



FUSERBLOC LMDC

Fuse combination switches

FUSERBLOC Live Maintenance DC



The solution for

- > Live maintenance of speed drives supplied by a common DC bus
- > Live maintenance of PV inverters connected in parallel on a same circuit



Strong points

- > Compact
- > Automatic pre-load
- > Integrated fuse protection

Conformity to standards

- > IEC 60947-3

Function

FUSERBLOCs LMDC are designed to perform the maintenance of DC/AC speed drives or PV inverters without stopping the entire installation. This multifunctional device for performing maintenance work on a branch of the electrical system while leaving the rest of the equipment energised. FUSERBLOCs LMDC ensure a safe charge of capacitive loads by limiting high inrush current during power-up of the branch and thus reducing stress to components.

Advantages

Compact

Isolation, protection and precharge of capacitive loads within a single device.

Automatic pre-load

After maintenance operations, the pre-load of inverters capacitors will be managed automatically through a coil.

Integrated fuse protection

Semiconductors protection is integrated to the switch (no additional space is required).

Characteristics

- 125 to 1600 A
- DC20

References

External / direct operation 125 to 1600 A

Rating (A)	No. of main poles	Fuse size of main poles	Pre-charge poles (DIN 43620)	Reference	External front handle	Direct front handle	Shaft for external front handle	Auxiliary contacts	Terminal shrouds
125 A	2	DIN 43620 00	2 x 160 A Size 00	38DR 2012 ⁽¹⁾⁽²⁾	S3 type Black IP65 1433 3111	Black 3899 6011	200 mm 1400 1220	U type 1 contact NC 3999 0701 ⁽³⁾	3998 2016 ⁽⁴⁾
160 A	2	DIN 43620 1	2 x 160 A Size 00	38DR 2016 ⁽¹⁾⁽²⁾					3998 2025 ⁽⁴⁾
250 A	2	DIN 43620 2	2 x 160 A Size 00	38DR 2025 ⁽¹⁾⁽²⁾					3898 2080
400 A	2	DIN 43620 3	2 x 160 A Size 00	38DR 2040 ⁽¹⁾⁽²⁾	320 mm 1400 1232	1 contact NO 3999 0702 ⁽³⁾			
630 A	2	DIN 43620 3	2 x 160 A Size 00	38DR 2063 ⁽¹⁾⁽²⁾	S4 type Black IP65 1443 3111		Black 3899 7011	500 mm 1400 1250	
900 A	2	KN/110	2 x 160 A Size 00	38DR 2090 ⁽¹⁾⁽²⁾					3898 2120
1100 A	4 (2 //)	DIN 43620 3	2 x 160 A Size 00	38DR 4110 ⁽¹⁾⁽²⁾		Red/Yellow IP65 1444 3111			3898 2150
1600 A	4 (2 //)	KN/110	2 x 160 A Size 00	38DR 4160 ⁽¹⁾⁽²⁾	3898 2160				

(1) Coil must be ordered separately.

(2) Include standard fuse protection cover. If fuse microswitch is used please use specific fuse protection cover.

(3) Max 8 contacts (4 already provided with the switch).

(4) IP20 kit, please consult us.

Characteristics according to IEC 60947-3

Products	125 A	160 A	250 A	400 A	630 A	900 A	1100 A	1600 A
Main poles size	00	1	2	3	3	3	3	3
No. of main poles	2	2	2	2	2	2	4 (2 //)	4 (2 //)
Fuse size of main poles	000 / 00	1	1 / 2	2 / 3	3	K / 110	3	K / 110
Main poles								
Thermal current I_{th} at 40°C (A)	125	160	250	400	630	900	1100	1600
Rated insulation voltage U_i (V)	1000	1000	1000	1250	1250	1250	1250	1250
Rated impulse withstand voltage U_{imp} (kV)	8	8	8	12	12	12	12	12
Load duty category	DC-20	DC-20	DC-20	DC-20	DC-20	DC-20	DC-20	DC-20
Fuse protected short-circuit withstand								
Current peak value: withstand and making (peak kA)	50	50	50	50	50	50	50	50
Prospective short-circuit current (kA rms) ⁽¹⁾	22.7	32.5	40	70	70	90	70	90
Heat dissipation								
Maximum fuse dissipation per pole (W)	7.7	15.3	29.3	56.9	70	108	70	108
Maximum switch dissipation per pole (W)	6.3	6.5	10.6	30	46	60	52	54
Pre-load poles								
Fuse size of pre-charge poles (DIN 43620)	00	00	00	00	00	00	00	00
Number of pre-charge poles	2	2	2	2	2	2	2	2
Thermal current I_{th} at 40°C (A)	160	160	160	160	160	160	160	160
Rated insulation voltage U_i (V) (operation circuit)	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV) (operation circuit)	8	8	8	8	8	8	8	8
Fuse protected short-circuit withstand								
Current peak value: withstand and making (peak kA)	100	100	100	100	100	100	100	100
Prospective short-circuit current (kA rms) ⁽¹⁾	20	20	20	20	20	20	20	20
Heat dissipation								
Maximum fuse dissipation per pole (W)	12	12	12	12	12	12	12	12
Maximum switch dissipation per pole (W)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Mechanical characteristics								
Endurance (number of operating cycles) ⁽²⁾	1500	1500	1500	1500	1500	1500	1500	1500

(1) $U_n = 400$ VAC with gG fuses (AC value for information only).

(2) 300 max./hour.

Accessories

Coils kit

Use

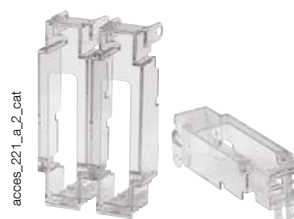
Accessory required for the good functioning of the product.

Voltage	Reference
24 VDC	38DR C024
230 VAC	38DR A230



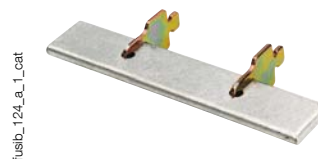
Specific protective covers for fitted fuse blown microswitch

Product	NFC/DIN fuse size	No. of poles	Reference
125 A	00	2	3990 7015
160 A	1	2	3990 7024
250 A	2	2	3990 7039
400 A	3	2	3890 7063
630 A	3	2	3890 7064
900 A	3	2	standard
1100 A	3	4 (2 //)	3890 9063
1600 A	3	4 (2 //)	standard

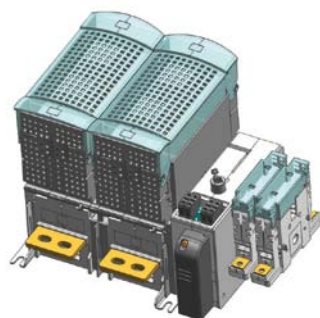


Solid links

Product	NFC/DIN fuse size	No. of poles	Reference
125 A	00	2	6420 0000
160 A	1	2	6421 0001
250 A	2	2	6421 0002
400 A	3	2	6421 0003
630 A	3	2	6421 0003
900 A	3	2	consult us
1100 A	3	4 (2 //)	6421 0003
1600 A	3	4 (2 //)	consult us



Operating diagram

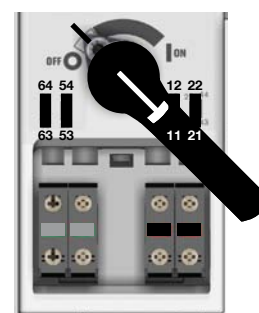
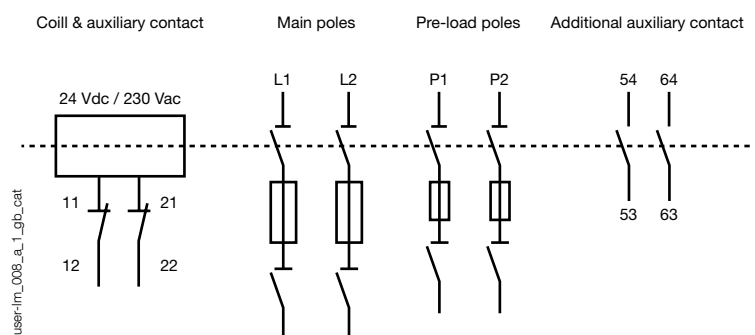


Pre-load auxiliary contact
 54 - 53
 64 - 63

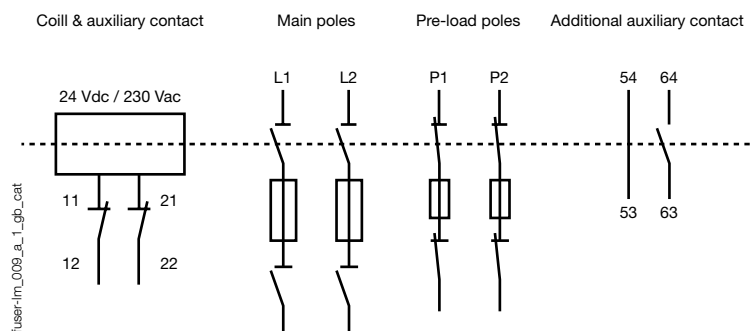


Auxiliary contact
 11 - 12
 21 - 22

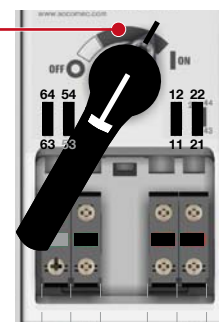
MANUAL - Step 1



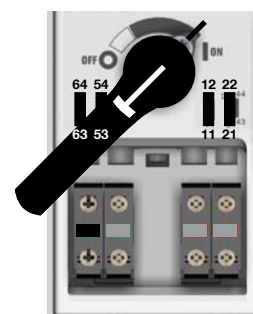
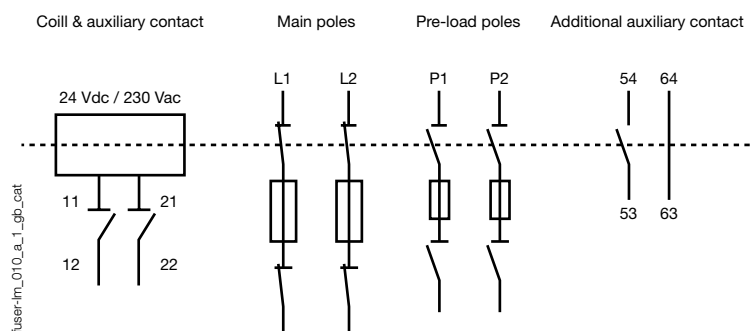
MANUAL - Step 2



PRE-LOAD POSITION
 DO NOT OPERATE TO POSITION OFF

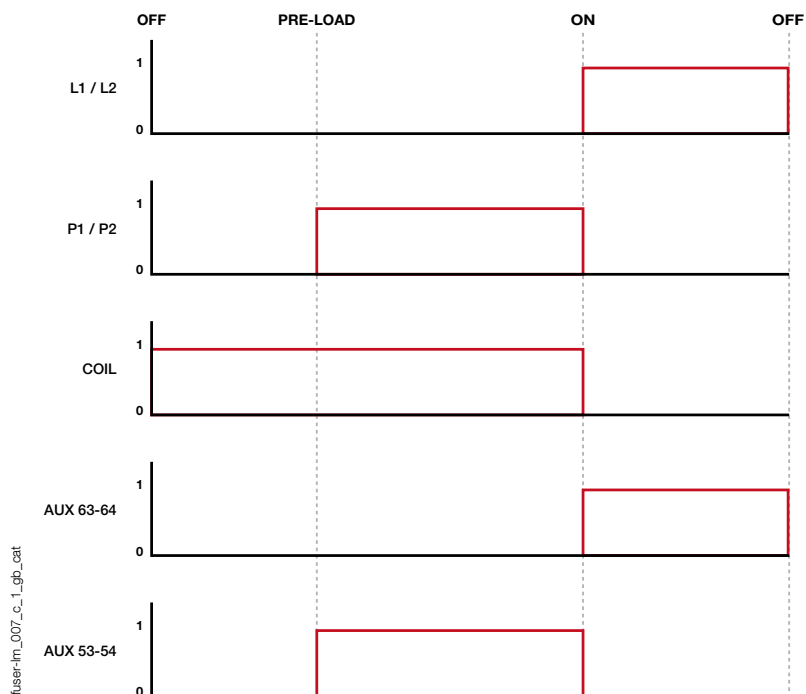


AUTO - Step 3



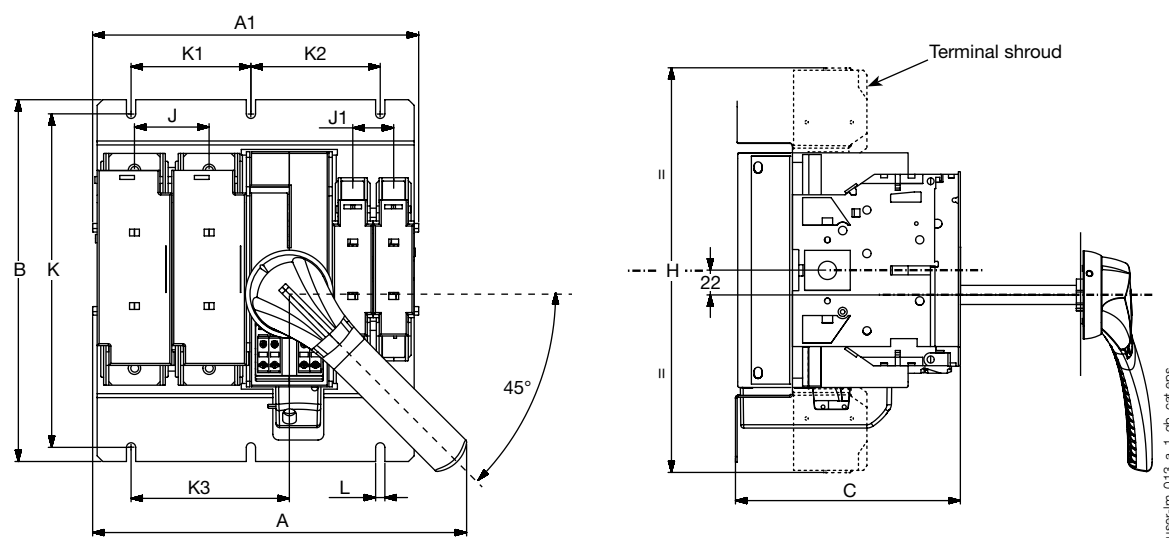
Operating diagram (continued)

Main poles and auxiliary contacts



Dimensions

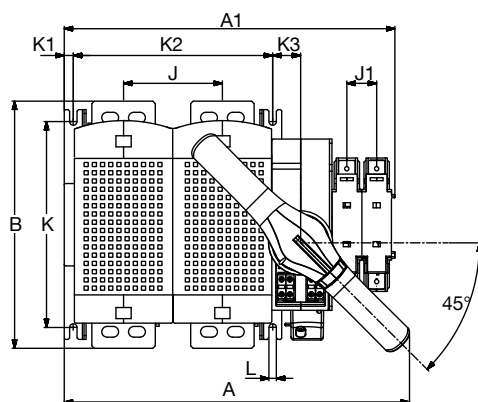
DC switches 125 to 250 A



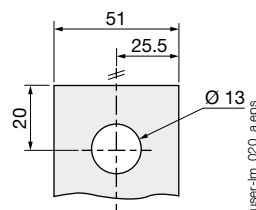
Rating (A)	Unit	A	A1	B	C	H	J	J1	K	K1	K2	K3	L
125	in	36	48	12.59	7	10.55	1.41	1.41	11.61	6.35	-	3.18	0.32
	mm	271	229	320	178	268	36	36	295	161.5	-	81	8.2
160	in	12.87	11.20	12.59	7.73	13.58	2.36	1.41	11.61	4.17	4.05	5.51	0.32
	mm	327	284.5	320	196.5	345	60	36	295	106	114.5	140	8.2
250	in	13.03	11.35	12.59	7.85	14.13	2.59	1.41	11.61	4.17	4.05	5.51	0.32
	mm	331	288.5	320	199.5	359	66	36	295	106	114.5	140	8.2

DC switches 400 to 1600 A

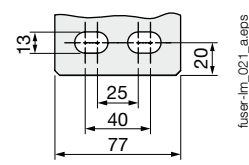
400 to 900 A



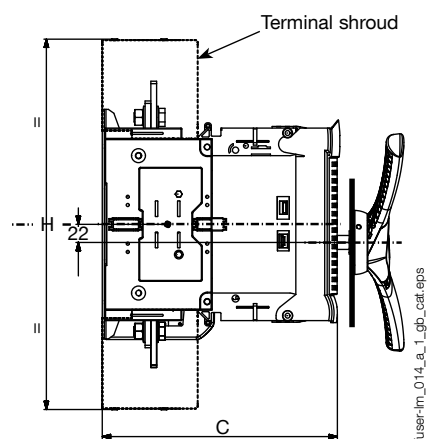
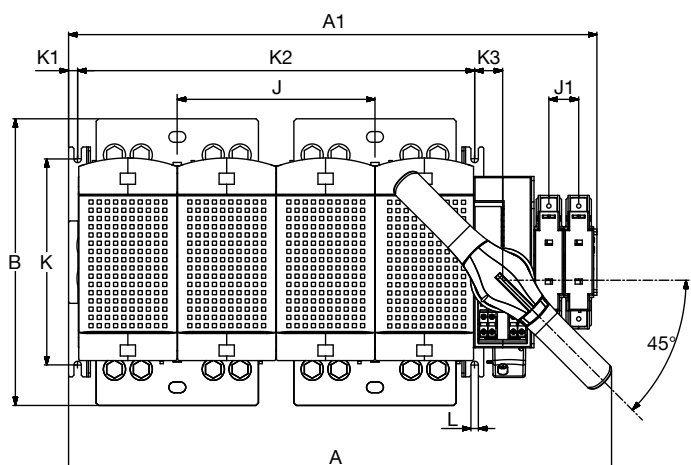
Connection terminals 400 to 630 A



900 A



1100 to 1600 A



Rating (A)	Unit	A	A1	B	C	H	J	J1	K	K1	K2	K3	L
400 ... 630	in	14.44	13.75	11.81	9.84	18.54	3.70	1.41	9.84	0.43	7.48	1.33	0.35
	mm	367	349.5	300	250	471	94	36	250	11	190	34	9
900	in	16.49	15.80	11.81	11.25	17.73	4.72	1.41	9.84	0.43	9.52	1.33	0.35
	mm	419	401.5	300	286	450.5	120	36	250	11	242	34	9
1100	in	21.85	21.16	13.70	9.84	18.54	7.40	1.41	9.84	0.43	14.88	1.33	0.35
	mm	555	537.5	348	250	471	188	36	250	11	378	34	9
1600	in	25.94	25.25	13.70	11.25	17.73	9.44	1.41	9.84	0.43	18.97	1.33	0.35
	mm	659	641.5	348	286	450.5	240	36	250	11	482	34	9