FUSERBLOC DRIVE

Fuse combination switches with 2 pre-charge poles for variable speed drives

for high-speed fuses up to 1600 A

The solution for

- Energy
- Industry

Strong points

- Simple and compact
- Automatic pre-charge
- Optimised maintenance
- Optimum safety

Conformity to standards

- IEC 60947-3

Function

FUSERBLOC DRIVE units with manual front operation are multipole DC fuse combination switches.

They guarantee overcurrent protection for any low voltage electrical circuit with capacitive loads by limiting the high inrush current during circuit power-up and are designed to allow maintenance work on DC/AC variable speed drives or PV inverters without shutting down the entire installation.

The range is available in direct and external operation, with 2 power poles + 2 pre-charge poles*, up to 1600 A.

*Contact us for version with 1 pre-charge pole and/or UL version.

Advantages

Simple and compact

The FUSERBLOC Drive is the most compact and simplest solution on the market for variable speed drives under a common DC bus. This product combines 3 functions: disconnection, protection and pre-charging in a single device.

Automatic pre-charge

After maintenance operations, the pre-charging of the inverter capacitors is managed automatically via a coil. In addition, the opening of the pre-charge poles and the closing of the power poles is also done automatically.

Optimised maintenance

This multifunction device enables maintenance work to be done on part of the power system while leaving the rest of the equipment powered on.

Optimum safety

Double phase isolation (upstream-downstream of the fuse), disconnection, and padlocking guarantee total operator safety during fuse replacement. The device is capable of maintaining the OFF, pre-charge or ON position in the event of power failure.

General characteristics

- Range 125 to 1600 A.
- Up to 1250 VAC, 1000 VDC.
- Up to 100 kA.
- Utilisation category DC-20 B.
- 2 power poles + 2 pre-charge poles.

References

Direct / external operation 125 to 1600 A

Rating (A)	No. of poles	Fuse size power pole	Pre-charge pole (DIN 43620)	Reference	Handle, front external	Handle, front direct	Shaft for handle, front ext.	Auxiliary contact	Terminal shroud[5] power pole	Terminal shroud pre-charge pole
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 NC contact 3999 **0701**[3]	3998 **2016**[4]	3998 **2016**
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]	Red/Yellow IP65 1434 **3111**					
400 A	2	DIN 43620 3	2 x 160 A Size 00	38DR **2040**[1][2]		Black 3899 **7011**	320 mm 1400 **1232**	1 NO contact 3999 **0702**[3]	3898 **2080**	
630 A	2	DIN 43620 3	2 x 160 A Size 00	38DR **2063**[1][2]	S4 type Black IP65 1443 **3111**					
900 A	2	KN/110	2 x 160 A Size 00	38DR **2090**[1][2]			500 mm 1400 **1250**		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) The coil must be ordered separately.
(2) Standard protection cover included. If utilising fuses fitted with a fuse blown auxiliary contact, use a specific protective cover.
(3) Maximum 8 contacts (4 contacts supplied with the device).
(4) IP20 kit, please contact us.
(5) 2 pieces.

Characteristics according to IEC 60947-3

Products	**125 A**	**160 A**	**250 A**	**400 A**	**630 A**	**900 A**	**1100 A**	**1600 A**
Frame size	00	1	2	3	3	3	3	3
Number of poles	2	2	2	2	2	2	4 (2 //)	4 (2 //)
Fuse size	000 / 00	1	1 / 2	2 / 3	3	K / 110	3	K / 110
Power pole								
Rated operating current Ith at 40 °C (A)	**125**	**160**	**250**	**400**	**630**	**900**	**1100**	**1600**
Rated operating voltage Ue (V)	1000	1000	1000	1250	1250	1250	1250	1250
Rated impulse withstand voltage Uimp (kV)	8	8	8	12	12	12	12	12
Utilisation category	DC-20	DC-20	DC-20	DC-20	DC-20	DC-20	DC-20	DC-20
Short-circuit characteristics								
Peak current value: withstand and closing (kA peak)	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
Dissipated power (W / pole)								
Power dissipated by fuse	7.7	15.3	29.3	56.9	70	108	70	108
Dissipated power, switch body	6.3	6.5	10.6	30	46	60	52	54
Pre-charge pole								
Rated operating current Ith at 40 °C (A)	**160**	**160**	**160**	**160**	**160**	**160**	**160**	**160**
Fuse size (DIN 43620)	00	00	00	00	00	00	00	00
Number of poles	2	2	2	2	2	2	2	2
Rated operating voltage Ue (V)	1000	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage Uimp (kV) (control circuit)	8	8	8	8	8	8	8	8
Short-circuit characteristics								
Peak current value: withstand and closing (kA peak)	100	100	100	100	100	100	100	100
Prospective short-circuit current (kA rms.)[1]	20	20	20	20	20	20	20	20
Dissipated power (W / pole)								
Power dissipated by fuse	12	12	12	12	12	12	12	12
Dissipated power, switch body	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Mechanical characteristics								
Endurance (number of operations)[2]	1500	1500	1500	1500	1500	1500	1500	1500

(1) Ue = 400 VAC with gG fuses (AC value for information).
(2) 300 max./hour.

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Accessories

Coil kits

Use
Mandatory accessory for the correct functioning of the product.

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


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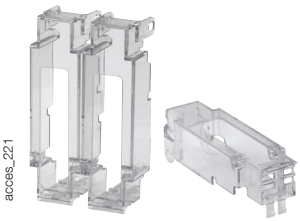
Protection covers for fuses fitted with a fuse blown auxiliary contact.

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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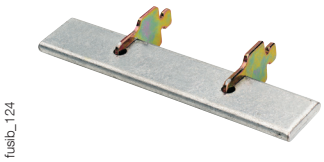
Solid neutral links

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	contact us
1100 A	3	4 (2 //)	6421 **0003**
1600 A	3	4 (2 //)	contact us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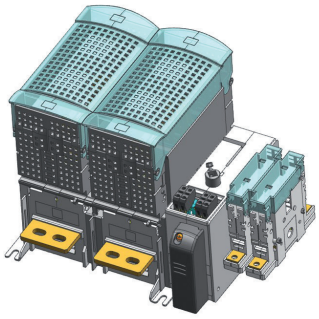
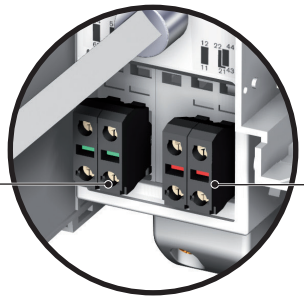
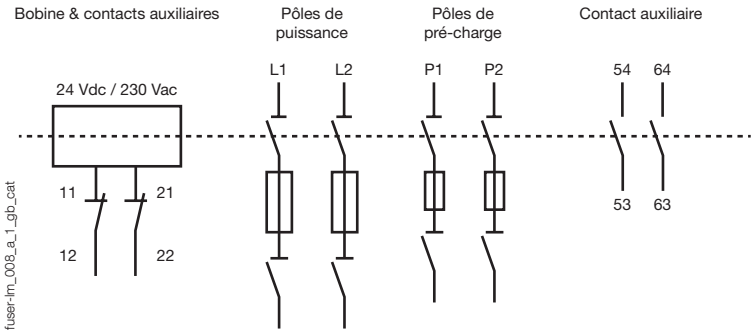
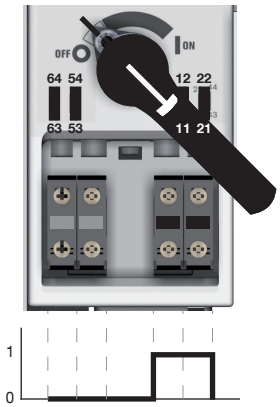
Operating diagram



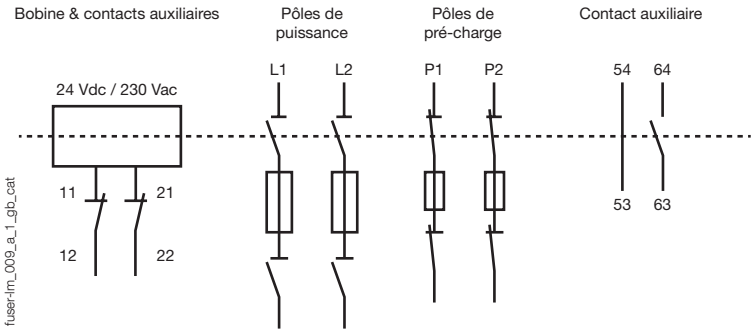


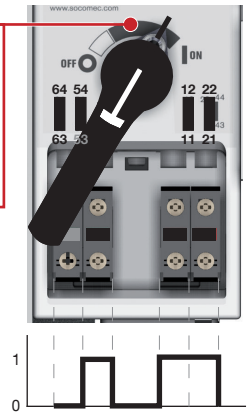
Step 1 - MANUAL



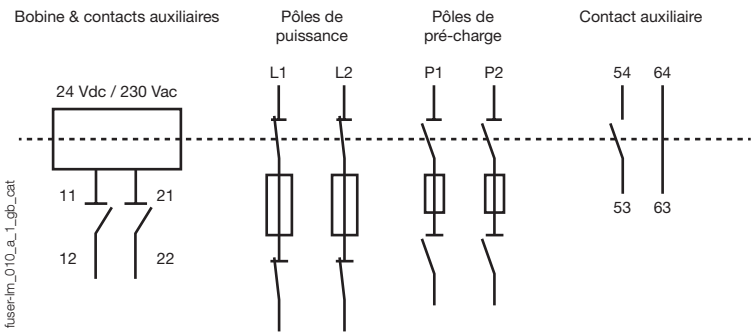


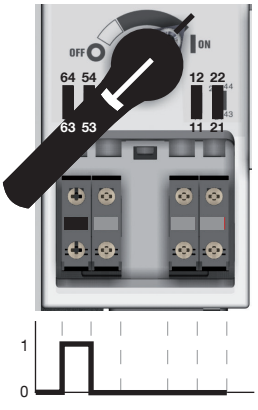
Step 2 - MANUAL





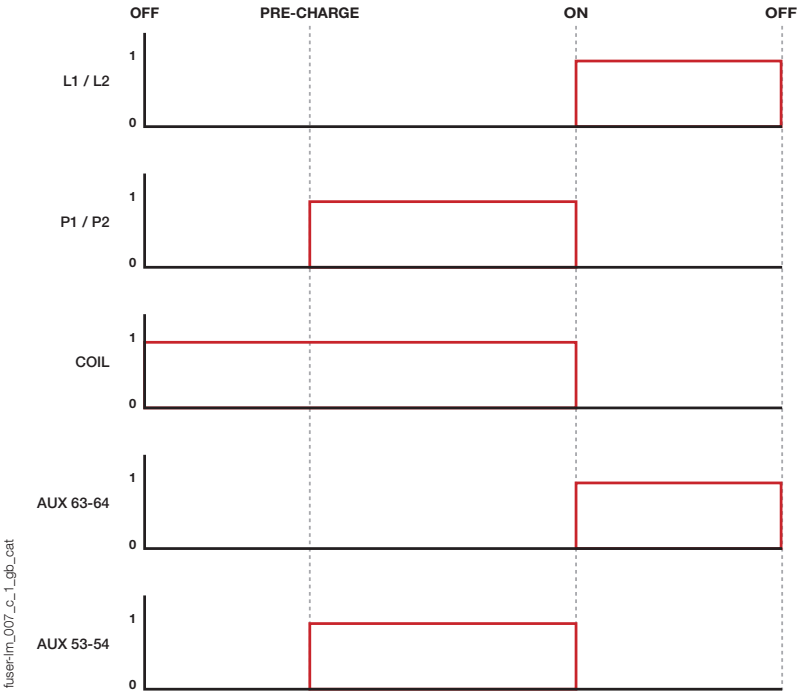
Step 3 - AUTO





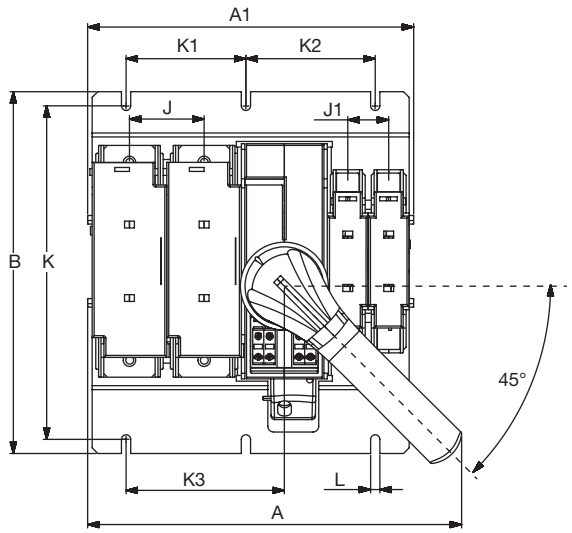
Operating diagram (continued)

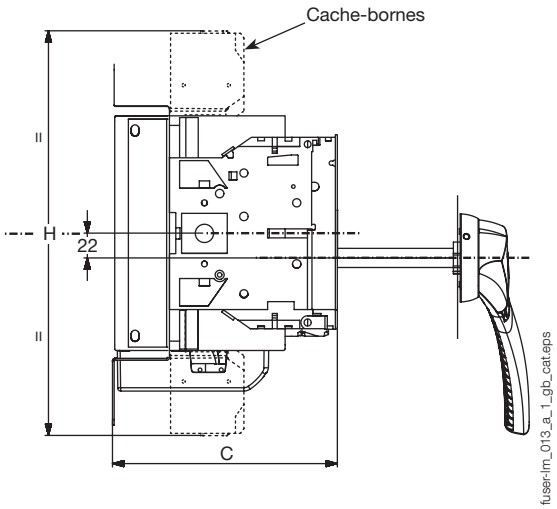
Power poles and auxiliary contacts



Dimensions

DC switches 125 to 250 A

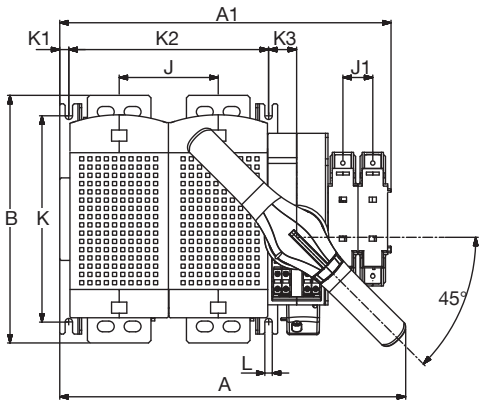




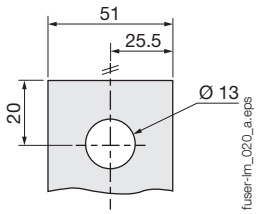
Rating (A)	Unit	A	A1	B	C	H	J	J1	K	K1	K2	K3	L
125	in	36	48	12.59	7	10.55	1.41	1.41	11.61	6.35	-	3.18	0.32
	mm	271	229	320	178	268	36	36	295	161.5	-	81	8.2
160	in	12.87	11.20	12.59	7.73	13.58	2.36	1.41	11.61	4.17	4.05	5.51	0.32
	mm	327	284.5	320	196.5	345	60	36	295	106	114.5	140	8.2
250	in	13.03	11.35	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 1600A

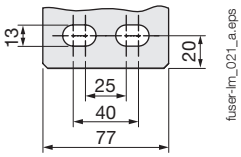
400 to 900 A



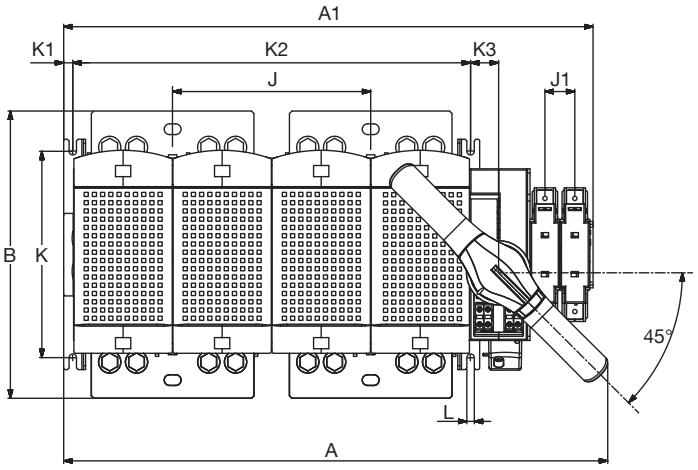
Connection terminals
400 to 630 A

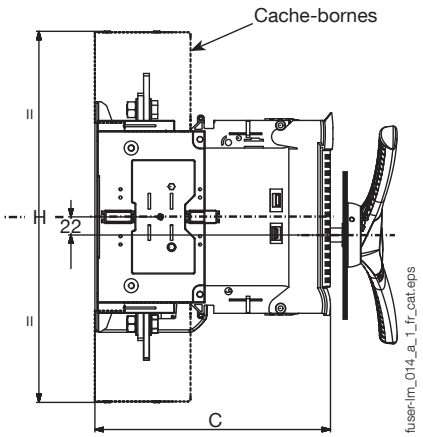


900 A



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