

Technical catalogue

Automatic Transfer Switches

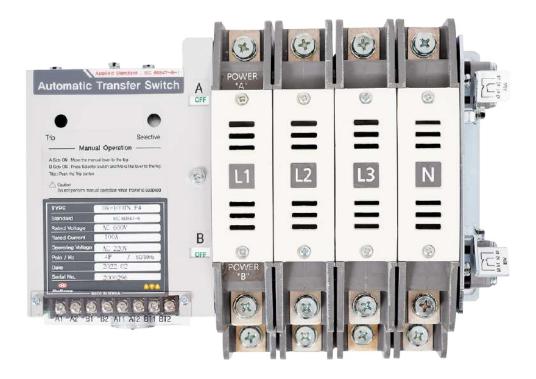


ATS

Automatic Transfer Switches

An automatic transfer switch continuously monitors utility power. When the utility power failures, the transfer switch will signal the generator to start. Once the generator has reached operating speeds with correct frequency and voltage levels, the transfer switch will disconnect the unility source and connect the generator.

After the utility power is restores, the automatic transfer switch returns the load to the grid. The generator automatically shuts down







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Automatic Transfer Breaker - ATB type

Automatic Transfer Switches Controller – Hanpro1000

Automatic Transfer Switches Controller – ATbS C55

General

Applied standard

- IEC-60947-6-1
- IEC-60947-2-1
- BS 4652 part 1
- VDE 0660
- ANSI (27.13)
- KSC 8325

Operating conditions

• Ambient temperature: Automatic Transfer Switches can be used in ambient conditions where the surrounding air temperature varies between -20°C and +60°C, and stored in ambients with temperatures between -25°C and +65°C

- Altitude: Below 2,000m above sea level.
- Mounting conditions: Perpendicularity and angularity ≤10°

Unique features

- Protection function of Circuit Breaker with digital overcurrent unit. Protection provided for overload, short circuit and ground faults.
- By-Pass Operation without interruption to load side.
- Manual operating facility available.
- Overlapping Neutral Pole.
- ATS and By-Pass switches are withdrawable.
- Single frame compact design saving space.
- User-friendly microprocessor controller.
- LCD display with monitoring and measurements.



Automatic Transfer Switches

Application scope

Electromagnetic operation, coupled with a power-saving structure facilitated by the transient excitation method, ensures a dependable power supply. Automatic Transfer Switches of the N type are well-suited for factories, hospitals, and residential settings with modest power requirements, necessitating swift switching between power sources.







Salient features

- Outstanding switching performance and reliable operational function.
- Compact and lightweight design enabling rapid switching (within 15 milliseconds).
- The molded breaking component, completely sealed, not only prevents electric shock but also guards against electric accidents caused by foreign substances.
- The operation sequence supports both AC and DC power sources.
- Ensures safety under varying flow-current conditions, with minimized operating current maximizing flow current performance.
- Robust protection is provided through a latch structure.
- Features a double throw type design for enhanced functionality.

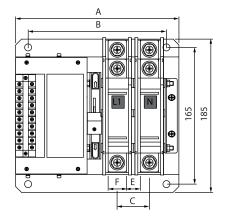
Image and structure



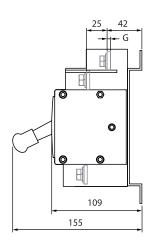
Selection table

Туре		HK-63/125N	HK-200/250N	
Rated operational current, In		63/125A	200/250A	
Rated Operational Voltage, Ue		AC600V, DC125V		
Rated Insulation Voltage, Ui		690V		
Impulse Withstand Voltage, Uimp		8kV		
No. of Pole		2, 3	3, 4	
Powercable connection method		Front bus ba	r connection	
Reference Standard		IEC 60947-6	G-1 / UL1008	
Rated short-time withstand current, Ic	W	5	κA	
Rated short-circuit making capacity, lo	m	5	κA	
Switch capacity Class		AC3,	DC1	
Life time	Electric	5000	time	
Life time	Mechanic	10000) time	
Switching frequency time/h		150 time/h		
Switching sequence		$A \leftrightarrow B$		
	Break(Opening)	≤ 50ms		
Operating Time	Make Closing	≤ 30ms		
	Make delay(Off)			
On anakin w V/alka wa	AC110/120V	35	5A	
Operating Voltage & Current	AC220/240V	20)A	
Control valtage	Max	110% Rated op	erating voltage	
Control voltage	Min	85% Rated operating voltage		
Withstand Voltage for Main circuit		2500V/60s		
Withstand Voltage for Control circuit		1500	V/60s	
	2P	4kg	4.5kg	
Weight	3P	5kg	5.6kg	
	4P	5.5kg	5.9kg	
	2P	190x155x185 mm	197x155x185 mm	
Dimensions (WxLxH)	3P	225x155x185 mm	236x155x185 mm	
,	4P	265x155x185 mm	275x155x185 mm	

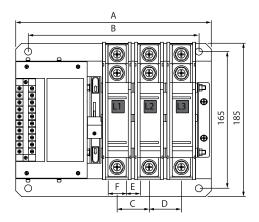
Dimensions



2P



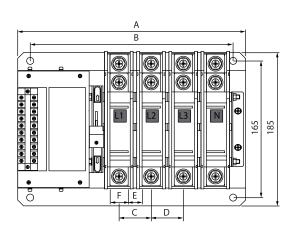
Side View



63A	(mm)					
~ 125A	2P	3P	4P			
Α	190	225	265			
В	160	195	235			
С	36					
D		36				
Е		16				
F	20					
G	3					

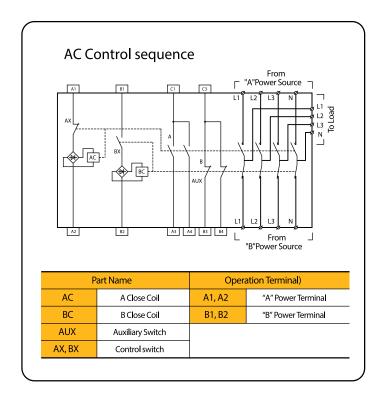
200A	(mm)				
250A	2P	3P	4P		
Α	197	236	275		
В	167	206	245		
С	38.5				
D		38.5			
E	16.5				
F	22				
G	4				

3P



4P

Front View



Application scope

Electromagnetic operation, paired with an energy-saving design supported by transient excitation, guarantees reliable power. TN type automatic power transfer switches are highly suitable for environments such as factories, construction sites, and apartment complexes that demand substantial power sources and necessitate seamless switching between power sources via the "OFF" position.







Salient features

- Excellent swithching performance and unfailing operation function.
- Most suitable for emergency power facility which is neutral position.
- The molded breaking component, completely sealed, not only prevents electric shock but also guards against electric accidents caused by foreign substances.
- The operation sequence supports both AC and DC power sources.
- Ensures safety under varying flow-current conditions, with minimized operating current maximizing flow current performance.
- Robust protection is provided through a latch structure.
- Features a double throw type design for enhanced functionality.

Image and structure









Selection table

Туре		HK-100/125TN HK-200/250TN		
Rated operational current, In		100/125A	200/250A	
Rated Operational Voltage, Ue		AC600V, DC125V		
Rated Insulation Voltage, Ui		690V		
Impulse Withstand Voltage, Uimp		8k	:V	
No. of Pole		2, 3	3, 4	
Powercable connection method		Front bus ba	r connection	
Reference Standard		IEC 60947-6	5-1 / UL1008	
Rated short-time withstand current, Ic	W	5kA	7kA	
Rated short-circuit making capacity, lo	cm	5kA	7kA	
Switch capacity Class		AC3,	DC1	
Electric		5000	time	
Life time	Mechanic	10000 time		
Switching frequency time/h		150 time/h		
Switching sequence		$A \leftrightarrow B, A \leftrightarrow OFF \leftrightarrow B$		
	Break(Opening)	≤ 30ms		
Operating Time	Make Closing	≤ 60)ms	
	Make delay(Off)	≤ 30)ms	
Operating Voltage & Current	AC110/120V	20)A	
Operating Voltage & Current	AC220/240V	10)A	
Control voltage	Max	110% Rated op	erating voltage	
Control voltage	Min	85% Rated ope	erating voltage	
Withstand Voltage for Main circuit		2500V/60s		
Withstand Voltage for Control circuit		1500	V/60s	
	2P	5kg	6kg	
Weight	3P	6.5kg	8kg	
	4P	8kg	9.5kg	
	2P	220x120	x215 mm	
Dimensions (WxLxH)	3P	257x120	x215 mm	
	4P	294x120	x215 mm	

Selection table

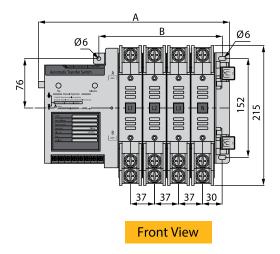
Туре		HK-400/500TN	HK-630TN	
Rated operational current, In		400/500A	630A	
Rated Operational Voltage, Ue		AC600V, DC125V		
Rated Insulation Voltage, Ui		690V		
Impulse Withstand Voltage, Uimp		8k	·V	
No. of Pole		3,	4	
Powercable connection method		Front bus ba	r connection	
Reference Standard		IEC 60947-6	-1 / UL1008	
Rated short-time withstand current, Ic	W	10kA	12kA	
Rated short-circuit making capacity, lo	:m	10kA	12kA	
Switch capacity Class		AC3,	DC1	
Life time	Electric	5000	time	
Mechanic		10000 time		
Switching frequency	time/h	150 time/h		
Switching sequence		$A \leftrightarrow B, A \leftrightarrow OFF \leftrightarrow B$		
	Break(Opening)	≤ 30)ms	
Operating Time	Make Closing	≤ 60)ms	
	Make delay(Off)	≤ 30	0ms	
Operating Voltage & Current	AC110/120V	20A	24A	
Operating Voltage & Current	AC220/240V	10A	12A	
Control voltage	Max	110% Rated op	erating voltage	
Control voltage	Min	85% Rated operating voltage		
Withstand Voltage for Main circuit		2500\	//60s	
Withstand Voltage for Control circuit		1500\	//60s	
Weight	3P	7.5kg	13kg	
TTOIGHT	4P	10kg	15kg	
Dimensions	3P	286x120x260 mm	344x145x304 mm	
(WxLxH)	4P	332x120x260 mm	405x145x304 mm	

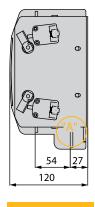
HK-800TN	HK-1000/1250TN	HK-1600TN	HK-2000/2500TN	HK-3000/3200TN	
800A	1000/1250A	1600A	2000/2500A	3000/3200A	
	AC600V, DC125V		AC690V, DC250V		
	690V		80	0V	
	F	Rear bus bar connection	า		
	I	EC 60947-6-1 / UL1008	3		
16kA	25kA	32kA	50	kA	
16kA	25kA	32kA	50	kA	
	AC3, DC1		AC3,	DC1	
	5000 time		3000	time	
	10000 time	5000 time			
	150 time/h		100 time/h		
		$A \leftrightarrow B, A \leftrightarrow OFF \leftrightarrow B$			
≤ 3	0ms	≤ 30ms	≤ 35ms		
≤ 6	0ms	≤ 130ms	≤ 150ms		
≤ 3	0ms	≤ 30ms	≤ 30ms		
24	4A	30A	35A		
1:	2A	15A	18	BA	
	110	% Rated operating voltage	age		
	85°	% Rated operating volta	age		
	2500V/60s		3000	V/60s	
	1500V/60s	1500	V/60s		
14kg	22kg	24kg	50kg	84kg	
16kg	26kg	28kg	60kg	100kg	
344x184x241 mm	417x182x270 mm	457x264x380 mm	500x412x465 mm		
405x184x241 mm	502x182x241 mm	540x264x380 mm	640x412	x465 mm	

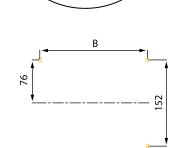
"A"

BUS BAR Dimensions(mm)

Dimensions Front type 100A~250A







Side View

100A	(mm)				
~ 250A	2P	3P	4P		
Α	220	257	294		
В	116	153	190		

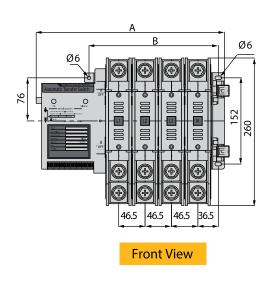
(mm)

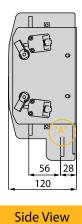
4P

332

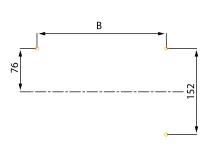
228

Front type 400A~500A









3P

286

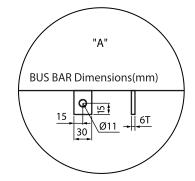
182

400A

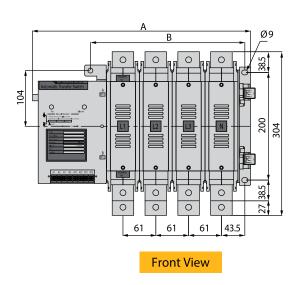
~ 500A

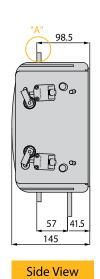
Α

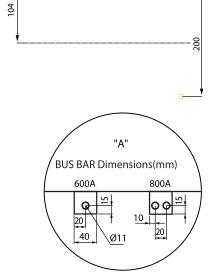
В



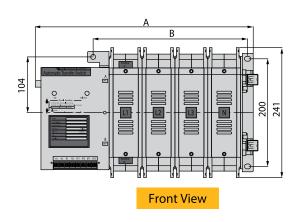
Dimensions Front type 630A

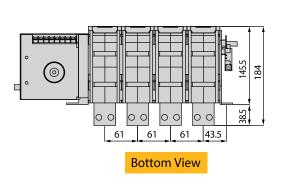


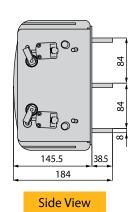


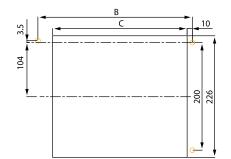


Back type 800A



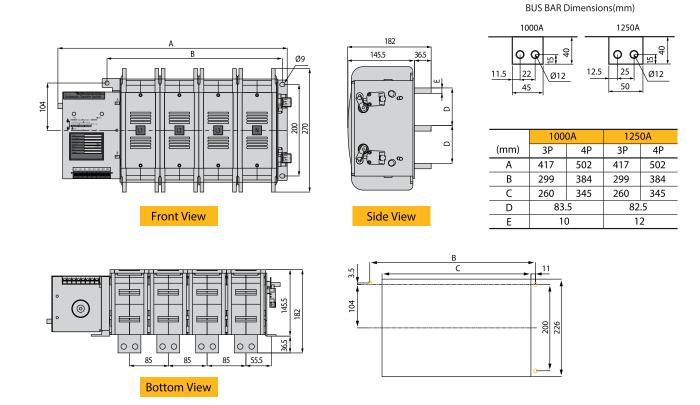




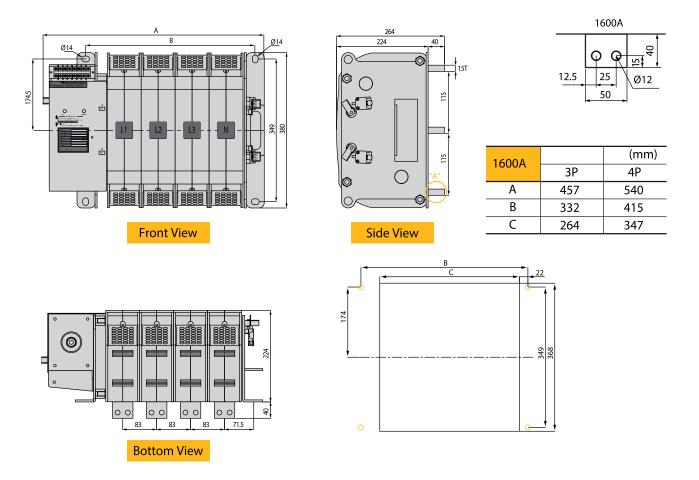


600A		(mm)
~ 800A	3P	4P
A	344	405
В	226	287
	189	250

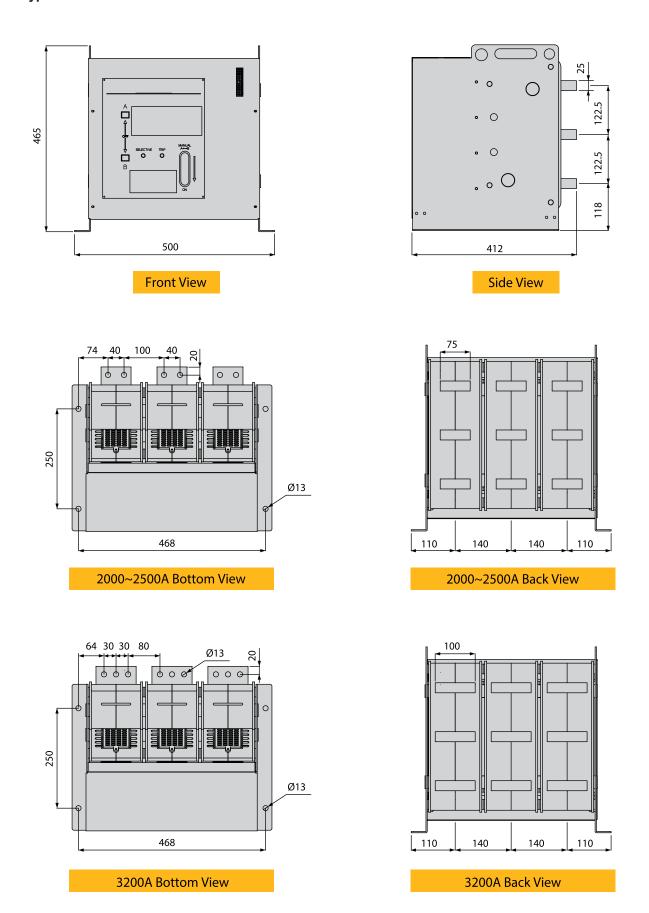
Dimensions Back type 1000A~1250A



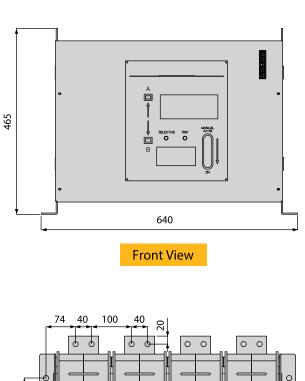
Back type 1600A

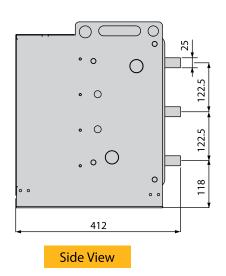


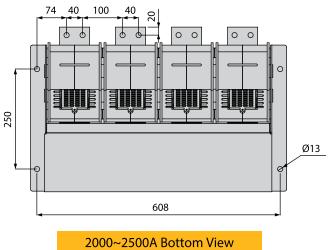
Dimensions Back type 2000A~3200A 3P

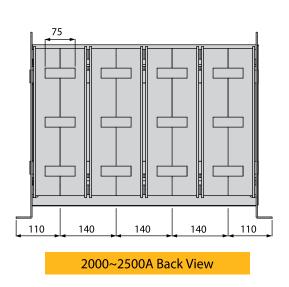


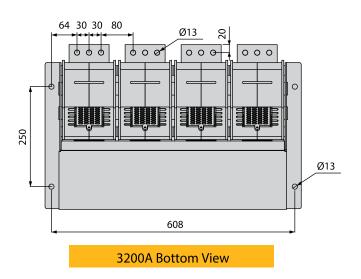
Dimensions Back type 2000A~3200A 4P

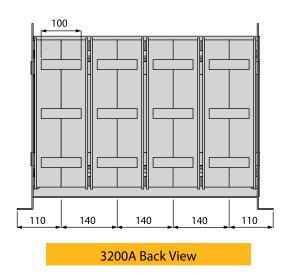












Application scope

Automatic Transfer Breaker operates on the principle of electromechanical energy, compatible with ACB operation.

Automatic Transfer Breaker - ATB type possesses the capability to transmit power without disrupting the power supply to the load. It is designed to withstand substantial switching currents, making it particularly suitable for critical loads found in environments such as airports, hospitals, institutes, and high-tech industrial plants.





Salient features

- Based on IEC 60947-6-1, 2 AC-33B become 1 ATB combine
- Compact and light design products with high breaking capacity
- Closed transient transfer switch and bypass functional products
- Sychronizing operation available between genset or between genset and main power
- Breaker type contact structure
- Protection relay (OCR, GR) available
- Safety operation and movement applying high quality arc chamber at the breaking component
- Safety flow-current condition, minimized operating current maximizes function of flow current performance

Image and structure



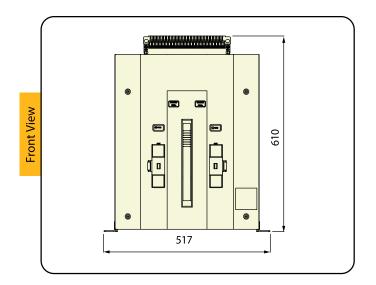


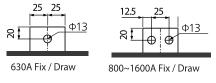
Selection table

Туре		ATB-06EX	ATB-08EX	ATB-10EX	ATB-12EX		
Rated operational current, In		630A	800A	1000A	1250A		
Rated Operational Voltage, Ue		690V					
Rated Insulation Voltage, Ui		1000V					
Impulse Withstand Voltage, Uimp			12	kV			
No. of Pole			3,	4			
Neutral Pole			Overlappir	ng Contact			
Power cable connection method			Front bus ba	r connection			
Reference Standard			IEC 609	947-6-1			
Rated short-time withstand current, Icw		50	kA				
Rated short-circuit making capacity, lcm		110)kA				
Life time	Electric		3000	time			
Life time	Mechanic		10000 time				
Max. Trip time		40ms					
Max. Closing time		60ms					
Time of Motor Charging [Max.]		10s					
Control voltage	Max	110% Rated operating voltage					
Control voltage	Min		85% Rated op	erating voltage	•		
Withstand Voltage for Main circuit		3000V/60s					
Withstand Voltage for Control circuit		1500V/60s					
	3P - Fixed	100	10)5	110		
Weight	4P- Fixed	110	1′	15	120		
vvoigiit	3P - Drawable	135	14	12	150		
	4P - Drawable	150	150 155		162		
	3P - Fixed	517x578x610					
Dimensions	4P- Fixed		517x57	78x610			
(WxLxH)	3P - Drawable		572x69	90x665			
	4P - Drawable		572x69	90x665			

ATB-16EX	ATB-20EX	ATB-25EX	ATB-32EX	ATB-40EX	ATB-50EX	ATB-63EX		
1600A	2000A	2500A	3200A	4000A	5000A	6300A		
			690V					
	1000V							
			12kV					
		3,	4			3		
		O	verlapping Conta	act				
		Fror	nt bus bar conne	ction				
			IEC 60947-6-1					
50kA		65kA		85	kA	100kA		
110kA		143kA		187	7kA	220kA		
	3000	time	3000 time					
10000 time				6000 time				
	40	ms		50ms				
	60	ms		80ms				
	10	Os		10s				
			Rated operating					
		85% F	Rated operating \	/oltage				
			3000V/60s					
			1500V/60s					
130	140	150	160	190	190	205		
140	150	160	170	255	255	270		
176	190	203	216	330	330	-		
190	203	216	230	435	435	-		
517x578x610		517x578x610		717x63		717x633x610		
517x578x610		617x578x610		917x633x610 917x633x6				
572x690x665		572x690x665		772x740x665 -				
572x690x665		672x690x665		972x74	10x665	-		

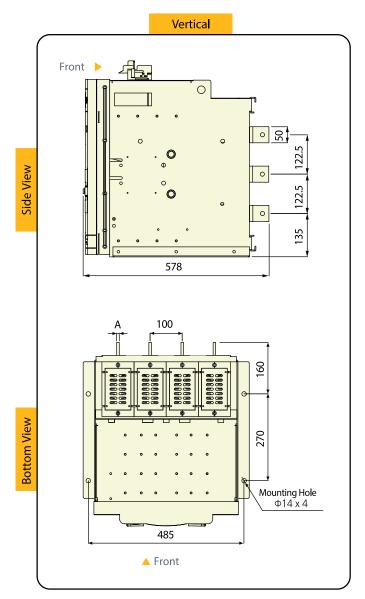
Dimensions 630~1600A Fixed Type

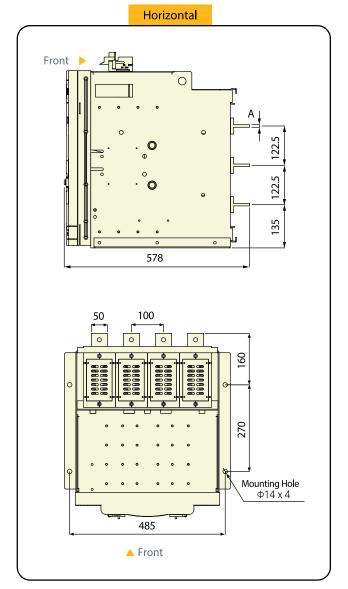




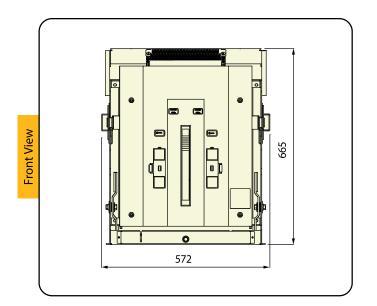
▲ BUS BAR Dimensions

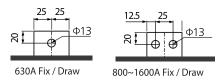
	630~	630~800A 1000A		0A	1250A		1600A	
(mm)	3P	4P	3P	4P	3P	4P	3P	4P
Α	8	3	10		12		15	





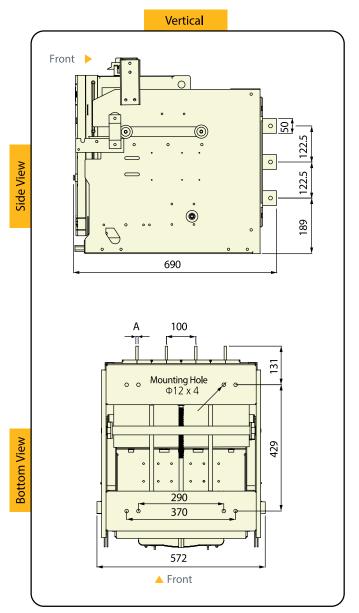
Dimensions 630~1600A Drawable Type

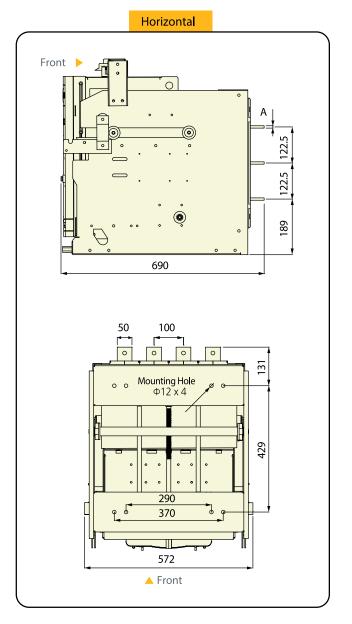




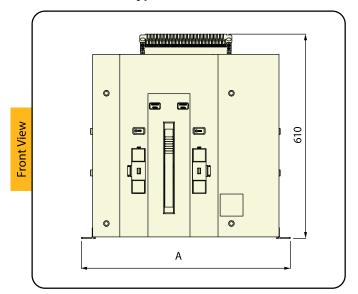
▲ BUS BAR Dimensions

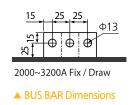
	630~	~800A 1000A		1250A		1600A		
(mm)	3P	4P	3P	4P	3P	4P	3P	4P
Α	8	3	10		12		15	



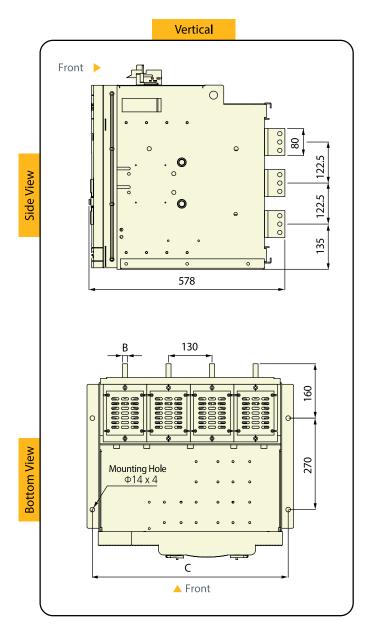


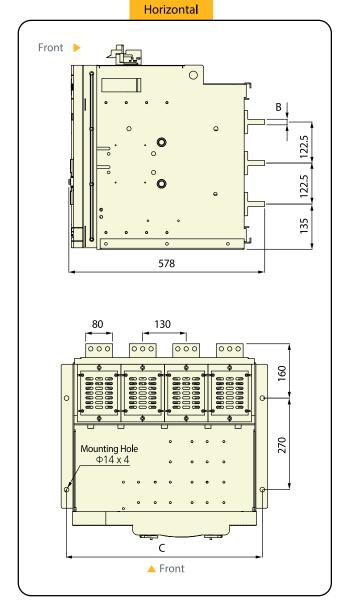
Dimensions 2000~3200A Fixed Type



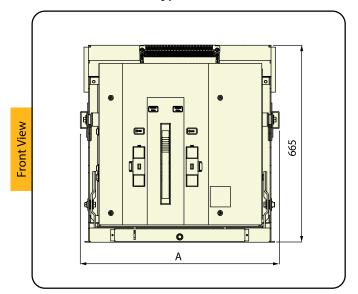


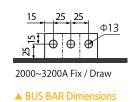
	200	0A	250	0A	320	0A
(mm)	3P	4P	3P	4P	3P	4P
A	517	617	517	617	517	617
В	15		2	0	2.	5
С	485	585	485	585	485	585



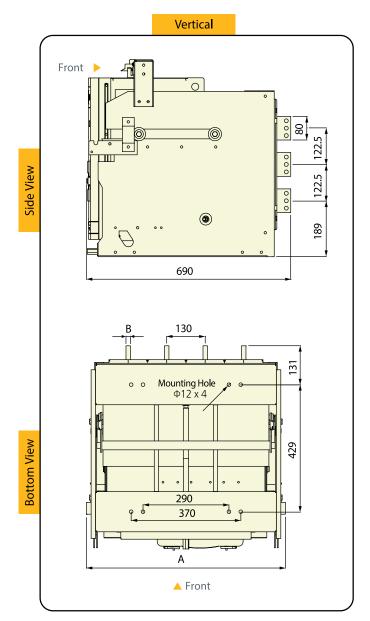


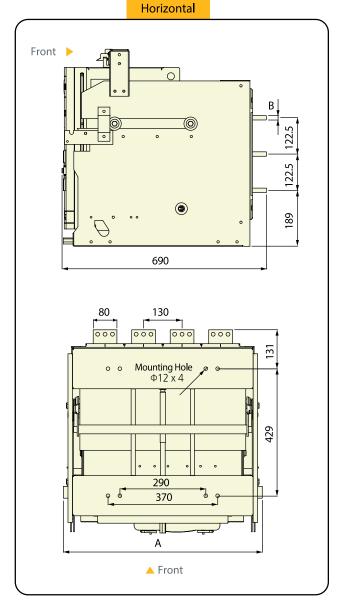
Dimensions 2000~3200A Drawable Type



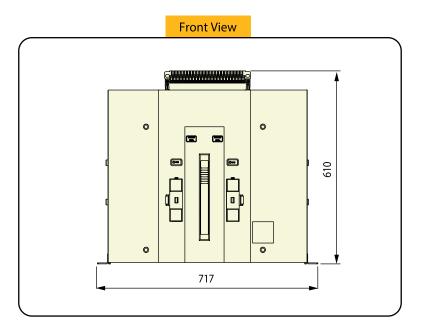


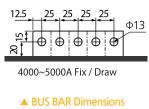
	200	0A	250	0A	320	0A
(mm)	3P	4P	3P	4P	3P	4P
Α	572	672	572	672	572	672
В	1	5	2	0	25	

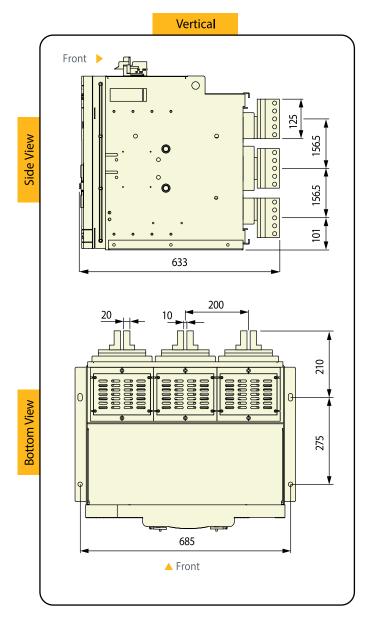


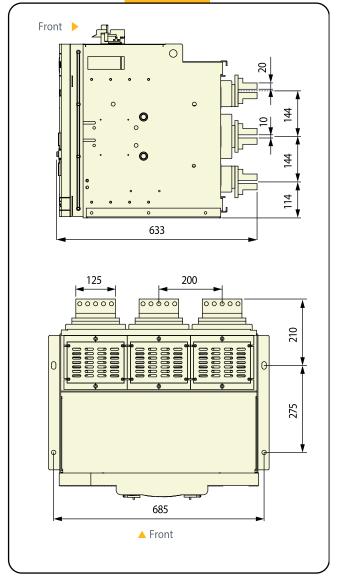


Dimensions 4000~5000A 3P Fixed Type



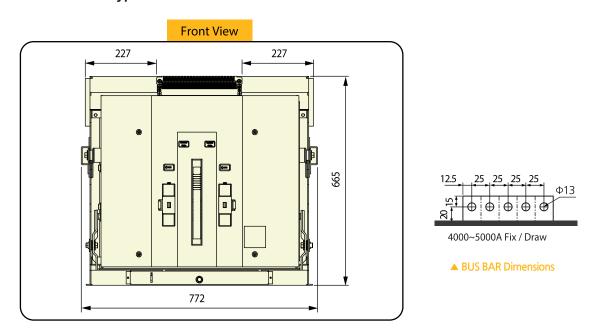


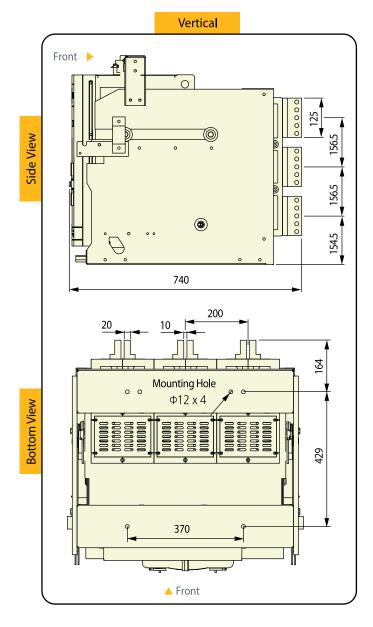


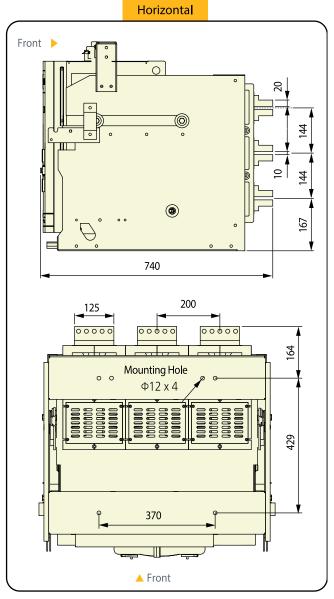


Horizontal

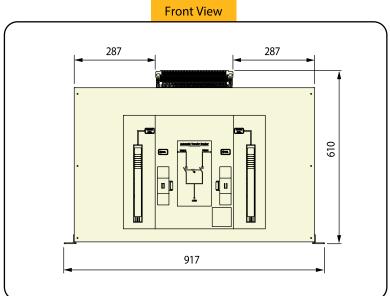
Dimensions 4000~5000A 3P Drawable Type

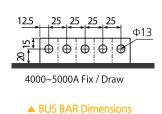


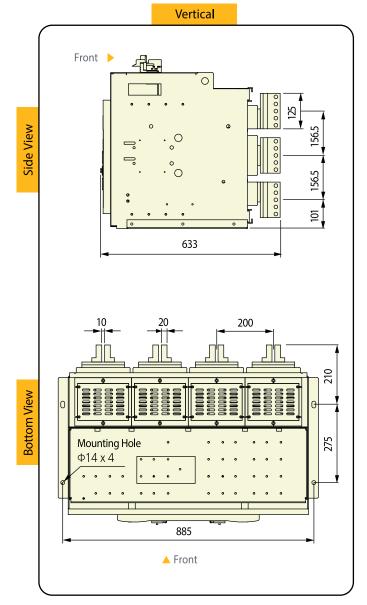


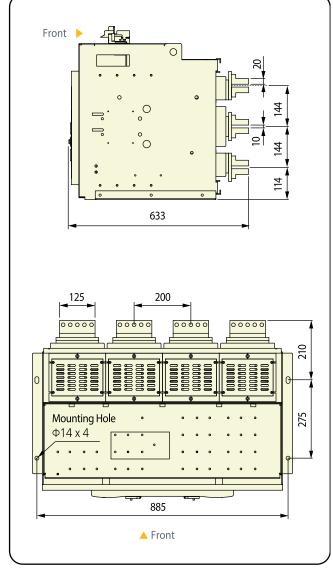


Dimensions 4000~5000A 4P Fixed Type



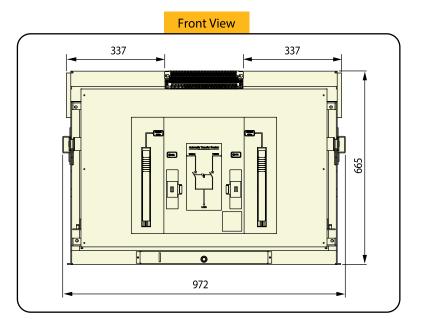


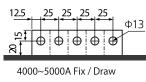




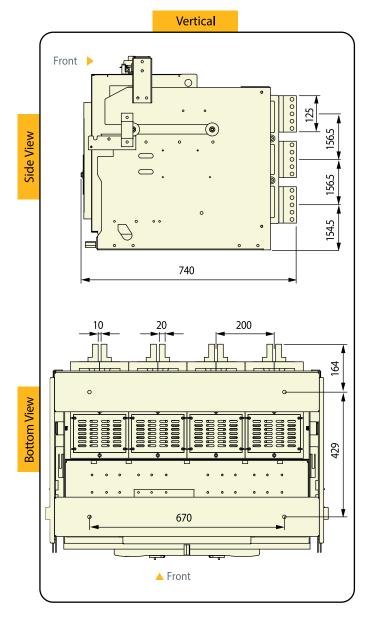
Horizontal

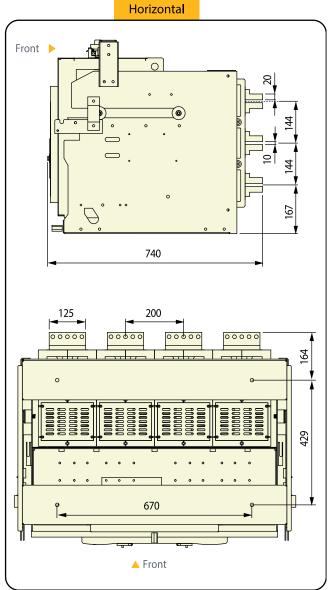
Dimensions 4000~5000A 4P Drawable Type



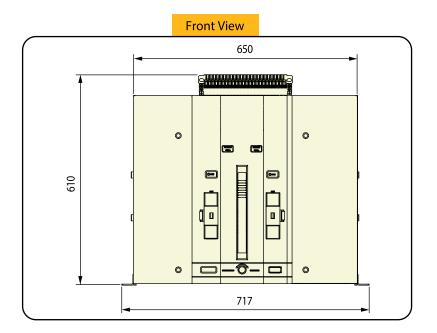


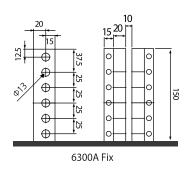
▲ BUS BAR Dimensions





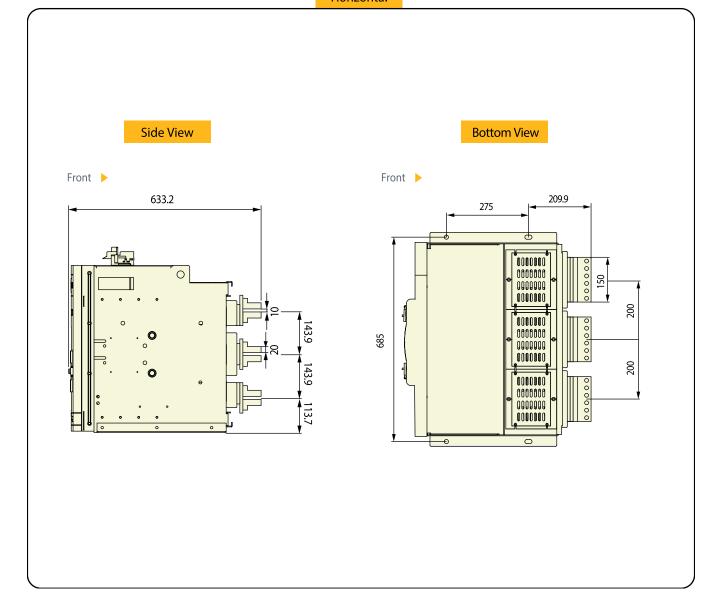
Dimensions 6300A 3P Fixed Type



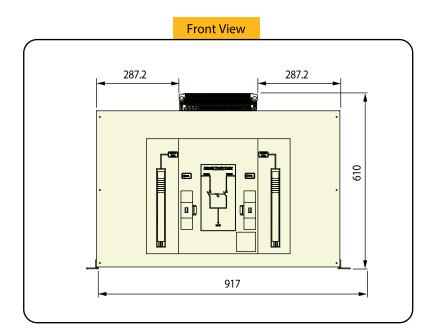


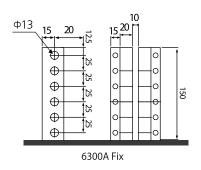
▲ BUS BAR Dimensions

Horizontal



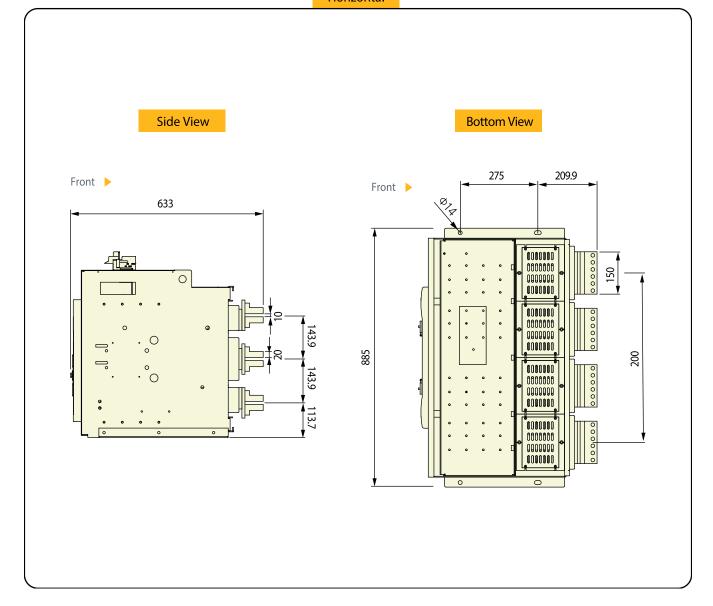
Dimensions 6300A 4P Fixed Type



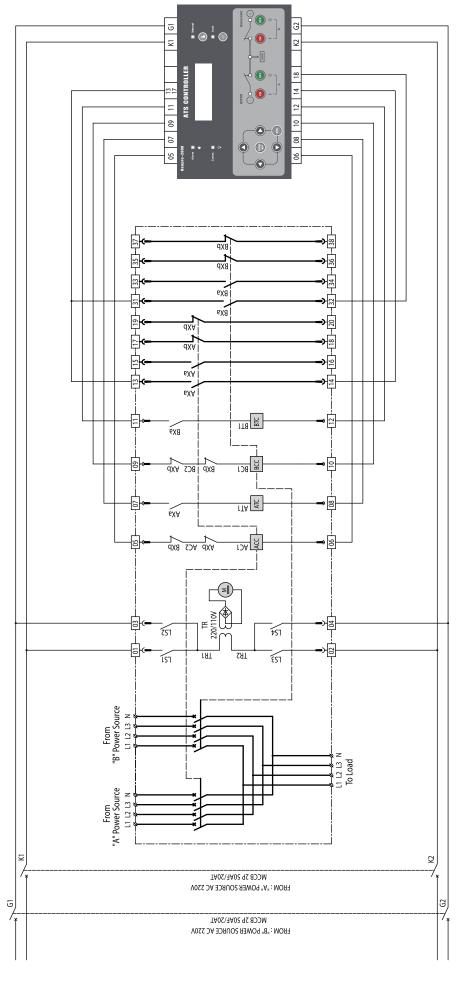


▲ BUS BAR Dimensions

Horizontal

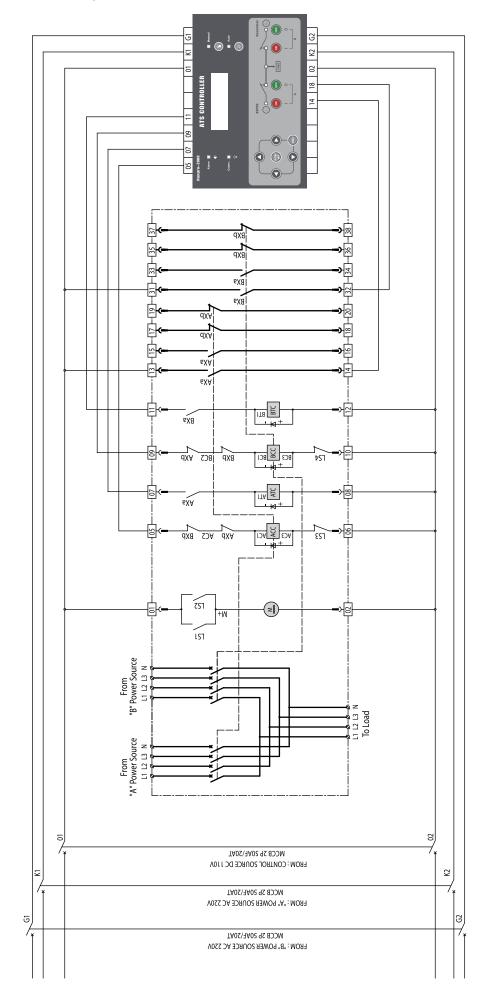


AC Control sequence



	· ·				:	-	
	Parti	Part Name			Operation lerminal	ınal	
M	Charging Motor	ACC	"A"Side ClosingCoil	01,02	"A"Side Charging Motor Power Terminal	06, 10	"B"Side Input Power Terminal
		ATC	"A"Side Trip Coi l	03, 04	"B"Side Charging Motor Power Terminal	11, 12	"B"Side Trip Power Terminal
		BCC	"B"Side ClosingCoil	90'50	"A"Side Input Power Terminal	13~20	"A"Side Auxiliary Contact Terminal
		BTC	"B"Side Trip Coil	07,08	"A"Side Trip Power Terminal	31~38	"B"Side Auxiliary Contact Terminal

DC Control sequence



	Part	Part Name			Operation Terminal	erminal	
M	Charging Motor	ACC	"A"Side ClosingCoil	01,02	Charging Motor Power Terminal	11, 12	"B"Side Trip Power Terminal
		ATC	"A"Side Trip Coil	90 '50	"A"Side Input Power Terminal	13~20	"A"Side Auxiliary Contact Terminal
		BCC	BCC "B"Side ClosingCoil	07, 08	"A"Side Trip Power Terminal	31~38	31~38 "B"Side Auxiliary Contact Terminal
		BTC	BTC "B"Side Trip Coil	06, 10	"B"Side Input Power Terminal		

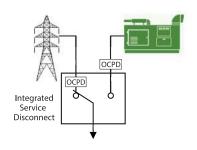


Automatic Transfer Switches Controller

Application scope

Controller - Hanpro1000 is used to control Automatic Transfer Switches N type and TN type.

Controller - Hanpro1000 displays intuitively, is easy to use, and has an OFF mode when switching between two power sources to ensure safety for ATS.



Salient features

- Off delay for Arc remove
- Malfunction prevent when transfering A to B (or B to A)
- Micro CPU type
- Operation Sequence : A \leftrightarrow OFF \leftrightarrow B / B \leftrightarrow OFF \leftrightarrow A

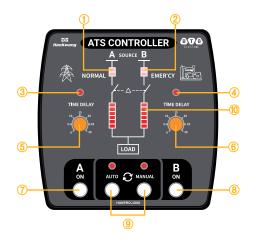
Description

Model	Hanpro
System Voltage	AC220V
Rated frequency	50Hz, 60Hz
Transformer Burden	3VA[AC]
Insulation	1.5kV/1min
Ambient Temperature(°C)	-20~+60

Image and structure

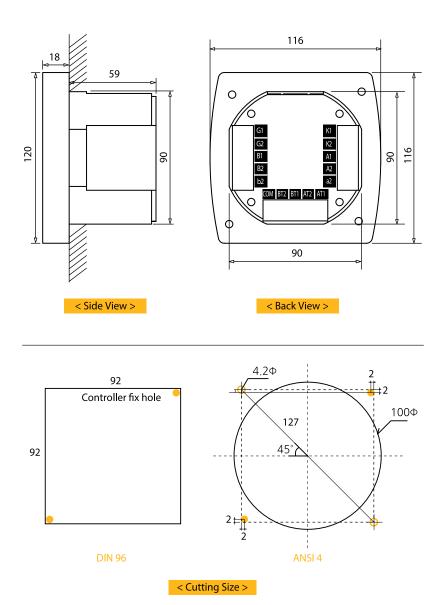


Display and functions



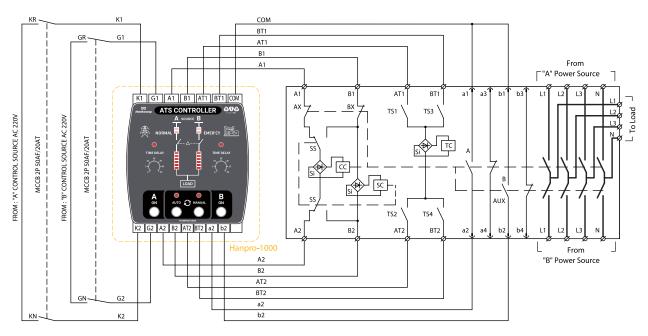
- 1 A power source lamp
- 2 B power source lamp
- 34 Time delay display lamp
- **(5)** Normal power "ON" delay timer
- 6 Emergency power "ON" delay timer
- 7 A source "ON" push button
- (8) B source "ON" push button
- (9) Auto, Manual selection button. (Press and hold the manual button for more than 3 seconds to trip the switch.)
- **10** Status display flickering lamps

Dimensions



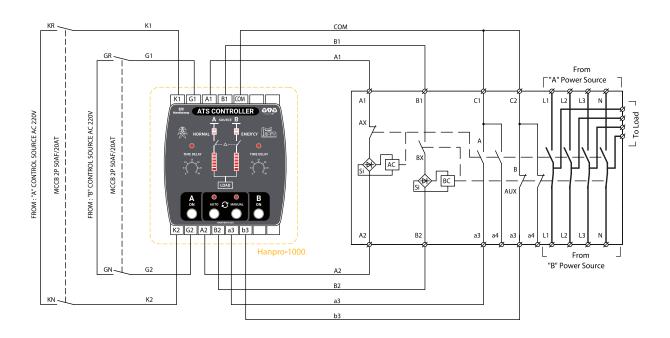
ATS TN type connecction diagram





ATS N type connecction diagram

	Part Name		Operation Terminal
AC	"A" Side Closing Coil	A1-A2	"A" Side Input Power Terminal
BC	"B" Side Closing Coil	B1-B2	"B" Side Input Power Terminal
Si	Silicon Rectifier	C1, a3, a4	"A" Side Auxiliary Terminal 2a
AUX	Auxiliary Contact Switch	C2, b3, b4	"B" Side Auxiliary Terminal 2b



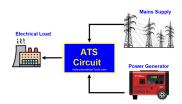


Automatic Transfer Switches Controller

Application scope

The ATbS C55 dual-power ATS controller is a comprehensive module for dual-power transfer. It comes equipped with configurable functions, automatic measurement capabilities, an LCD display, and digital communication.

By integrating digital intelligence and networking, it automates measurement and control processes, reducing the potential for human errors during operation. Designed for versatility, the ATbS C55 is compatible with non-breaking, one-breaking, and two-breaking switches.



Salient features

- System type can be set to: Mains Generator, Generator Mains, Mains Mains
- Auto/Manual mode transfer function: in manual mode, user can control the switch to close or open
- · Commissioning can be done on site manually to execute genset start/stop operations
- 2-way N wire isolated design
- AC supply power can be phase voltage (L, N), supply range: (170~277)V
- Suitable for various AC system types (3-phase 4-wire, single-phase 2-wire, and 2-phase 3-wire)
- Breaker close output can be set to pulse or continuous output
- Over/under voltage, over/under frequency, loss of phase reverse phase sequence function

Image and structure

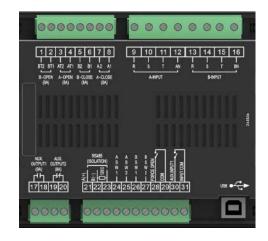


Description

Operating voltage	170~277V
AC voltage input	3P4W (170~277V ph-N) / 1P2W (170~277V)
Rated frequency	50/60Hz
Control	A<-> B or A <-> OFF <-> B or 2 ACB or 2 Contactor
System type set	A Mains B Gen / A Gen B Mains / A Mains B Mains
Switch type	Two Breaking / One Breaking / No Breaking
AC system	AC system: 3P4W / 3P3W / 2P3W / 1P2W
Auxiliary output setting	Yes
Auxiliary input setting	Yes
Function	Over/under voltage, over/under frequency, reverse phase sequence loss
Close / Open relay capacity	8A / 250VAC

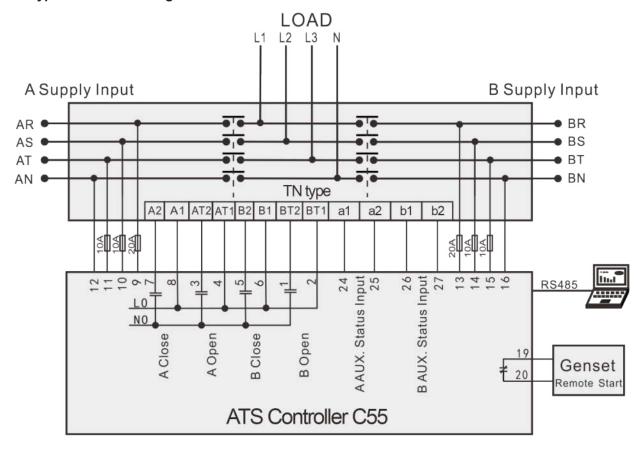
Main function description



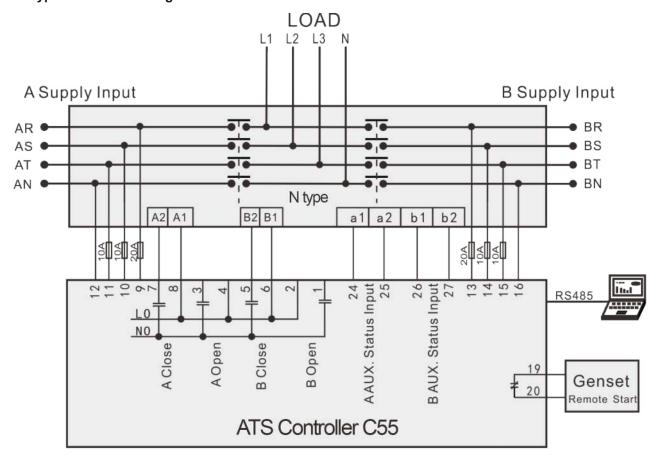


Key	Function	Description
%	Manual/Auto Key	Used to transfer between Manual or Auto mode.
€ ⁄	A Close Key	Active in manual mode; Press to close the A power switch and supply the load with A power.
0	Open Key	Active in manual mode; Press to disconnect the load.
% B	B Close Key	Active in manual mode; Press to close the B power switch and supply the load with B power.
	Set/Confirm	In the main screen, press to enter the menu interface; After entering the menu interface, this key can be used to move the cursor and confirm the set information
7 0	Down/Lamp Test Key	In the main screen, press to scroll down the screen display; In the menu interface, it can move down the cursor or decrease the value where the cursor is; Pressing longer initiates the lamp test.

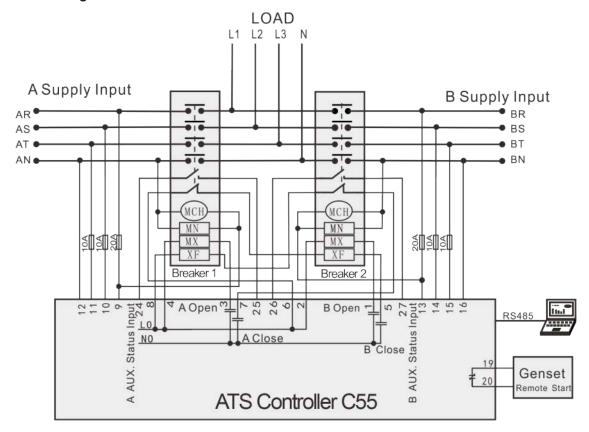
ATS TN type connecction diagram



ATS N type connecction diagram

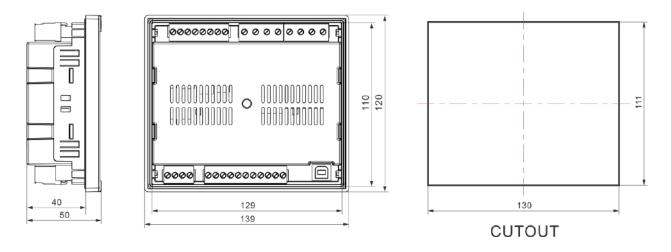


ATS connection diagram from 2ACB



MCH: Energy-saving motor; MN: Undervoltage trip; MX: Open coil; XF: Close coil

Dimensions







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