



Leading Power Quality Solutions

# AUTOMATIC TRANSFER SWITCHES



# ATS N TYPE / TN TYPE

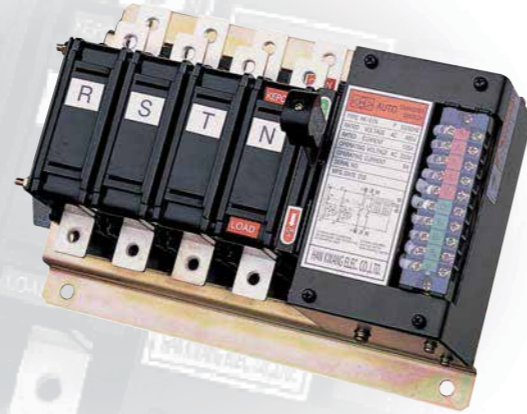


## THINGS IN COMMON

Reference Standard	IEC 60947-6-1
Rated Operational Voltage	600VAC
Frequency	50/60Hz
Withstand Voltage for Main circuit / Time	2500V/60s
Withstand Voltage for Control circuit / Time	1500V/60s
Impulse Voltage	8 kV
Ambient temperature	- 5°C to +40°C
Altitude	Up to 2000 m
Relative humidity	95 %
Maximum Operating Voltage	110% Rated Operating Voltage
Minimum Operating Voltage	85% Rated Operating Voltage

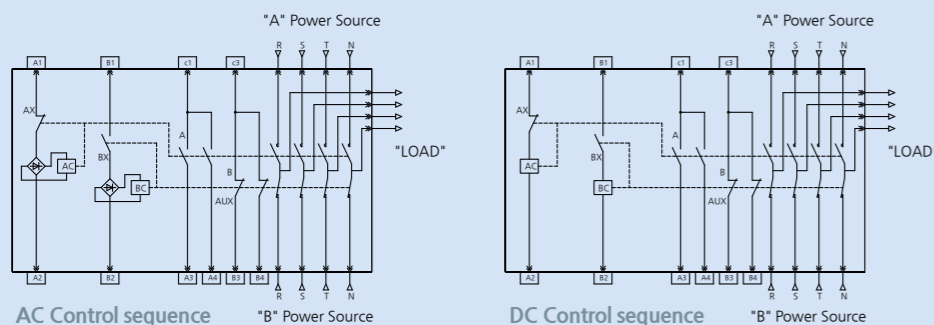
# N-TYPE Automatic Transfer Switches

63A / 125A / 200A / 250A



TYPE		HK-63N	HK-125N	HK-250N						
Rated current	A	63A	125A	200/250A						
Rated voltage	V	AC600V, DC125V								
No. of Pole	P	2, 3, 4								
Powercable connection method	Front bus bar connection	●								
	Rear bus bar connection	—								
Performance										
Short time current (1 sec.)	kA	5								
Short circuit peak current	kA	5								
Breaking capacity	Class	AC3, DC1								
Life time	Electric	time	5,000							
	Mechanic	time	10,000							
Switching frequency	time/hr	150								
Switching sequence		A ↔ B								
Operating Time	Break(Opening)	msec	≤ 50							
	Make Closing)	msec	≤ 30							
	Make delay(Off)	msec	-							
Operating voltage and current		2P	3P	4P	2P	3P	4P	2P	3P	4P
DC120V	A	35			35			35		
AC110/120V	A	35			35			35		
AC220/240V	A	20			20			20		
Dimension and net weight		2P	3P	4P	2P	3P	4P	2P	3P	4P
Net weight	kg	4	5	5.5	4	5	5.5	4	5.6	5.9

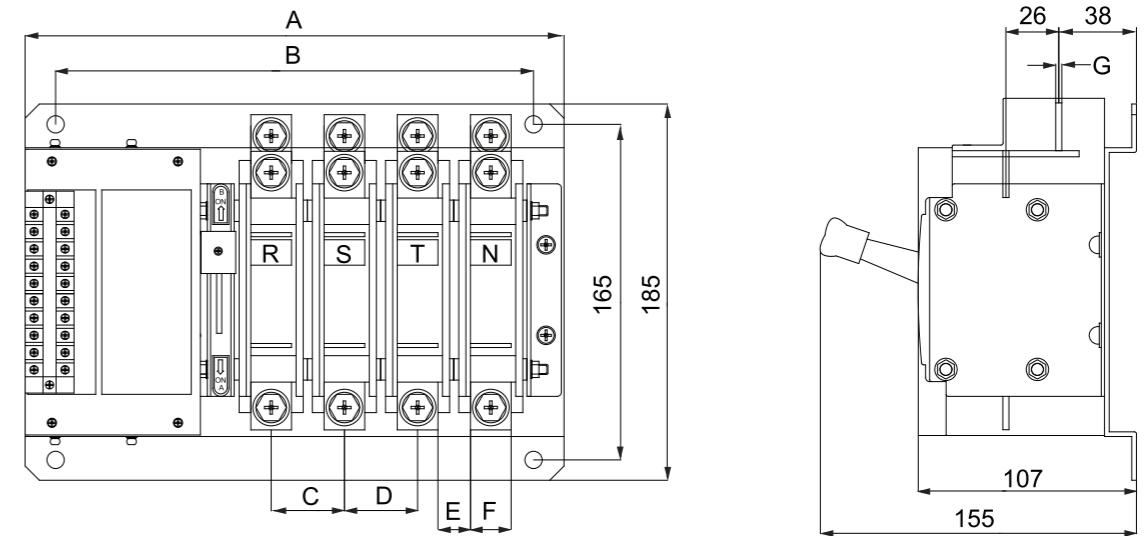
## AC/DC CONTROL SEQUENCE



**Parts Name**  
 AC : A Close Coil  
 BC : B Close Coil  
 AUX : Auxilray Switch  
 XA, BX : Control switch

**Operation Terminal**  
 A1, A2 : "A" Power Terminal  
 B1, B2 : "B" Power Terminal

## DIMENSION



Capacity		Size	A	B	C	D
65A ~ 125A	2P		190	160		
	3P		225	195	36	36
	4P		265	235		
		Size	E	F	G	
	2P					
	3P		16	20	3	
	4P					

Capacity		Size	A	B	C	D
200A ~ 250A	2P		190	167		
	3P		225	205	38	38
	4P		274	244		
		Size	E	F	G	
	2P					
	3P		16	22	4	
	4P					

## Features

### Excellence and Characteristics

- Excellent swithching performance and unfailing operation function.
- Compact and light weight with rapid switch (within 15m sec.)

### Safety

- Safety and steady operation applying BMC mold at the breaking component.
- Safety flow-current condition, minimized operating current maximizes function of flow current performance.
- Strong protection based on latch structure.
- Double throw type.

### AC/DC Availability

- Operation sequence is AC or DC available.

### Single coil with transient exciting method

- Power saving structure because of transient exciting method which secures reliable power.
- Solenoid operation.

### Unfailing insulation characteristics

- Molded breaking component which is completed sealed prevent electric shock.
- Prevent electric accident from alien substance.

### IEC 60947-6-1 / UL1008

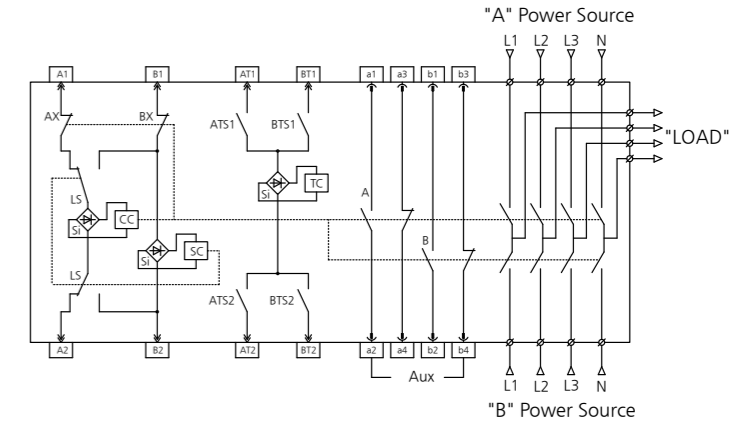


# TN-TYPE Automatic Transfer Switches

125A / 250A / 500A / 630A  
800A / 1000A / 1250A / 1600A



## AC CONTROL SEQUENCE



Parts Name		Operation Terminal			
CC	Close Coil	XA, BX	Control switch	A1, A2	"A" Power Terminal
SC	Selection Coil	LS	Selection Switch	B1, B2	"B" Power Terminal
TC	Trip Coil	LS	Trip Control Switch	AT1, AT2	"A" Trip Terminal
Si	Silicon Rectifier	AUX	Auxiliary Switch	BT1, BT2	"B" Trip Terminal

TYPE		HK-125TN	HK-250TN	HK-500TN	HK-630TN	HK-800TN	HK-1000TN	HK-1250TN	HK-1600TN													
Rated current	A	100/125A	200/250A	400/500A	630A	800A	1000A	1250A	1600A													
Rated voltage	V	AC600V, DC125V				AC600V, DC125V																
No. of Pole	P	2, 3, 4		3, 4		3, 4																
Powercable connection method	Front bus bar connection	●		●		●	—	—	—													
	Rear bus bar connection	●		●		●	●	●	●													
<b>Performance</b>																						
Short time current (1 sec) Icw	kA	5	7	10	12	16	20	25	32													
Short circuit peak current Icm (peak) (*)	kA	7.65	12	17	24	32	40	50	65													
Breaking capacity	Class	AC3, DC1				AC3, DC1																
Life time	Electric	5,000				5,000																
	Mechanic	10,000				10,000																
Switching frequency	time/hr	150				150																
Switching sequence		A ↔ B, A ↔ Neutral(off) ↔ B				A ↔ B, A ↔ Neutral(off) ↔ B																
Operating Time	Break(Opening)	≤ 30				≤ 30				≤ 30												
	Make Closing)	≤ 60				≤ 60				≤ 100												
	Make delay(Off)	≤ 20				≤ 20				≤ 20												
<b>Operating voltage and current</b>		2P	3P	4P	2P	3P	4P	2P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P		
	DC120V	A	20	20	20	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	30	
	AC110/120V	A	20	20	20	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	30	
	AC220/240V	A	10	10	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	15	
<b>Dimension and net weight</b>		2P	3P	4P	2P	3P	4P	2P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P	3P	4P
Net weight	kg	5	6.5	8	6	8	9.5	7	7.5	10	13	15	14	16	22	26	24	28	24	28	50	60

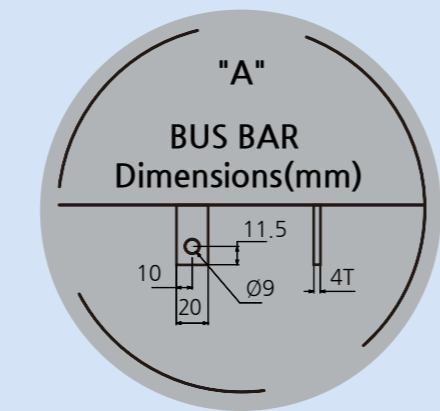
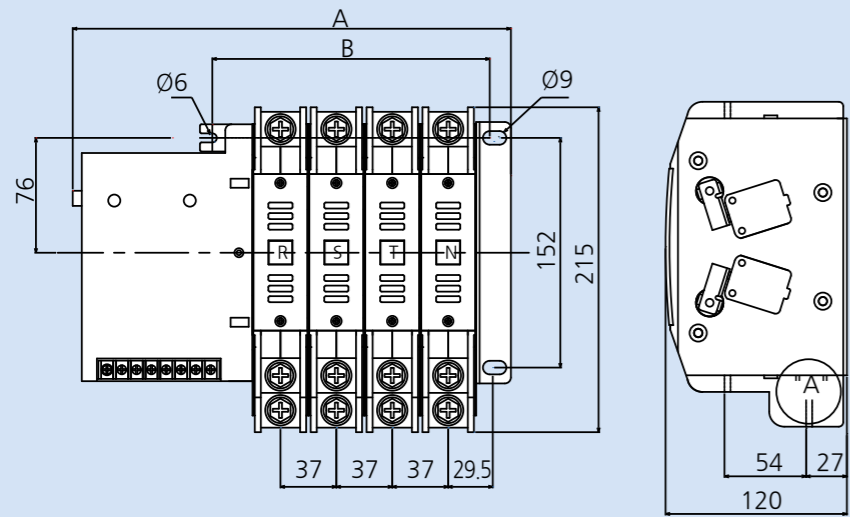
(\*) Short circuit duration > 50 ms, without fuse protection. Max. distance from switch frame to nearest busbar / cable support 150 mm

## Features

- Excellence and Characteristics**
  - Excellent switching performance and unfailing operation function.
  - Most suitable for emergency power facility which is neutral position.
- Safety**
  - Safety and steady operation applying BMC mold at the breaking component.
  - Safety flow-current condition, minimized operating current maximizes function of flow current performance.
  - Strong protection based on latch structure.
  - Double throw type.
- AC/DC Availability**
  - Operation sequence is AC or DC available.
- Single coil with transient exciting method**
  - Power saving structure because of transient exciting method which secures reliable power.
  - Solenoid operation.
- Unfailing insulation characteristics**
  - Molded breaking component which is completed sealed prevent electric shock.
  - Prevent electric accident from alien substance.
- IEC 60947-6-1 / UL1008**

125A - 250A DIMENSION

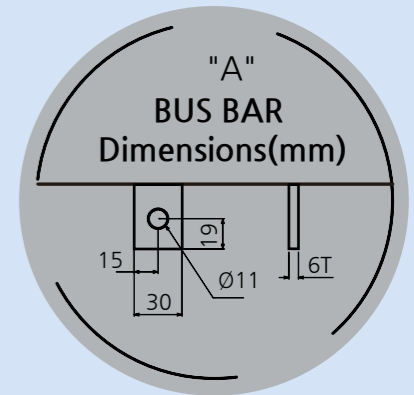
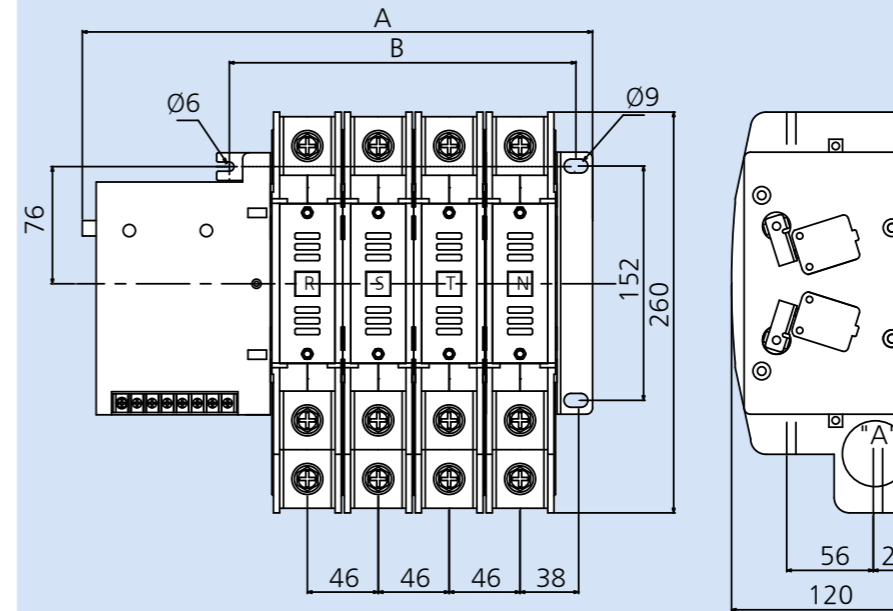
FRONT TYPE



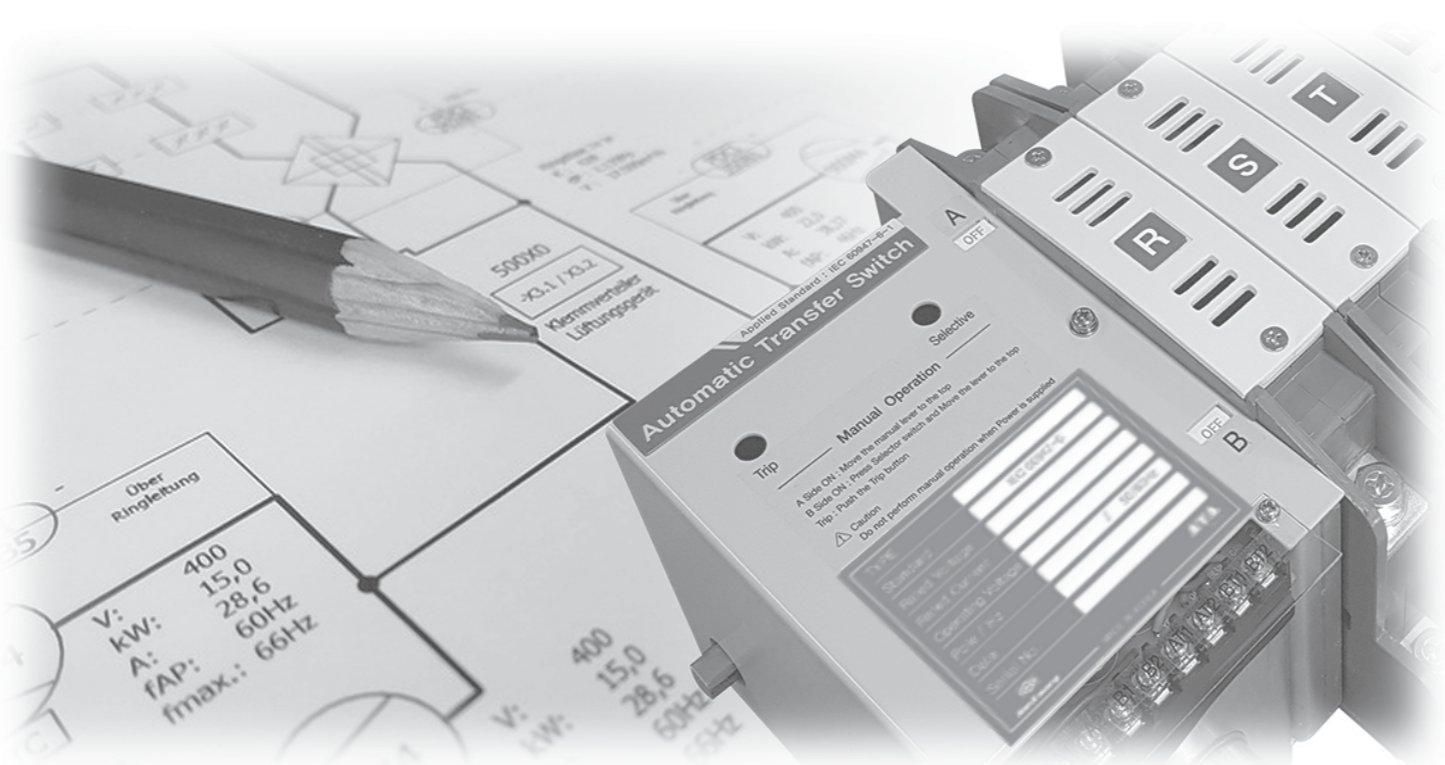
Capacity	Size	A	B
125A	2P	216	112
~	3P	253	149
250A	4P	290	186

400A - 500A DIMENSION

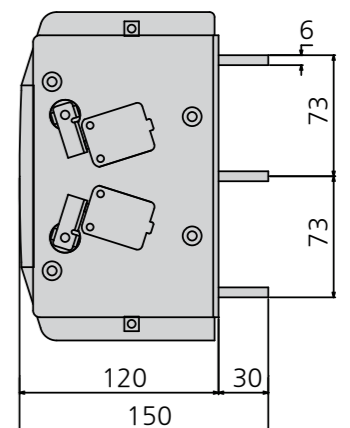
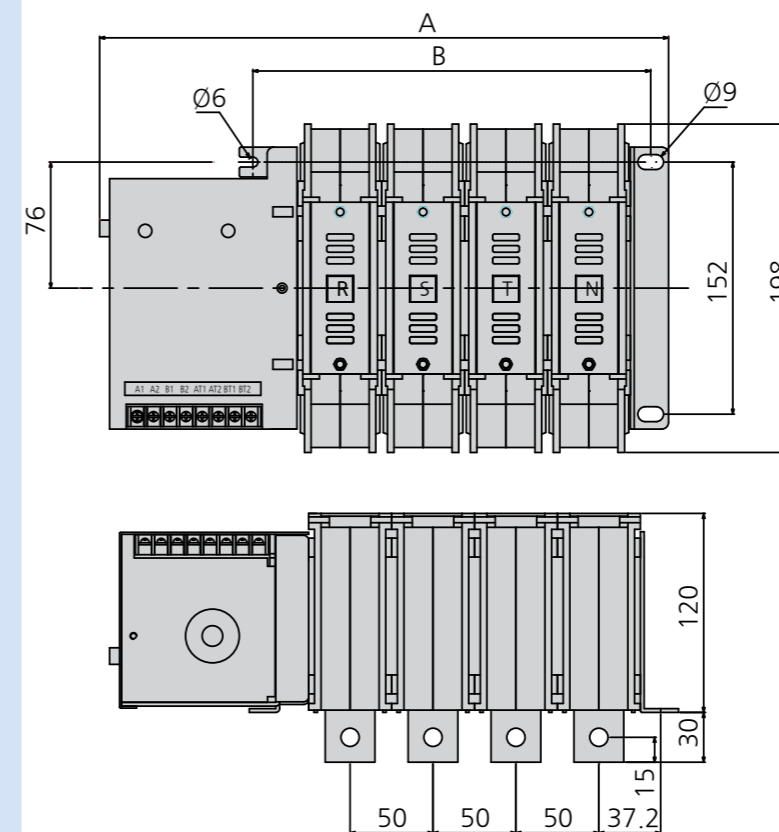
FRONT TYPE



Capacity	Size	A	B
400A~	3P	284	180
500A	4P	330	226



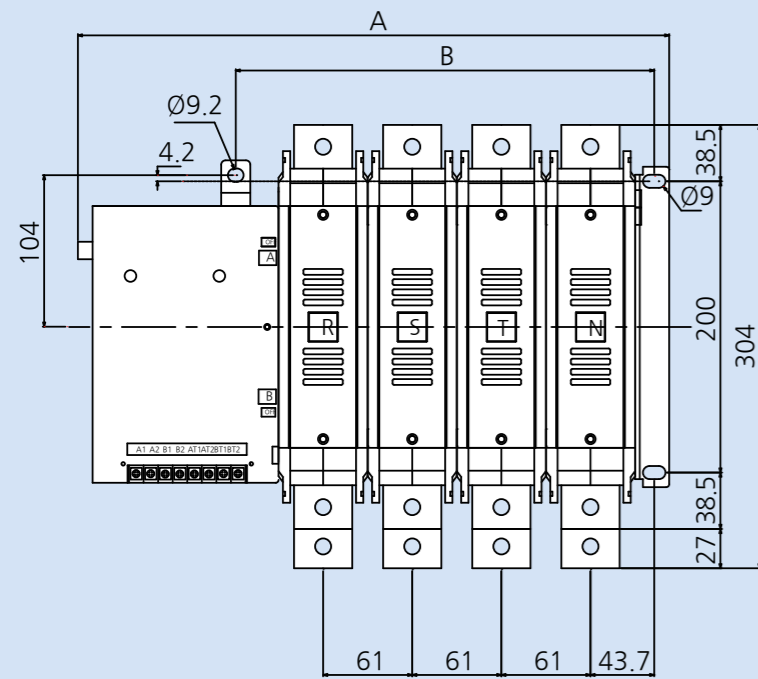
BACK TYPE



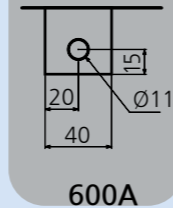
Capacity	Size	A	B
400A~	3P	293	189
500A	4P	343	239

600A - 800A DIMENSION

FRONT TYPE

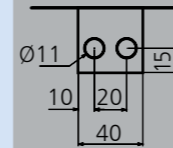


"A"  
BUS BAR  
Dimensions(mm)



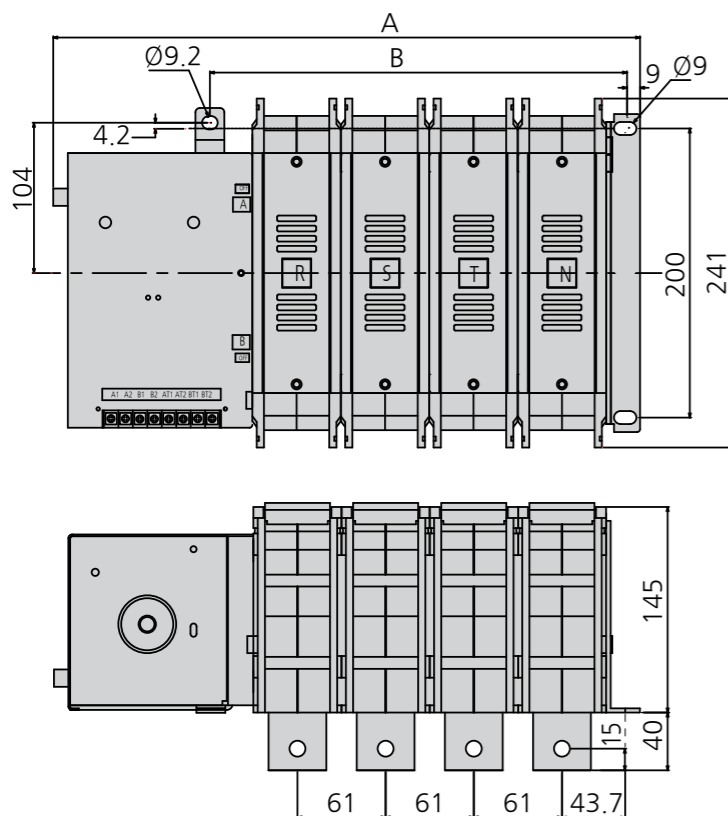
600A

"A"  
BUS BAR  
Dimensions(mm)



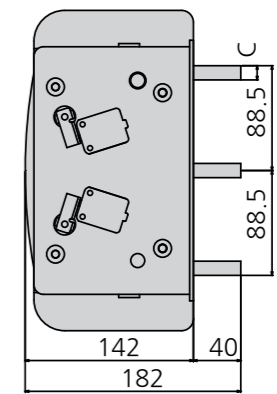
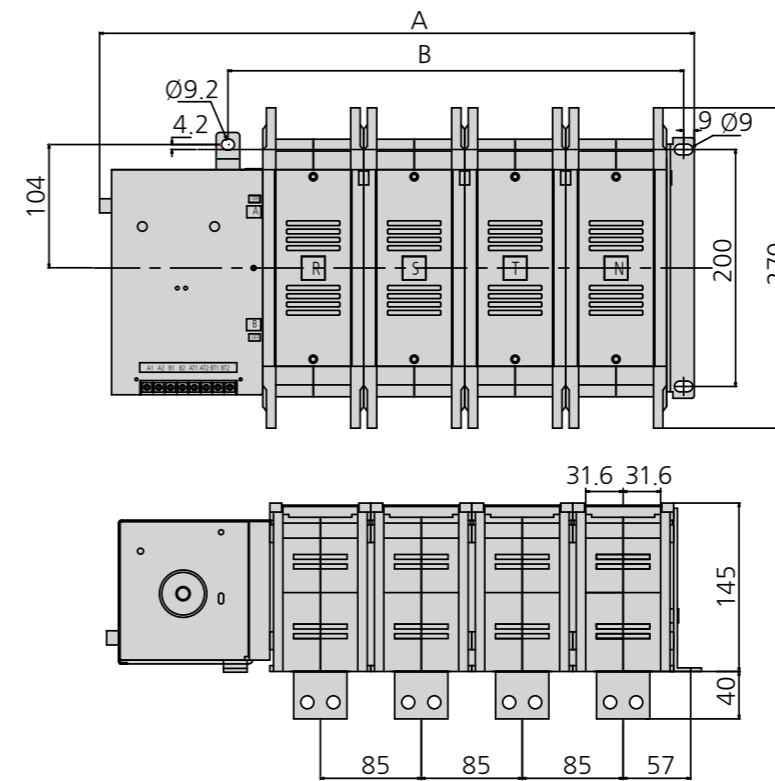
800A

BACK TYPE



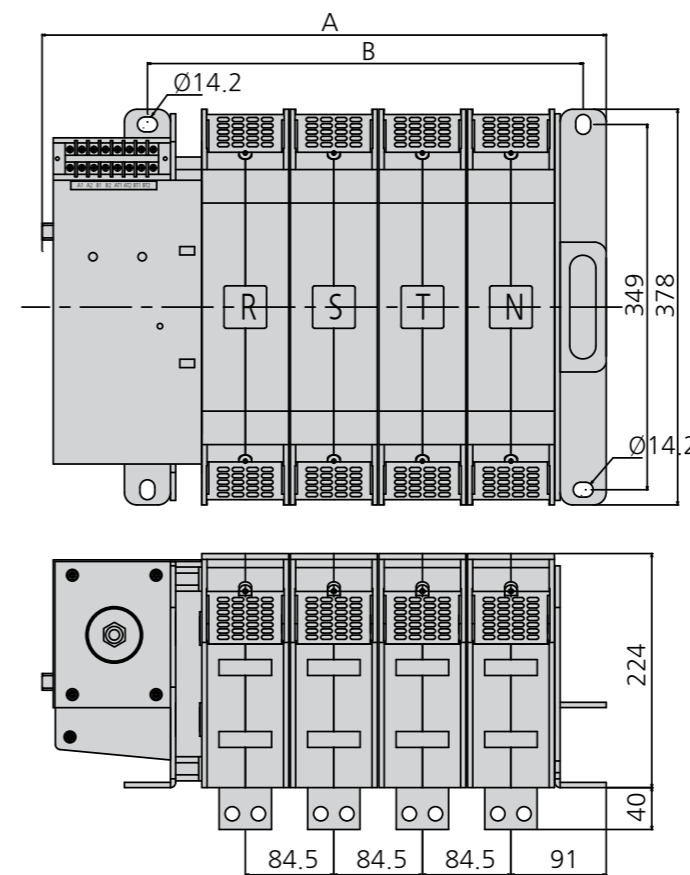
Capacity	Size	A	B
600A	3P	345	227
~	4P	406	288

1000A - 1250A DIMENSION



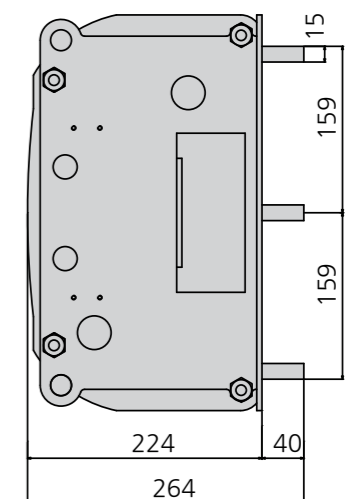
Capacity	Size	A	B	C
1000A	3P	416	298	10
	4P	500	384	
1250A	3P	416	298	12
	4P	500	384	

1600A DIMENSION



BUS BAR Dimensions(mm)

Capacity	Size	A	B	C
1000A	3P	416	298	10
1250A	4P	500	384	
1600A	3P	455	332	15
	4P	540	415	



Capacity	Size	A	B
1600A	3P	455	332
	4P	540	415



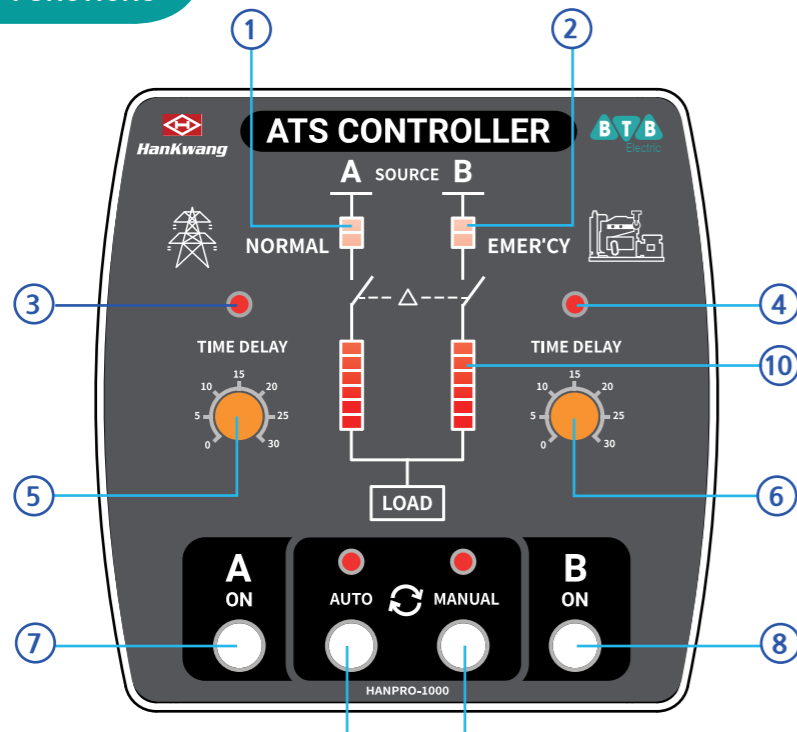
# AUTOMATIC TRANSFER SWITCH CONTROLLER

Hanpro -1000

## FEATURES

1. Off delay for Arc remove
2. Malfunction prevent when transferring A to B (or B to A)
3. Micro CPU type
4. Operation Sequence : A - off - B, B - off - A

## DISPLAY AND FUNCTIONS



- ① A power source lamp
- ② B power source lamp
- ③ ④ 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

## DESCRIPTION

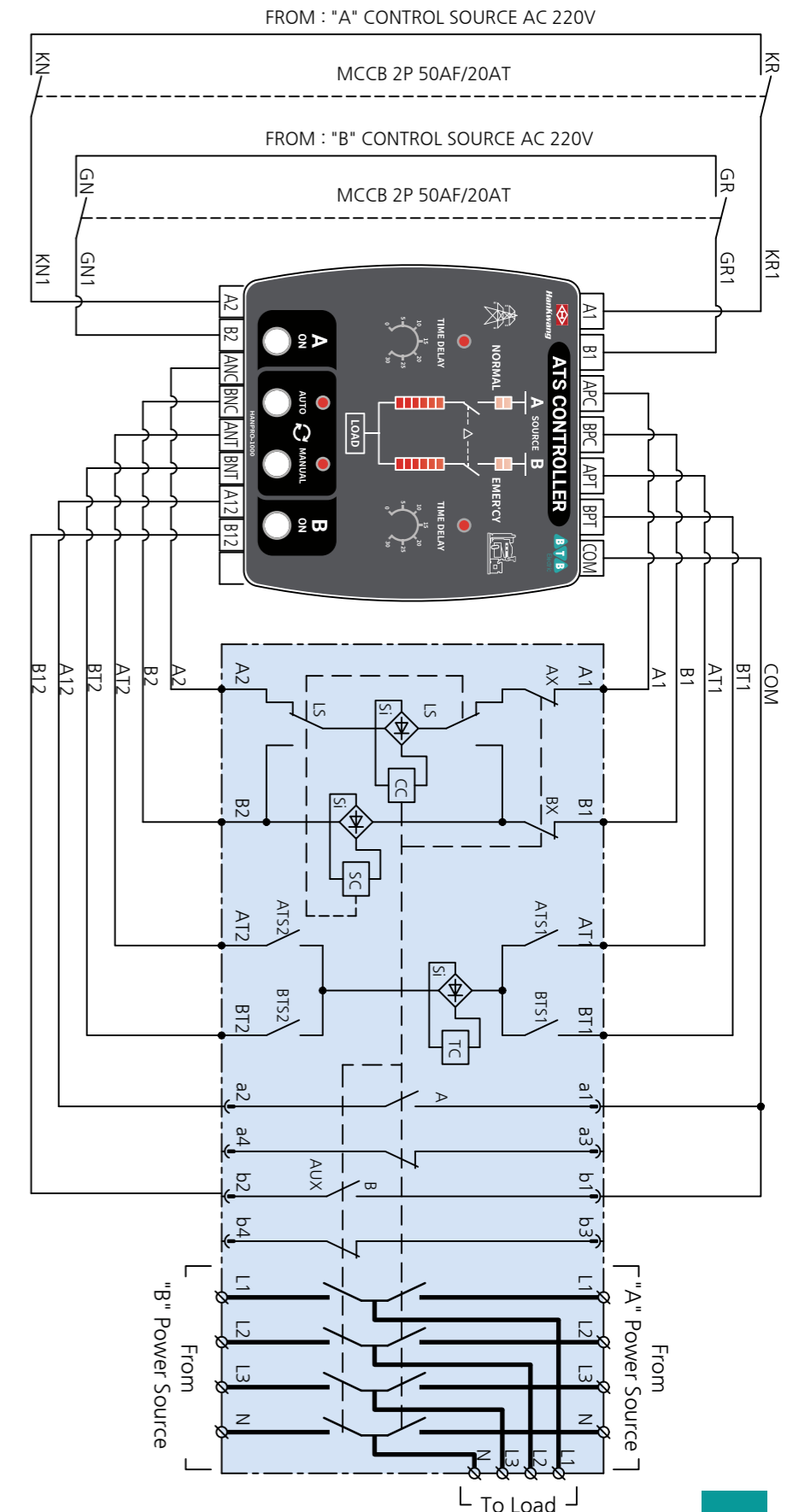
Model	Hanpro
System Voltage	AC220V
Rated frequency	50Hz, 60Hz
Transformer Burden	3VA[AC]
Insulation	1.5kV/1min
Ambient Temperature[°C]	-20~+60

# CONNECTION DIAGRAM OF

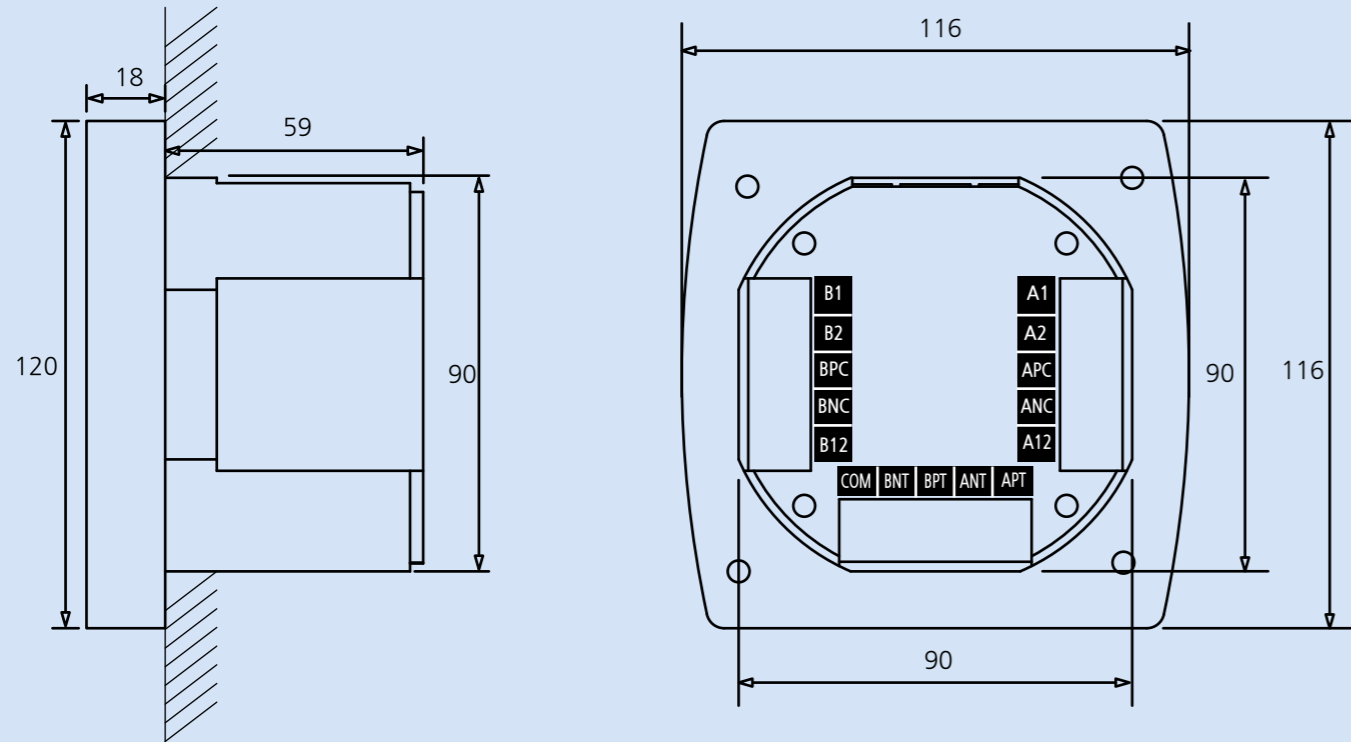
Hanpro -1000



Parts Name		Control Terminal	
CC	Closing Coil	A1-A2	"A" Side Input Power Terminal
SC	Selection Coil	B1-B2	"B" Side Input Power Terminal
TC	Trip Coil	AT1-AT2	"A" Side Trip Power Terminal
SI	Silicon Rectifier	BT1-BT2	"B" Side Trip Power Terminal
		a1-a4	"A" Side Auxiliary Contact Terminal
		b1-b4	"B" Side Auxiliary Contact Terminal

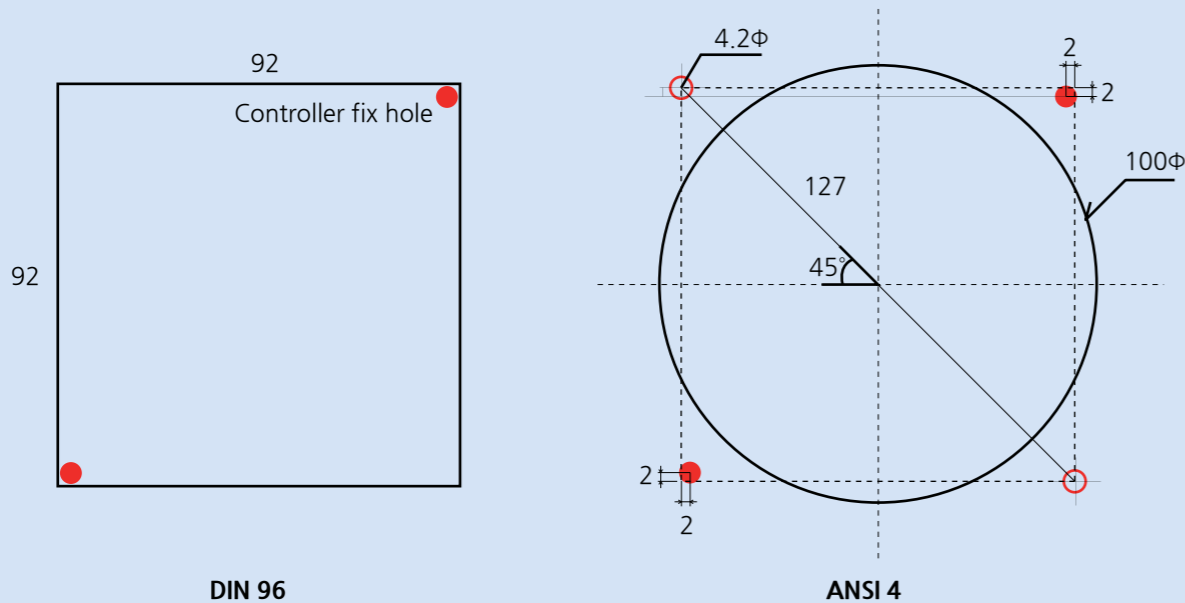


DIMENSION OF HANPRO - 1000



< Side View >

< Back View >



< Cutting Size >

# AUTOMATIC TRANSFER SWITCH CONTROLLER

ATbS C56

## FEATURES

- Operation Sequence: A - off - B, B - off - B, A - B, B - A
- AC system: 3P4W, 1P2W (30 ~ 270V LN)
- Priority Select: 1 or 2
- Protection function: Over/under voltage, loss of phase, reverse phase sequence, over/under frequency
- Breaker close output can be set to pulse or steady output

## DISPLAY AND FUNCTIONS



Key	Function	Description
	I# Manual Close	In manual mode, press and 1# power connects with load.
	Open	In manual mode, press and disconnect 1# or 2# load.
	II# Manual Close	In manual mode, press and 2# power connects with load.
	Manual/Auto Set	Press and controller can be set to Manual or Auto mode.
	Menu/Confirm	Press and enter menu interface; press for longer and exit from current operation and return to main screen; For controller fault alarms, press for 3s, and alarms can be cleared.
	Screen Scroll/ Decrease	Transfer display interface; Value decrease key for adjusting parameters in parameter setting page; Press for 3s, LCD backlight shall flash for once and enter backlight always on mode; and press again for 3s, LCD backlight is off and recovers to normal display mode.

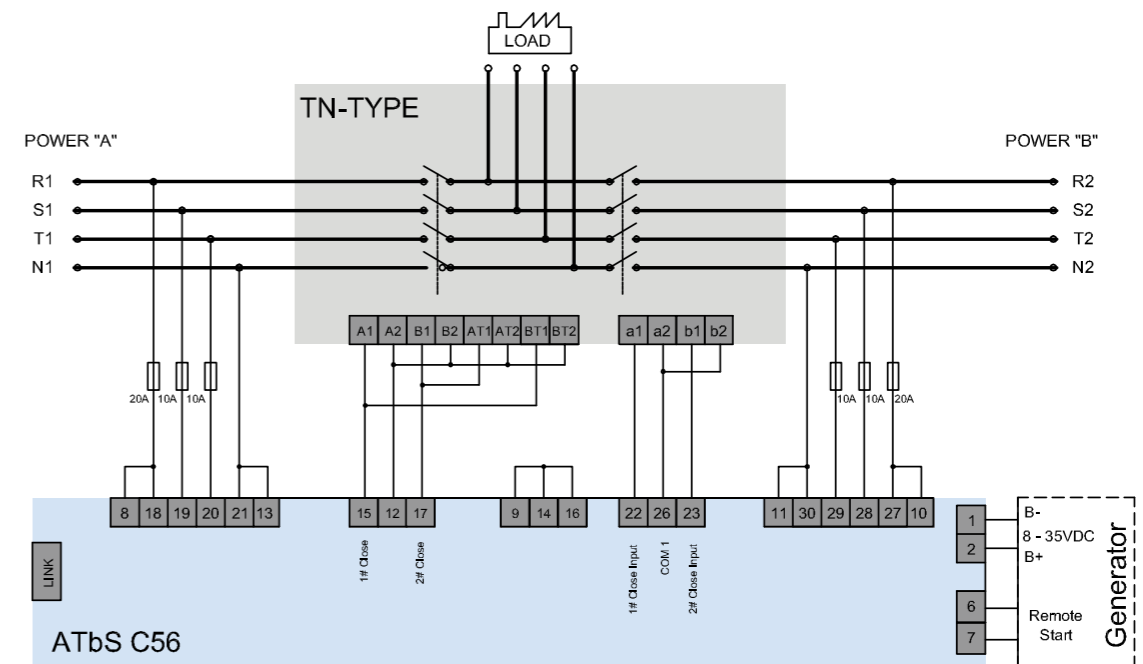
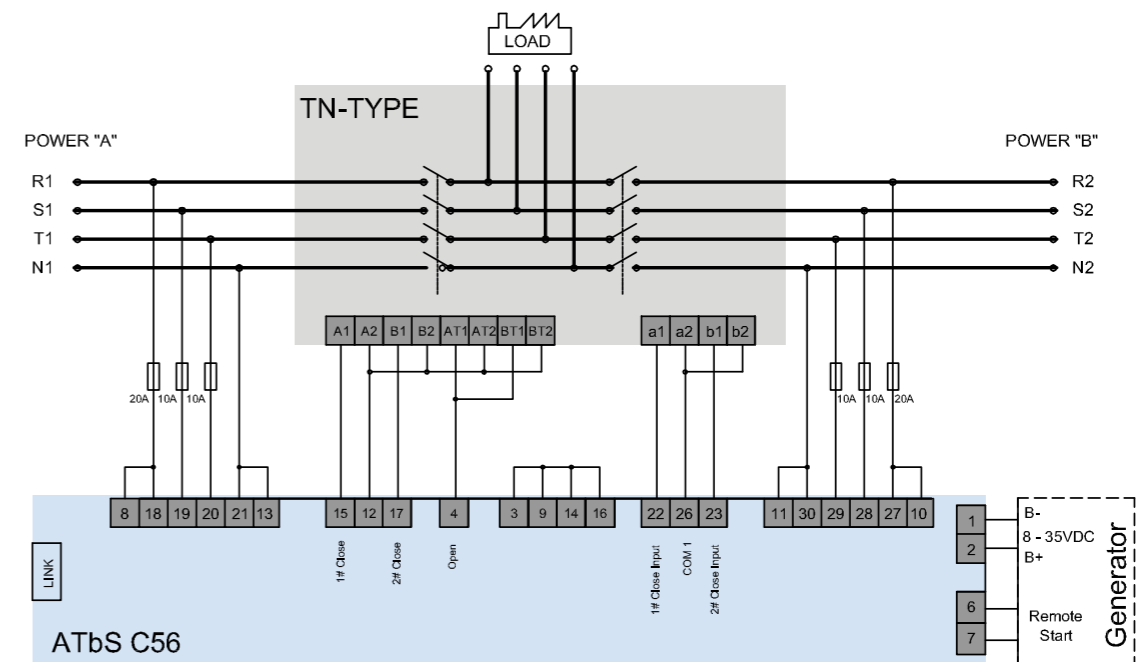


DESCRIPTION

Items	Contents	
Operating Voltage	1. DC 8.0V~35.0V continuous 2. AC170V~277V, AC power L1N1/L2N2 supply	
Power Consumption	<3W (Standby mode: ≤2W)	
AC Voltage Input	AC system	ATbS C56
	3P4W (ph-N)	AC30V~AC270V
	1P2W (ph-N)	AC30V~AC270V
	2P3W (ph-N)	AC30V~AC270V
Rated Frequency	50/60Hz	
Close Relay Output	16A AC250V Volts free output	
Auxiliary Relay Output 1	7A AC250V Volts free output	
Auxiliary Relay Output 2	7A AC250V Volts free output	
Auxiliary Relay Output 3	16A AC250V Volts free output	
Auxiliary Relay Output 4	16A AC250V Volts free output	
Digital Input	GND connected is active.	
Communication	LINK interface, MODBUS Protocol	
Case Dimensions	139mmx120mmx48mm	
Panel Cutout	130mmx111mm	
Working Conditions	Temperature: (-25~+70)°C;	
	Humidity: (20~93)%RH	
Storage Condition	Temperature: (-25~+70)°C	
Protection Level	IP55 Gasket: when there is waterproof gasket installed between controller and the control panel;	
Insulation Strength	Apply AC2.2kV voltage between high voltage terminal and low voltage terminal and the leakage current is not more than 3mA within 1min.	
Weight	0.62kg	

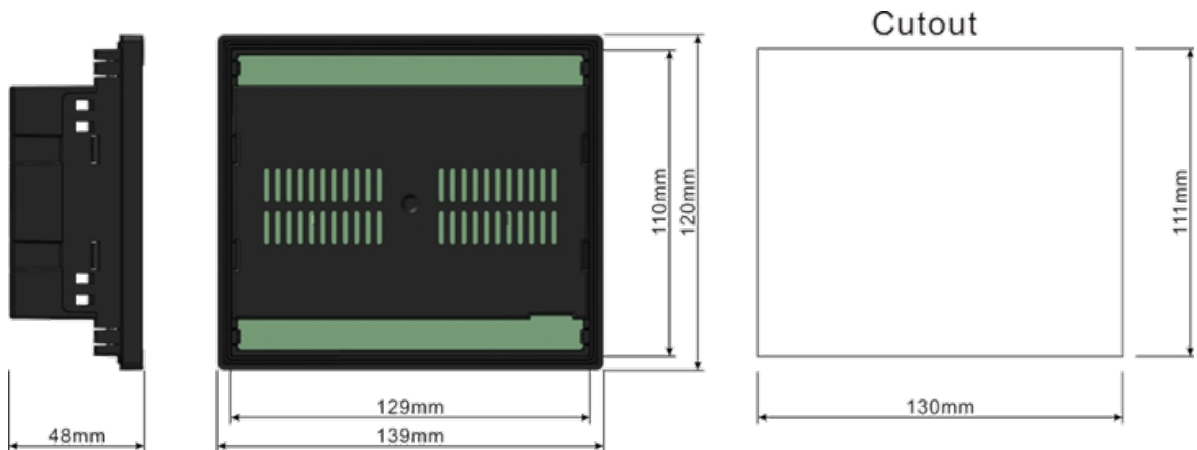
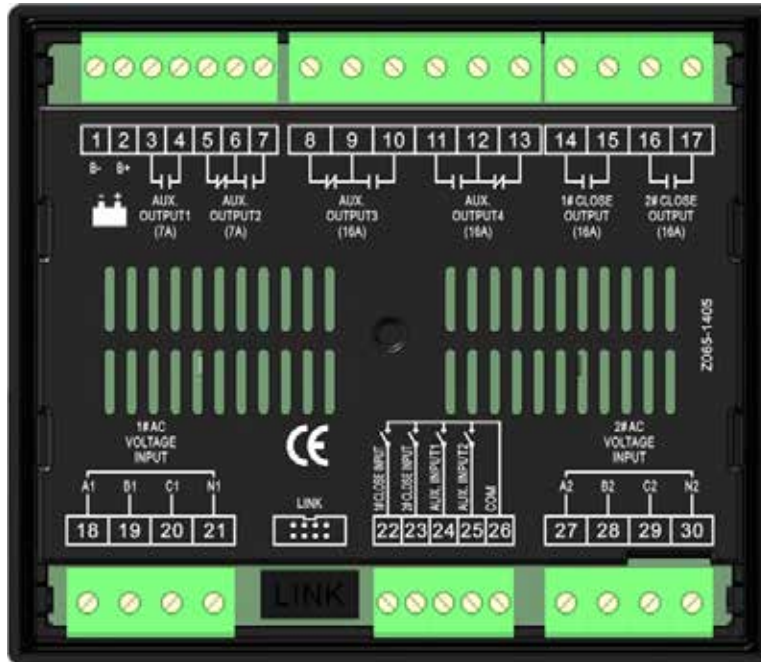
# CONNECTION DIAGRAM OF

## ATbS C56



ATS Controller C56		TN-TYPE Automatic Transfer Switches	
18, 19, 20, 21	Voltage Input "A"	A1-A2	"A" Side Input Power Terminal
27, 28, 29, 30	Voltage Input "B"	B1-B2	"B" Side Input Power Terminal
14-15, 16-17	Close Relay Output # "A" & "B"	A11-A12	"A" Side Trip Power Terminal
3-4	Open Relay Output	B11-B12	"B" Side Trip Power Terminal
8-9-10, 11-12-13	Auxiliary Relay Output	a1-a2	"A" Side Auxiliary Contact Terminal
6-7	Relay Remote Start	b1-b2	"B" Side Auxiliary Contact Terminal

**DIMENSION OF ATbS C56**



**ORDER FORM**

HK - 400 TN F3 A1

HK	HanKwang BTB
400	Capacity (Current 100; 200; 400; 630; 800; 1000; 1250; 1600A)
TN	N Type TN Type
F3	F2 - 2 Pole F3 - 3 Pole F4 - 4 Pole
A1	A1 - 1a+1b (1NO/1NC + 1NO/1NC) A2 - 2a+2b (2NO/2NC + 2NO/2NC)