current levels up to 1000VDC. With a symmetric 2-pole design, the product is ready and simple to install independently of the polarity, with very limited power losses, and with a smaller footprint than competition.

Highlights:

- IEC version and UL version
- Visible contacts
- Compact footprint
- Direct installation for floating polarity configuration
- Jumper bar available for grounded configuration

Applications:

- Medium and large power photovoltaic installations up to 1000VDC
- “Make and break” on load and provide safety isolation at string combiner box level



Ratings:

- Volts** : 1000VDC
Amps : IEC: 100 to 500A
 UL98: 100 to 400A
SCCR : 5 to 10kA for higher ratings

Catalog Number Designation

		MD	100	E	1	1	—	—
Switch	M = Mersen AC Switch MD = Mersen DC Switch							
Ampacity	16 to 1200							
Type	Blank = non-fused UL508 U = non-fused UL98 J = J fused F = NFC fused			E = IEC non-fused CC = CC fused D = DIN fused B = BS-88 fused				
Number of Poles/Left side of Handle	AC: 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: 0, 1, 2, 3, 4							
Number of Poles/Right side of Handle	AC: Blank = < 200A non-fused, 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: Blank = < 100A, 0, 1, 2, 3, 4							
Revision	Blank = 0							
Special Configurations	S = side-operated CH = Changeover							
							DM = door-mounting N = Non-fused switched Neutral	

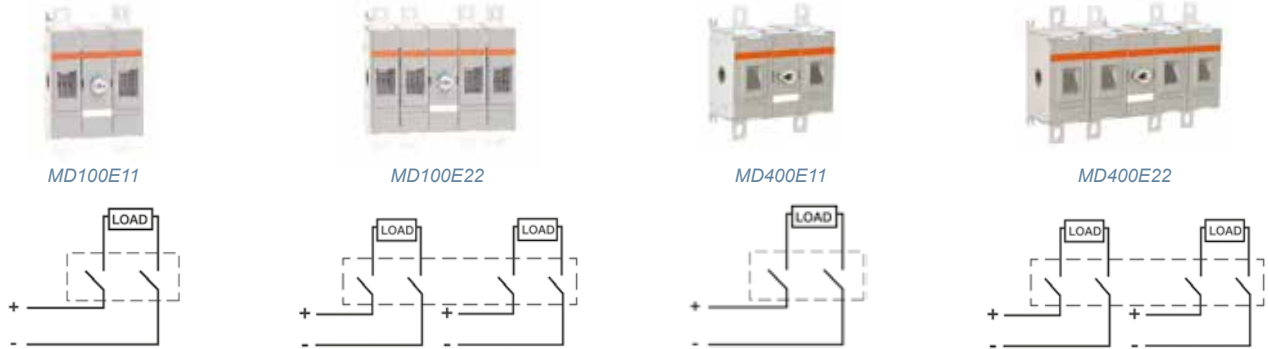
Approvals:

- UL98B File #E466972 WHVA
- IEC 60947-3 CE



PV-Rated Disconnect Switches

IEC-Rated DC Switches



Switch Body

Ampere Rating	100	160	200	250	315	400	500
2-pole Configuration	MD100E11	MD160E11	MD200E11	MD250E11	MD315E11	MD400E11	MD500E11
2x2-pole Configuration	MD100E22	MD160E22	MD200E22	MD250E22	MD315E22	MD400E22	MD500E22

Handles and Shafts



Direct Front Operation							
	HDD250	HDD250	HDD250	HDD250	HDD400	HDD400	HDD400

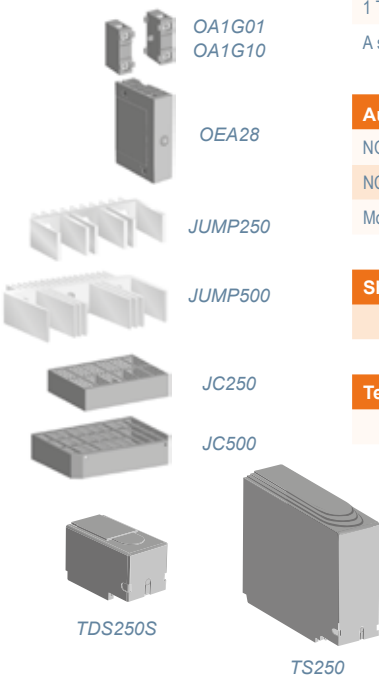
External Pistol Style							
NEMA Type 1, 3R, 12	HB65	HB65	HB65	HB65	HB125	HB125	HB125
NEMA Type 4, 4X	HB65X	HP65X	HB65X	HB65X	HB125X	HB125X	HB125X

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR65

Shafts							
Shaft	SPA__	SPA__	SPA__	SPA__	SFB__	SFB__	SFB__

SPA Lengths: 130, 210, 290, 360, 430 Ex. SPA130. SFB Lengths: 280, 325, 395 Ex. SFB280

Accessories



Terminal Shrouds							
Kit of 4 Terminal Shrouds	TS250-14	TS250-14	TS250-14	TS250-14			
1 Terminal Shroud					TDS400	TDS400	TDS400

A shorter version is available for DC switches up to 250A, 1 piece per package: TDS250S

Auxiliary Contacts							
NO Right side mounting	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
NC left side mounting	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01
Module for SF aux. contacts	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28	OEA28

Short Circuit Link							
	JUMP250	JUMP250	JUMP250	JUMP250	JUMP500	JUMP500	JUMP500

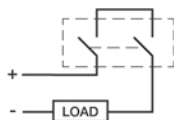
Terminal Shroud for Short Circuit Link							
	JC250	JC250	JC250	JC250	JC500	JC500	JC500

PV-Rated Disconnect Switches

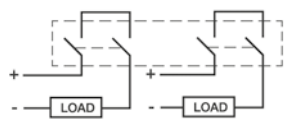
UL98B Listed DC Switches



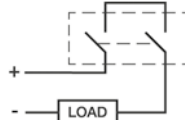
MD100U11



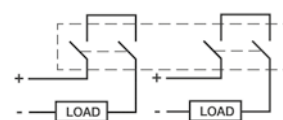
MD100U22



MD400U11



MD400U22



Switch Body

Ampere Rating	100	200	250	320	400
2-pole Configuration	MD100U11	MD200U11	MD250U11	MD320U11	MD400U11
2x2-pole Configuration	MD100U22	MD180U22	MD180U22	MD320U22	MD400U22

Handles and Shafts



HDD250



HB65

Direct Front Operation					
	HDD250	HDD250	HDD250	HDD400	HDD400

External Pistol Style					
NEMA Type 1, 3R, 12	HB65	HB80	HB125	HB125	HB125
NEMA Type 4, 4X	HB65X	HP80X	HB125X	HB125X	HB125X

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR65

Shafts					
Shaft	SPA__	SPA__	SFB__	SFB__	SFB__

SPA Lengths: 130, 210, 290, 360, 430 Ex. SPA130. SFB Lengths: 280, 325, 395 Ex. SFB280

Accessories



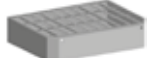
OA1G01
OA1G10



OEA28



JC250



JC500

Auxiliary Contacts					
NO Right side mounting	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
NC left side mounting	OA3G01	OA3G01	OA3G01	OA3G01	OA3G01
Module for SF aux. contacts	OEA28	OEA28	OEA28	OEA28	OEA28

Terminal Shroud for Short Circuit Link					
	JC250	JC250	JC500	JC500	JC500

PV-Rated Disconnect Switches

Technical Data

Technical data according to IEC 60947 for switch-disconnectors									
Switch size		A	MD100E	MD160E	MD200E	MD250E	MD315E	MD400E	MD500E
Rated Insulation voltage U_i	Pollution degree 2	V	1500	1500	1500	1500	1500	1500	1500
	Pollution degree 3	V	1500	1500	1500	1500	1500	1500	1500
Rated impulse withstand	50 Hz 1 min	kV							
		kV	12	12	12	12	12	12	12
Rated thermal current I_{th}	In open air, normal conditions ¹⁾	A	100	160	200	250	315	400	630
	In enclosure 40°C	A	100	160	200	250	315	400	550
	In enclosure 60°C	A	100	160	200	250	315	400	440
...with minimum cable or bar cross section	Cu	mm ²	35	70	95	120	185	240	240
Rated operational current / poles in series DC-21B	1000	V	100 / 2	160 / 2	200 / 2	250 / 2	315 / 2	400 / 2	500 / 2
			100 / 2x2	160 / 2x2	200 / 2x2	250 / 2x2	315 / 2x2	400 / 2x2	500 / 2x2
Rated short-time withstand current, 1000 V, 1 s	R.M.S. -value I_{cw}	kA	5	5	5	5	10	10	10
Rated short circuit making capacity, 1000 V	Peak value I_{cm}	kA	5	5	5	5	10	10	10
Power loss / pole	At rated current	W	2	4	6	9,5	6	9,7	15,1
Cable size	Cu	mm ²							
Terminal bolt size	Metric thread diameter x length	mm	M8x25	M8x25	M8x25	M8x25	M10x30	M10x30	M12x40
Terminal tightening torque	Counter torque required	Nm	15-22	15-22	15-22	15-22	30-44	30-44	50-75

1) Normal conditions defined in IEC 60947-1-6.1

Technical data in accordance to UL98B for switch-disconnectors (suitable for use in photovoltaic systems in accordance with article 690 of the NEC)							
Switch size			MD100U	MD200U	MD250U	MD315U	MD400U
Voltage rating		VDC	1000	1000	1000	1000	1000
Current rating		A	100	200 ¹⁾	250	320	400
Number of poles			2	2 ¹⁾	2	2	2
Rated ambient temperature		°C	-20...+50	-20...+50	-20...+50	-20...+50	-20...+50
Short circuit rating at 1000VDC		kA	5	5	10	10	10
	Class of fuse		Circuit breaker	Circuit breaker	Circuit breaker	Circuit breaker	Circuit breaker
Mechanical endurance	Divide by two for operation cycles	Oper.	4000	4000	2000	2000	2000
Terminal lugs			LUG200	LUG200	LUG400	LUG400	LUG400
Wire range		MCM	#4-300	#4-300	#2-600	#2-600	#2-600
Technical data according to IEC		Same as type	MD160E	MD250E	MD315E	MD400E	MD500E

1) For 4 pole switches (double circuit use), the current rating at 1000 VDC is 180 A.

PV-Rated Disconnect Switches

IEC DC-rated Non-Fused switches

Cat #	Description	Ref #
MD100E11	DC Switch 100A IEC 1000V 2p	G1043217
MD160E11	DC Switch 160A IEC 1000V 2p	H1043218
MD200E11	DC Switch 200A IEC 1000V 2p	J1043219
MD250E11	DC Switch 250A IEC 1000V 2p	K1043220
MD100E22	DC Switch 100A IEC 2x1000V 4p	L1043221
MD160E22	DC Switch 160A IEC 2x1000V 4p	M1043222
MD200E22	DC Switch 200A IEC 2x1000V 4p	N1043223
MD250E22	DC Switch 250A IEC 2x1000V 4p	P1043224
MD315E11	DC Switch 315A IEC 1000V 2p	Q1043225
MD400E11	DC Switch 400A IEC 1000V 2p	R1043226
MD500E11	DC Switch 500A IEC 1000V 2p	S1043227
MD315E22	DC Switch 315A IEC 2x1000V 4p	T1043228
MD400E22	DC Switch 400A IEC 2x1000V 4p	V1043229
MD500E22	DC Switch 500A IEC 2x1000V 4p	W1043230

UL 98B DC-rated Non-Fused switches

Cat #	Description	Ref #
MD100U11	DC Switch 100A UL 2p	X1043231
MD180U22	DC Switch 180A UL 4p	Y1043232
MD200U11	DC Switch 200A UL 2p	Z1043233
MD250U11	DC Switch 250A UL 2p	A1043234
MD250U22	DC Switch 250A UL 4p	B1043235
MD320U11	DC Switch 320A UL 2p	C1043236
MD320U22	DC Switch 320A UL 4p	D1043237
MD400U11	DC Switch 400A UL 2p	E1043238
MD400U22	DC Switch 400A UL 4p	F1043239

Handles

Cat #	Description	Ref #
HB65	Handle black 65mm IP65 NEMA 3R	W1043368
HB65X	Handle black 65mm IP65 NEMA 4X	X1043369
HB95	Handle black 95mm IP65 NEMA 3R	N1043913
HB95X	Handle black 95mm IP65 NEMA 4X	P1043914
HB125	Handle black 125mm IP65 NEMA 3R	A1043372
HB125X	Handle black 125mm IP65 NEMA 4X	B1043373
HR65	Handle red 65mm IP65 NEMA 3R	G1043378
HR65X	Handle red 65mm IP65 NEMA 4X	H1043379
HR95	Handle red 95mm IP65 NEMA 3R	S1043917
HR95X	Handle red 95mm IP65 NEMA 4X	T1043918
HR125	Handle red 125mm IP65 NEMA 3R	K1043381
HR125X	Handle red 125mm IP65 NEMA 4X	L1043382
HDD250	Handle direct MD100-250	G1047794
HDD400	Handle direct MD315-500	H1047795

Shafts

Cat #	Description	Ref #
SFB280	Shaft SwitchFuse 12x12x280mm	F1043423
SFB325	Shaft SwitchFuse 12x12x325mm	G1043424
SFB395	Shaft SwitchFuse 12x12x395mm	H1043425
SPA130	Shaft pistol handle 6x6x130mm	V1043919
SPA210	Shaft pistol handle 6x6x210mm	P1043431
SPA290	Shaft pistol handle 6x6x290mm	Q1043432
SPA360	Shaft pistol handle 6x6x360mm	W1043920
SPA430	Shaft pistol handle 6x6x430mm	X1043921

Terminal Shrouds

Cat #	Description	Ref #
TS250-14	Term.shrd 250A switch 1p L/4	A1043464
TDS400	Term.shrd MD250-500 1p L/1	A1045534
TDS250S	Term.shrd MD100-250 1p S /1	Z1045533

Jumpers

Cat #	Description	Ref #
JUMP250	Jumper bar for 250A DC switch.	F1043469
JUMP500	Jumper bar for 500A DC switch.	G1043470
JC250	Jumper cover for JUMP250	H1043471
JC500	Jumper cover for JUMP500	J1043472

UL 508 Non-Fusible Disconnect Switches

UL 508 Non-Fused (M163 – M803)

The M-series Load Break Switch is the most compact industrial-grade switch on the market. Capable of making or breaking loads up to 600V (UL), it is suitable as a motor disconnect. Extremely compact and robust, these switches have a variety of mounting options including DIN-rail, base, or door-mounting. A wide assortment of handles, shafts and accessories are available to accommodate any installation requirement.

Highlights:

- Compact
- Robust
- DIN-rail, base, or door-mounting
- Choice of handles and shafts
- Padlockable
- Side-mount auxiliary contacts and additional poles
- Double-break, silver-plated contacts

Applications:

- Line of sight disconnect
- Electrical isolation
- Branch-circuit switch
- Motor disconnect



Ratings UL:

Volts : 600VAC

Amps : 20, 30, 40, 63, and 80A

Suitable as motor disconnect up to 40hp

Ratings IEC:

Volts : 690VAC

Amps : 16, 25, 40, 63, and 80A

Catalog Number Designation

		M	80	3			
Switch	M = Mersen AC Switch MD = Mersen DC Switch						
Ampacity	16 to 1200						
Type	Blank = non-fused UL508 U = non-fused UL98 J = J fused F = NFC fused	E = IEC non-fused CC = CC fused D = DIN fused B = BS-88 fused					
Number of Poles/Left side of Handle	AC: 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: 0, 1, 2, 3, 4						
Number of Poles/Right side of Handle	AC: Blank = < 200A non-fused, 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: Blank = < 100A, 0, 1, 2, 3, 4						
Revision	Blank = 0						
Special Configurations	S = side-operated CH = Changeover	DM = door-mounting N = Non-fused switched Neutral					

Approvals:

- UL 508 listed E196672
- IEC 60947-3



UL 508 Non-Fusible Disconnect Switches

UL 508 Disconnect Switches – Front Operated



M163



M633

Switch Body

Ampere Rating	20	30	40	63	80
Base Cat #	M163	M253	M403	M633	M803

Direct Front Operation Locking Handle

	HD40	HD40	HD40	HD125	HD125
--	------	------	------	-------	-------

Handles and Shafts



External Front Operation

Selector Style NEMA Type 1, 3R, 12	HSBX	HSBX	HSBX	HSBX	HSBX
Shaft—Lengths: 85, 130, 180, 250 Ex. SA130	SA__	SA__	SA__	SA__	SA__
Pistol Style NEMA Type 1, 3R, 12	HB45	HB45	HB45	HB45	HB45
NEMA Type 4, 4X	HB45X	HB45X	HB45X	HB45X	HB45X
Shaft—Lengths: 210, 290, 360, 430 Ex. SPA210	SPA__	SPA__	SPA__	SPA__	SPA__

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR65

Fourth Poles

Limited to one additional pole per switch	4P40	4P40	4P40	4P80	4P80
---	------	------	------	------	------

Neutral Poles

Limited to one additional pole per switch	NP40	NP40	NP40	NP80	NP80
---	------	------	------	------	------

Accessories



Terminal Shrouds

3-pole	TS40-3	TS40-3	TS40-3	TS63-3	TS63-3
4-pole (Add this to the 3-pole shroud)	TS40-1	TS40-1	TS40-1	TS63-1	TS63-1

Auxiliary Contacts

NC Right side mounting	OA1G01	OA1G01	OA1G01	OA1G01	OA1G01
NO left side mounting	OA1G10	OA1G10	OA1G10	OA1G10	OA1G10
NO+NC (Mounting on either side)	OA2G11	OA2G11	OA2G11	OA2G11	OA2G11

UL 508 Non-Fusible Disconnect Switches

Technical Data

Technical data according to UL/cULus													
Part number			A	M163	M253	M403	M633	M803					
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C		20	30	40	60	80					
Max. operating voltage			V	600	600	600	600	600					
Max. horsepower rating / motor FLA current	pf= 0.4...0.5 Three phase	240 V	HP/A	5/15.2	7.5/22.0	10/28.0	15/42.0	20/54.0					
		480 V	HP/A	10/14.0	15/21.0	20/27.0	30/40.0	40/52.0					
		600 V	HP/A	10/11	20/22.0	25/27.0	30/32.0	40/41.0					
	Single phase	120 V	HP/A	1/16.0	1.5/20.0	2/24.0	2/24.0	2/24.0					
		240 V	HP/A	2/13.2	3/18.7	5/30.8	7.5/40.0	10/57.5					
Short circuit rating with fuse	Maximum fuse size		A	30	60 ²⁾	30	60 ²⁾	30	60 ²⁾	100	150	100	150
	Fuse type	CC	kA	10		10		10					
	Fuse type	J	kA	10	10	10	10	10	100			100	
	Fuse type	T	kA	10	10	10	10	10	100			100	
	Fuse type	RK1	kA	10		10		10	5	10	5		
	Fuse type	RK5	kA	5	5	5	5	5	5	5		5	5
	Fuse type	L	kA										
Fuse type	H	kA											
Endurances													
Min. electrical endurance, pf. 0.75...0.8			oper. cycles	6 000	6 000	6 000	6 000	6 000					
Mechanical endurance			operations	20 000	20 000	20 000	20 000	20 000					
Terminal lug kits				integral	integral	integral	integral	integral					
Wire range			AWG	18-8	18-8	18-8	14-4	14-4					
Torque		Wire tightening	lb. in	7	7	7	18	18					
		Lug mounting											
Technical data according to IEC 60947-3													
Rated insulation voltage and rated operational voltage AC20/DC20	Pollution degree 3		V	750	750	750	750	750					
Dielectric strength		50 Hz 1min.	kV	6	6	6	6	6					
Rated impulse withstand voltage			kV	8	8	8	8	8					
Rated operational current, AC-22A		up to 415 V	A	16	25	40	63	80					
		440...500 V	A	16	25	40	63	80					
		690 V	A	16	25	40	63	80					
Rated operational current, AC-23A		up to 415 V	A	16	20	23	45	75					
		440 V	A	16	20	23	45	65					
		500 V	A	16	20	23	45	58					
		690 V	A	10	11	12	20	20					
Rated conditional short-circuit current I _p (r.m.s.) and corresponding max. allowed cut-off current I _c . The cut-off current I _c refers to values listed by fuse manufacturers	I _p (r.m.s.)	50 kA	kA	6.5	6.5	6.5	13	13					
	Max. fuse size gG/aM	415 V	A	40/32	40/32	40/32	100/80	100/80					
	I _p (r.m.s.)	10 kA	kA										
	Max. fuse size gG/aM	690 V	A										
(single phase test acc. to IEC60269)	I _p (r.m.s.)	50 kA	kA	4	4	4	11	11					
	Max. fuse size gG/aM	690 V	A	25/16	25/16	25/16	80/63	80/63					
	at prospective SC-current	80 kA	kA										
	Max. fuse size gG/aM	690 V	A										
Rated short-time withstand current	r.m.s. -value I _{sw}	690 V, 1 s	kA	0.5	0.5	0.5	1	1.5					
Rated short circuit making capacity	Peak value I _{sm}	690 V/500 V	A	0.705	0.705	0.705	1.4	2.1					
Power loss / pole		At rated operational current	W	0.3	0.6	1.6	2.8	4.5					
Mechanical endurance		Divide by two for operation cycles	Oper.	20 000	20 000	20 000	20 000	20 000					
Weight without accessories		3-pole	kg	0.11	0.11	0.11	0.27	0.27					
		4-pole	kg	0.15	0.15	0.15	0.35	0.35					

1) UL Listed switches are also CSA Approved.

2) Fuse size 70A for RK5.

UL 508 Non-Fusible Disconnect Switches

UL 508 Non-Fused switches, front-operated

Cat #	Description	Ref #
M163	IEC UL508 Switch 16A 3p	A1043188
M253	IEC UL508 Switch 25A 3p	B1043189
M403	IEC UL508 Switch 40A 3p	C1043190
M633	IEC UL508 Switch 63A 3p	D1043191
M803	IEC UL508 Switch 80A 3p	E1043192

Other Accessories

Cat #	Description	Ref #
OA1G01	Auxiliary Contact NC Right	N1043476
OA1G10	Auxiliary Contact NO left	P1043477
OA2G11	Aux. Contact NO+NC Switch 125A	Q1043478
4P40	Fourth pole for M40 NF switches	S1043480
4P60	Fourth pole for M60 NF switches	T1043481
4P80	Fourth pole for M80 NF switches	V1043482
NP40	Neutral pole for M40 NF switches	X1043484
NP80	Neutral pole for M80 NF switches	Y1043485

Handles

Cat #	Description	Ref #
HD40	Handle direct Switch 40A	L1043405
HSBX	Handle selector black	M1043406
HSRX	Handle selector red	N1043407
HB45	Handle black45mm IP65 NEMA 3R	L1043911
HB45X	Handle black 45mm IP65 NEMA 4X	M1043912
HR45	Handle red 45mm IP65 NEMA 3R	Q1043915
H45X	Handle red 45mm IP65 NEMA 4X	R1043916

Shafts

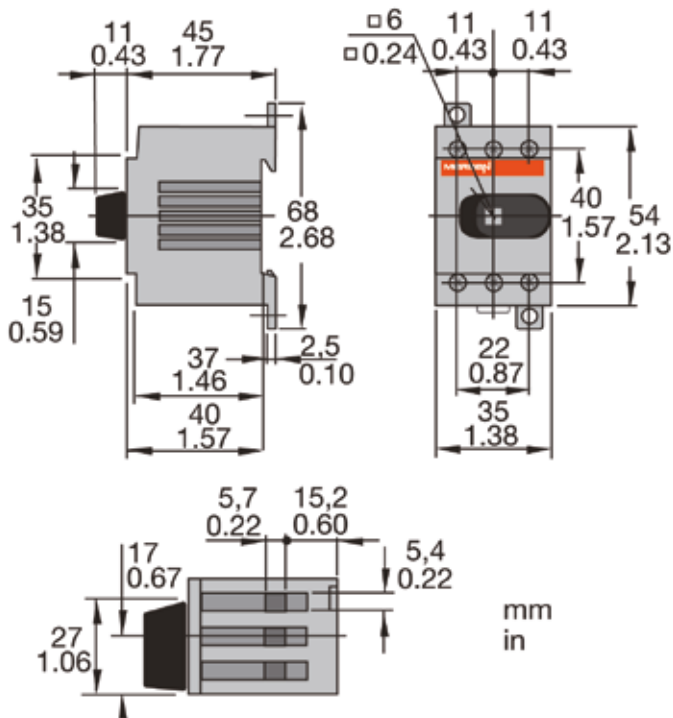
Cat #	Description	Ref #
SA85	Shaft selector handle 6x6x85mm	J1043426
SA105	Shaft select. handle 6x6x105mm	K1043427
SA120	Shaft select. handle 6x6x120mm	L1043428
SA130	Shaft select. handle 6x6x130mm	M1043429
SA250	Shaft pistol handle 6x6x250mm	R1043433
SPA210	Shaft pistol handle 6x6x210mm	P1043431
SPA290	Shaft pistol handle 6x6x290mm	Q1043432
SPA360	Shaft pistol handle 6x6x360mm	W1043920
SPA430	Shaft pistol handle 6x6x430mm	X1043921

Terminal Shrouds

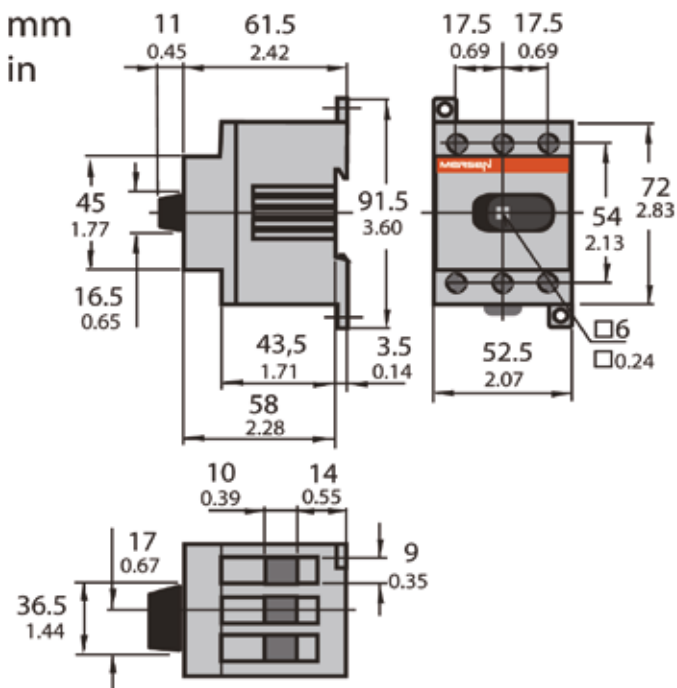
Cat #	Description	Ref #
TS40-1	Term.shrd 40A switch 1p S	B1043442
TS40-3	Term.shrd 40A switch 3p L	C1043443
TS63-1	Term.shrd 63A switch 1p S	D1043444
TS63-3	Term.shrd 63A switch 3p L	E1043445
TS125-1	Term.shrd 125A switch 1p S	F1043446
TS125-3	Term.shrd 25A switch 3p L	G1043447

UL 508 Non-Fusible Disconnect Switches

M163, M253, M403, Front operated



M633-M803, Front operated



UL 98 Non-Fusible Disconnect Switches

UL 98 Non-Fused Switches

Mersen's non-fusible disconnect switches are listed to UL 98 and bear the CE mark as conformance to IEC 60947-3. They are "service entrance" devices that are capable of fully rated load-break and load-make. All switches over 100A have windows to provide visual indication of the contact status. Engineered to have the smallest footprint, these switches also employ a modular design that enables the handle to be placed amongst the poles or at the ends.

A wide range of ergonomic handles are available, as are all manner of accessories, to accommodate multiple applications.

Features/Benefits

- Service entrance rated
- Front or side operation
- Most compact size
- Internally mounted auxiliary contacts
- Flange mounting accessories

Applications:

- Service entrance or main panel disconnects
- "Make and break" power circuit applications on load
- Electrical isolation
- Safety switch



Ratings UL:

Volts : 600VAC
Amps : 30A, 60A, 100A, 200A, 400A, 600A, 800A, 1200A
SCCR : Up to 200kA with fuses
 Suitable as motor disconnect

Ratings IEC:

Volts : 690VAC
Amps : 125A, 160A, 200A, 250A, 315A, 400A, 600A, 800A, 1250A

Catalog Number Designation

		M	32	J	3	0			
Switch	M = Mersen AC Switch MD = Mersen DC Switch								
Ampacity	16 to 1200								
Type	Blank = non-fused UL508 U = non-fused UL98 J = J fused F = NFC fused	E = IEC non-fused CC = CC fused D = DIN fused B = BS-88 fused							
Number of Poles/Left side of Handle	AC: 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: 0, 1, 2,3,4								
Number of Poles/Right side of Handle	AC: Blank = < 200A non-fused, 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: Blank = < 100A, 0, 1, 2, 3, 4								
Revision	Blank = 0								
Special Configurations	S = side-operated CH = Changeover	DM = door-mounting N = Non-fused switched Neutral							

Approvals:

- All UL switches meet the requirements of UL and CSA
- UL listed guide WHTY, File E191605 for UL 98 (ratings from 30 A to 1200 A)
- IEC 60947-3



UL 98 Non-Fusible Disconnect Switches

UL 98 Disconnect Switches



M100U3



M200U30 with HD250 Direct Handle



M200U3

Switch Body

Ampere Rating	30	60	100	200
Base Cat #	M30U3	M60U3	M100U3	M200U
3-pole				12, 30

Direct Front Operation Locking Handle				
	HD125	HD125	HD125	HD250

Handles and Shafts



HSBX



HD250



HB65

External Front Operation				
Selector Style	HSBX	HSBX	HSBX	N/A
Shaft—Lengths: 85, 130, 180, 250 Ex. SA130	SA__	SA__	SA__	N/A
Pistol Style NEMA Type 1, 3R, 12	HB45	HB45	HB45	HB65
NEMA Type 4, 4X	HB45X	HB45X	HB45X	HB65X
Shaft—Lengths: 210, 290, 360, 430 Ex. SPA210	SPA__	SPA__	SPA__	SPA__

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR65

Fourth Poles				
	4P60	4P60	4P125	4P250

Neutral Poles				
	NP60	NP60	NP125	NP250

Accessories



4P40

4P80

4P125

4P250



TS250-1

OA1G10

OA2G11



OA1G01



OEA28

Terminal Shrouds				
3-pole	TS125-3	TS125-3	TS125-3	TS250-13
4-pole	TS125-1	TS125-1	TS125-1	

Auxiliary Contacts				
Normally Open	OA1G01	OA1G01	OA1G01	OA3G01
Normally Closed	OA1G10	OA1G10	OA1G10	OA1G10
NO+NC	OA2G11	OA2G11	OA2G11	
Module for 8 aux. contacts	N/A	N/A	N/A	OEA28

UL 98 Non-Fusible Disconnect Switches

UL Listed Front and Side Operated



M400U30



M600U30



M800U30

Switch Body

Ampere Rating	400	600	800	1200
Standard 3-Pole Cat #	M400U30	M600U30	M800U30	M1200U30

Direct Front Operation Locking Handle

	HD400	HD800	HD800	HD1000
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Handles and Shafts



HD1000

External Front Operation

Pistol Style	NEMA Type 1, 3R, 12	HB125	HB125	HB125	HB274
	NEMA Type 4, 4X	HB125X	HB125X	HB125X	HB274X
Shaft—Lengths: 280, 325, 395 Ex. SFB280		SFB__	SFB__	SFB__	SFB__

B=Black. Substitute 'R' for 'B' if a red handle is desired. Ex. HR125

Fourth Poles

	4P400	4P800	4P800	4P1250
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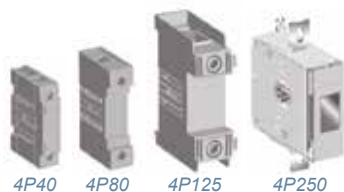
Neutral Poles

	NP400	NP800	NP800	NP1250
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Auxiliary Contacts

Normally Open	OA1G10	OA1G10	OA1G10	OA1G10
Normally Closed	OA3G01	OA3G01	OA3G01	OA3G01
Module for 8 aux. contacts	OEA28	OEA28	OEA28	OEA28

Accessories



4P40

4P80

4P125

4P250



TS250-13

OA1G10



OA3G01



OEA28



UL 98 Non-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	M30U3 30	M60U3 60	M100U3 100	M200Uxx 200
Max. operating voltage			V	600	600	600	600
Max. horsepower rating / motor FLA current	pf= 0.4...0.5 Three phase	240 V	HP/A	10/28.0	20/54.0	30/80.0	75/192.0
		480 V	HP/A	20/27.0	40/52.0	50/65.0	150/180.0
		600 V	HP/A	30/32.0	40/41.0	50/52.0	200/192.0
	Single phase	120 V	HP/A	2/24.0	3/34.0	5/56.0	
240 V		HP/A	5/28.0	7.5/40.0	15/68.0		
Short circuit rating with fuse	Maximum fuse size		A	60	150	150	200 400
	Fuse type	CC	kA				
	Fuse type	J	kA	50	50	50	200 65
	Fuse type	T	kA	50	50	50	
	Fuse type	RK1	kA				
	Fuse type	RK5	kA				
	Fuse type	L	kA				
Fuse type	H	kA					
Maximum General Use, DC ratings							
Current rating		at 250 VDC	A				200
		at 600 VDC	A				100
DC horsepower rating for 4-pole switch		at 600 VDC	HP				50
DC horsepower rating for 2-pole switch	In open air	at 125 VDC	HP				20
	In enclosure ²⁾	at 250 VDC	HP				-
DC short circuit rating for 4-pole switch		with circuit breaker	kA				10
DC short circuit rating for 2-pole switch		with circuit breaker at 250 VDC	kA				14
		with circuit breaker at 600 VDC	kA				10
		with class J fuse at 250 VDC	kA				100
		... with fuse size	A				200
Endurances							
Min. electrical endurance, pf. 0.75...0.8			oper. cycles	6 000	6 000	6 000	6 000
Mechanical endurance			operations	20 000	20 000	20 000	20 000
Terminal lug kits				integral	integral	integral	LUG-200
Wire range			AWG	14-4	14-4	8-1/0	4-300MCM
Torque		Wire tightening	lb. in	55	55	55	275
		Lug mounting					72
Technical data according to IEC 60947-3							
Rated insulation voltage and rated operational voltage AC20/DC20	Pollution degree 3		V	750	750	750	1 000
Dielectric strength		50 Hz 1min.	kV	6	6	6	10
Rated impulse withstand voltage			kV	8	8	8	12
Rated operational current, AC-22A		up to 415 V	A	40	63	100	250
		440...500 V	A	40	63	100	250
		690 V	A	40	63	100	250
Rated operational current, AC-23A		up to 415 V	A	40	63	80	250
		440 V	A	40	63	65	250
		500 V	A	40	63	60	250
		690 V	A	40	40	40	250
Rated conditional short-circuit current I _p (r.m.s.) and corresponding max. allowed cut-off current I _c . The cut-off current I _c refers to values listed by fuse manufacturers	I _p (r.m.s.)	50 kA	kA	16.5	16.5	16.5	
	Max. OFA_fuse size gG/aM	415 V	A	125/125	125/125	125/125	
	I _p (r.m.s.)	10 kA	kA	8.2	8.2	8.2	
(single phase test acc. to IEC60269)	Max. OFA_fuse size gG/aM	690 V	A	125/100	125/100	125/100	
	I _p (r.m.s.)	50 kA	kA	10	10	10	35
	Max. OFA_fuse size gG/aM	690 V	A	63/63	63/63	63/63	355/315
		at prospective SC-current	kA				40.5
		Max. OFA_fuse size gG/aM	A				355/315
Rated short-time withstand current	r.m.s. -value I _{sw}	690 V, 1 s	kA	2.5	2.5	2.5	8
Rated short circuit making capacity	Peak value I _{sm}	690 V/500 V	A	3.6	3.6	3.6	30
Power loss / pole		At rated operational current	W	0.7	1.6	4.0	6.5
Mechanical endurance		Divide by two for operation cycles	Oper.	20 000	20 000	20 000	20 000
Weight without accessories		3-pole	kg	0.36	0.36	0.36	1.2
		4-pole	kg	0.50	0.50	0.50	1.5

1) UL Listed switches are also CSA Approved.

2) Fuse size 70A for RK5.

UL 98 Non-Fusible Disconnect Switches

Technical Data UL 98 Products

Technical data according to UL/cULus									
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C	A	400	600	M800U 800	M1200U 1200	M1600U 1600	
Max. operating voltage			V	600	600	600	600	600	
Max. horsepower rating / motor FLA current	pf= 0.4...0.5 Three phase	240 V	HP/A	125/312.0	200/480.0	200/602	200/602	200/602	
		480 V	HP/A	250/302.0	450/515.0	500/590	500/590	500/590	
		600 V	HP/A	350/338.0	500/472.0	500/472	500/472	500/472	
	Single phase	120 V	HP/A						
		240 V	HP/A						
Short circuit rating with fuse	Maximum fuse size		A	600	600	800	800	1200	1600
	Fuse type	CC	kA						
	Fuse type	J	kA	100	100				
	Fuse type	T	kA		100				
	Fuse type	RK1	kA						
	Fuse type	RK5	kA		100				
	Fuse type	L	kA		100	100	100	100	100
Fuse type	H	kA							
Maximum General Use, DC ratings									
Current rating		at 250 VDC	A	400	600				
		at 600 VDC	A	200	200				
DC horsepower rating for 4-pole switch		at 600 VDC	HP	50	-				
DC horsepower rating for 2-pole switch	In open air	at 125 VDC	HP	40	-				
	In enclosure ²⁾	at 250 VDC	HP	50	50				
DC short circuit rating for 4-pole switch		with circuit breaker	kA	10	10				
		with circuit breaker at 250 VDC	kA	14	18				
DC short circuit rating for 2-pole switch		with circuit breaker at 600 VDC	kA	10	10				
		with class J fuse at 250 VDC	kA	100	100				
		... with fuse size	A	400	500				
Endurances									
Min. electrical endurance, pf. 0.75...0.8			oper. cycles	1 000	1 000	500	500	500	
Mechanical endurance			operations	16 000	10 000	6000	6000	4000	
Terminal lug kits				LUG400	LUG800	LUG800	LUG1200	LUG1200	
Wire range			AWG	2 - 600MCM	2 x 2 - 600MCM	2 x 2 - 600MCM	4 x 2 - 600MCM	4 x 2 - 600MCM	
Torque		Wire tightening	lb. in	375	55	500	500	375	
		Lug mounting		240	480	480	450-670	230	
Technical data according to IEC 60947-3									
Rated insulation voltage and rated operational voltage AC20/DC20	Pollution degree 3		V	1000	1000	1000	1000	1000	
Dielectric strength		50 Hz 1min.	kV	10	10	10	10	8	
Rated impulse withstand voltage			kV	12	12	12	12	8	
Rated operational current, AC-22A		up to 415 V	A	400	800	1600	1600	1600	
		440...500 V	A	400	800	1600	1600	1600	
		690 V	A	400	800	1600	1600	1600	
Rated operational current, AC-23A		up to 415 V	A	400	800	1250	1250	800	
		440 V	A	400	800	1250	1250	800	
		500 V	A	400	800	1250	1250	800	
		690 V	A	400	800	1250	1250	800	
Rated conditional short-circuit current I _p (r.m.s.) and corresponding max. allowed cut-off current I _c . The cut-off current I _c refers to values listed by fuse manufacturers	I _p (r.m.s.)	50 kA	kA					105	
	Max. OFA_fuse size gG/aM	415 V	A						
	I _p (r.m.s.)	50 kA	kA					105	
	Max. OFA_fuse size gG/aM	690 V	A						
(single phase test acc. to IEC60269)	I _p (r.m.s.)	50 kA	kA	50.5	71.5			105	
	Max. OFA_fuse size gG/aM	690 V	A	500/500	800/1 000				
	at prospective SC-current	80 kA	kA	59	83.5				
	Max. OFA_fuse size gG/aM	690 V	A	500/500	800/1 000				
Rated short-time withstand current	r.m.s. -value I _{sw}	690 V, 1 s	kA	15	20	50	50	50	
Rated short circuit making capacity	Peak value I _{cm}	690 V/500 V	A	65	80	110	110	105	
Power loss / pole		At rated operational current	W	10	40	29	48	67	
Mechanical endurance		Divide by two for operation cycles	Oper.	26 000	10 000				
Weight without accessories		3-pole	kg	2.2	5.2	15.2	15.2	17.2	
		4-pole	kg	2.8	6.4				

1) UL Listed switches are also CSA Approved.

2) Fuse size 70A for RK5.

UL 98 Non-Fusible Disconnect Switches

UL 98 Non-Fused switches, front-operated

Cat #	Description	Ref #
M30U3	UL98 Switch 30A 3p	Z1043348
M60U3	UL98 Switch 60A 3p	A1043349
M100U3	IEC UL98 Switch 100A 3p	F1043193
M200U30	UL98 Switch 200A 3p	Q1043179
M400U30	UL98 Switch 400A 3p	R1043180
M600U30	UL98 Switch 600A 3p	S1043181
M800U30	UL98 Switch 800A 3p	W1043184
M1200U30	UL98 Switch 1200A 3p	Z1043187

Other Accessories

Cat #	Description	Ref #
OA1G01	Auxiliary Contact NO Right	N1043476
OA1G10	Auxiliary Contact NC left	P1043477
OA2G11	Aux. Contact NO+NC Switch 125A	Q1043478
OA3G01	Aux.Contact NC Switch160-2500A	R1043479
OA4B1C	Aux.Contact 1+1 SF 40A	K1043473
OSZ4	Mounting plate OA1G10/OA3G01	L1043474
OEA28	Module for SF aux. contacts	M1043475
4P125	Fourth pole for M125 NF switches	W1043483
4P250	Neutral pole for M250 NF switches	A1043487
4P400	Neutral pole for M400 NF switches	B1043488
4P800	Neutral pole for M800 NF switches	C1043489
4P1250	Neutral pole for M1250 NF switches	D1043490
4P1600	Neutral pole for M1600 NF switches	E1043491
4P2500	Neutral pole for M2500 NF switches	F1043492

Shafts

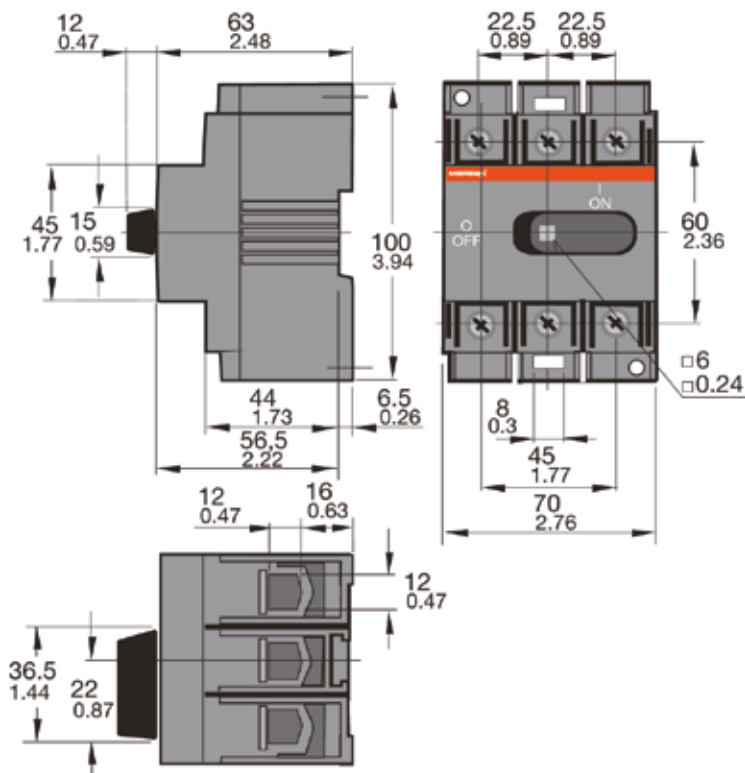
Cat #	Description	Ref #
SFB280	Shaft SwitchFuse 12x12x280mm	F1043423
SFB325	Shaft SwitchFuse 12x12x325mm	G1043424
SFB395	Shaft SwitchFuse 12x12x395mm	H1043425
SA85	Shaft selector handle 6x6x85mm	J1043426
SA105	Shaft select. handle 6x6x105mm	K1043427
SA120	Shaft select. handle 6x6x120mm	L1043428
SA130	Shaft select. handle 6x6x130mm	M1043429
SA180	Shaft select. handle 6x6x180mm	N1043430
SA250	Shaft pistol handle 6x6x250mm	R1043433
SPA210	Shaft pistol handle 6x6x210mm	P1043431
SPA290	Shaft pistol handle 6x6x290mm	Q1043432
SPA360	Shaft pistol handle 6x6x360mm	W1043920
SPA430	Shaft pistol handle 6x6x430mm	X1043921

Handles

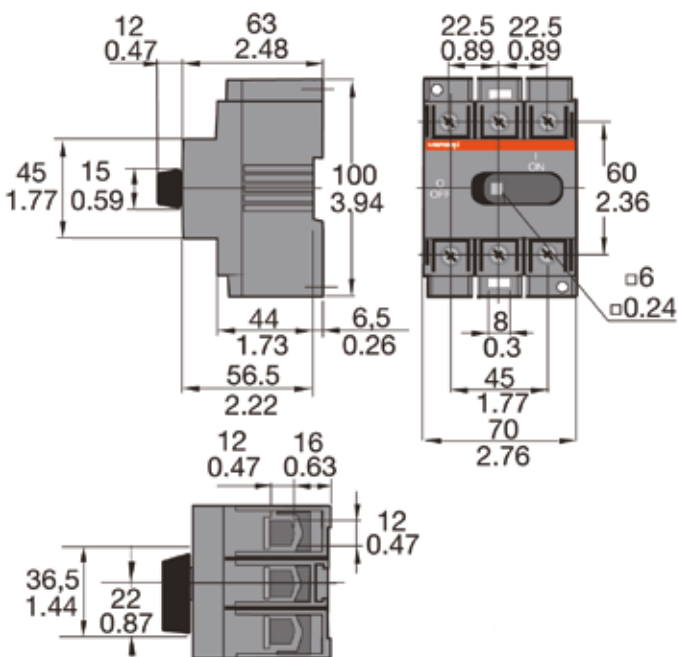
Cat #	Description	Ref #
HD125	Handle direct Switch 125A	K1043404
HD250	Handle direct Switch 250A	W1043391
HD400	Handle direct Switch 400A	X1043392
HD800	Handle direct Switch 800A	Y1043393
HD1000	Handle direct Switch 1000A	J1043403
HSBX	Handle selector black	M1043406
HSRX	Handle selector red	N1043407
HB45	Handle black45mm IP65 NEMA 3R	L1043911
HB45X	Handle black 45mm IP65 NEMA 4X	M1043912
HB65	Handle black65mm IP65 NEMA 3R	W1043368
HB65X	Handle black 65mm IP65 NEMA 4X	X1043369
HB80	Handle black 80mm IP65 NEMA 3R	Y1043370
HB80X	Handle black 80mm IP65 NEMA 4X	Z1043371
HB95	Handle black 95mm IP65 NEMA 3R	N1043913
HB95X	Handle black 95mm IP65 NEMA 4X	P1043914
HB125	Handle black125mm IP65 NEMA 3R	A1043372
HB125X	Handle black125mm IP65 NEMA 4X	B1043373
HB145	Handle black145mm IP65 NEMA 3R	C1043374
HB145X	Handle black145mm IP65 NEMA 4X	D1043375
HB274	Handle black274mm IP65 NEMA 3R	D1043398
HB274X	Handle black274mm IP65 NEMA 4X	E1043376
HB330	Handle black330mm IP65 NEMA 3R	E1043399
HB330X	Handle black330mm IP65 NEMA 4X	F1043377
HR45	Handle red 45mm IP65 NEMA 3R	Q1043915
H45X	Handle red 45mm IP65 NEMA 4X	R1043916
HR65	Handle red 65mm IP65 NEMA 3R	G1043378
HR65X	Handle red 65mm IP65 NEMA 4X	H1043379
HR80	Handle red 80mm IP65 NEMA 3R	F1043400
HR80X	Handle red 80mm IP65 NEMA 4X	J1043380
HR95	Handle red 95mm IP65 NEMA 3R	S1043917
HR95X	Handle red 95mm IP65 NEMA 4X	T1043918
HR125	Handle red 125mm IP65 NEMA 3R	K1043381
HR125X	Handle red125mm IP65 NEMA 4X	L1043382
HR145	Handle red 145mm IP65 NEMA 3R	M1043383
HR145X	Handle red 145mm IP65 NEMA 4X	N1043384
HR274	Handle red 274mm IP65 NEMA 3R	G1043401
HR330	Handle red 330mm IP65 NEMA 3R	H1043402

UL 98 Non-Fusible Disconnect Switches

M30U3, M60U3, Front operated

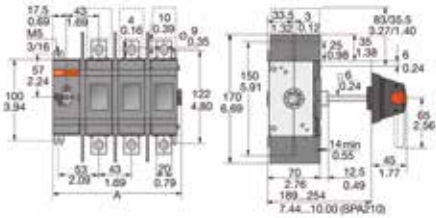


M100U3-M125E3, Front operated

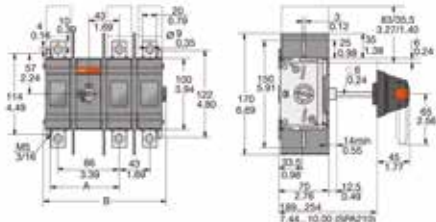
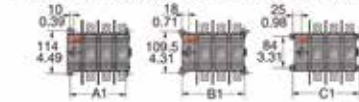


UL 98 Non-Fusible Disconnect Switches

M200Ux, Front operated



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



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

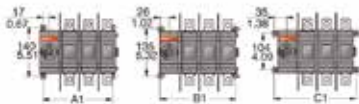
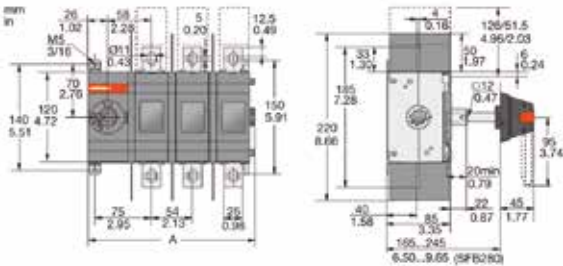


	M200U			
	U01 mm/in	U02 mm/in	U03 mm/in	U04 mm/in
A	83.5 / 3.24	126.5 / 4.98	169.5 / 6.67	212.5 / 8.37
A1	63 / 2.48	106 / 4.17	149 / 5.87	192 / 7.56
B1	79 / 3.11	122 / 4.80	165 / 6.50	208 / 8.19
C1	93 / 3.66	136 / 5.35	179 / 7.05	222 / 8.74

	M200U			
	U11/E11W mm/in	U12/E12W mm/in	U13/E13W mm/in	U22/E22W mm/in
A	96 / 3.78	96 / 3.78	96 / 3.78	139 / 5.47
B	131.5 / 5.18	174.5 / 6.87	217.5 / 8.56	217.5 / 8.56
A1	106 / 4.17	149 / 5.87	192 / 7.56	192 / 7.56
A2	53 / 2.09	53 / 2.09	53 / 2.09	96 / 3.78
B1	122 / 4.80	165 / 6.50	208 / 8.19	208 / 8.19
B2	61 / 2.40	61 / 2.40	61 / 2.40	104 / 4.09
C1	136 / 5.35	179 / 7.05	222 / 8.74	222 / 8.74
C2	68 / 2.69	68 / 2.68	68 / 2.68	111 / 4.37

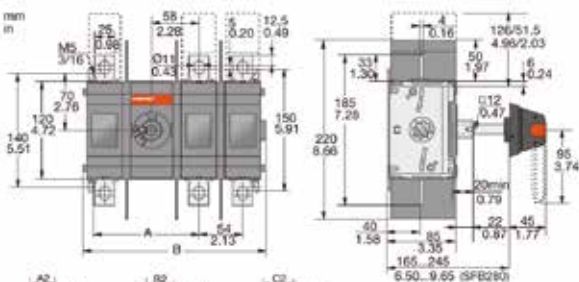
M400U, Front operated

M400U, 03 or 30 configuration



	M400U			
	U01/U10 mm/in	U02/U20 mm/in	U03/U30 mm/in	U04/U40 mm/in
A	113 / 4.45	167 / 6.58	221 / 8.70	275 / 10.83
A1	88 / 3.47	142 / 5.59	196 / 7.72	250 / 9.84
B1	106 / 4.17	160 / 4.17	214 / 8.43	268 / 10.55
C1	124 / 4.88	178 / 7.01	232 / 9.13	286 / 11.27

M400U, 11 or 22 configuration

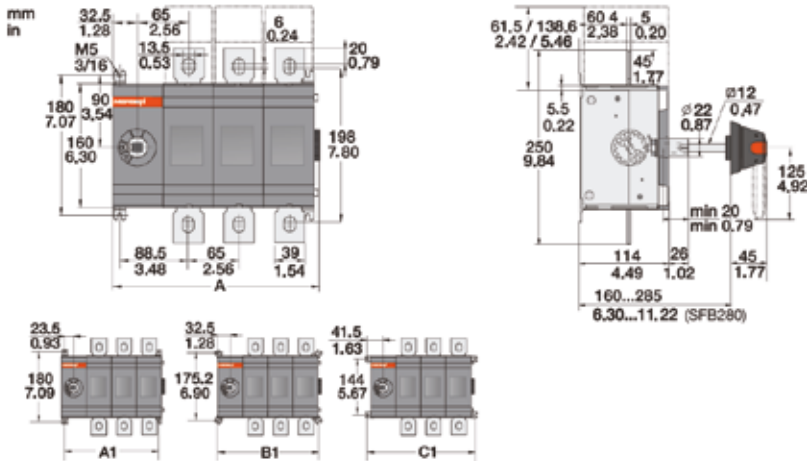


	M400U			
	U11 mm/in	U12 mm/in	U13 mm/in	U22 mm/in
A	129 / 5.08	129 / 5.08	129 / 5.08	183 / 7.21
B	172 / 6.77	226 / 8.90	280 / 11.02	280 / 11.02
A1	142 / 5.59	196 / 7.72	250 / 9.84	250 / 9.84
A2	71 / 2.80	71 / 2.80	71 / 2.80	125 / 4.92
B1	160 / 6.30	214 / 8.43	268 / 10.55	268 / 10.55
B2	80 / 3.15	80 / 3.15	80 / 3.15	134 / 5.28
C1	178 / 7.01	232 / 9.13	286 / 11.26	286 / 11.27
C2	89 / 3.50	89 / 3.50	89 / 3.50	143 / 5.63

UL 98 Non-Fusible Disconnect Switches

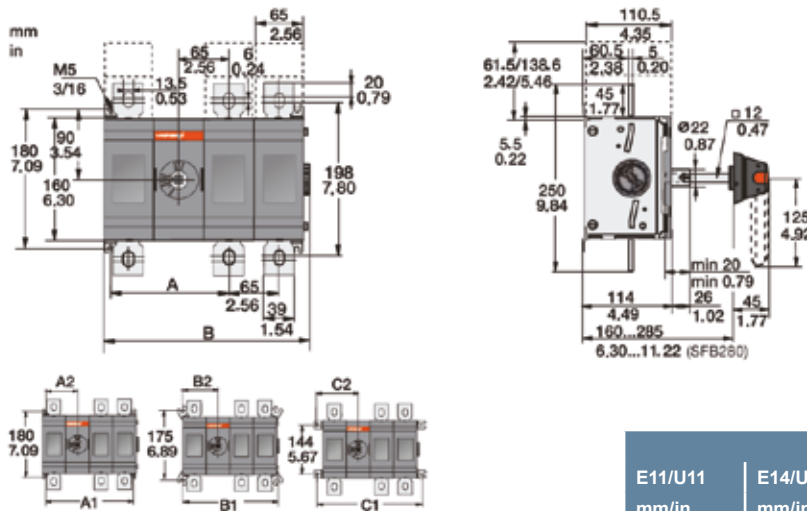
M600-800x, Front operated

M600x - 800x 03 or 30 configurations



M600U, 630E, 800x				
	E01/U01	E02/U02	E03/U03	E04/U04
	mm/in	mm/in	mm/in	mm/in
A	136 / 5.35	201 / 7.91	266 / 10.47	331 / 13.03
A1	112 / 4.41	177 / 6.97	242 / 9.53	307 / 12.09
B1	130 / 5.12	195 / 7.68	260 / 10.24	325 / 12.80
C1	148 / 5.83	213 / 8.39	278 / 10.95	343 / 13.50

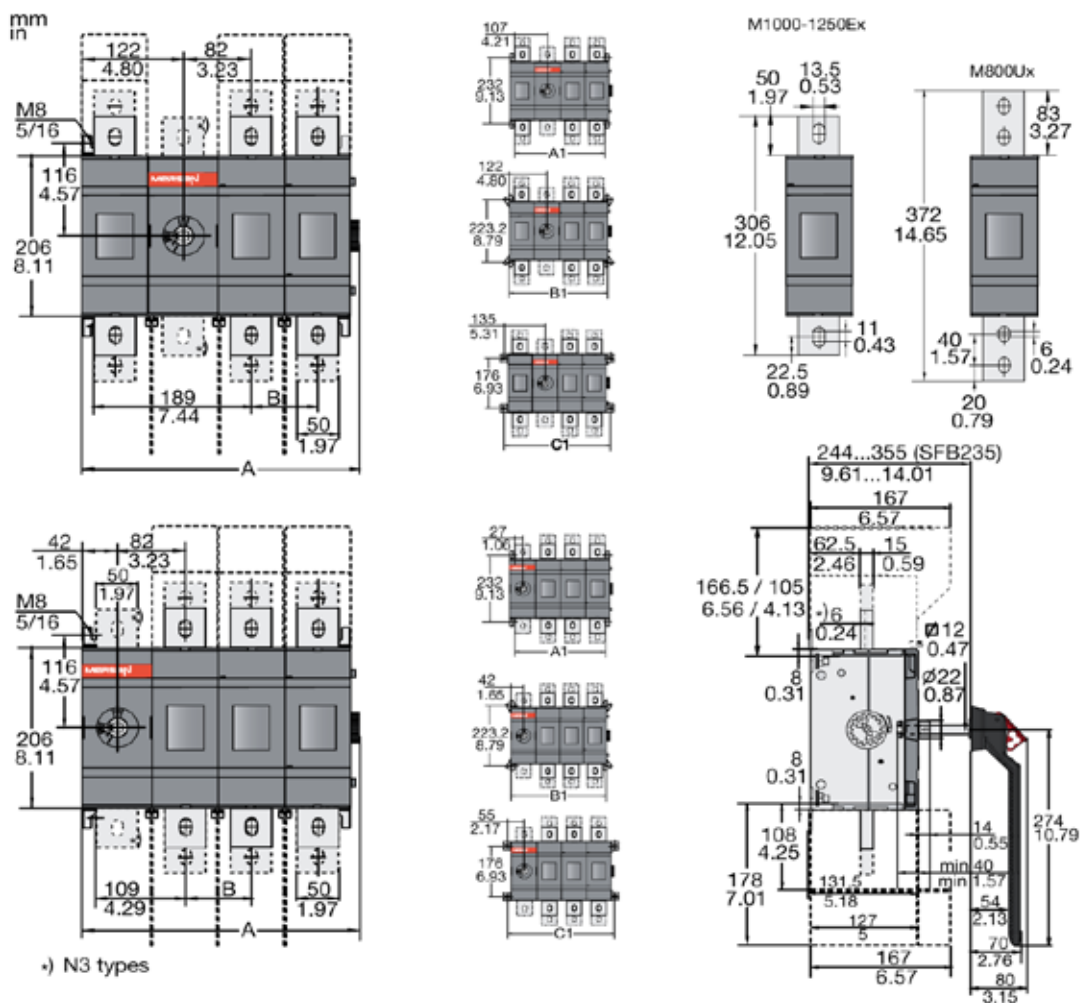
M600x - 800x 11 to 22 configurations



M600U, 630E, 800x						
	E11/U11	E14/U14	E131/U13	E22/U22	E23/U23	E33/U33
	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in
A	153.5 / 6.04	153.5 / 6.04	153.5 / 6.04	218.5 / 8.60	218.5 / 8.60	283.5 / 11.16
B	201 / 7.91	266 / 10.47	331 / 13.03	331 / 13.03	396 / 15.59	461 / 18.15
A1	177 / 6.97	242 / 9.53	307 / 12.09	307 / 12.09	372 / 14.65	437 / 17.20
A2	88.5 / 3.48	88.5 / 3.48	88.5 / 3.48	153.5 / 6.04	153.5 / 6.04	218.5 / 8.60
B1	195 / 7.68	260 / 10.24	325 / 12.80	325 / 12.80	390 / 15.35	455 / 17.91
B2	97.5 / 3.84	97.5 / 3.84	97.5 / 3.84	162.5 / 6.40	162.5 / 6.40	227.5 / 8.96
C1	213 / 8.39	278 / 10.94	343 / 13.50	343 / 13.50	408 / 16.06	473 / 18.62
C2	106.5 / 4.19	106.5 / 4.19	106.5 / 4.19	171.5 / 6.75	171.5 / 6.75	236.5 / 9.31

UL 98 Non-Fusible Disconnect Switches

M800U, M1000U, M1200U, front operated



	M1000/1250/1600Ex M800U/1200U							
	01	02	03	04	11	12	13	22
	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in	mm/in
A	174.50 / 6.87	254.50 / 10.02	334.50 / 13.17	414.50 / 16.32	254.50 / 10.02	334.50 / 13.17	414.50 / 16.32	414.50 / 16.32
B		80 / 3.15	80 / 3.15	80 / 3.15		80 / 3.15	80 / 3.15	80 / 3.15
A1	134 / 5.28	214 / 8.43	294 / 11.57	374 / 14.72	214 / 8.43	294 / 11.57	374 / 14.72	374 / 14.72
B1	164 / 6.46	244 / 9.61	324 / 12.76	404 / 15.91	244 / 9.61	324 / 12.76	404 / 15.91	404 / 15.91
C1	190 / 7.48	270 / 10.63	350 / 13.78	430 / 16.93	270 / 10.63	350 / 13.78	430 / 16.93	430 / 16.93

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 are available, as are all manner of accessories.

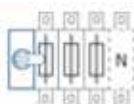
Highlights:

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

Applications:

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

Configurations



At the end of the switch fuse
Mxxx03, 04, 30,
or 40, S, N



Between the poles
Mxxx12,
22, 22N, S



Side operated types Mxxx03,
04, 30, or 40,
S, N

Catalog Number Designation

		M	30	J	3	0	—	S	
Switch	M = Mersen AC Switch MD = Mersen DC Switch								
Ampacity	16 to 1200								
Type	Blank = non-fused UL508 U = non-fused UL98 J = J fused F = NFC fused	E = IEC non-fused CC = CC fused D = DIN fused B = BS-88 fused						L = L Fused	
Number of Poles/Left side of Handle	AC: 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: 0, 1, 2,3,4								
Number of Poles/Right side of Handle	AC: Blank = < 200A non-fused, 0, 1, 2, 3, 3N, 4, etc. (N = neutral) DC: Blank = < 100A, 0, 1, 2, 3, 4								
Revision	Blank = 0								
Special Configurations	S = side-operated CH = Changeover	DM = door-mounting N = Non-fused switched Neutral							



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

Ratings IEC:

Volts : 690VAC
Amps : 25, 50, 63, 125, 160, 200, 250, 400, 630, 800, and 1250A

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 Cat #	M30	M60	M100	M200
Fuse Type	CC, J	J	J	J
3-pole Configuration	12, 30S	12, 30, 30S	30, 30S	30

S = Side operated
(Direct Side Operated Handles are included with 'S' option)

Handles



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	HB65	HB65
NEMA 4, 4X	HB45X	HB65X	HB65X	HB65X

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

Shafts

Shaft	SPA__	SPA__	SPA__	SPA__
Lengths:	210, 290, 360, 430 Ex. SPA210			

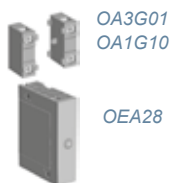
Shafts



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	Not needed
Module for 8 aux. contacts	OEA28	OEA28	OEA28	OEA28

Accessories



UL 98 Fusible Disconnect Switches

Front and Side Operated



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

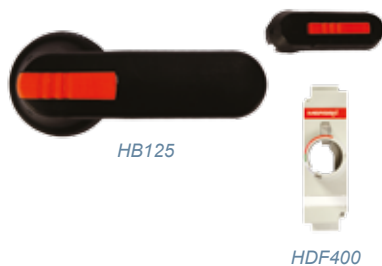


M800L30
800A, L fused, with 3 poles on left side of handle

Switch Body

Ampere Rating	400	600	800	1200
Base Cat #	M400	M600	M800	M1200
Fuse Type	J	J	L	L
3-pole Configuration	30	30	30	30

Handles



HB125

HDF400

Direct Front Operation

	HDF400	HDF800T	HDF800T	HDF1250T
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External Front Operation - Pistol Style

NEMA Type 1, 3R, 12, IP65	HB125	HB145	HB274	HB274
NEMA Type 4, 4X	HB125X	HB145X	HB274X	HB274X

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

Shafts

Shaft	SFB__	SFB__	SFB__	SFB__
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Lengths: 280, 325, 395mm Ex. SFB280

Shafts



SA105

Auxiliary Contacts

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

Accessories



OA1G01
OA1G10

OEA28

TSF400-14

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/CC	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	30/355)	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 ¹⁾	In enclosure ²⁾		A/W	32/3.5	63/7.5	160/10, 135/12	200/15
...with minimum cable cross section		Cu	mm ²	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-233)	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 ²	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 fuse links 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 / max. fuse power dissipation ¹⁾	In open air		A/W	400/45	630/60	800/65	1250/110
	In enclosure ²⁾		A/W	400/30	570/50	720/55	1000/85
...with minimum cable cross section		Cu	mm ²	240	2x185	2x240	2x400
Rated operational current, AC-23A		up to 500 V	A	400	630	800	1000 *)
		690 V	A	400	630	800	1000 *)
Rated operational power, AC-233)	The kW-ratings are accurate for three-phase 1500 R.P.M. standard asynchronous motors.	230 V	kW	132	200	250	315 *)
		400 V	kW	220	355	450	560 *)
		415 V	kW	230	355	450	560 *)
		500 V	kW	280	450	560	710 *)
		690 V	kW	400	630	710	1000 *)
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 ²				
Terminal bolt size (included)	Metric thread diameter x length		mm	M10x30	M12x40	M12x40	M12x50
Fuse-links bolts tightening torque			Nm	20	40	40	40

*) = 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 fuse links 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

Cat #	Description	Ref #	Weight	Pkg
M30CC12	Fused switch, 30A, CC, 1+2 pos.	S1043250	0.7	1
M30J12	Fused switch, 30A, J, 1+2 pos.	V1043252	0.7	1
M60J12	Fused switch, 60A, J, 1+2 pos.	X1043254		1
M60J30	Fused switch, 60A, J, 3-p on L	Y1043255		1
M100J30	Fused switch, 100A, J, 3-p on L	A1043257	1.5	1
M200J30	Fused switch, 200A, J, 3-p on L	C1043259	3	1
M400J30	Fused switch, 400A, J, 3-p on L	D1043260	7.3	1
M600J30	Fused switch, 600A, J, 3-p on L	E1043261	13.6	1
M800L30	Fused switch, 800A, L, 3-p on L	F1043262	13	1
M1200L30	Fused switch, 1200A, L, 3-p on L	G1043263	31.00	1

UL-Listed Fused Switches - Side-Operated

Cat #	Description	Ref #	Weight	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

Weight in kg without packaging.

Shafts

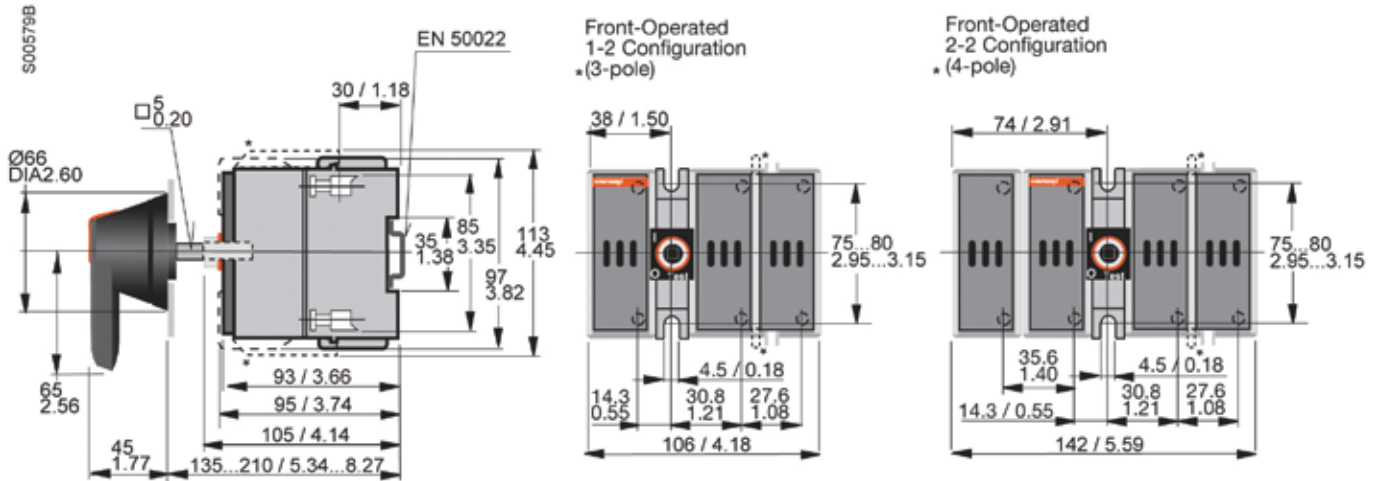
Cat #	Description	Ref #	Weight	Pkg
SFB280	Shaft SwitchFuse 12x12x280mm	F1043423	0.31	1
SFB325	Shaft SwitchFuse 12x12x325mm	G1043424	0.41	1
SFB395	Shaft SwitchFuse 12x12x395mm	H1043425	0.45	1
SPA210	Shaft pistol handle 6x6x210mm	P1043431	0.11	1
SPA290	Shaft pistol handle 6x6x290mm	Q1043432	0.14	1
SPA360	Shaft pistol handle 6x6x360mm	W1043920		1
SPA430	Shaft pistol handle 6x6x430mm	X1043921		1

Handles

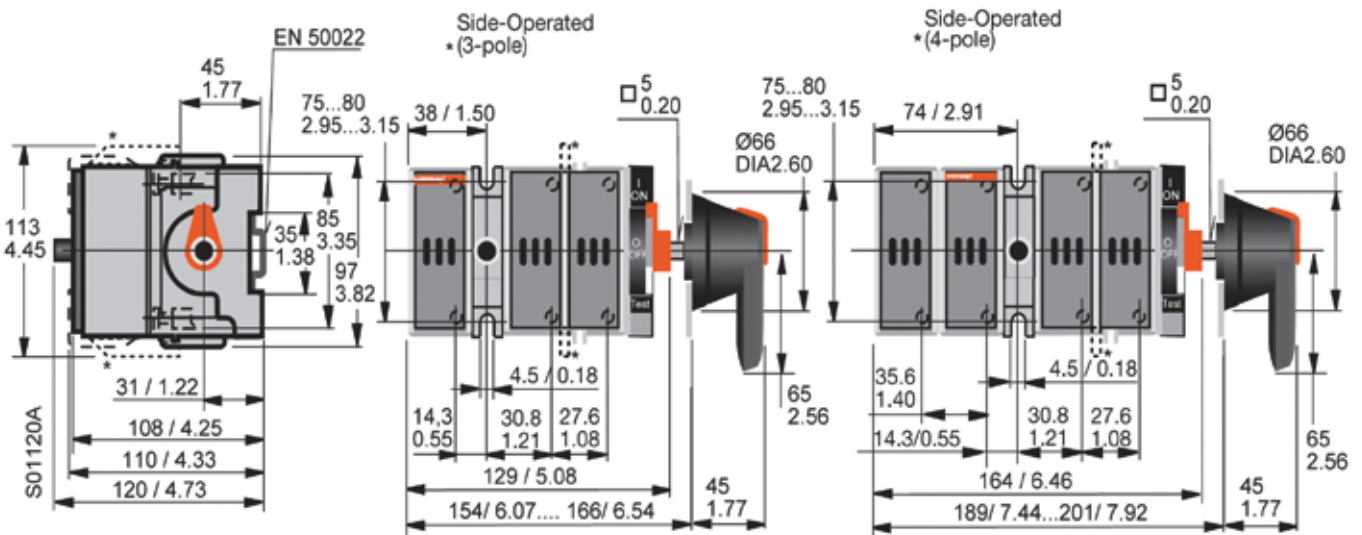
Cat #	Description	Ref #	Weight	Pkg
HDF30	Handle direct SF 40A max	P1043408	0.05	1
HDF200	Handle direct SF 200A	P1043385	0.14	1
HDF400	Handle direct SF 400A	Q1043386	0.33	1
HDF800T	Handle dir. SF 800A butterfly	R1043387	1.1	1
HDF1250T	Handle dir. SF 1250A butterfly	S1043388	1.5	1
HDF250T	Handle dir. SF 250A butterfly	T1043389	0.16	1
HDF400T	Handle dir. SF 400A butterfly	V1043390	0.34	1
HB45	Handle black45mm IP65 NEMA 3R	L1043911	0.10	1
HB45X	Handle black 45mm IP65 NEMA 4X	M1043912	0.10	1
HB65	Handle black65mm 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 black125mm IP65 NEMA 3R	A1043372	0.16	1
HB125X	Handle black125mm IP65 NEMA 4X	B1043373	0.12	1
HB145	Handle black145mm IP65 NEMA 3R	C1043374	0.17	1
HB145S	Handle black 145mm Right Side	B1044362	0.15	1
HB145X	Handle black145mm IP65 NEMA 4X	D1043375	0.17	1
HB274	Handle black274mm IP65 NEMA 3R	D1043398	0.515	1
HB274X	Handle black274mm IP65 NEMA 4X	E1043376	0.515	1
HB330	Handle black330mm IP65 NEMA 3R	E1043399	0.55	1
HB330X	Handle black330mm IP65 NEMA 4X	F1043377	0.55	1
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 red125mm 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

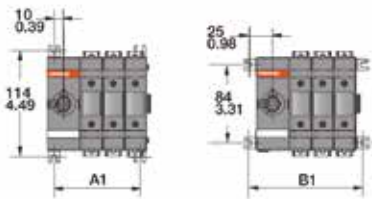
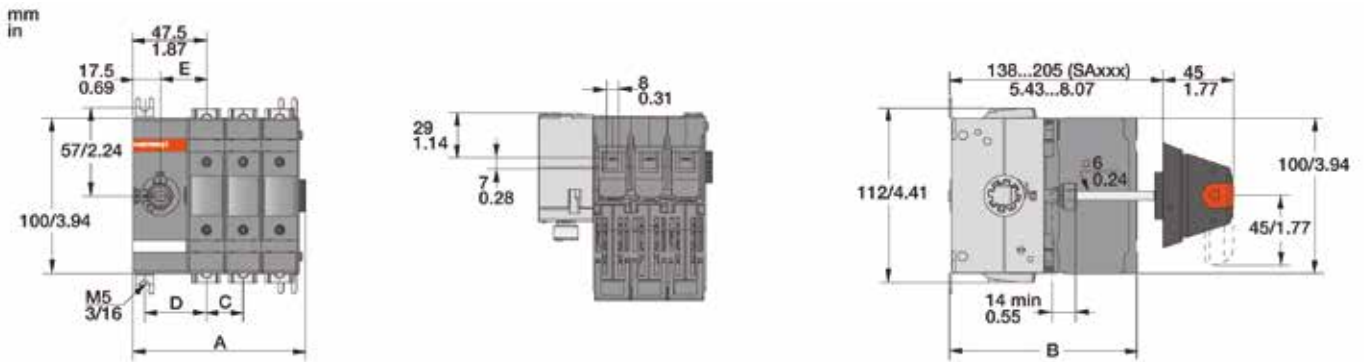


M30CC, M30J Side operated



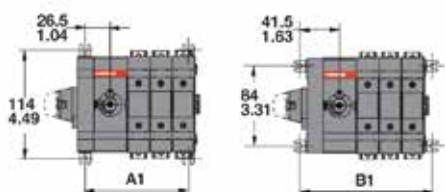
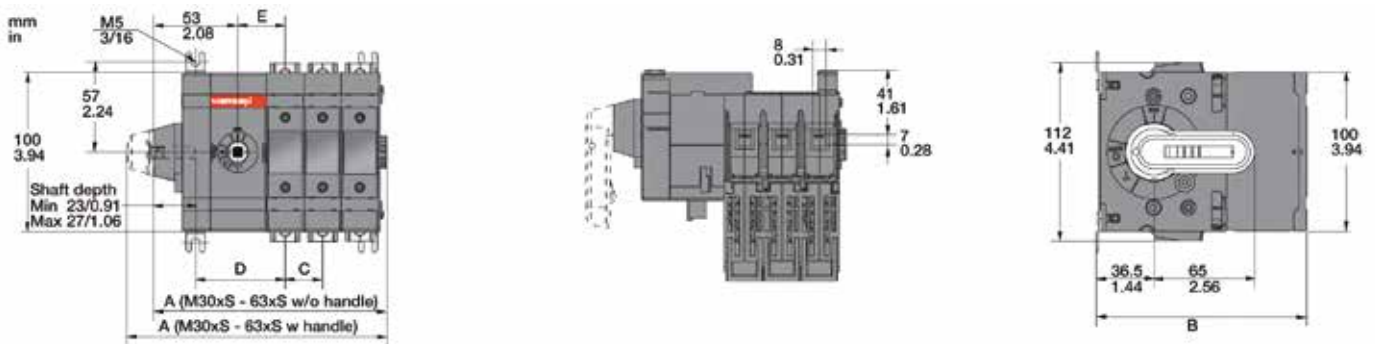
UL 98 Fusible Disconnect Switches

M60J, Front operated



M60Jx Class J 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

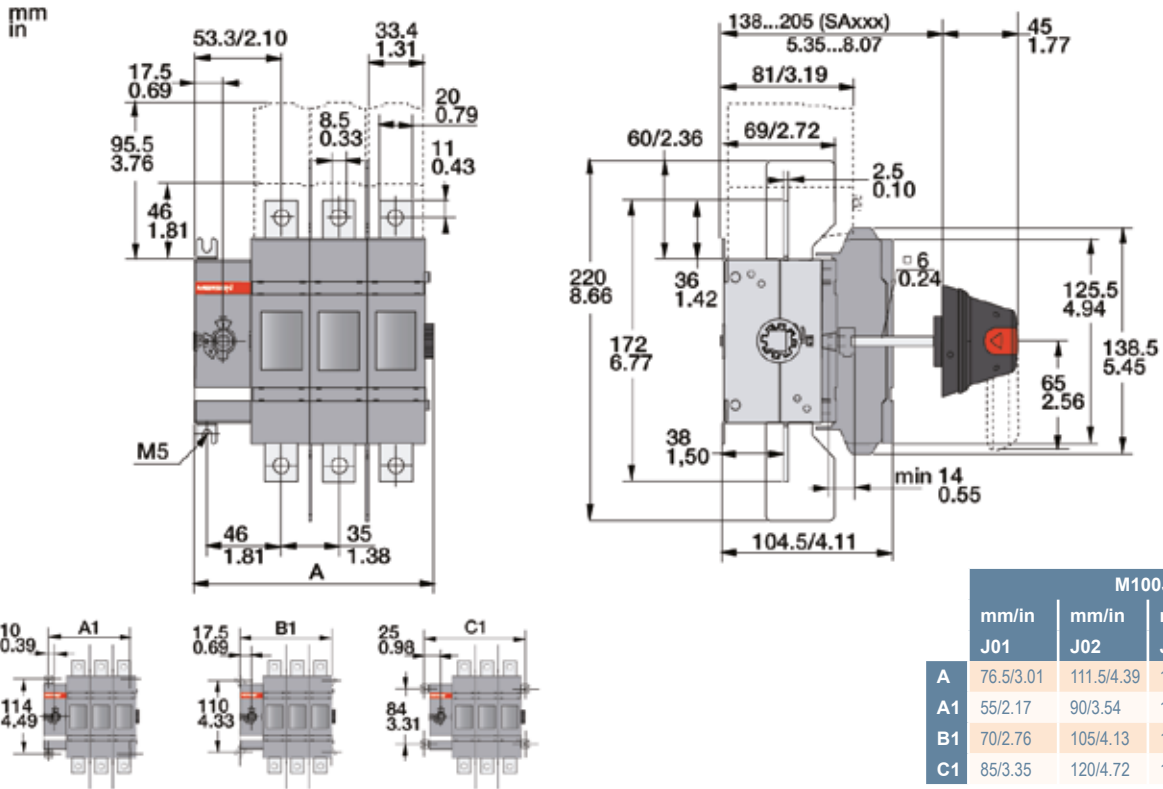
M60J, Side operated



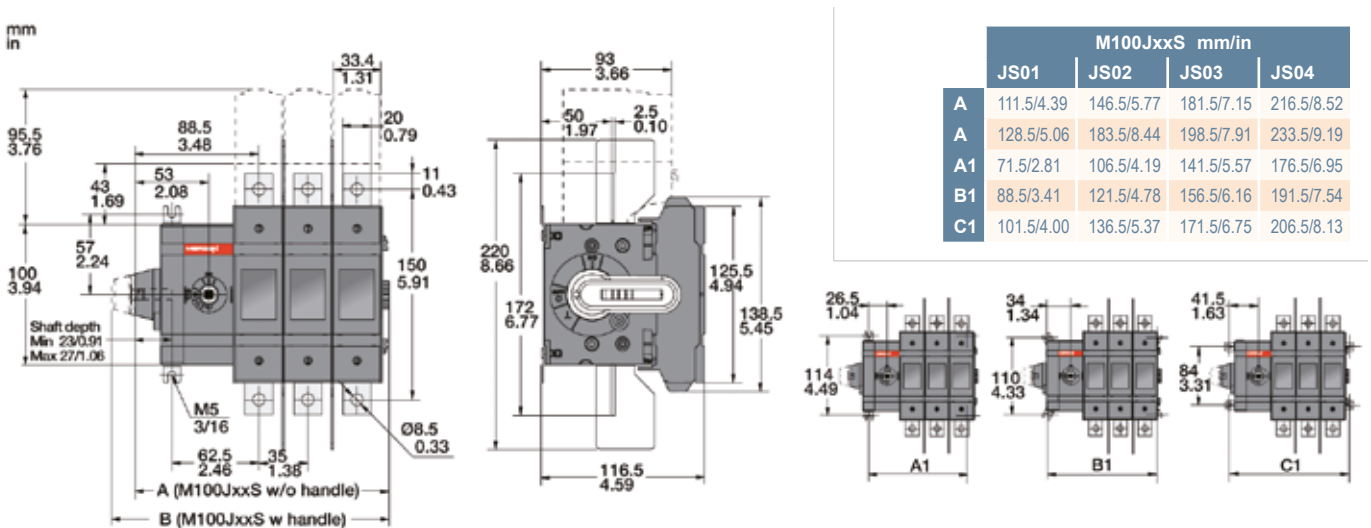
M60JxxS mm/in				
	JS01	JS02	JS03	JS04
A	109.5/4.31	144.5/5.69	179.5/7.07	214.5/8.44
B	130/5.12	130/5.12	130/5.12	130/5.12
C	-	35/1.38	35/1.38	35/1.38
D	62/2.44	62/2.44	62/2.44	62/2.44
E	36/1.41	36/1.41	36/1.41	36/1.41
F	126.5/4.98	161.5/6.36	196.5/7.74	231.5/9.11
A1	67.5/2.56	81.5/3.21	137.5/5.41	172.5/6.79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

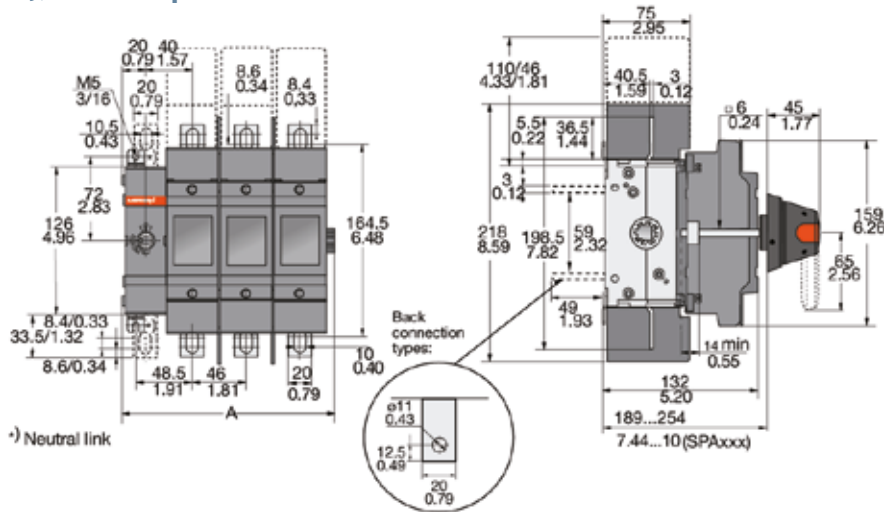


M100J, side operated



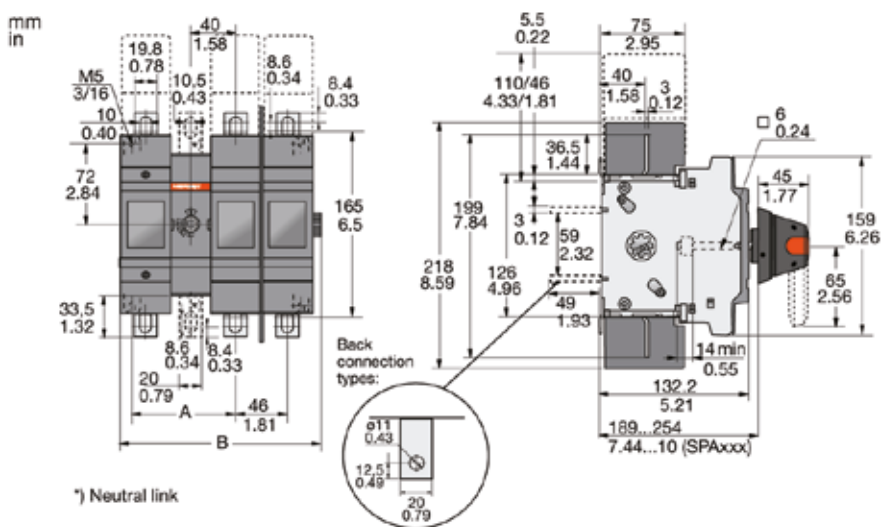
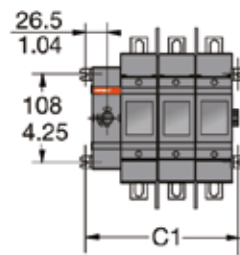
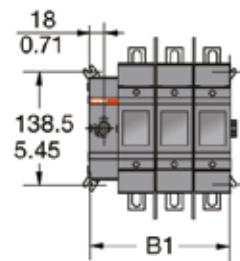
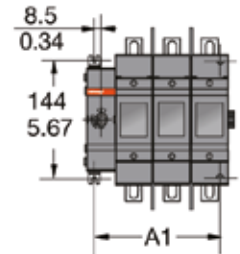
UL 98 Fusible Disconnect Switches

M200J, Front operated



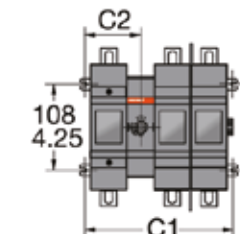
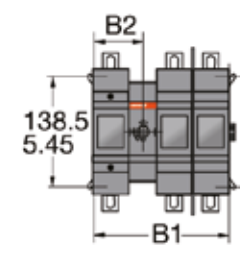
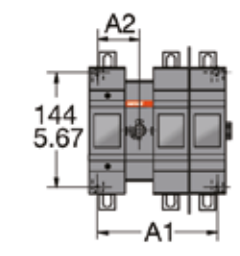
Class J fuse types, 1-1 to 2-2 configurations
M200xx

	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



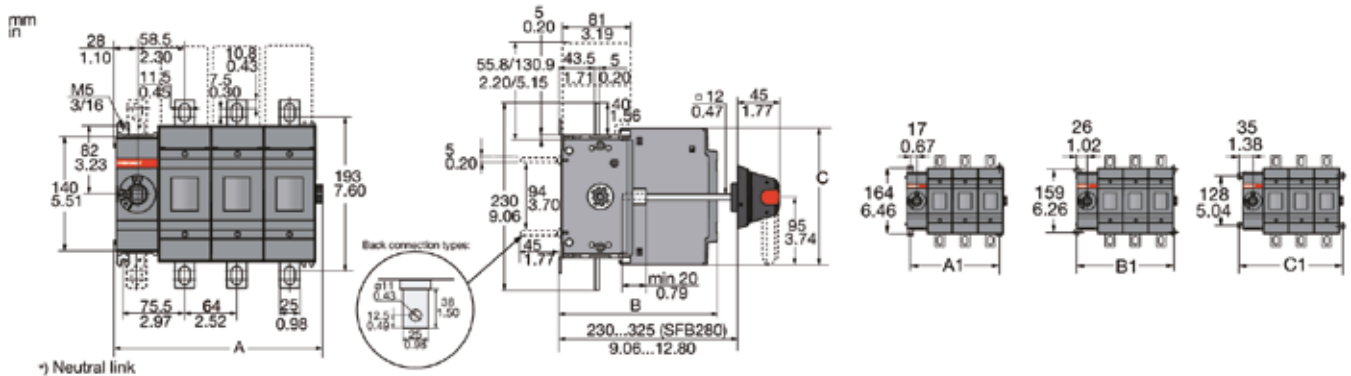
For Class J fuse types, 0-3 and 3-0 configurations
M200J01 M200J02 M200J03 M200J04

	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



UL 98 Fusible Disconnect Switches

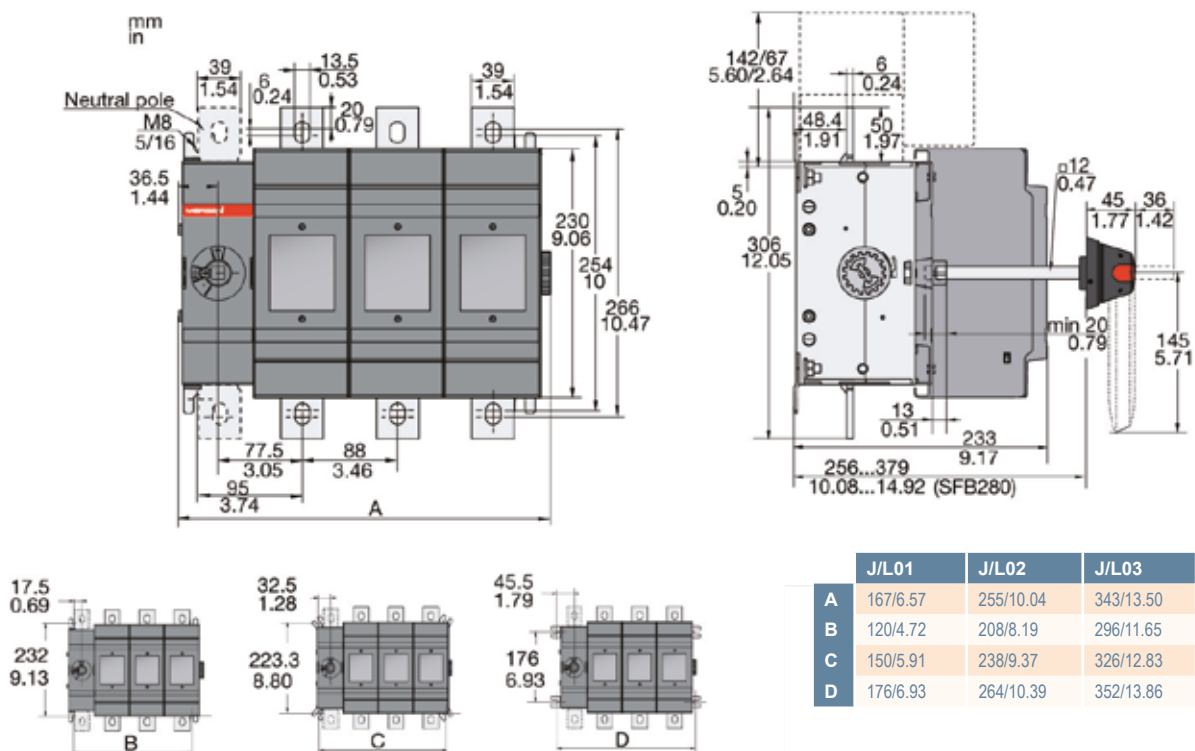
M400J, 30 or 03 configuration, Front operated



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

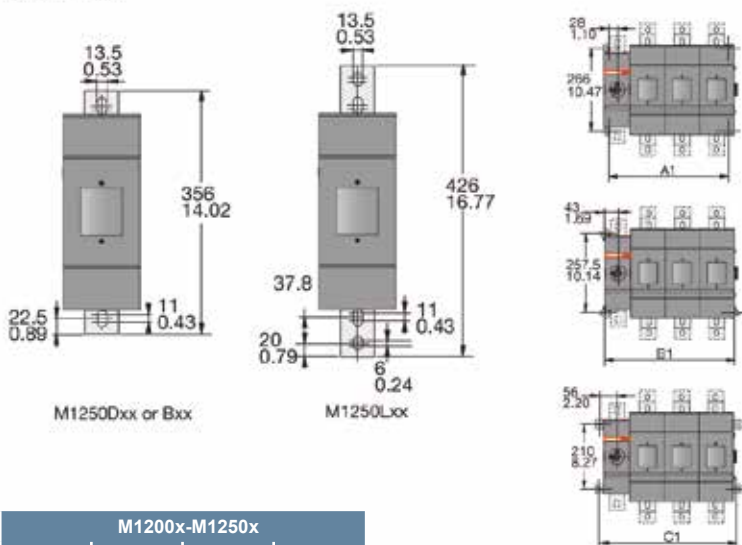
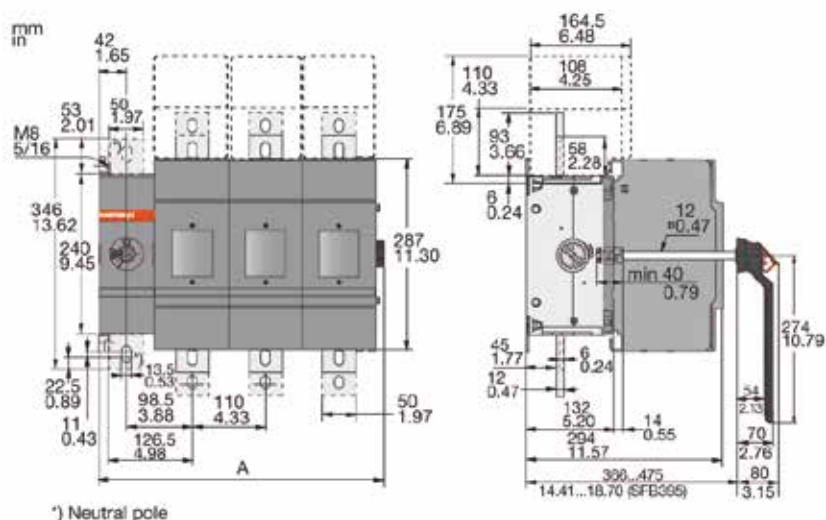


	J/L01	J/L02	J/L03	J/L04
A	167/6.57	255/10.04	343/13.50	431/16.97
B	120/4.72	208/8.19	296/11.65	384/15.12
C	150/5.91	238/9.37	326/12.83	414/16.30
D	176/6.93	264/10.39	352/13.86	440/17.32

UL 98 Fusible Disconnect Switches

M1200L, M1250D, Front operated

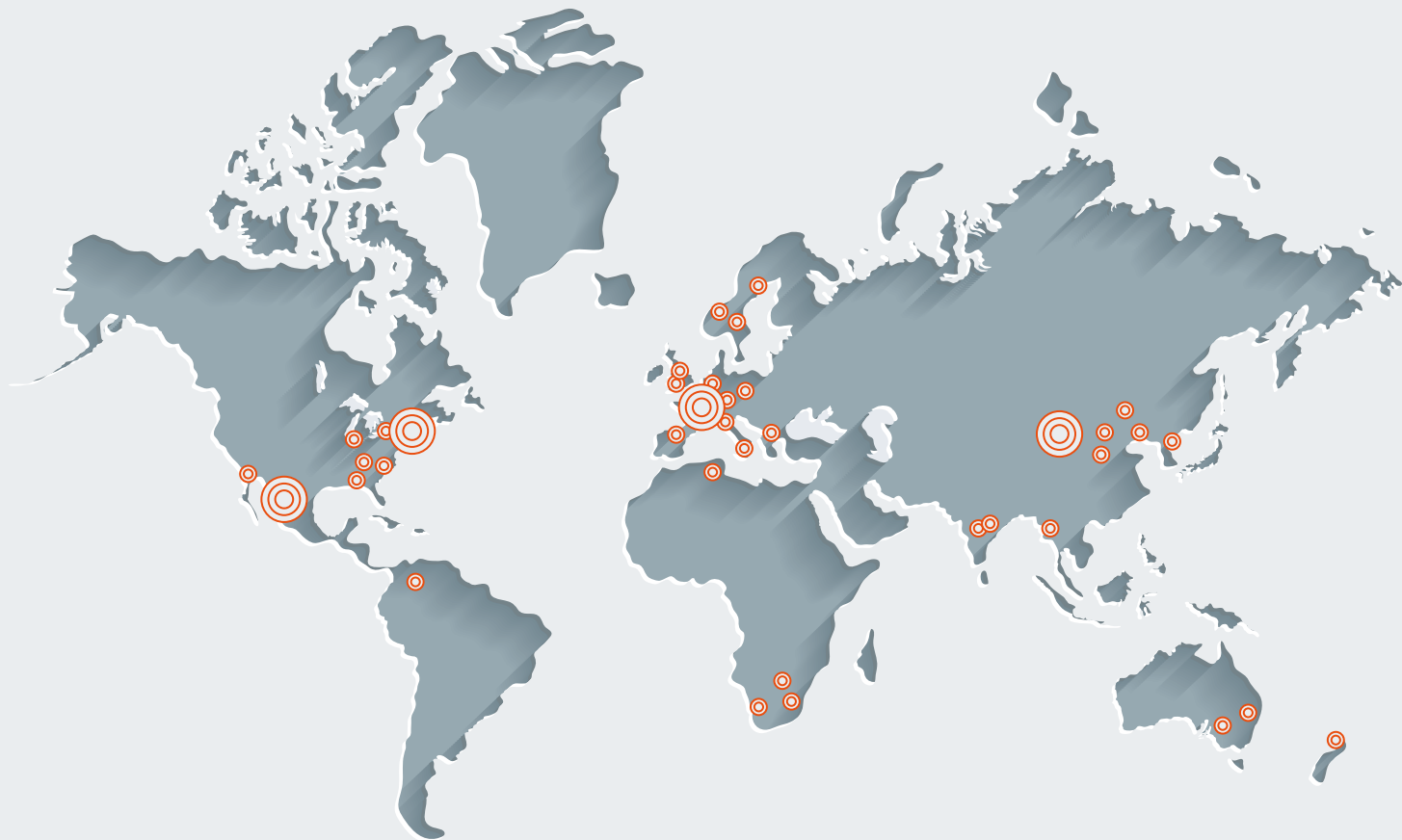
For DIN, BS and L Fuse Types with gearbox on the side



	M1200x-M1250x			
	D/L /B01	D/L /B02	D/L /B03	D/L /B04
	mm/in	mm/in	mm/in	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

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