

# Molded case circuit breakers

## Metasol 30AF to 250AF Series

Frame Size(AF)		30	50			60	
Type		S-Type	N-Type	S-Type	H-Type	N-Type	S-Type
Type and Pole	2 pole	ABS32c	ABN52c	ABS52c	ABH52c	ABN62c	ABS62c
	3 pole	ABS33c	ABN53c	ABS53c	ABH53c	ABN63c	ABS63c
	4 pole	ABS34c	ABN54c	ABS54c	ABH54c	ABN64c	ABS64c
Rated current, I <sub>n</sub>	A	(3, 5, 10) 15, 20, 30	15, 20, 30, 40, 50		15, 20, 30, 40, 50	15, 20, 30, 40, 50, 60	
Rated operational voltage, U <sub>e</sub>	AC(V)	690	690	690	690	690	690
	DC(V)	500	500	500	500	500	500
Rated insulation voltage, U <sub>i</sub>	V	750	750	750	750	750	750
Rated impulse withstand voltage, U <sub>imp</sub>	kV	8	8	8	8	8	8
Rated short-circuit breaking capacity(I <sub>cu</sub> ) kA (Sym), KSC8321, IEC 60947-2							
AC	690V	2.5	2.5	5	10	2.5	5
	480/500V	7.5	7.5	10	35	7.5	10
	415/460V	14 (10)	14	18	50	14	18
	380V	18 (14)	18	22	50	18	22
	220/250V	30 (25)	30	35	100	30	35
DC	500V(3P)	5	5	10	30	5	10
	250V(2P)	5	5	10	30	5	10
Service breaking capacity(%I <sub>cu</sub> ), I <sub>cs</sub>		100	100	100	100	100	100
Category of use		A	A	A	A	A	A
Endurance (Number of operations)	Mechanical						
	Electrical						
Type of trip unit							
Thermal-magnetic release		fixed	fixed	fixed	fixed	fixed	fixed
Hydraulic-magnetic release							
Magnetic release only without thermal trip							
Earth leakage protection	for 3 pole	▲	▲	▲	▲	▲	▲
Accessories							
Electrical auxiliaries	Auxiliary switch	●	●	●	●	●	●
	Alarm switch	●	●	●	●	●	●
	Shunt trip	●	●	●	●	●	●
	Undervoltage trip	●	●	●	●	●	●
External accessories	Direct rotary handle	●	●	●	●	●	●
	Extended rotary handle	●	●	●	●	●	●
	Terminal shield	●	●	●	●	●	●
	Insulation barrier	●	●	●	●	●	●
	Rear connection	●	●	●	●	●	●
	Pad handle lock	●	●	●	●	●	●
Plug-in device	●	●	●	●	●	●	
Dimensions (mm)	W×H×D (3P)	75×130×60	75×130×60		90×155×60	75×130×60	
Weight(kg)	2 pole	0.5	0.5	0.5	0.7	0.5	0.5
	3 pole	0.7	0.7	0.7	1	0.7	0.7
	4 pole	0.9	0.9	0.9	1.2	0.9	0.9

Note) 1. ● applicable or available  
2. ▲ available as a separate breaker



100	125		250		
N-Type	S-Type	H-Type	N-Type	S-Type	H-Type
ABN102c	ABS102c	ABH102c	ABN202c	ABS202c	ABH202c
ABN103c	ABS103c	ABH103c	ABN203c	ABS203c	ABH203c
ABN104c	ABS104c	ABH104c	ABN204c	ABS204c	ABH204c
15, 20, 30, 40, 50, 60, 75, 100	15, 20, 30, 40, 50, 60, 75, 100, 125		100, 125, 150, 175, 200, 225, 250		
690	690	690	690	690	690
500	500	500	500	500	500
750	750	750	750	750	750
8	8	8	8	8	8
5	8	10	8	8	10
10	25	30	18	26	30
18	37	50	26	37	50
22	42	50	30	42	50
35	85	100	65	85	100
10	20	30	10	20	30
10	20	30	10	20	30
100	100	100	100	100	100
A	A	A	A	A	A
fixed	fixed	fixed	fixed	fixed	fixed
▲	▲	▲	▲	▲	▲
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
75 × 130 × 60	90 × 155 × 60		105 × 165 × 60		
0.5	0.7	0.7	1.1	1.1	1.1
0.7	1	1	1.2	1.2	1.2
0.9	1.2	1.2	1.6	1.6	1.6

Calibrated for 40°C	Amb. Temp.	-5°C	0°C	10°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
	In=15 to 30	111.9%	111.3%	110.0%	108.0%	106.6%	104.9%	102.7%	100.0%	96.8%	93.3%
In=40 to 100	110.2%	109.8%	108.7%	107.0%	105.8%	104.3%	102.4%	100.0%	97.2%	94.0%	
In=100 to 225	114.3%	113.2%	110.6%	107.5%	105.8%	104.0%	102.0%	100.0%	97.9%	95.6%	
In=250 to 800	110.0%	109.0%	107.0%	105.0%	104.0%	103.0%	101.5%	100.0%	98.5%	97.0%	

# Molded case circuit breakers

## Metasol 400AF to 1200AF Series

Frame Size(AF)		400			
Type		N-Type	S-Type	H-Type	L-Type
Type and Pole	2 pole	ABN402c	ABS402c	ABH402c	ABL402c
	3 pole	ABN403c	ABS403c	ABH403c	ABL403c
	4 pole	ABN404c	ABS404c	ABH404c	ABL404c
Rated current, I <sub>n</sub>	A	250, 300, 350, 400			
Rated operational voltage, U <sub>e</sub>	AC(V)	690	690	690	690
	DC(V)	500	500	500	500
Rated insulation voltage, U <sub>i</sub>	V	750	750	750	750
Rated impulse withstand voltage, U <sub>imp</sub>	kV	8	8	8	8
Rated short-circuit breaking capacity(I <sub>cu</sub> ) kA (Sym), KSC8321, IEC 60947-2					
AC	690V	5	8	10	14
	480/500V	18	35	50	65
	415/460V	37	50	65	85
	380V	42	65	70	100
	220/250V	50	75	85	125
DC	500V(3P)	10	20	40	40
	250V(2P)	10	20	40	40
Service breaking capacity(%I <sub>cu</sub> ), I <sub>cs</sub>		100	100	100	75
Category of use		A	A	A	A
Endurance (Number of operations)	Mechanical	-	-	-	-
	Electrical	-	-	-	-
Type of trip unit					
Thermal-magnetic release		fixed	fixed	fixed	fixed
Hydraulic-magnetic release		-	-	-	-
Magnetic release only without thermal trip		-	-	-	-
Earth leakage protection	for 3 pole	▲	▲	▲	▲
Accessories					
Electrical auxiliaries	Auxiliary switch	●	●	●	●
	Alarm switch	●	●	●	●
	Shunt trip	●	●	●	●
	Undervoltage trip	●	●	●	●
External accessories	Direct rotary handle	●	●	●	●
	Extended rotary handle	●	●	●	●
	Terminal shield	●	●	●	●
	Insulation barrier	●	●	●	●
	Rear connection	●	●	●	●
	Mechanical interlock	●	●	●	●
	Plug-in device	●	●	●	●
Dimensions (mm)	W×H×D (3P)	140×257×109			
Weight(kg)	2 pole	5.2	5.2	5.2	5.2
	3 pole	6.2	6.2	6.2	6.2
	4 pole	7.8	7.8	7.8	7.8

Note) 1. ● applicable or available  
2. ▲ available as a separate breaker



800			1000		1200		
N-Type	S-Type	L-Type	S-Type	L-Type	S-Type		L-Type
ABN802c	ABS802c	ABL802c	-	-	-	-	-
ABN803c	ABS803c	ABL803c	ABS1003b	ABL1003b	ABS1203b	ABS1203bE	ABL1203b
ABN804c	ABS804c	ABL804c	ABS1004b	ABL1004b	ABS1204b	-	ABL1204b
500, 630, 700, 800			1000		1200		
690	690	690	600	600	600	600	600
500	500	500	-	-	-	-	-
750	750	750	690	690	690	690	690
8	8	8	6	6	6	6	6
8	10	14	-	-	-	-	-
25	45	65	50	75	50	50	75
37	65	85	65	85	65	65	85
45	75	100	65	85	65	65	85
50	85	125	100	125	100	100	125
10	20	40	-	-	-	-	-
10	20	40	-	-	-	-	-
100	100	75	50	50	50	50	50
A	A	A	A	A	A	A	A
-	-	-	2500	2500	2500	2500	2500
-	-	-	500	500	500	500	500
fixed	fixed	fixed	fixed	fixed	fixed	-	fixed
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
▲	▲	▲	-	-	-	●	-
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	-	-	-	-	-
●	●	●	-	-	-	-	-
●	●	●	-	-	-	-	-
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	-	-	-	-	-
●	●	●	-	-	-	-	-
210×280×109			220×400×105		220×400×105		
11	11	11	-	-	-	-	-
11.5	11.5	11.5	19.6	19.6	-	-	-
18.2	18.2	18.2	-	-	25.7	25.7	25.7

Calibrated for 40°C	Amb. Temp.	-5°C	0°C	10°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C
	In=15 to 30	111.9%	111.3%	110.0%	108.0%	106.6%	104.9%	102.7%	100.0%	96.8%	93.3%
	In=40 to 100	110.2%	109.8%	108.7%	107.0%	105.8%	104.3%	102.4%	100.0%	97.2%	94.0%
	In=100 to 225	114.3%	113.2%	110.6%	107.5%	105.8%	104.0%	102.0%	100.0%	97.9%	95.6%
In=250 to 800	110.0%	109.0%	107.0%	105.0%	104.0%	103.0%	101.5%	100.0%	98.5%	97.0%	

# Earth Leakage Circuit Breakers

## Metasol 30AF to 250AF Series

Frame Size(AF)		30	50			60	
Type		S-Type	N-Type	S-Type	H-Type	N-Type	S-Type
Type and Pole	2-pole	-	EBN52c	-	-	-	-
	3-pole	EBS33c	EBN53c	EBS53c	EBH53c	EBN63c	EBS63c
	4-pole	EBS34c	-	EBS54c	EBH54c	-	EBS64c
Protective function		Overload, Short-circuit and Ground fault	Overload, Short-circuit and Ground fault		Overload, Short-circuit and Ground fault	Overload, Short-circuit and Ground fault	
Rated current, I <sub>n</sub> A		15, 20, 30	15, 20, 30, 40, 50			15, 20, 30, 40, 50	60
Rated residual current, I <sub>Δn</sub> mA		30, 100/200/500	30, 100/200/500			30, 100/200/500	30, 100/200/500
Rated operational voltage, U <sub>e</sub> AC(V)		220/460	220/460			220/460	220/460
Rated impulse withstand voltage, U <sub>imp</sub> kV		6	6			6	6
Residual current off-time at I <sub>Δn</sub> sec		≤0.1 sec	≤0.1 sec			≤0.1 sec	≤0.1 sec
Rated short-circuit breaking capacity (I <sub>cu</sub> ) kA (Sym), KSC8321, IEC 60947-2							
AC	460V	14	14	18	50	14	18
	415V	14	14	18	50	14	18
	220/250V	30	30	35	100	30	35
Service breaking capacity(%I <sub>cu</sub> ), I <sub>cs</sub>		100	100	100	100	100	100
Category of use		A	A	A	A	A	A
Endurance (Number of operations)	Mechanical	25000	25000	25000	25000	25000	25000
	Electrical	10000	10000	10000	10000	10000	10000
Type of trip unit							
Overcurrent pick-up		Thermal-magnetic	Thermal-magnetic			Thermal-magnetic	
Earth leakage pick-up		Electronic	Electronic			Electronic	
Accessories							
Electrical auxiliaries	Auxiliary switch	●	●	●	●	●	●
	Alarm switch	●	●	●	●	●	●
	Shunt trip						
	Undervoltage trip						
External accessories	Insulation barrier	●	●	●	●	●	●
	Terminal cover (Long)	●	●	●	●	●	●
	Terminal cover (Short)	●	●	●	●	●	●
	Rotary handle (Direct)	●	●	●	●	●	●
	Rotary handle (Direct, Key lock)	●	●	●	●	●	●
	Rotary handle (Extended)	●	●	●	●	●	●
	Rear terminal (Bar)				●	●	●
	Rear terminal (Round)	●	●	●	●	●	●
	Plug-in kit	●	●	●	●	●	●
	Pad handle lock	●	●	●	●	●	●
Dimensions (mm)	W×H×D (3P)	75×130×60	75×130×60		90×155×60	75×130×60	
Weight(kg)	2 pole	-	0.5	-	-	-	-
	3 pole	0.7	0.7	0.7	1	0.7	0.7
	4 pole	0.9	-	0.9	1.2	-	0.9

Note) 1. ● applicable or available  
2. ▲ available as a separate breaker



100		125		250	
N-Type	S-Type	H-Type	N-Type	S-Type	H-Type
EBN102c	-	-	EBN202c	-	-
EBN103c	EBS103c	EBH103c	EBN203c	EBS203c	EBH203c
EBN104c	EBS104c	EBH104c	-	EBS204c	EBH204c
Overload, Short-circuit and Ground fault	Overload, Short-circuit and Ground fault		Overload, Short-circuit and Ground fault		
60, 75, 100	15, 20, 30, 40, 50, 60, 75, 100, 125		100, 125, 150, 175, 200, 225, 250		
30, 100/200/500 220/460	30,100/200/500 220/460		30,100/200/500 220/460		
6	6		6		
≤0.1 sec	≤0.1 sec		≤0.1 sec		
18	37	50	26	37	50
18	37	50	26	37	50
35	85	100	65	85	100
100	100	100	100	100	
A	A	A	A	A	
25000	25000	25000	20000	20000	20000
10000	10000	10000	5000	5000	5000
Thermal-magnetic	Thermal-magnetic		Thermal-magnetic		
Electronic	Electronic		Electronic		
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
75 × 130 × 60	90 × 155 × 60		105 × 165 × 60		
0.5	-	-	1.1	-	-
0.7	1	1	1.2	1.2	1.2
0.9	1.2	1.2	-	1.5	1.5

# Earth Leakage Circuit Breakers

## Metasol 400AF to 1200AF Series

Frame Size(AF)		400			
Type		N-Type	S-Type	H-Type	L-Type
Type and Pole	3-pole	EBN403c	EBS403c	EBH403c	EBL403c
	4-pole	EBN404c	EBS404c	EBH404c	EBL404c
Protective function		Overload, Short-circuit and Ground fault			
Rated current, I <sub>n</sub> A		250, 300, 350, 400			
Rated residual current, I <sub>Δn</sub> mA		30, 100/200/500mA			
Rated operational voltage, U <sub>e</sub> AC(V)		220/460	220/460	220/460	220/460
Rated impulse withstand voltage, U <sub>imp</sub> kV		6	6	6	6
Residual current off-time at I <sub>Δn</sub> sec		0.1 sec	0.1 sec	0.1 sec	0.1 sec
Rated short-circuit breaking capacity (I <sub>cu</sub> ) kA (Sym), KSC8321, IEC 60947-2					
AC	415/460V	37	50	65	85
	220/250V	50	75	85	125
Service breaking capacity(%I <sub>cu</sub> ), I <sub>cs</sub>		100	100	100	75
Category of use		A	A	A	A
Endurance (Number of operations)	Mechanical	40000	40000	40000	40000
	Electrical	10000	10000	10000	10000
Type of trip unit					
Overcurrent pick-up		Thermal-magnetic			
Earth leakage pick-up		Electronic			
Accessories					
Electrical auxiliaries	Auxiliary switch	●	●	●	●
	Alarm switch	●	●	●	●
	Shunt trip	●	●	●	●
	Undervoltage trip	●	●	●	●
External accessories	Insulation barrier	●	●	●	●
	Terminal cover (Long) - 2, 3pole	●	●	●	●
	Terminal cover (Long) - 4pole	●	●	●	●
	Rotary handle (Direct)	●	●	●	●
	Rotary handle (Extended)	●	●	●	●
	Mechanical interlock - 2, 3pole	●	●	●	●
	Mechanical interlock - 4pole	●	●	●	●
	Rear terminal - 2pole	●	●	●	●
	Rear terminal - 3pole	●	●	●	●
	Rear terminal - 4pole	●	●	●	●
Plug-in kit	●	●	●	●	
Dimensions (mm)	W×H×D (3P)	140×257×109			
Weight(kg)	2 pole	-	-	-	-
	3 pole	7	7	7	7
	4 pole	8.4	8.4	7	7

Note) 1. ● applicable or available  
2. ▲ available as a separate breaker



800			1000	1200
N-Type	S-Type	L-Type	S-Type	S-Type
EBN803c	EBS803c	EBL803c	EBS1003b	EBS1203b
-	-	-	-	-
Overload, Short-circuit and Ground fault			Overload, Short-circuit and Ground fault	
500, 630, 700, 800			1000	1200
30, 100/200/500mA			100/200/500mA	100/200/500mA
220/460	220/460	220/460	220/460	220/460
6	6	6	-	-
0.1 sec	0.1 sec	0.1 sec	0.1 sec	0.1 sec
37	65	85	85	85
50	85	125	125	125
100	100	75	-	-
A	A	A	-	-
2500	2500	2500	2500	2500
500	500	500	500	500
Thermal-magnetic			Thermal-magnetic	Thermal-magnetic
Electronic			Electronic	Electronic
●	●	●	●	●
●	●	●	●	●
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
●	●	●	-	-
-	210×280×109	-	220×565×105	
-	-	-	-	-
11.5	11.5	11.5	27.1	27.1
-	-	-	-	-