

# Molded Case Circuit Breakers

## Metasol 30AF to 250AF Series

### MCCB

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, In	(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, Ue	AC(V)	690	690	690	690	690	690
	DC(V)	500	500	500	500	500	500
Rated insulation voltage, Ui	(V)	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage, Uimp	(kV)	8	8	8	8	8	8
Rated short-circuit breaking capacity(Icu) 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(%Icu), Ics		100	100	100	100	100	100
Category of use		A	A	A	A	A	A
Endurance (Number of operations)	Mechanical	25,000	25,000	25,000	25,000	25,000	25,000
	Electrical	10,000	10,000	10,000	10,000	10,000	10,000
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

3. The Ics(service breaking capacity) of ABN100e, ABL125/250AF are in ( )



# 100AF MCCB

## ABN100c/ABN100d/ABN100e

Metasol

### 제품의 정격 및 사양



ABN102c



ABN103c



ABN104c

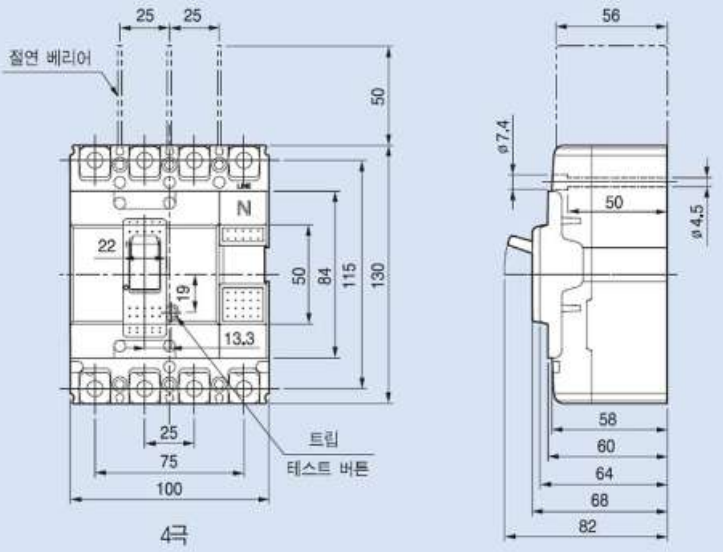
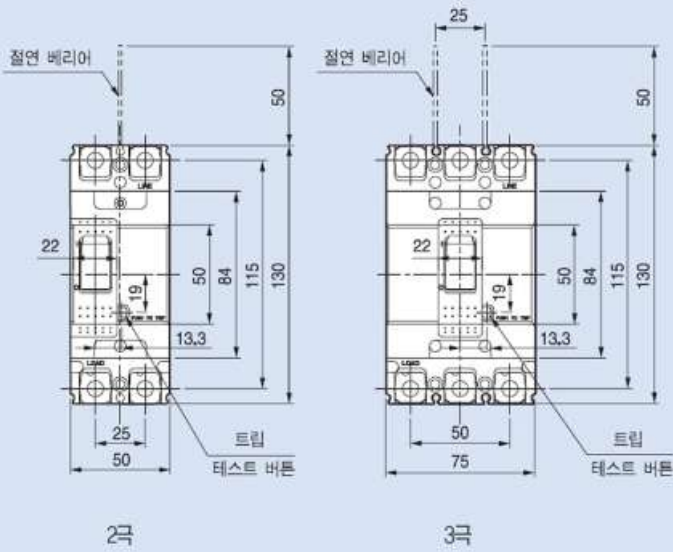
#### 기타 자료

- 부속장치      ▶ 7-1쪽
- 특성곡선      ▶ 8-1쪽
- 외형치수      ▶ 9-2쪽
- 부착과 접속   ▶ 10-2쪽

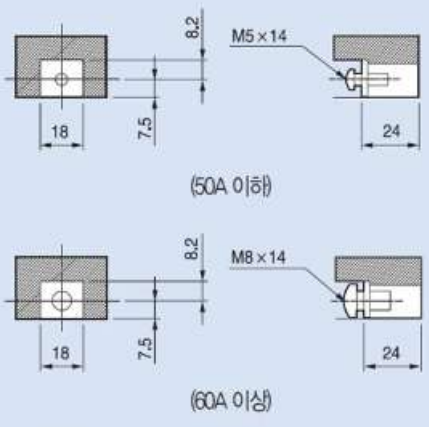
프레임의 크기		100AF						
형명 및 극수		N-type						
	2극 (2P2E)	ABN102c	ABN102d	ABN102e				
	3극 (3P3E)	ABN103c	ABN103d	ABN103e				
	4극 (4P3E)	ABN104c	ABN104d	ABN104e				
정격전류, I <sub>n</sub>		15, (16), 20, 30, (32), 40, 50, 60, (63), 75, (80), 100A <sup>*)</sup>						
정격전압, U <sub>e</sub>		AC : 690V						
		DC : 500V						
정격절연전압, U <sub>i</sub>		AC : 1000V						
정격임펄스전압, U <sub>imp</sub>		8kV						
정격차단전류, I <sub>cu</sub>		N-type						
KS C 8321 (Sym) AC	690V	5kA	7.5 (5)kA	7.5 (5)kA				
IEC 60947-2 (Icu)	480/500V	10kA	14 (10)kA	14 (10)kA				
	460V	18kA	26 (18)kA	31 (18)kA				
	415V	18kA	26 (18)kA	31 (18)kA				
	380V	22kA	30 (22)kA	31 (22)kA				
	220/250V	35kA	50 (35)kA	65 (35)kA				
DC	500V (3극)	10kA	15 (10)kA	15 (10)kA				
	250V (2극)	10kA	15 (10)kA	15 (10)kA				
I <sub>cs</sub> =%×I <sub>cu</sub>		100%	( )	( )				
보호기능		과부하, 순시 및 단락전류						
과전류트립방식		열동전자식 (Thermal-magnetic, TM)						
순시트립동작특성		12×I <sub>n</sub> (30 A 이하 : 400 A)						
한계수명 (Life cycle) <sup>*)</sup>	기계적	25,000회						
	전기적	10,000회						
접속방식		표준      표면형 (Front Connection)						
	선택	이면형 (Rear Connection)						
		꽃음접속식 (Plug-in)						
설치방식		표준      나사취부						
외형치수 (mm)		극수	2극	3극	4극			
	a		50	75	100			
	b		130	130	130			
	c1 <sup>*)</sup>		60	60	60			
	c2 <sup>*)</sup>		64	64	64			
	d		82	82	82			
제품중량, kg	표준		0.5	0.7	0.9			
취득규격		극수	2극	3극	4극	2극	3극	4극
전기용품안전관리법			○			○		○
CE 마크			○			○		○

\*) 1. 정격차단전류중 안전인증 (형식승인) 취득정격은 빨간색 글씨부분이고 나머지 전압의 차단전류는 참고 정격임  
 2. c1: 영판 노출 방법, c2: 핸들 노출 방법  
 3. ABN102c Type의 극수 I<sub>cu</sub>=18kA임

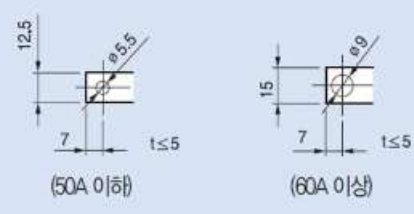
(단위 : mm)



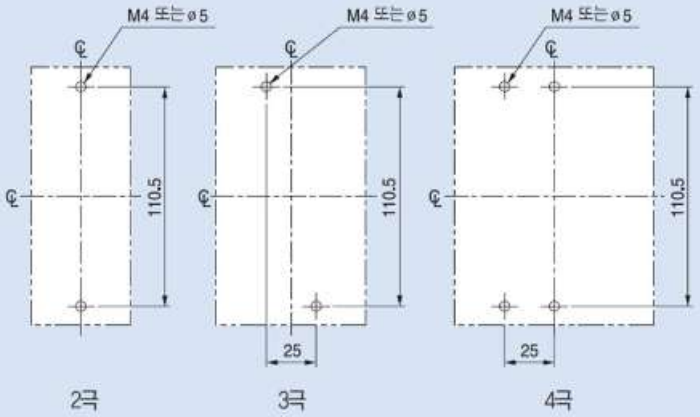
단자부 상세도



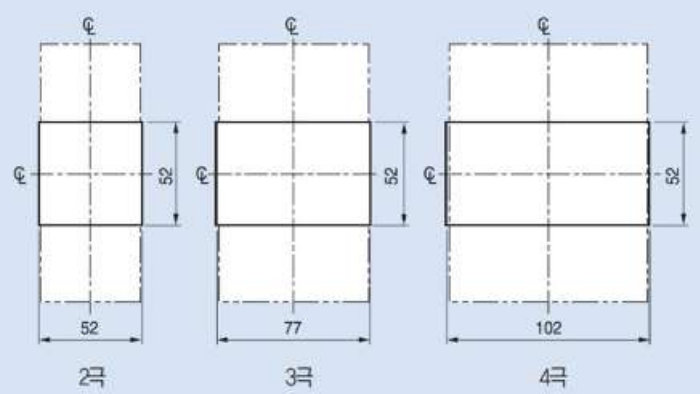
접속도체 가공도



패널설치치수



패널커버절단치수



자료 출처 : LS ELECTRIC (https://www.lselectric.co.kr)  
 S일렉트릭 배너 클릭 시 홈페이지로 이동합니다.

# Molded Case Circuit Breakers

## Metasol 400AF to 1200AF Series

### MCCB

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, In	(A)	250, 300, 350, 400			
Rated operational voltage, Ue	AC(V)	690	690	690	690
	DC(V)	500	500	500	500
Rated insulation voltage, Ui	(V)	1000	1000	1000	1000
Rated impulse withstand voltage, Uimp	(kV)	8	8	8	8
Rated short-circuit breaking capacity(Icu) 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(%Icu), Ics		100	100	100	75
Category of use		A	A	A	A
Endurance (Number of operations)	Mechanical	4,000	4,000	4,000	4,000
	Electrical	1,000	1,000	1,000	1,000
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	-	-	-	-	-
1000	1000	1000	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
2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
500	500	500	500	500	500	500	500
fixed	fixed	fixed	fixed	fixed	fixed	-	fixed
-	-	-	-	-	-	Adjustable	-
-	-	-	-	-	-	-	-
▲	▲	▲	-	-	-	●	-
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	-	-	-	-	-
●	●	●	-	-	-	-	-
●	●	●	-	-	-	-	-
●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●
●	●	●	-	-	-	-	-
●	●	●	-	-	-	-	-
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%	