UL 508 Non-Fusible

Disconnect Switches

DISCONNECT SWITCHES

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.

APPLICATIONS:

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

Catalog number designation			
M **Switch** **M** = Mersen AC Switch	**80** **Ampacity** **16-80**	**3** **Number of Poles**	—— **Special Configurations** **DM:** Door Mounting

RATINGS (UL):

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

FEATURES/ BENEFITS:

- 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

APPROVALS:

- UL 508 listed E196672
- IEC 60947-3

Mersen
Expertise, our source of energy

UL 508 NON-FUSIBLE
Disconnect Switches (M163 – M803)

UL 508 Disconnect Switches—Front Operated

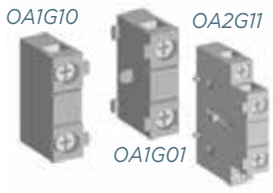
M163

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	HSBX, HSRX				
	Shaft—SAxxx (xxx = length in mm)	SA85, SA105, SA120, SA130, SA180, SA250				
	Door mounted version (no shaft required)	HSBPDM, HSRPDM			HSBWDM, HSRWDM	
	Pistol Style NEMA Type 1, 3R, 12	HB45, HR45, HB65, HR65, HB80, HR80				
	NEMA Type 4, 4X	HB45X, HR45X, HB65X, HR65X, HB80, HB80X				
	NEMA 4X Stainless Steel	HM65X				
	Shaft— SAxxx (xxx = length in mm)	SPA130, SPA210, SPA290, SPA360, SPA430				
	B=Black, R=Black					
Accessories	**Fourth Poles**					
	Limited to one additional pole per switch	4P40	4P40	4P40	4P80	4P80
	Door mounted switch 4th poles are left-side mounted	4P40DM	4P40DM	4P40DM	4P80DM	4P80DM
	Neutral Poles					
	Limited to one additional pole per switch	NP40	NP40	NP40	NP80	NP80
	Door mounted switch neutral poles	NP40DM	NP40DM	NP40DM	NP80DM	NP80DM
	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 continous @690VAC					



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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**	
Maximum 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	11-0ct		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_{cw}	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.

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