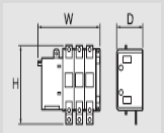
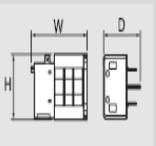
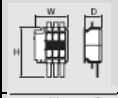
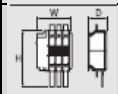
▷ ATS (Automatic Trasfer Switch) : 2 Positions (A↔B)

- Suitable for small inductive load current.
- UL1008 Certificate
- Continuous energize type/Instantaneous energize type
- Quick transfer to dual direction

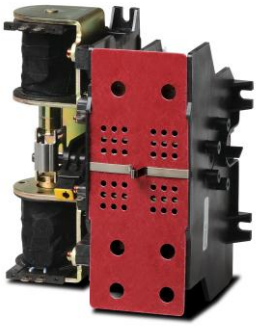
Type			61W		62W		64W		
Rated Current (In)		A	100		200		400		
			150		300		600		
Rated voltage (Ue)		V	AC600		AC600		AC600, DC125		
Poles		P	3, 4		3, 4		2, 3, 4		
Throw		T	One Throw		One Throw		Double Throw		
Connection Method	Front		●		●		●		
	Back		-		-		●		
Short Circuit Withstand									
With Circuit Limiting Fuses		kA	200		200		200		
With any Circuit Breaker		kA	10		10		10		
With Specific Circuit Breaker		kA	22		22		42		
Switch Capacity		Class	AC33B		AC33B		AC33B		
Operational Cycle	Electrical	Times	50,000		50,000		50,000		
	Mechanical	Times	250,000		250,000		250,000		
Transfer Sequence			A ↔ B		A ↔ B		A ↔ B		
Operation Time	opening	msec	≤30		≤30		≤60		
	closing	msec	≤60		≤60		≤200		
	closing off	sec	-		-		-		
Operating Voltage & Current			3P	4P	3P	4P	2P	3P	4P
A ↔ B closing	DC110V	A	-	-	-	-	7.5	7.5	11
	AC100/110V	A	-	-	-	-	7.5	7.5	11
	AC200/220V	A	10	10	10	10	3.8	3.8	5.5
External Size & Weight									
Front Size(mm)		H	171	171	171	171	254	254	254
		W	219	219	219	219	248	299	350
		D	110	110	110	110	119	119	119
Back Size(mm)		H	-	-	-	-	208	208	208
		W	-	-	-	-	236	287	338
		D	-	-	-	-	163	163	163
Weight	Front	kg	2.5	3	3.5	4	7.5	8	10.5
	Back	kg	-	-	-	-	6	8	10
Other Detailed Info									
Circuit diagram			A6-21		A6-21				
Contact Time chart			A6-18		A6-18				
Drawing			A6-31		A6-31				
Precautions			A6-16		A6-16				

▷ ATS (Automatic Trasfer Switch) : 3 Positions (A↔N↔B)

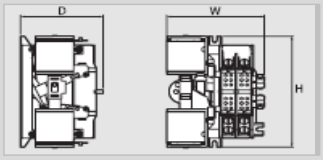
- Maximum breaking capacity (IEC60947-6)
- High transfer performance for inductive load current
- UL1008 Certificate

Type				61WN			62WN			64WN			66WN		68WN		610WN		612WN		616WN		620WN		625WN		630WN	
Rated Current (In)	AC33B		A	100			200			400			600		800		1000		1200		1600		2000		2500		3000	
	AC31B			150			300			600			800		1000		1200		1400		1800		2500		3000		3500	
Rated voltage (Ue)			V	AC600, DC125			AC600, DC125			AC600, DC125			AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125	
Poles			P	2, 3, 4			2, 3, 4			2, 3, 4			3, 4		3, 4		3, 4		3, 4		3, 4		3, 4		3, 4		3, 4	
Throw			T	Double Throw			Double Throw			Double Throw			Double Throw		Double Throw		Double Throw		Double Throw		Double Throw		Double Throw		Double Throw		Double Throw	
Connection Method	Front			●			●			●			●		●		●		●		●		-		-		-	
	Back			●			●			●			●		●		●		●		●		●		●		●	
Short Circuit Withstand																												
With Circuit Limiting Fuses			kA	200			200			200			200		200		200		200		200		200		200		100	
With any Circuit Breaker			kA	10			10			35			35		50		50		50		85		85		100		250	
With Specific Circuit Breaker			kA	25			25			45			65		65		65		65		85		100		100		100	
Switch Capacity			Class	AC33B			AC33B			AC33B			AC33B		AC33B		AC33B		AC33B		AC33B		AC33B		AC33B		AC33B	
Operational Cycle	Electrical		Times	50,000			50,000			50,000			50,000		10,000		10,000		10,000		10,000		5,000		5,000		5,000	
	Mechanical		Times	250,000			250,000			250,000			250,000		50,000		50,000		50,000		50,000		10,000		10,000		10,000	
Transfer Sequence				A↔B, A↔Neutral(off)↔B									A↔B, A↔Neutral(off)↔B															
Operation Time	A power	closing	msec	≤55			≤55			≤55			≤60		≤100		≤100		≤115		≤115		≤140		≤180		≤180	
		trip	msec	≤20			≤20			≤20			≤20		≤30		≤30		≤30		≤30		≤35		≤35		≤35	
	B power	closing	msec	≤80			≤80			≤80			≤90		≤135		≤135		≤145		≤145		≤190		≤220		≤220	
		trip	msec	≤20			≤20			≤20			≤25		≤30		≤30		≤30		≤30		≤35		≤35		≤35	
Operating Voltage & Current				2P	3P	4P	2P	3P	4P	2P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
closing	DC110V		A	4	4	5	4	4	5	5	5	7.2	6.4	9	8	10	8	10	8	10	8	10	13	16	13	16	16	18
	AC100/110V		A	4	4	5	4	4	5	5	5	7.2	6.4	9	8	10	8	10	8	10	8	10	13	16	13	16	16	18
	AC200/220V		A	2	2	2.5	2	2	2.5	2.5	2.5	3.6	3.2	4.5	4	5	4	5	4	5	4	5	6.5	8	6.5	8	8	9
Trip	AC/DC110V		A	1.4			1.4			1.4			3		3		4		4		4		4		4		4	
	AC220V		A	0.7			0.7			0.7			1.5		1.5		2		2		2		2		2		2	
External Size & Weight																												
Front Size(mm)			H	192	192	192	192	192	192	254	254	254	278	278	298	298	298	298	535	535	535	535	-	-	-	-	-	-
			W	218	254	290	218	254	290	248	299	350	340	400	400	480	400	480	453	536	453	536	-	-	-	-	-	-
			D	118	118	118	118	118	118	119	119	119	143	143	143	143	143	143	228	228	228	228	-	-	-	-	-	-
Back Size(mm)			H	174	174	174	174	174	174	208	208	208	248	248	267	267	267	267	380	380	380	380	380	380	380	380	380	380
			W	218	254	290	218	254	290	248	299	350	340	400	400	480	400	480	453	536	453	536	528	636	603	736	603	736
			D	144	144	144	144	144	144	164	164	164	176	176	178	178	178	178	261	261	261	261	261	261	261	261	261	261
Weight	Front		kg	4.5	6	8	4.5	6	8	7.5	9	10.5	15	18	20	24	21	25	52.5	63.5	58	69	-	-	-	-	-	-
	Back		kg	4.5	6	8	4.5	6	8	6	8	10	14	17	19	23	20	24	50	60	55	65	65	85	92.5	119	92.5	119
Other Detailed Info																												
Circuit diagram				A6-19			A6-19			A6-19			A6-19		A6-19		A6-19		A6-19		A6-19		A6-19		A6-19		A6-19	
Contact Time chart				A6-18			A6-18			A6-18			A6-18		A6-18		A6-18		A6-18		A6-18		A6-18		A6-18		A6-18	
Drawing				A6-24			A6-24			A6-25			A6-26		A6-26		A6-26		A6-27		A6-27		A6-27		A6-28		A6-28	
Precautions				A6-14			A6-14			A6-14			A6-14		A6-14		A6-14		A6-14		A6-14		A6-14		A6-14		A6-14	

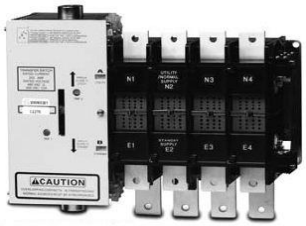
▷Miniature ATS(Automatic Transfer Switch) : 2 Position Type



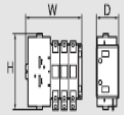
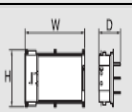
- Saving power :
  It is in an instantaneous excitation mode with little operating current (1.6A in case of AC 220V operation)
- Safe Design :
  The breaking part is molded for a dust-proof so the operational cycle of the contact part is semi-permanent.
- 2-Coil Mode :
  It adopted a simple operation mode using 2 coils
- Miniature :
  It can be built inside the portable generator or UPS
- Low Cost :
  It is a miniature type and it is optimal for a single phase with less than 200A (non-inductive)
- Applied Standard :
  IEC 60947-6-1 / UL1008

Type			21HS	22HS
Rated Current		A	100	100
Rated Voltage		V	AC250	
Poles		P	2	
Connection Method			Front	
Performance				
Short Time Current (1sec)		Ka	10	
Short Circuit Peak Current		kA	25	
Switch Capacity			Closing 10 × Ie, Breaking 8 × Ie, Cos Ø= 0.35	
Operational Cycle	Electrical	Times	50, 000	
	Mechanical	Times	250, 000	
Switch Frequency		Times / hr	150 (No.4)	
Transfer Sequence			A ↔ B	
Operating Time	opening	msec	≤30	
	closing	msec	≤60	
Operating Voltage & Current			AC220V, 1.6A	AC220V, 4.85A
External Size & Weight				
		H	165	176
		W	127	151
		D	100	121
Weight		kg	1.1	2.2
Precautions			1) Transfer time is operated at 0.3sec or less. Make sure a full operation is possible with an operation command of 0.5sec or more. 2) When A-side and B-side operation command is done simultaneously, it may lead to coil burning. 3) In case of an operation relay, select a sufficient contact capacity that exceeds the operating current.	

▷Uninterruptible ATS(Automatic Trasfer Switch) : 3 Position (A↔Synchronizing↔B)



- Maximum breaking capacity (IEC60947-6)
- Mutual interlocking (Utility and Gen set)
- Synchronous transfer performance

Type				61CT			62CT			64CT			66CT		610CT		616CT		620CT		630CT	
Rated Current (In)			A	100			200			400			600		800, 1000		1200, 1600		2000		3000	
Rated voltage (Ue)			V	AC600, DC125			AC600, DC125			AC600, DC125			AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125		AC600, DC125	
Poles			P	2, 3, 4			2, 3, 4			2, 3, 4			2, 3, 4		2, 3, 4		2, 3, 4		2, 3, 4		2, 3, 4	
Throw			T	Double Throw			Double Throw			Double Throw			Double Throw		Double Throw		Double Throw		Double Throw			
Connection Method	Front			•			•			•			•		•		•		·		·	
	Back			•			•			•			•		•		•		•		•	
Performance																						
Short Time Current(1sec)			kA	5			10			12			15		22		25		35		50	
Short Circuit Peak Current			kA	12.5			25			30			37.5		50		55		60		80	
Switch Capacity			Class	AC33B			AC33B			AC33B			AC33B		AC33B		AC33B		AC33B		AC33B	
Operational Cycle	Electrical		Times	50,000			50,000			50,000			10,000		10,000		10,000		5,000		5,000	
	Mechanical		Times	250,000			250,000			250,000			50,000		50,000		50,000		10,000		10,000	
Transfer Sequence				A ↔ B, A ↔ Neutral (off) ↔ B, A ↔ Overlapping (overlapping) ↔ B																		
Conditions of uninterruptible transfer				Phase difference : Within electrical angle 10°, Frequency difference : Within 0.2Hz , Voltage : Voltage difference with the commercial one is within 5% , Instantaneous Interconnection Time : Within 0.05 second																		
Opera-tion Time	Apower	closing	msec	≤55			≤55			≤60			≤100		≤115		≤115		≤180		≤140	
		trip	msec	≤20			≤20			≤25			≤30		≤30		≤30		≤30		≤35	
	Bpower	closing	msec	≤80			≤80			≤90			≤135		≤145		≤150		≤220		≤190	
		trip	msec	≤20			≤20			≤25			≤30		≤30		≤30		≤30		≤35	
Operating Voltage & Current				2P	3P	4P	2P	3P	4P	2P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
Closing	DC110V		A	4	4	5	5	5	7	6.4	6.4	9	7	8	8	10	10	13	13	16	16	18
	AC100/110V		A	4	4	5	5	5	7	6.4	6.4	9	7	8	8	10	10	13	13	16	16	18
	AC200/220V		A	2	2	2.5	2.5	2.5	3.6	3.2	3.2	4.5	3.5	4	4	5	5	6.5	6.5	8	8	9
Trip	AC/DC110V		A	1.4			1.4			2			2		2		2		4		4	
	AC220V		A	0.7			0.7			1			1		1		1		2		2	
External Size & Weight																						
Front Size(mm)		H		268	268	268	283	283	283	307	307	307	545	545	609	609	645	645	-	-	-	-
		W		211	241	271	241	286	331	293	353	413	465	530	510	590	570	670	-	-	-	-
		D		112	112	112	112	112	132	132	132	220	220	220	220		220	220	-	-	-	-
Back Size(mm)		H		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	600	600	600	600
		W		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	683	818	833	1018
		D		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	329	329	364	364
Weight	Front		kg	6.5	8	10	8	10	12	14	17	21	53	61	66	76	72	84				
	Back		kg	6.5	8	10	8	10	12	14	17	21	43	52	5043	61	57	69	130	150	165	205
Other Detailed Info																						
Circuit diagram				A6-23			A6-23						A6-23						A6-23			
Drawing				A6-36			A6-36			A6-37			A6-37						A6-38			
Precautions				A6-20			A6-20						A6-20						A6-20			