

OptiBlock

➤ Fuse-switch-disconnectors



OptiBlock fuse-switch-disconnectors (FSDs) are designed for switch on and off loads and protection of single- and three-phase AC circuits from short circuits and overloads (when used in combination with fuses). FSDs provide a visual clearance and completely replace configurations consisting of a conventional disconnecter, cables and fuse holders. The use of these devices provides significant saving of switchgear workspace, reduces the number of electrical connections and live parts used.

► Designation

OptiBlock - 00 - 1 - M - S

1 2 3 4 5

1	Series	OptiBlock			
2	Device dimensions	00 — up to 160 A	1 — up to 250 A	2 — up to 400 A	3 — up to 630 A
3	Number of poles	1 — single-pole		«N/A» — three-pole	
4	Type of clamp for external conductors	M — bolted		«N/A» — bridged	
5	Version for direct mounting on busbars without drilling	S — version for direct mounting on busbars without drilling			

► Series advantages



The high-quality conductor and insulating materials used do not support combustion, are halogen-free, safe for health and the environment, and ensure a long service life. Operating temperature range -40 to +80 °C*.



Safe short-circuit clearing up to 80 kA (in configurations with fuses), on-load switching capability using an arc chute.



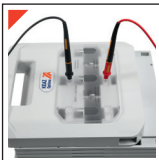
Profiled holes in the housing for better heat dissipation.



Visual monitoring of fuse condition using sight ports.



Special versions for mounting devices directly on conducting busbars with a busbar distance of 60 mm.



Special holes on the front panel for circuit condition monitoring using a multimeter.

* Operational current derating factor should be applied at temperatures above +35 °C (ref. the ambient temperature - rated current curve on page 258).

► Items

Appearance	Product name	Rated current, A	Fuse dimensions	Number of poles	Installed on busbars	Code
	OptiBlock-00-1	160	NH00	1	no	337871
	OptiBlock-00-M	160	NH00	3	no	337872
	OptiBlock-00-M-S	160	NH00	3	yes	337873
	OptiBlock-1-M	250	NH1	3	no	337874
	OptiBlock-1-M-S	250	NH1	3	yes	337875
	OptiBlock-2-M	400	NH2	3	no	337876
	OptiBlock-2-M-S	400	NH2	3	yes	337878
	OptiBlock-3-M	630	NH3	3	no	337879

Codes in the tables of this chapter can be changed. If you did not find the necessary codes on the website, please call KEAZ customer service.

► Technical specification

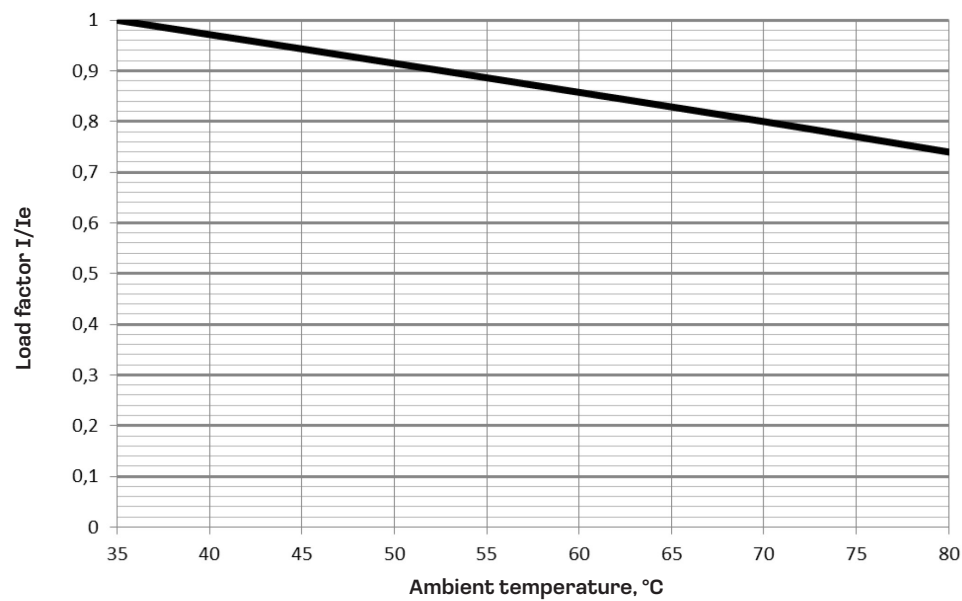
Single-pole devices

Parameter	Configuration	00-1		
Number of poles		1		
Fuse dimensions		NH00		NH00, NH000
Fuse rating I_n , A (max)		160	125	100
Power dissipation rating with fuse P_n , W		12	12	12
Conventional thermal current with short-circuiting busbar I_{th} , A		160	125	100
Power dissipation rating with short-circuiting busbar P_n , W		12		
Rated operating voltage U_e , V		230/400	500	690
Utilization category		AC-23B	AC-22B	AC-21B
Rated insulation voltage U_i , V		800		
Rated impulse withstand voltage U_{imp} , kV		12		
Rated frequency, Hz		50..60		
IP rating		IP00 for outputs, IP20 for enclosure		
Pollution degree		3		
Rated operating mode		Continuous		
Rated short-time withstand current I_{cw} , kA/1s		8		
Power loss without fuse, W		12		
Connecting cables				
Conductor cross-section, mm ²		16–70		

Three-pole devices

Parameter	Configuration		0		1		2		3	
Number of poles			3		3		3		3	
Fuse dimensions			NH00		NH1		NH2		NH3	
Fuse rating In, A (max)	160	100	250	200	400	315	630	425		
Power dissipation rating with fuse Pn, W	12		23		34		48			
Conventional thermal current with short-circuiting busbar Ith, A	160	100	250	200	400	315	630	425		
Power dissipation rating with short-circuiting busbar Pn, W	12		23		34		48			
Rated operating voltage Ue, V	AC400	AC690	AC400	AC690	AC400	AC690	AC400	AC690		
Utilization category	AC-23B	AC-21B	AC-23B	AC-21B	AC-23B	AC-21B	AC-23B	AC-21B		
Rated insulation voltage Ui, V	800					690				
Rated impulse withstand voltage Uimp, kV	8					12				
Rated frequency, Hz	50-60									
IP rating	IP00 for outputs, IP20 for enclosure									
Pollution degree	3									
Rated operating mode	Continuous									
Rated short-time withstand current Icw, kA/1s	8		10			15			20	
Power loss without fuse, W	12		23			34			40	
Connecting cables										
Standard cable terminal	M8		M10			M10			M12	
Conductor cross-section, mm²	16-70		25-150			25-150			25-240	

► Dependence of the rated current on the ambient temperature



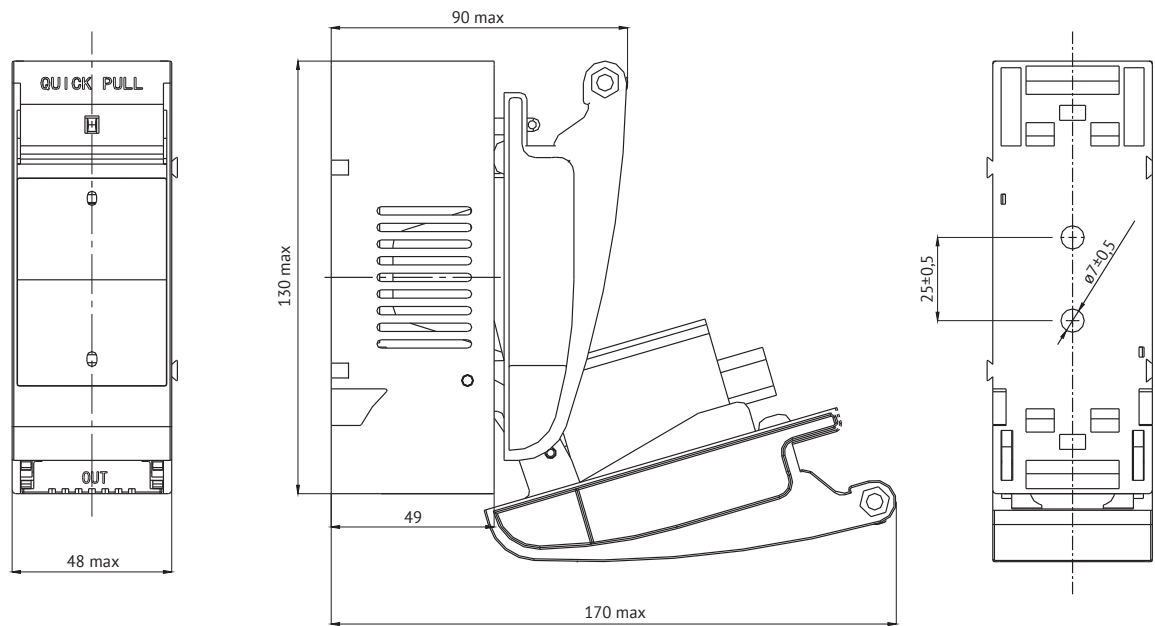
Dependence of the rated current on the number of adjacent devices

Number of adjacent devices	Acceptable factor
2 и 3	0.8
4 и 5	0.7
6 through 9	0.6
10 and higher	0.5

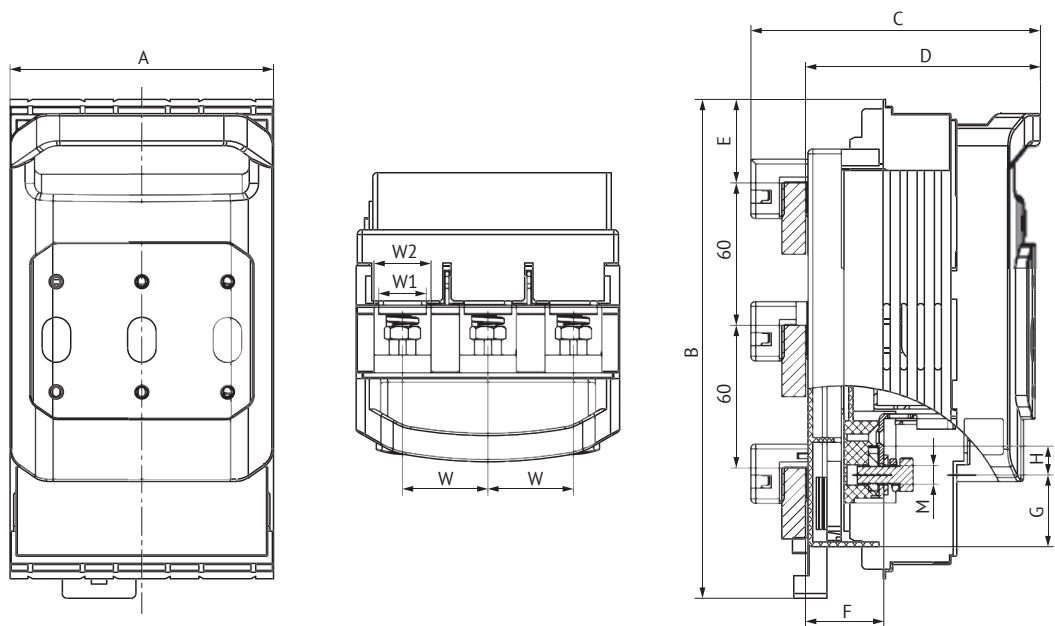
Example calculation for three adjacent OptiBlock 630 A at an ambient temperature of +50 °C:
Load = 630 x 0,91 x 0,8 = 458,64 A

► Overall dimensions (mm)

OptiBlock-00-1



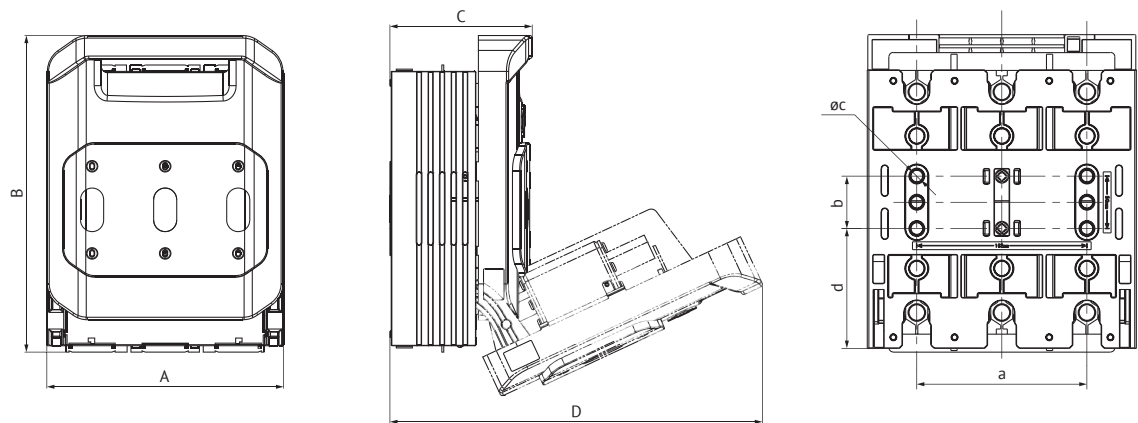
OptiBlock-00-M-S



The values are in mm

A	B	C	D	E	F	G	H	M	W	W1	W2
111	210	122	99	35	33	30 21	12	M8	36	20	24

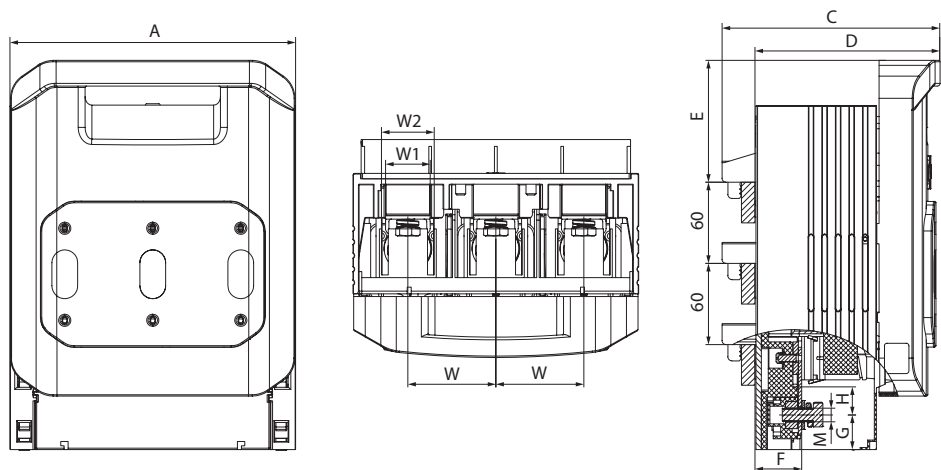
OptiBlock-00-M



The values are in mm

A	B	C	D	E	F	G	H	M	a	b	øc	d
111	202	83	205	116	24	17	36	M8	66	25	7	70

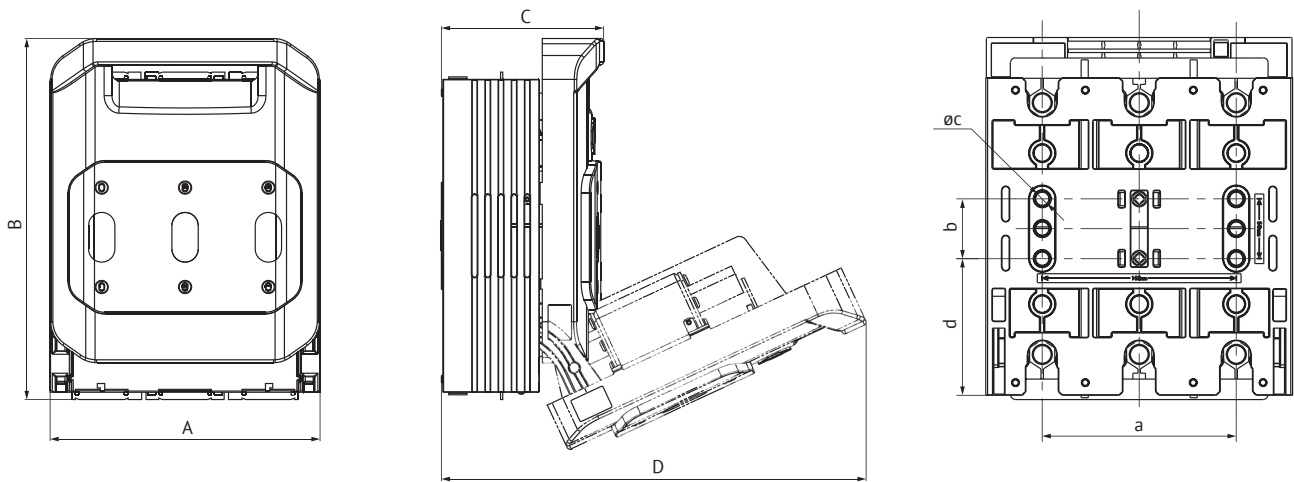
OptiBlock-1-M-S



The values are in mm

A	B	C	D	E	F	G	H	M	W	W1	W2
185	241	145	120	68	32,5	14,5	16	M10	57	30	40

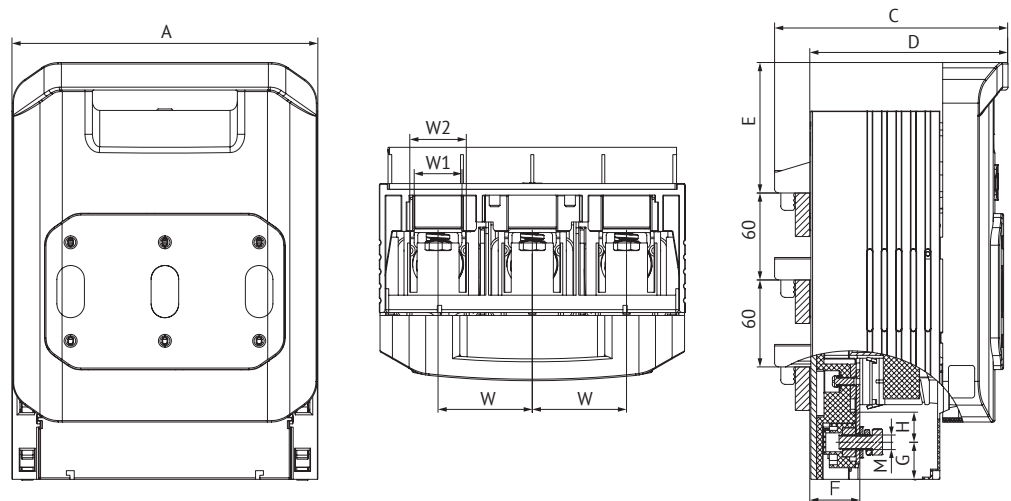
OptiBlock-1-M



The values are in mm

A	B	C	D	E	F	G	H	M	a	b	øc	d
185	247	110	295	185	14,5	22,5	57	M10	114	50	11	82

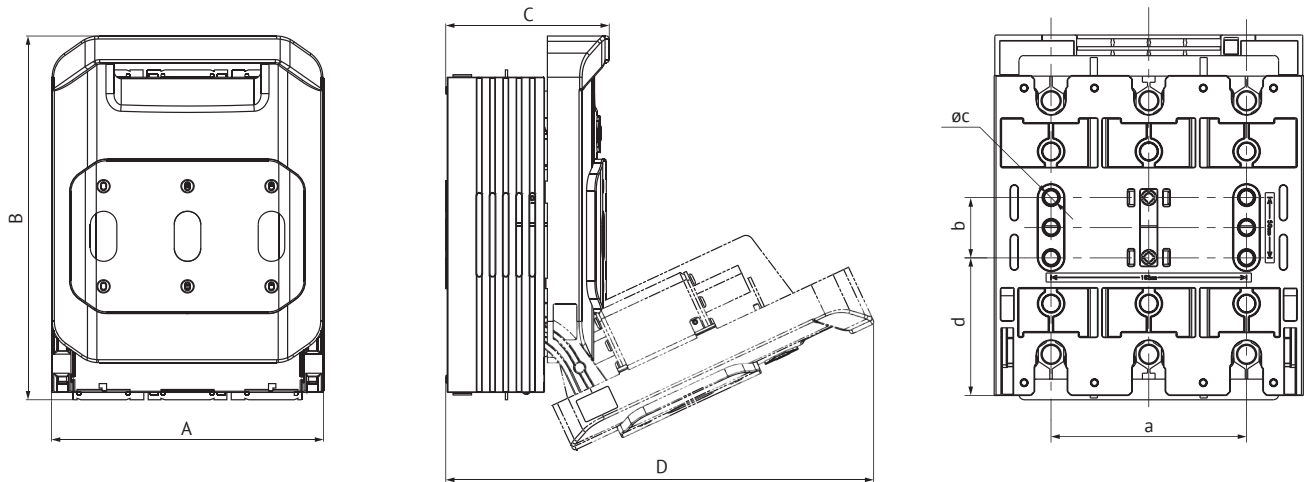
OptiBlock-2-M-S



The values are in mm

A	B	C	D	E	F	G	H	M	W	W1	W2
211	288	161	137	73	34,5	25,5 18,5	19	M10	65	33	50

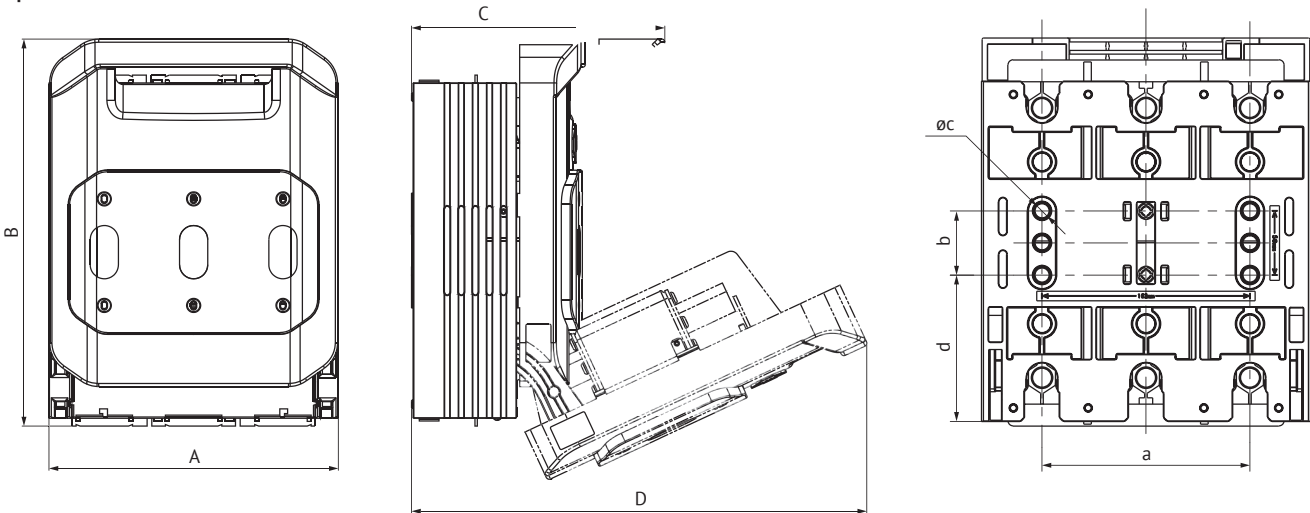
OptiBlock-2-M



The values are in mm

A	B	C	D	E	F	G	H	M	a	b	øc	d
211	290	125	340	210	25,5	26	65	M10	130	50	11	105,5

OptiBlock-3-M



The values are in mm

A	B	C	D	E	F	G	H	M	a	b	øc	d
256	300	145	360	210	34	30	81	M12	162	50	11	114

► Accessories

OptiBlock, OptiVert auxiliary contact

Appearance	Dimensions	Code	Weight, kg	Auxiliary contact parameters	
	OptiBlock-1	332786	0.01	Rated insulation voltage Ui, V	1000
	OptiBlock-2			Rated operating voltage Ue, V	AC250
	OptiBlock-3			Conventional thermal current Ith, A	10
				Utilization category	AC-21V