

External configuration

MCCB

① Handle

- Function of indications
- "ON" "OFF" "TRIP"

• Resetting

When the handle indicates "tripped" position it must first be reset by moving the handle to the "OFF" position and then closing is possible

- Trip-Free even if the handle is held at "ON", the breaker will trip if an over current flows
- Suitable for Verification of the main contact position under abnormal conditions because the handle doesn't indicate open position

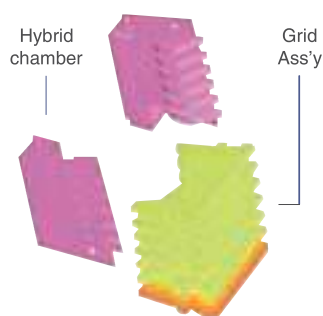
② Arc-Extinguishing unit

LS patent technique PASQ

Arc-Extinguishing unit

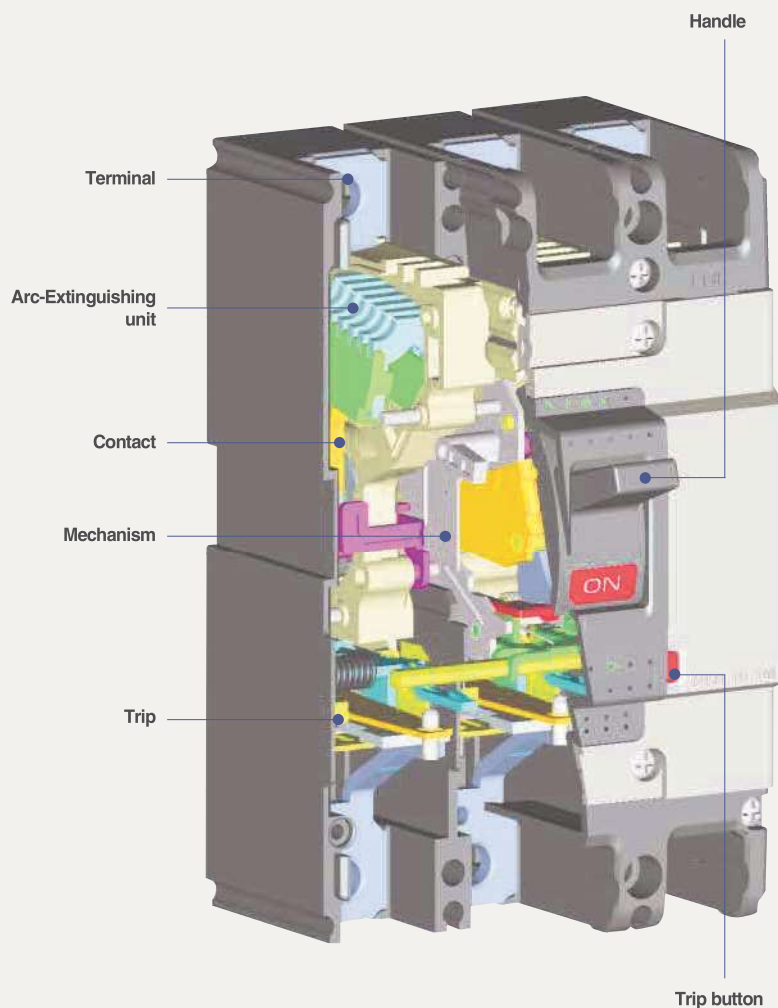
PASQ : Puffer Assisted Self-Quenching

- Reduction of arc voltage for a short time

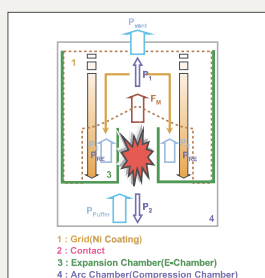


③ Trip button (push to trip)

- Enables tripping mechanically from outside, for confirming the operation of the accessory switches and the manual resetting function.



A Application of PASQ Arc Extinguishing



- The reduction of breaking time by applying PASQ arc extinguishing for inhibition of arc voltage for a short time.

A Application of Current limiting structure

- Current limiting repulsion structure (U fixed structure)
- Toggle structure
 - When the operating unit repulses by short circuit current, repulsion structure at bigger angle.



Quick selection table

Molded Case Circuit Breakers

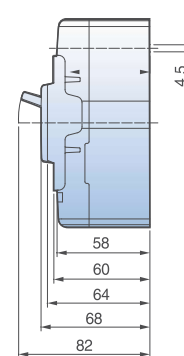
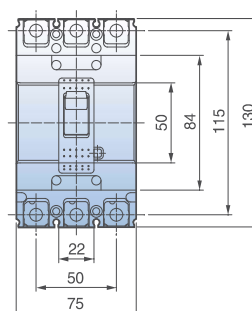
MCCBs



AF		30AF		50AF			60AF		
Type		E-Type	S-Type	N-Type	S-Type	H-Type	N-Type	S-Type	
Type and Pole	2-pole	ABE32b	ABS32c	ABN52c	ABS52c	ABH52c	ABN62c	ABS62c	
	3-pole	ABE33b	ABS33c	ABN53c	ABS53c	ABH53c	ABN63c	ABS63c	
	4-pole	-	ABS34c	ABN54c	ABS54c	ABH54c	ABN64c	ABS64c	
Rated current, I _n	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 _e	AC(V)	460	690	690	690	690	690	690	
	DC(V)	-	500	500	500	500	500	500	
Rated insulation voltage, U _i	V	460	750	750	750	750	750	750	
Rated impulse withstand voltage, U _{imp}	kV	6	8	8	8	8	8	8	
Rated short-circuit breaking capacity(I _{cu}) 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	2.5	14 (10)	14	18	50	14	18	
	380V	2.5	18 (14)	18	22	50	18	22	
	220/250V	5	30 (25)	30	35	100	30	35	
DC	500V(3P)	-	5	5	10	30	5	10	
	250V(2P)	-	5	5	10	30	5	10	
I _{cs} =% × I _{cu}		50	100	100	100	100	100	100	
Dimensions (mm)	W × H × D (3-pole)	75 × 96 × 60mm	75 × 130 × 60mm (Fig. 1)	75 × 130 × 60mm (Fig. 1)		90 × 155 × 60mm (Fig. 2)	75 × 130 × 60mm (Fig. 1)		
More info.	Ratings	32 page	34 page	36 page		36 page	38 page		
	Curves	87 page	87 page	87 page		88 page	87 page		
	Drawings	92 page	93 page	93 page		94 page	93 page		

Note) 1. The short-circuit breaking capacities in () are applied to the rated current in (3, 5, 10A) 2. MCCBs can be applied to both 50 and 60Hz.

AF Type	30AF	50AF	60AF	100AF	125AF	250AF
ABN		ABN50c 14kA	ABN60c 14kA	ABN100c 18kA		ABN250c 26kA
ABS	ABS30c 14kA	ABS50c 18kA	ABS60c 18kA		ABS125c 37kA	ABS250c 37kA
ABH		ABH50c 50kA			ABH125c 50kA	ABH250c 50kA



(Fig. 1)

Quick selection table

ZCT Molded Case Circuit Breakers

MCCBs



AF		30AF	50AF			60AF		
Type		S-Type	N-Type	S-Type	H-Type	N-Type	S-Type	
Type and Pole	2-pole	-	-	-	ABH52c	-	-	
	3-pole	ABS33c	ABN53c	ABS53c	ABH53c	ABN63c	ABS63c	
	4-pole	ABS34c	ABN54c	ABS54c	ABH54c	ABN64c	ABS64c	
Rated current, I _n	A	15, 20, 30	15, 20, 30, 40, 50			15, 20, 30, 40, 50, 60		
Rated operational voltage, U _e	AC(V)	690	690	690	690	690	690	
Rated insulation voltage, U _i	V	750	750	750	750	750	750	
Rated impulse withstand voltage, U _{imp}	kV	8	8	8	8	8	8	
Rated short-circuit breaking capacity(I _{cu}) 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	14	18	50	14	18	
	380V	18	18	22	50	18	22	
	220/250V	30	30	35	100	30	35	
I _{cs} =% × I _{cu}		100	100	100	100	100	100	
Dimensions (mm)	W × H × D	75 × 130 × 60mm	75 × 130 × 60mm		90 × 155 × 60mm	75 × 130 × 60mm		
	(3-pole)	(Fig. 1)	(Fig. 1)		(Fig. 2)	(Fig. 1)		
More info.	Ratings	32 page	36 page		36 page	38 page		
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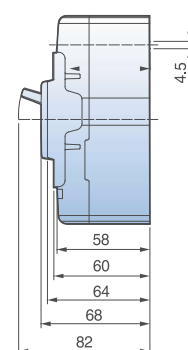
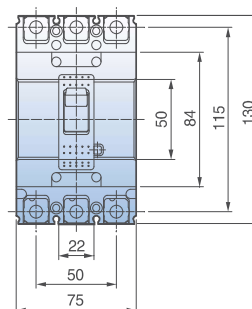
Note) 1. Same electrical and physical specification with MCCB.

2. Accessory : Same application with MCCB

3. MCCBs can be applied to both 50 and 60Hz.

4. Marking ZCT on the Aux. cover right side

AF Type	30AF	50AF	60AF	100AF	125AF	250AF
ABN		ABN50c 14kA	ABN60c 14kA	ABN100c 18kA		ABN250c 26kA
ABS	ABS30c 14kA	ABS50c 18kA	ABS60c 18kA		ABS125c 37kA	ABS250c 37kA
ABH		ABH50c 50kA			ABH125c 50kA	ABH250c 50kA



(Fig. 1)

30AF MCCB

ABS30c

Metasol



ABS52c



ABS53c

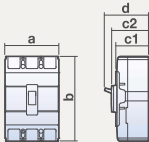


ABS54c

For more information

- Drawings ▶ 93 page
- Trip curves ▶ 87 page
- Accessories ▶ 72 page
- Connection and mounting ▶ 110 page

Ratings

Frame size			30AF		
Type and Pole			S-Type		
	2-pole		ABS32c		
	3-pole		ABS33c		
	4-pole		ABS34c		
Rated current, In		(3-5-10)-15-20-30A			
Rated operational voltage, Ue		AC: 690V			
		DC: 500V			
Rated insulation voltage, Ui		AC: 750V			
Rated impulse withstand voltage, Uimp		8kV			
Rated short-circuit breaking			S-Type		
capacity, Icu	AC	690V	2.5 kA		
		480/500V	7.5 kA		
IEC 60947-2 (Icu)		460V	14 (10)kA		
		415V	14 (10)kA		
		380V	18 (14)kA		
		220/250V	30 (25)kA		
	DC	500V(3P)	5 kA		
		250V(2P)	5 kA		
Protective function			Overload, Short-circuit		
Type of trip unit			Thermal-Magnetic		
Magnetic trip range			400A		
Endurance	Mechanical	25000 operations			
	Electrical	10000 operations			
Connection	Standard	Front connection			
	Optional	Rear connection			
		Plug-in			
Mounting	Standard	Screw fixing			
Dimensions (mm)		Pole	2p	3p	4p
	a		50	75	100
	b		130	130	130
	c1 Note)		60	60	60
	c2 Note)		64	64	64
	d		82	82	82
Weight, kg	Standard		0.5	0.7	0.9
Certification		Pole	2p	3p	4p
CE marking		CE	○	○	○

Note) Depth by door cut size : c1 for large cut, c2 for small cut

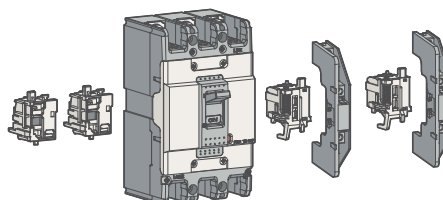
Ordering types

Breaker types

ABS type (10kA/460V)			
Rated current, In	2-pole	3-pole	4-pole
3 A	ABS32c/3	ABS33c/3	ABS34c/3
5 A	ABS32c/5	ABS33c/5	ABS34c/5
10 A	ABS32c/10	ABS33c/10	ABS34c/10

ABS type (14kA/460V)			
Rated current, In	2-pole	3-pole	4-pole
15 A	ABS32c/15	ABS33c/15	ABS34c/15
20 A	ABS32c/20	ABS33c/20	ABS34c/20
30 A	ABS32c/30	ABS33c/30	ABS34c/30

Accessories



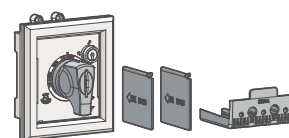
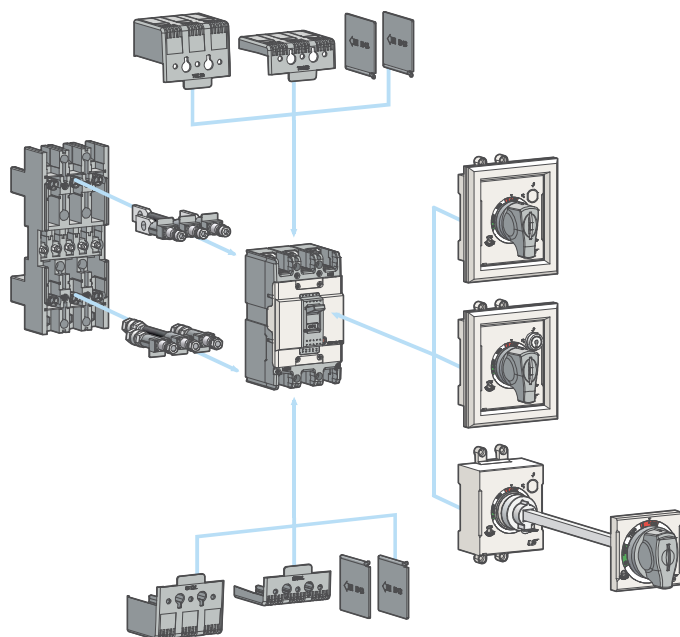
Electrical auxiliaries

AX	Auxiliary Switch	
AL	Alarm Switch	
AX+AL	Combination switch	
SHT	Shunt Trip	
UVT	Undervoltage trip	

Maximum possibilities

T-position	One of above auxiliaries
R-position	Option of AX or AL or AX+AL

Note) For more detail see 72 page



External accessories

ABS30c	Name
IB13	Insulation barrier
TCL13	Terminal cover (Long)
TCS13	Terminal cover (Short)
DH100	Rotary handle (Direct)
DHK100	Rotary handle (Direct, Key lock)
EH100	Rotary handle (Extended)
RTR1	Rear terminal (Round)
PB-A3	Plug-in kit
PHL100C	Pad handle lock

Note) For more detail see 80 page

Dimensions

MCCB

ABN50c

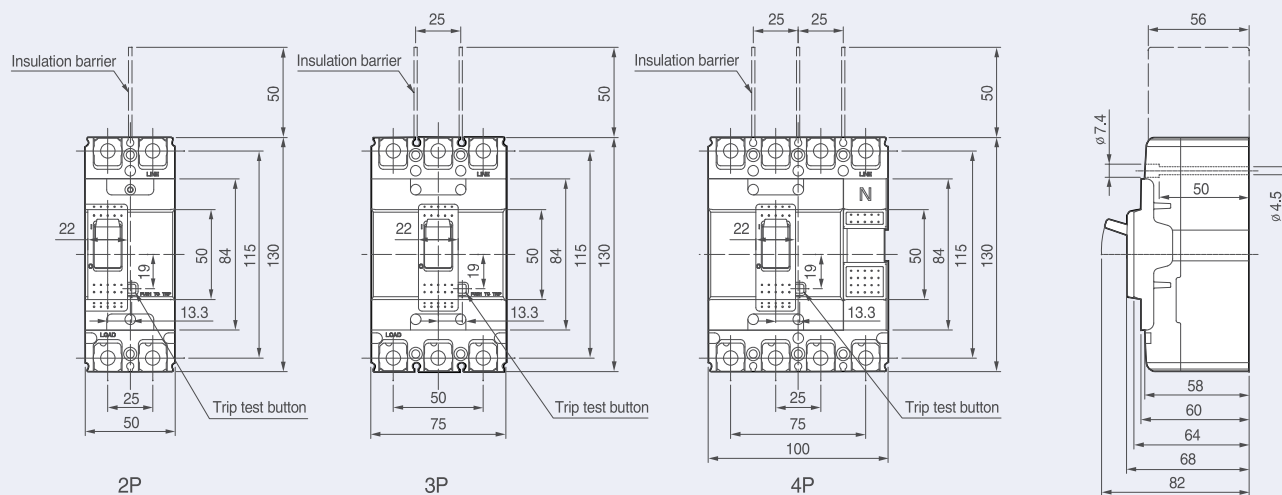
ABS30c

ABN60c

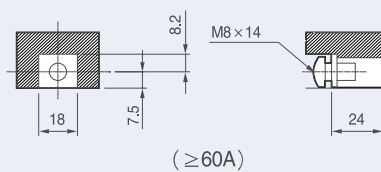
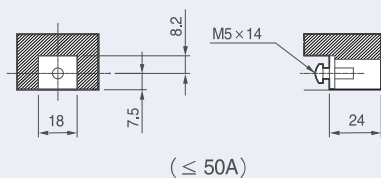
ABS50c

ABN100c/100d

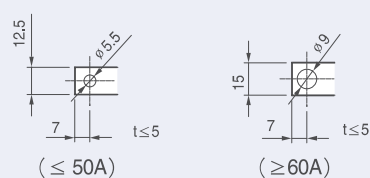
ABS60c



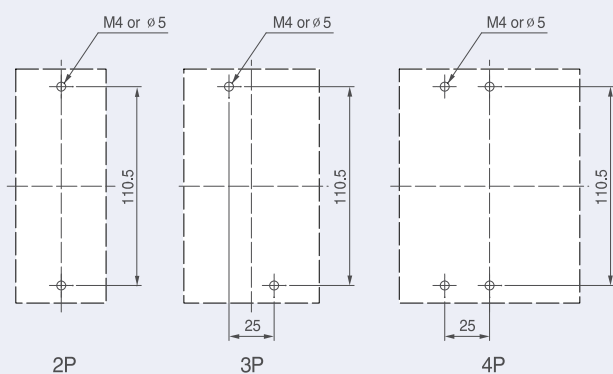
Terminal details



Connecting



Panel drilling



Front panel cutting

