

Top 100
Global
Innovator
for 10 years

Susol *Super Solution*

Metasol *Meta Solution*

Air Circuit Breakers



LS *ELECTRIC*

Ordering

Metasol

ACB & Accessories

AS	10	D	3	10	J
Type	Ampere * Frame	Frame sizes & phase array	No. of pole	Rated current ** (CT Spec.)	Connections
Circuit Breakers	06 630AF 08 800AF 10 1000AF 13 1250AF 16 1600AF 20 2000AF	D 630~2000AF 3P/4P Standard RST(N) W 630~2000AF 4P Reverse phase type (N)RST	3 3P(D) 4 4P(D, W)	00 Without OCR & CT 02 200A 04 400A 06 630A 08 800A 10 1000A 13 1250A 16 1600A 20 2000A	Draw-out type *** J Manual connection A Automatic connection
Switch Disconnector	20 2000AF 25 2500AF 32 3200AF 40 4000AF	E 2000~4000AF 3P/4P Standard RST(N) X 2000~4000AF 4P Reverse phase type (N)RST	3 3P(E) 4 4P(E, X)	02 200A 04 400A 06 630A 08 800A 10 1000A 13 1250A 16 1600A 20 2000A 25 2500A 32 3200A 40 4000A	Fixed type H Horizontal type V Vertical type M Mixed type Horizontal Vertical N Mixed type Vertical Horizontal P Front type
	40 4000AF 50 5000AF	F 4000/5000AF 3P/4P Standard RST(N) Y 4000/5000AF 4P Reverse phase type (N)RST	3 3P(F) 4 4P(F, Y)	40 4000A 50 5000A	
	40 4000AF 50 5000AF 63 6300AF	G 4000/5000/6300AF 3P/4P Standard RST(N) Z 4000/5000/6300AF 4P Reverse phase type (N)RST	3 3P(G) 4 4P(G, Z)	40 4000A 50 5000A 63 6300A	

* AN type: 630~1600AF

AS type: 630~2000AF, 2000~4000AF, 4000~5000AF, 4000~6300AF

** AN type offers rated current of 1600A when choosing 630~1600AF

*** Please, refer to cradle installation instruction for draw-in/out types.
(p.119~124)

Note) 1. AS-20D, AS-40E types are equipped with vertical-only terminals.

In case of F/Y/G/Z Frame size, front type & mixed type connection is not available.

2. In case of DN/DS type Switch Disconnector, the rated current (CT Spec.) will be applied 00 (without OCR & CT)

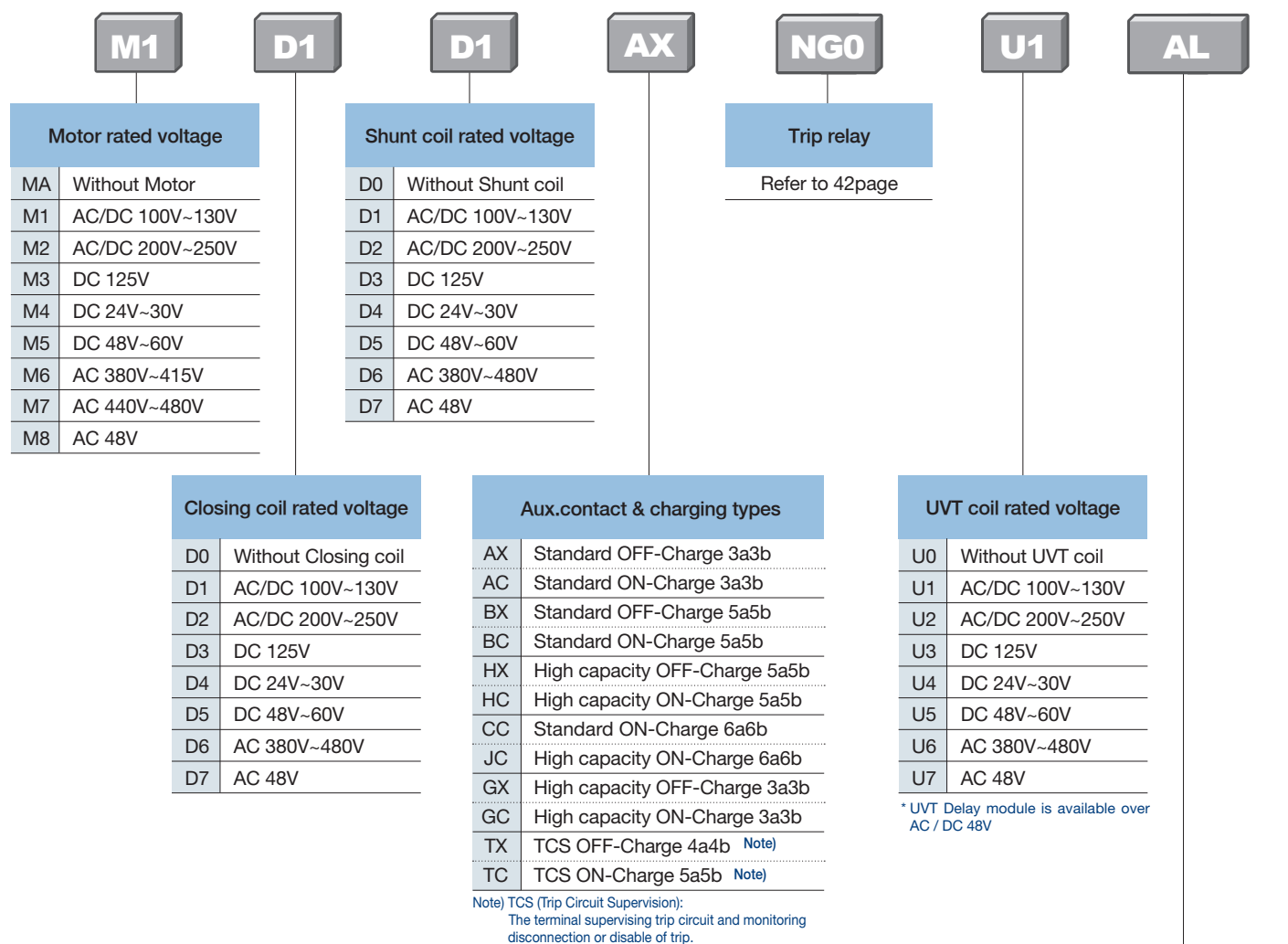
3. For the busbar installation method of draw-out type, please refer to the connection type of cradle which describes in page 20

4. Front connection terminals should be purchased separately (see Page 68.)

AT	20	D	3	00	U
Earthing product					
	20 2000AF	D RST(N) W Reverse NRST	3 3P 4 4P		U Line earthed system L Load earthed system
	40 4000AF	E RST(N) X Reverse NRST			

* Rated short-circuit withstand current of the protective circuit in earthing product : 60kA/1s

* Please contact us to get more detail information of earthing product.



Option	Type name		Option	Type name		
AL	AL1+MRB		B	B	On/Off Button lock	
A1	AL1+MRB+RES (AC110~130V)		M	MI	Mechanical interlock	
A2	AL1+AL2+MRB		D	DI or MOC	Door Interlock or MOC (Mechanism operated cell switch)	
A3	AL1+MRB+RES (DC110~125V)					
A4	AL1+MRB+RES (AC200~250V)		K	K1	Key lock	
A5	AL1+MRB+Auto reset		K2	K2	Key Interlock set	
A6	AL1+AL2+MRB+Auto reset		K3	K3	Key lock double	
A7	AL1+MRB+RES (DC110~125V)+Auto reset		R	RCS	Ready to close switch	
A8	AL1+MRB+RES (AC200~250V)+Auto reset		T	TM	Temperature monitoring	
A9	AL1+MRB+RES (AC110~130V)+Auto reset		H1	SHT2	AC/DC 100~130V	Double shunt coil
Y2	AL1+AL2+MRB (2b contact)		H2		AC/DC 200~250V	
Y6	AL1+AL2+MRB+Auto reset (2b contact)		H3		DC 125V	
Z2	AL1+AL2+MRB (1a1b contact)		H4		DC 24~30V	
Z6	AL1+AL2+MRB+Auto reset (1a1b contact)		H5		DC 48~60V	
C	C	Counter	H6		AC 380~480V	
S	CS2	Charge switch communication	H7		AC 48V	

Note) 1. Reduplicate of AL is not available
2. Reduplicate of Key lick is not available
3. Reduplicate of Double shunt coil is not available. It can not be used simultaneously with UVT.

4. RCS and CS2 cannot be used simultaneously
5. TM and auxiliary contacts TX, TC, CC, JC cannot be used simultaneously.
6. MI cannot be used simultaneously with DI or MOC

Ratings

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Circuit Breaker



Type			
Ampere frame		(AF)	
Rated current (A)	(In max)	at 40℃	
Setting current (A)*	Control trip relay (... × In max)		
Rated current of neutral pole (A)			
Rated insulation voltage (V)	(Ui)		
Rated operational voltage (V)	(Ue)		
Rated impulse withstand voltage (kV) (Uimp)			
Frequency (Hz)			
Number of poles (P)			
Rated breaking capacity (kA sym)			220V/230V/380V/415V
AC 50/60Hz	(Icu)	IEC 60947-2 KS C 4620	460V/480V/500V
			550V/600V/690V
Rated service breaking capacity (kA)	(Ics)		... %×Icu
Rated making capacity (kA peak)			220V/230V/380V/415V
AC 50/60Hz	(Icm)	IEC 60947-2 KS C 4620	460V/480V/500V
			550V/600V/690V
Rated short-time withstand current (kA)	(Icw)		1 sec
			2 sec
			3 sec
Operating time (ms)			Maximum total breaking time
			Maximum closing time
Life cycle (time)		Mechanical	
		Electrical	
Connections**	Draw-out / Fixed		Horizontal connection
			Vertical connection
			Front connection
			Mixed connection
Weight (kg)	Draw-out type	Main body	Motor charging type
(3P/4P)		(With cradle)	Manual charging type
		Cradle only	
	Fixed type		Motor charging type
			Manual charging type
External dimensions (mm)		Draw-out	3P
(H×W×D)		type	4P
		Fixed type	3P
			4P
Trip relay			
Certificate & Approval			
Marine clasification			

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AN-06D	AN-08D	AN-10D	AN-13D	AN-16D
630	800	1000	1250	1600
200, 400, 630	200, 400, 630, 800	630, 800, 1000	630, 800, 1000, 1250	800, 1000, 1250, 1600
0.4 ~ 1.0				
630	800	1000	1250	1600
1,000				
690				
12				
50/60				
3/4				
65				
65				
50				
100%				
143				
143				
105				
50				
42				
36				
Less than 25ms under Icw/Less than 75ms over Icw				
80ms under				
20,000				
5,000				
●				
○				
○				
○				
63/74				
61/72				
29/32				
34/44				
32/42				
430×334×375				
430×419×375				
300×300×295				
300×385×295				
N, A, P, S type				
KS / KEMA / KERI / GOST				
-				

* Refer to trip relay specification. ** ●: Standard, ○: Option

Note) 1. Life time means not guarantee, but limitation.

Quality guarantee: On/Off frequency on the basis of IEC60947-2 within the term of guarantee

2. The use of AN-D, AS-D and AS-F in IT systems is limited to 500 V network voltage.

3. AS-20D, AS-40E types are equipped with vertical-only terminals.

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Metasol					
AS-06D	AS-08D	AS-10D	AS-13D	AS-16D	AS-20D
630	800	1000	1250	1600	2000
200, 400, 630	200, 400, 630, 800	630, 800, 1000	630, 800, 1000, 1250	800, 1000, 1250, 1600	1000, 1250, 1600, 2000
0.4 ~ 1.0					
630	800	1000	1250	1600	2000
1,000					
690					
12					
50/60					
3/4					
70					
70					
65					
100%					
154					
154					
143					
65					
50					
42					
Less than 25ms under Icw/Less than 75ms over Icw					
80ms under					
20,000					
5,000					
●					-
○					●
○					-
○					-
63/74					70/85
61/72					63/83
29/32					33/40
34/44					38/47
32/42					36/45
430×334×375					
430×419×375					
300×300×295					
300×385×295					
N, A, P, S type					
KS / KEMA / KERI / GOST					
LR, ABS, DNV, KR, BV, GL, RINA, NK					

Metasol			
AS-20E	AS-25E	AS-32E	AS-40E
2000	2500	3200	4000
200, 400, 630, 800, 1000, 1250, 1600, 2000	1250, 1600, 2000, 2500	1600, 2000, 2500, 3200	2000, 2500, 3200, 4000
0.4 ~ 1.0			
2000	2500	3200	4000
1,000			
690			
12			
50/60			
3/4			
85			
85			
85			
100%			
187			
187			
187			
85			
75			
65			
Less than 25ms under Icw/Less than 75ms over Icw			
80ms under			
15,000			
5,000			
●			-
○			●
○			-
○			-
87/103			104/147
85/101			102/145
44/50			58/70
44/55			63/100
42/53			61/98
430×412×375			
430×527×375			
300×378×295			
300×493×295			
N, A, P, S type			
KS / KEMA / KERI / GOST			
LR, ABS, DNV, KR, BV, GL, RINA, NK			

Metasol		Metasol		
AS-40F	AS-50F	AS-40G	AS-50G	AS-63G
4000	5000	4000	5000	6300
2000, 2500, 3200, 4000 (3200, 4000)	2500, 3200, 4000, 5000	2000, 2500, 3200, 4000	2500, 3200, 4000, 5000	3200, 4000, 5000, 6300
0.4 ~ 1.0		0.4 ~ 1.0		
4000	5000	4000	5000	6300
1,000		1,000		
690		690		
12		12		
50/60		50/60		
3/4		3/4		
100		120		
100		120		
85		100		
100%		100%		
220		264		
220		264		
187		220		
85		100		
75		85		
65		75		
Less than 25ms under Icw/Less than 75ms over Icw				
90ms under		90ms under		
10,000		10,000		
2,000		2,000		
○		○		
●		●		
-		-		
-		-		
107/139		181/223		186/230
102/145		179/221		184/228
65/85		97/117		102/124
61/81		98/123		103/130
60/80		96/121		101/128
460×629×375		460×785×375		
460×799×375		460×1015×375		
300×597×295		300×751×295		
300×767×295		300×981×295		
N, A, P, S type		N, A, P, S type		
KS / KEMA / KERI / GOST				
LR, ABS, DNV, KR, BV, GL, RINA, NK				

※ Derating of the rated current is required according to the ambient temperature around the breaker in a panel if it is higher than the reference value. (See pages 123 to 126)
 ※ It is possible to connect power and load side reversely, but please use it for normal connection for maintenance and safety.

