

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 is 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

Catalog Number Designation

		M	80	3	—
Switch	M = Mersen AC Switch				
Ampacity	16 to 80				
Number of Poles					
Special Configurations	DM = door-mounting				

Approvals:

- UL 508 listed E196672
- IEC 60947-3



UL 508 Non-Fusible Disconnect Switches

UL 508 Disconnect Switches—Front Operated



M163



M163DM



M633



M633DM

Switch Body

Ampere Rating	20	30	40	63	80
Base Part #	M163	M253	M403	M633	M803
Door-Mounted version	M163DM	M253DM	M403DM	M633DM	M803DM

Handles and Shafts

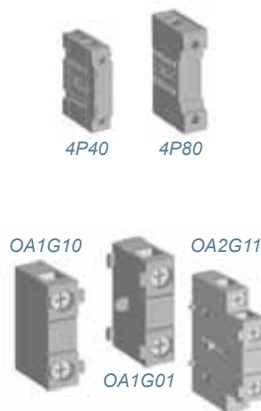


Direct Front Operation Locking Handle					
	HD40	HD40	HD40	HD125	HD125

External Front Operation	
Selector Style	NEMA Type 1, 3R, 12
Shaft—SAxxx (xxx = length in mm)	SA85, SA105, SA120, SA130, SA180, SA250
Door mounted version (no shaft required)	HSBPDM, HSRPDM
Pistol Style	NEMA Type 1, 3R, 12
	NEMA Type 4, 4X
Shaft—SAxxx (xxx = length in mm)	SPA130, SPA210, SPA290, SPA360, SPA430

B = Black, R = Red

Accessories



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

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

*Rated 2A max continuous @690VAC

UL 508 Non-Fusible Disconnect Switches

Technical Data

Technical data according to UL/cULus													
Part number				M163	M253	M403	M633	M803					
General purpose amp rating	pf= 0.7...0.8	-40° to 40 °C	A	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	10	100		100	
	Fuse type	T	kA	10	10	10	10	10	10	100		100	
	Fuse type	RK1	kA	10		10		10		10	5	10	5
	Fuse type	RK5	kA	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 \hat{I}_c . The cut-off current \hat{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_{cm}	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

Part #	Description	Ref #
M163	Switch 16A 3p	A1043188
M253	Switch 25A 3p	B1043189
M403	Switch 40A 3p	C1043190
M633	Switch 63A 3p	D1043191
M803	Switch 80A 3p	E1043192
M163DM	Switch 16A 3p DM	E1043169
M253DM	Switch 25A 3p DM	F1043170
M403DM	Switch 40A 3p DM	K1043174
M633DM	Switch 63A 3p DM	M1043176
M803DM	Switch 80A 3p DM	N1043177

Other Accessories

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

Shafts

Part #	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

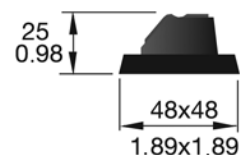
Terminal Shrouds

Part #	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

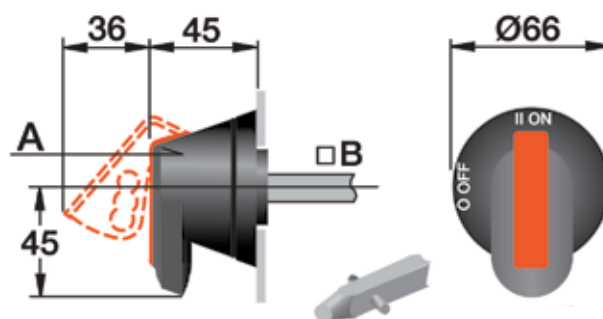
Handles

Part #	Description	Ref #
HD40	Handle direct Switch 16-40A	L1043405
HD125	Handle direct Switch 63A and 80A	K1043404
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
HSBPDM	Handle Select black snap door	Y1044359
HSBWDM	Handle Select black screw door	X1044358
HDM1	Door-mount adapt pistol handle	

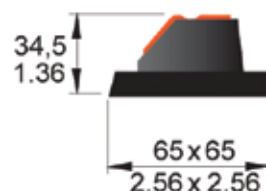
HS_X



H_45_



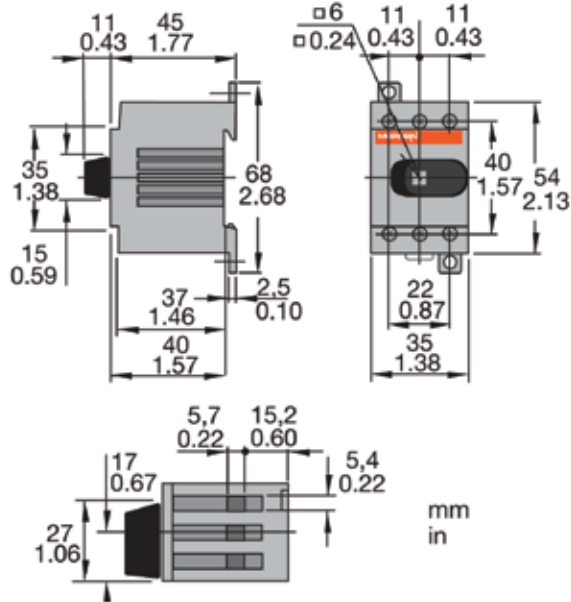
HSRPDM HSBPDM HSRWDM HSBWDM



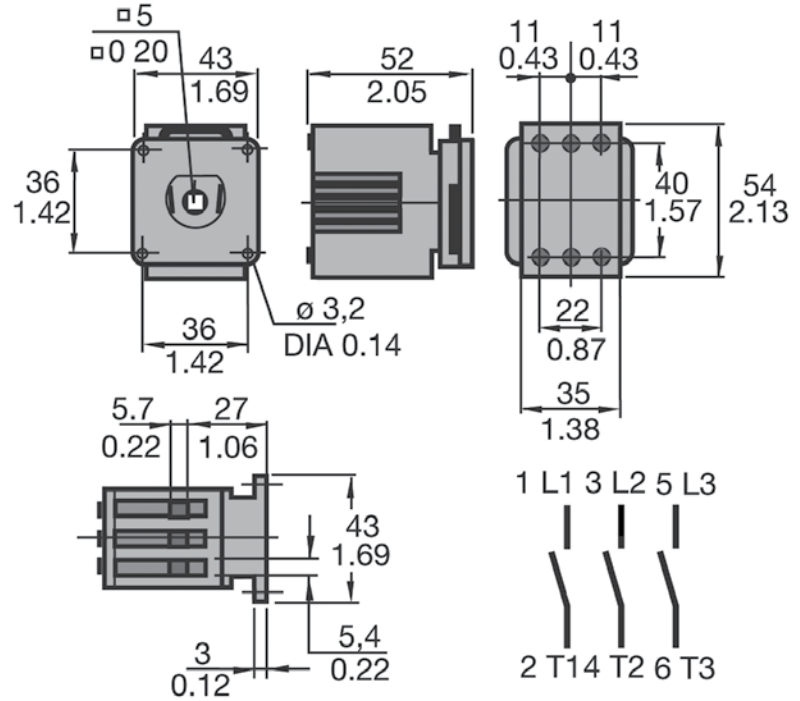
UL 508 Non-Fusible Disconnect Switches



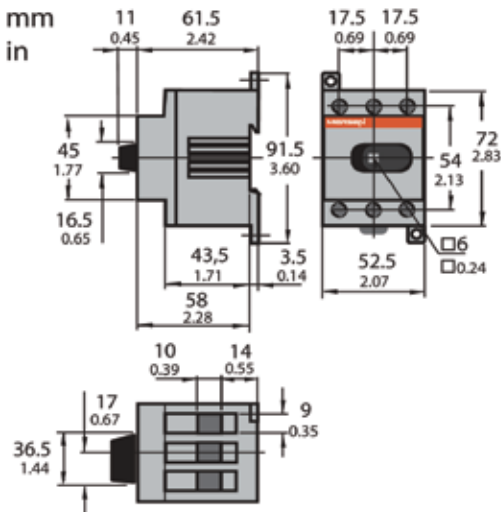
M163, M253, M403



M163DM, M253DM, M403DM



M633-M803



M633DM, M803DM

