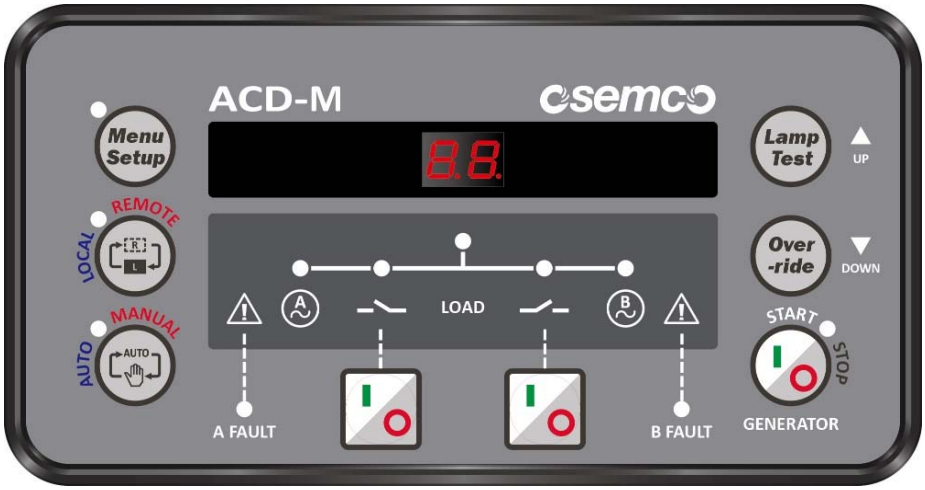
Digital ATS Controller

ACD-M

User's Manual

REV. 2.0

ATS Control Device – Multi Type



※ OSEMCO reserves the right, without notice, to change design or construction of any products and to discontinue.

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1. Safety instructions

This safety manual describes major information for safe operation. Before handling this controller, please be acquainted thoroughly with this manual, product handling, safety information and all other precautions before installation or maintenance.

The following table explains the safety-related signs used in this document.

DANGER

Can cause death or serious personal injury in urgent if failure to follow the instructions.

CAUTION

Can cause lesion or light personal injury in potential if failure to follow the instructions.

1.1 Precaution for transportation

Caution

- Do not throw equipment or do not stack anything on top of the equipment.
- Do not open the box with knife or sharp tool.

1.2 Precaution for installation.

Caution

- Installation of controller must be done by qualified personnel who has electrical certificate.
- Before you start any installation or service work, make sure that all electrical power sources are disconnected. It may present a risk of electrical shock.
- Bolted connections must be tighten follows tightening torque outlined in these instructions. It may present a risk of burn.
- The equipment must be placed and fixed on the flat area.
- Do not install the controller in the area of high temperature, humidity, corrosive gas, vibration, impact present.
  It may present a risk of burn and malfunction.
  It may present a risk of electrical shock, malfunction and damage of equipment when water or conductive materials penetrate inside of equipment.
  Do double-check all status and condition before electrical power sources are connected.
- The controller must be protected from dust, concrete powder, iron powder and salt.
  It may present a risk of burn and malfunction.
- Do double-check terminal connection.
  It may present a risk of malfunction.

1.3 Operating caution

Danger

- Do not contact main circuit and terminal block.

  It may present a risk of electrical shock.

- Do not stored outside. (It may present risk of dew condensation.)

  It may present electrical shock, burn and damage of the equipment.

1.4 Maintenance and repairing caution

Caution

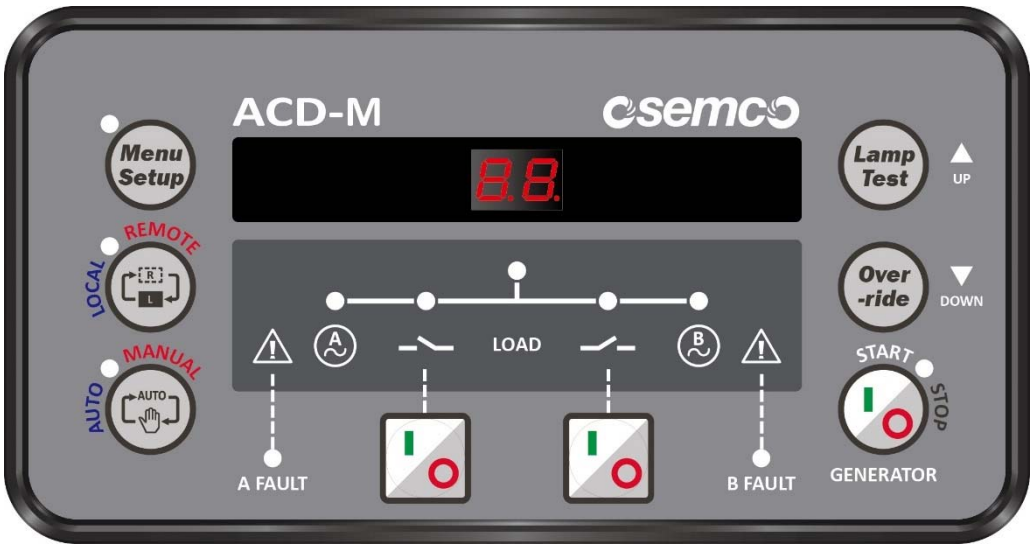
- All maintenance and repairing work must be performed only by service personnel qualified and authorized by OSEMCO.
- After check disconnecting the power and, discharging of main and control circuit make set up manual operation mode of ATS switch.

  It may present electrical shock
- Do periodic check bolt connection of main circuit and terminal block.

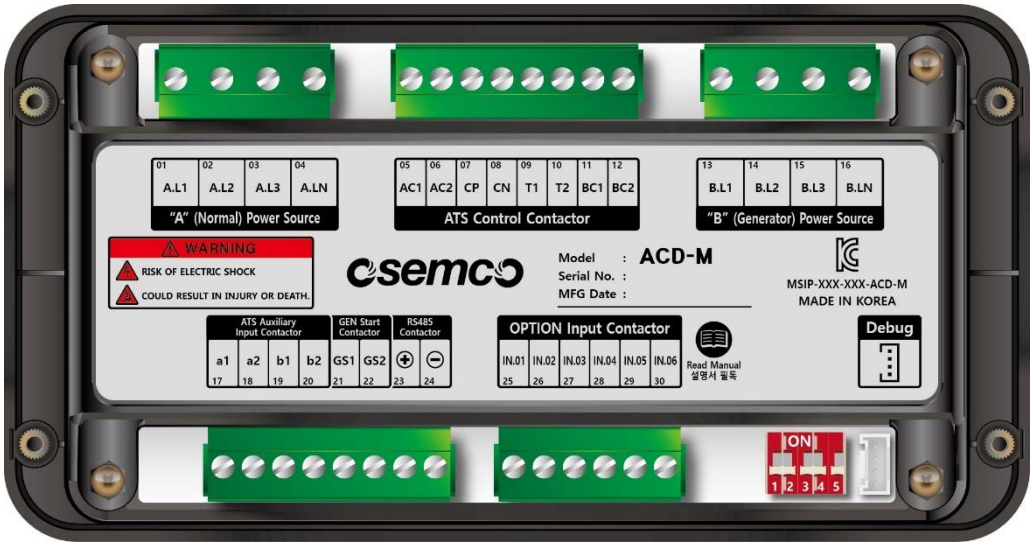
  It may present a risk of burn and malfunction.

2. Construction and features.

2.1 Front face



2.2 Back side



2.3 Specifications

1) Model name: ACD-M
2) Dimensions: (W)169.3mm x (H)88.7mm x (D)57mm
3) Weights: 1.0 kg
4) Ambient operating temperature: -20℃ ~ 70℃
5) LED display: 2-DIGIT FND, high brightness LED
6) Voltage input: L-N 220Vac, 230Vac, 240Vac / 50[Hz] or 60[Hz]
7) ATS control relay: 250[VAC] / 16[A] 3 contacts
8) Generator starting relay: 250[VAC] / 5[A] 1 contact
9) Contact input: ATS status 2 contacts. ATS BYPASS 2 contacts, Lift running 1 contact / 18[VDC]
10) Communication interface: RS485
11) EMC, KC certified. : R-R-OS0-ACD-M

2.4 Major functions

Local/Remote control, Manu/Auto control, 2-Position or 3-Position Transfer, Single/Three phase power sensing, Synchronized Transfer (within 30 degrees), RS485, Generator starting.

2.5 FND window

1) Timer countdown when close or open operation
2) Synchro angle when synchronized transferring
3) [F.t.] = Fault status, [E.u.] = Elevator operation status display
4) Display setting values when set up
5) Priority notation : [-.-] = A Power priority, [- -] = No priority, [- -.] = B Power priority

2.6 LED window

1) Menu Setting (Yellow)	ON – Menu setting	OFF – General status
2) LOCAL/REMOTE	Green – LOCAL status	Red – REMOTE status
3) AUTO/MANUAL	Green – AUTO mode	Red – MANUAL mode
	MANUAL blinking – BY-PASS close status	
4) A FAULT (Red)	OFF - A-power Normal state	Blinking - A-power External trip input status
	Blinking twice - Closing error	Blinking three times - Open Error
	Blinking four times - Synchronous transfer Error	
5) B FAULT (Red)	OFF - B-power Normal state	Blinking - B-power External trip input status
	Blinking twice - Closing error	Blinking three times - Open Error
	Blinking four times - Synchronous transfer Error	
6) GENERATOR (White)	ON – Generator starting ON	OFF – Generator starting OFF
7) POWER (Green, Red)	ON – Power normal	OFF – Power blackout
	2times blinking – Low voltage	3time blinking – Over voltage, over or lower frequency.
8) CLOSE (Green, Red)	ON – ATS close	OFF – ATS open
	0.5s blinking – Close or open operating	2times blinking – Close fault
	3times blinking – Open fault	4times blinking – synchronizing fault
9) LOAD (Green, Red)	ON – Load power supply status	OFF – Load power cut status

2.7 Operational button

Symbol	Button name	Description
	Menu Setup (Use at manual mode)	Change to "Menu setting" while press for 2sec or longer Change to "Communication setting" while press Lamp Test button for 2sec or longer Alarm sound mute.
	LOCAL/REMOTE	LOCAL <-> REMOTE changing LOCAL: control by controller at local. / REMOTE: remote control.
	AUTO/MANUAL (Use at local mode)	At LOCAL mode AUTO <-> MANUAL mode changing Reset of voltage and malfunction.
	A CLOSE (Use at local mode) (Use at manual mode)	[ATS type: A<->B type, setting DIP S/W No. 3 = ON] >At ATS B-power close, A-power and B-power normal (Synchronizing mode) While press "A CLOSE" button for 0.5sec, ATS B->A-power manual synchronized transfer. >At ATS B-power close, A-power normal While press "A CLOSE" button for 0.5sec ATS B->A-power manual transfer. [ATS type: A<->O<->B], setting DIP S/W No. 3 = OFF] At ATS both power open, A-power manual closing while press 0.5sec At ATS A-power close, A-power manual open while press for 1.0sec >At ATS B-power close, A, B-power normal (Synchronizing mode) While press "A CLOSE" button for 0.5sec, ATS B> Open ->A-power manual synchronized transfer. >AT ATS B-power close, A-power normal While press "A CLOSE" button for 0.5sec ATS B→ Open (1sec delay)> A-power manual open and transferring. [A close output test] If press "A CLOSE" button for 3sec or longer at manual mode whatever voltage condition, alarm sound and generate A output signal until button unpressed. [OPEN output test] [ATS type: A<->O<->B], setting DIP S/W No. 3 = OFF] If press "A/B CLOSE" button for 3sec or longer at manual mode whatever voltage condition, alarm sound and generate OPEN output signal until button unpressed.

	B CLOSE (Use at Local mode) (Use at Manual mode)	[ATS type: A<->B type, setting DIP S/W No. 3 = ON] >At ATS A-power close, A, B-power normal (Synchronized transfer mode) While press "B CLOSE" button for 0.5sec, ATS A->B-power manual synchronized transfer. >At ATS B-power close, A-power normal While press "B CLOSE" button for 0.5sec, ATS A->B-power manual transfer [ATS type: A<->O<->B], setting DIP S/W No. 3 = OFF] At ATS both power open, press for 0.5sec, ATS B-power manual close At ATS B-power close, press for 1.0sec ATS B-power manual open >At ATS A-power close, A, B-power normal (Synchronized transfer mode) While press "B CLOSE" button for 0.5sec, ATS A > Open ->B-power manual synchronized transfer. >At ATS A-power close, B-power normal While press "B CLOSE" button for 0.5sec, ATS A→ Open (1sec delay)> B-power manual open and transfer. [B close output test] If press "B CLOSE" button for 3sec or longer at manual mode whatever voltage condition, then alarm sound and generate A output signal until button unpressed. [OPEN output test] [ATS type: A<->O<->B], setting DIP S/W No. 3 = OFF] If press "A/B CLOSE" button for 3sec or longer at manual mode whatever voltage condition, then alarm sound and generate OPEN output signal until button unpressed.
	GENERATOR START/STOP (Use at Local mode) (Use at manual mode)	At manual mode, At Generator starts out put OFF while press button for 2.0sec or longer, then generator starts output ON. At generator starts out put ON, press button for 2.0sec or longer, then generator starts out put OFF. AT manual mode, when utility power and generator power is fault, generator starts ON. Automatic mode If utility power is fault, generator starts output be generated. After recover utility power while generator power is using, transferring be completed.
	OVERRIDE DOWN	Normal status: ATS close/open or at time switch activated while synchronized transfer, then skip the time switch running. Menu status: Changing menu While menu setting: Decrease setting figure
	LAMP TEST UP	Normal status: LED & FND test available Menu status: Change menu While menu setting: Decrease setting figure

2.8 Terminal blocks

"A"(Normal) Power Source

No.	Terminal name	Signal	Terminal description
01	A.L1	Power input	"A" power input (50Hz or 60Hz) Three-phase supply : 380/220Vac, 400/230Vac, 415/240Vac Single-phase supply : 220Vac, 230Vac, 240Vac to A.L1, A.LN terminals
02	A.L2		
03	A.L3		
04	A.LN		

ATS Control Contact

No.	Terminal name	Signal	Terminal description
05	AC1	Relay output	ATS "A" - Closing source output (Capacity 16A)
06	AC2 (A.LN)		
07	CP	Power input	T1, T2 Open power input 3-Position ATS [A<->O<->B], DIP s/w setting [No.3 OFF]
08	CN		
09	T1	Relay output	ATS Open power output (Capacity 16A) 3-Position ATS [A<->O<->B], DIP s/w setting [No.3 OFF]
10	T2 (CN)		
11	BC1	Relay output	ATS "B" - Closing source output (Capacity 16A)
12	BC2 (B.LN)		

"B"(Alternative) Power Source

No.	Terminal name	Signal	Terminal description
13	B.L1	Power input	"B" power input (50Hz or 60Hz) Three-phase supply : 380/220Vac, 400/230Vac, 415/240Vac Single-phase supply : 220Vac, 230Vac, 240Vac to B.L1, B.LN terminals
14	B.L2		
15	B.L3		
16	B.LN		

ATS Auxiliary Input Contact

No.	Terminal name	Signal	Terminal description
17	11	Contact input	ATS A-ON status contact input (dry contact)
18	14		
19	31		ATS B-ON status contact input (dry contact)
20	34		

GEN Starts Contact

No.	Terminal name	Signal	Terminal description
21	GS1	Relay output	Generator start signal output (Capacity 250Vac / 5A)
22	GS2		

RS485

No.	Terminal name	Signal	Terminal description
23	+	Communication	RS485 communication port
24	-		

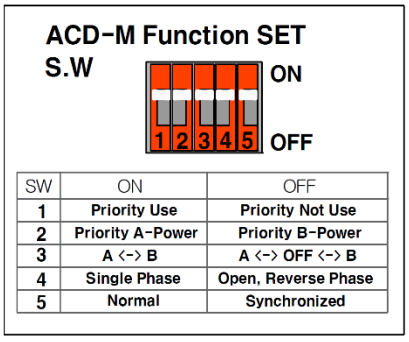
OPTION Input Contact

No.	Terminal name	Signal	Terminal description
25	IN.A1	Contact input	"ATO" contact input (dry contact) when applying ATCB
26	IN.A2		
27	IN.B1	Contact input	"BTO" contact input (dry contact) when applying ATCB
28	IN.B2		
29	IN.C1	Contact input	Elevator operation contact input (dry contact)
30	IN.C2		

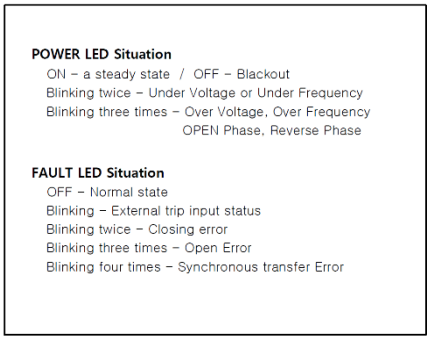
2.9 Function setting DIP switches

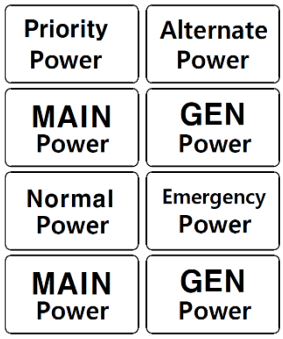
DIP s/w	Function	Setting	Description
1	Priority Source	**ON** (Use)	Use ATS execution priority (As set SW2)
		OFF (Not use)	Not use ATS execution priority (Generator start signal unavailable) > Maintain status if power in use is normal
2	Source select (Priority)	**ON** (A-power)	ATS A-power priority > At ATS A-power is utility, if A-power abnormal, generator starts automatically.
		OFF (B-power)	ATS B-power priority > At ATS B-power is utility, if B-power abnormal, generator starts automatically.
3	Transfer method	**ON** (2-Position)	2-Position Transfer : A<->B > ATS model : T3, TO, TN, PC, PSO
		OFF (3-Position)	3-Position Transfer : A<->O<->B > ATS: TN, PCN, ATCB
4	Voltage sensing	**ON** (Single-phase)	Single-phase input (L1- LN) > 220Vac, 230Vac, 240Vac
		OFF (Three-phase)	Three-phase input (L1-L2-L3-LN) > 380/220Vac, 400/230Vac, 415/240Vac > Open Phase monitoring, Reverse Phase
5	Synchronized transfer	**ON** (Use)	Synchronized transfer: Use
		OFF (Not use)	Synchronized transfer: Not use

2.10 Setting DIP S/W & fault sticker



SW	ON	OFF
1	Priority Use	Priority Not Use
2	Priority A-Power	Priority B-Power
3	A <-> B	A <-> OFF <-> B
4	Single Phase	Open, Reverse Phase
5	Normal	Synchronized





The sticker for function set-up DIP s/w shall be provided, and you may adhere to back of the controller.

The sticker for lamp status shall be provided, and you may adhere to the controller.

The sticker for power source shall be provided, and you may adhere to the controller if you need identify A-power and B-power.

2.11 Protection behavior settings and scope

Over voltage low voltage characteristics (voltage setting = P0)

SET	Over-voltage operation	Over-voltage termination	Low-voltage operation	Low-voltage cancellation
0V	Not used	Not used	187V	191V
220V	275V	270V		
230V	288V	283V		
240V	300V	295V		

Frequency characteristics when not in use of a synchronous object (frequency setting = P1)

SET	Over-frequency operation	Over-frequency termination	Low-frequency operation	Low-frequency cancellation
50Hz	55Hz	54Hz	45Hz	46Hz
60Hz	65Hz	64Hz	55Hz	56Hz

Frequency characteristics when using a synchronous object (frequency setting = P1)

SET	Over-frequency operation	Over-frequency termination	Low-frequency operation	Low-frequency cancellation
50Hz	52Hz	51Hz	48Hz	49Hz
60Hz	62Hz	61Hz	58Hz	59Hz

3. Set-up

3.1. Basic set-up

Setting >> **Press Menu Setup button for 2 sec at manual mode.**

>P0	Setting range: 22, 23, 24	Default: 220V
Set rated voltage. (phase voltage) - 22 = 220[V] - 23 = 230[V] ACMR - 24 = 240[V]		

>P1	Setting range: 50, 60	Default: 60Hz
Set rated frequency. - 50: 50[Hz] - 60: 60[Hz]		

>P2	Setting range: 00s ~ 99s	Default: 05s
Set A-power close time delay.		

>P3	Setting range: 00s ~ 99s	Default: 05s
B-power close time delay.		

>P4	Setting range: 00s ~ 99s	Default: 05s
A-power open time delay. Only open type ATS activate.		

>P5	Setting range: 00s ~ 99s	Default: 05s
B-power open time delay. Only open type ATS activate.		

>P6	Setting range: Fd, rd	Default: Fd
Sets the upward rotation direction. Fd = normal rotation direction, rd = reverse phase rotation direction The menu is active only when using phase 3.		

>P7	Setting range: 00s ~ 99s	Default: 05s
Synchronized transfer time delay. Only synchronizing type ATS activate.		

3.2. Communication set-up

Set-up >> At manual mode, while press “Lamp Test” button press “Menu Setup” button for 2sec or longer, then you may go communication set-up.

>C0	Setting range: 01 ~ 99	Default: 01
Set address of RS485.		

>C1	Setting range: 96, 19, 38	Default: 19
Set baud rate of RS485. - 96: 9600bps - 19: 19200bps - 38: 38400bps		

4. Communication interface

4.1 MODBUS protocol

1) Type : 2-Wire RS485
2) Protocol : MODBUS RTU
3) Function : REQUEST(04h), COMMAND(05h)
4) Digits : 1~99
5) BAUD RATE : 9600[bps], 19200[bps], 38400[bps]
6) Parity : None
7) Data stop bit : 8[Bit] / 1[Bit]
8) Min interval : 250[ms]
9) Packet ending time : 5[ms]

4.2 COMMAND (05h)

TX EXAMPLE : 01 05 00 02 FF 00 CRC16 → add no. 0003 ATS A-power manual close signal

Address	Description	Data
0001	Change to MANUAL mode	0xFF00 Automatic clear
0002	Change to AUTO mode	
0003	A-power manual close	
0004	B-power manual close	
0005	Manual open	
0006	Generator manual starts	
0007	Generator manual stop	
0008	Over wright	

4.3 REQUEST (04h)

TX EXAMPLE : 01 04 00 00 00 0E CRC16 → Request data from add no. 30001 to 14th

Address	Description		Data type	Data indicate
30001	Device model name		UNSIGNED 16BIT	-
30002	A-power L1-LN phase voltage		UNSIGNED 16BIT	XXX [V]
30003	A-power L2-LN phase voltage		UNSIGNED 16BIT	XXX [V]
30004	A-power L3-LN phase voltage		UNSIGNED 16BIT	XXX [V]
30005	A-power frequency		UNSIGNED 16BIT	XX.X [Hz]
30006	B-power L1-LN phase voltage		UNSIGNED 16BIT	XXX [V]
30007	B-power L2-LN phase voltage		UNSIGNED 16BIT	XXX [V]
30008	B-power L3-LN phase voltage		UNSIGNED 16BIT	XXX [V]
30009	B-power frequency		UNSIGNED 16BIT	XX.X [Hz]
30010	Phase angle of synchronizing.		UNSIGNED 16BIT	XXX [°]
30011	ATS status		UNSIGNED 16BIT	-
	Bit 0: MANUAL mode	Bit 8: A-power abnormal		
	Bit 1: AUTO mode	Bit 9: B-power abnormal		
	Bit 2: LOCAL status	Bit 10: A-power BY-PASS close		
	Bit 3: REMOTE status	Bit 11: B-power BY-PASS close		
	Bit 4: A-power normal	Bit 12: Generator starts signal		
	Bit 5: B-power normal	Bit 13: Generator stop signal		
	Bit 6: **A-power close**	Bit 14: Reserved		
	Bit 7: **B-power close**	Bit 15: Reserved		

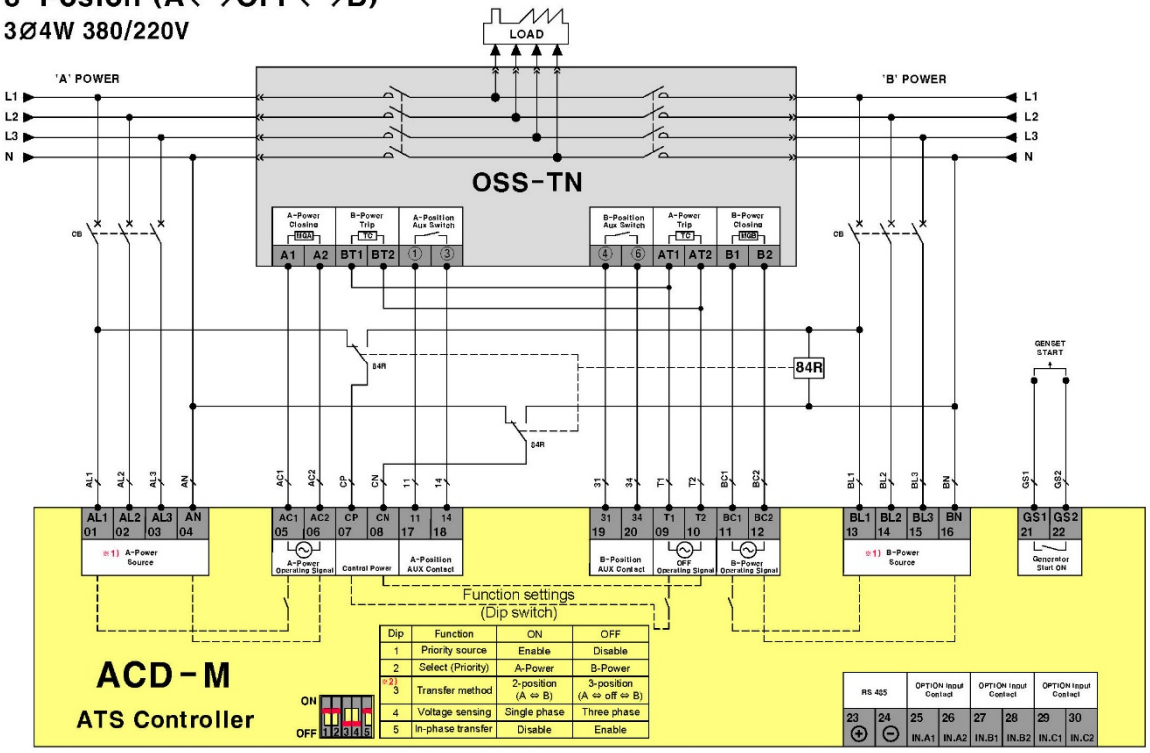
30012	A-power fault status		UNSIGNED 16BIT	-
	Bit 0: A-power low voltage	Bit 8: A-power status contact abnormal		
	Bit 1: A-power over voltage	Bit 9: A-power close fault		
	Bit 2: A-power low frequency	Bit 10: A-power open fault		
	Bit 3: A-power over frequency	Bit 11: A-power manual open fault		
	Bit 4: A-power phase reverse	Bit 12: A-power synchronized transfer fault		
	Bit 5: Reserved	Bit 13: Reserved		
	Bit 6: Reserved	Bit 14: Reserved		
	Bit 7: A-power protective relay close	Bit 15: Reserved		
30013	B-power fault status		UNSIGNED 16BIT	-
	Bit 0: B-power low voltage	Bit 8: B-power status contact fault		
	Bit 1: B-power over voltage	Bit 9: B-power close fault		
	Bit 2: B-power low frequency	Bit 10: B-power open fault		
	Bit 3: B-power over frequency	Bit 11: B-power manual open fault		
	Bit 4: B-power phase reverse	Bit 12: B-power synchronized transfer fault		
	Bit 5: Reserved	Bit 13: Reserved		
	Bit 6: Reserved	Bit 14: Reserved		
	Bit 7: B-power protective relay close	Bit 15: Reserved		
30014	Fault status		UNSIGNED 16BIT	-
	Bit 0: A-power status contact close	Bit 8: A-power close signal output		
	Bit 1: B-power status contact close	Bit 9: B-power close signal output		
	Bit 2: IN.A1, IN.A2 close status	Bit 10: Open signal output		
	Bit 3: IN.B1, IN.B2 close status	Bit 11: Generator starts signal output		
	Bit 4: IN.C1, IN.C2 close status	Bit 12: Reserved		
	Bit 5: Reserved	Bit 13: Reserved		
	Bit 6: Reserved	Bit 14: Reserved		
	Bit 7: Reserved	Bit 15: Reserved		

5. Panel cutting diagram

6. Wiring

6.1 OSS-TN wiring

OSS-TN Type (AC220V)
3-Posion (A<->OFF<->B)
3Ø4W 380/220V

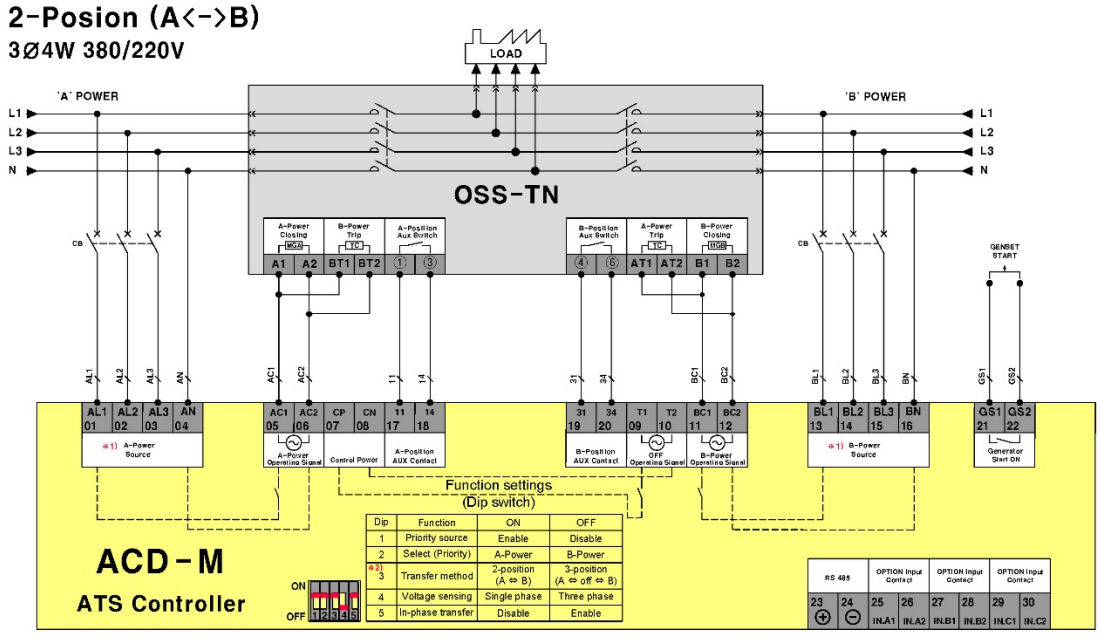


Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
3 ※2)	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) 3번 DIP 스위치는 OFF하여 주십시요.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) Turn OFF the No. 3 DIP switch.

OSS-TN Type (AC220V)
2-Posion (A<->B)
3Ø4W 380/220V



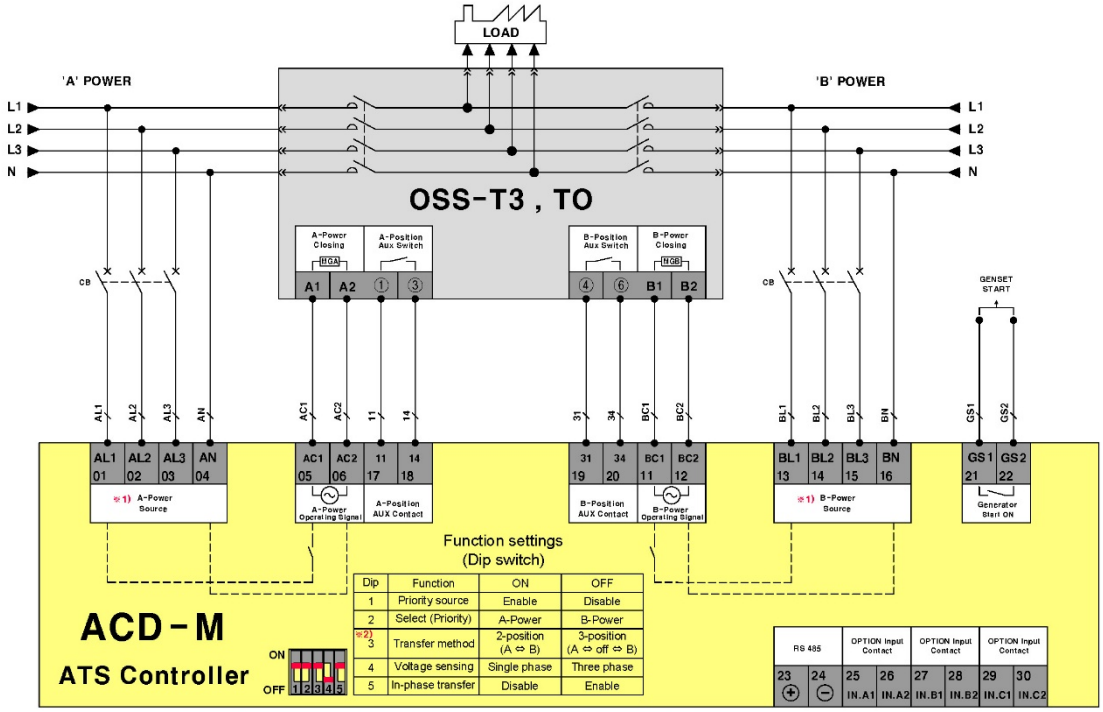
Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
3 ※2)	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) 3번 DIP 스위치는 ON하여 주십시요.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) Turn ON the No. 3 DIP switch.

6.2 OSS-T3, TO wiring

OSS-T3, TO Type (AC220V)
3Ø4W 380/220V



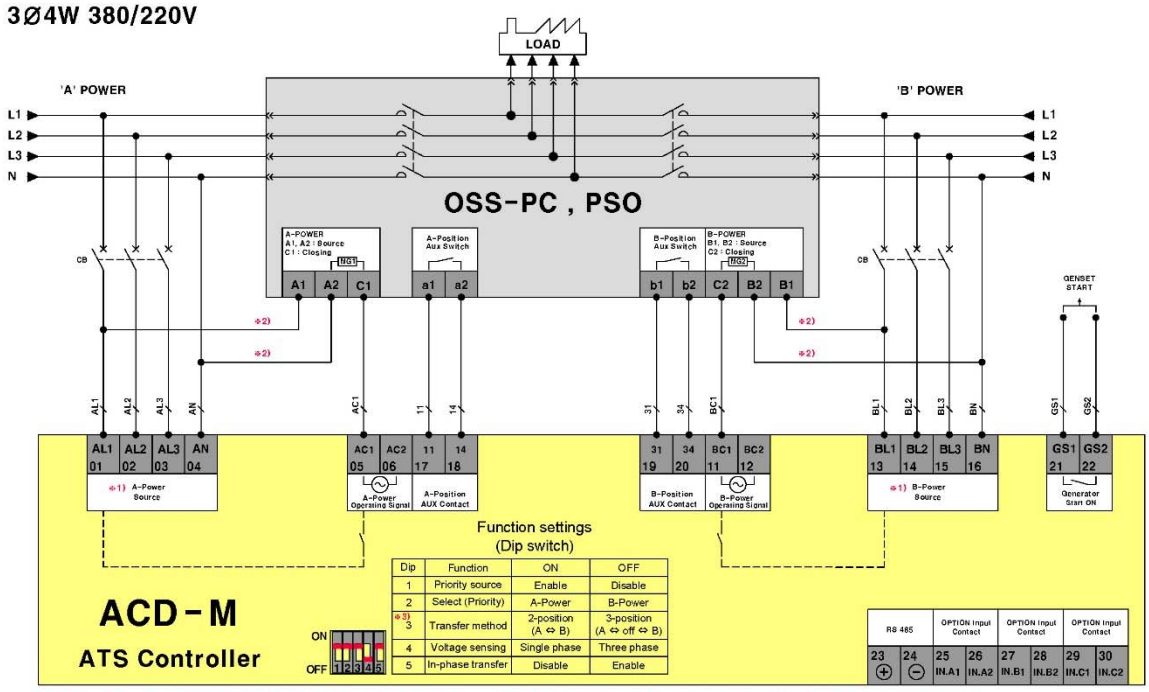
Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
※2) 3	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) 3번 DIP 스위치는 ON하여 주십시요.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) Turn ON the No. 3 DIP switch.

6.3 OSS-PC wiring

OSS-PC, PSO Type (AC220V)
3Ø4W 380/220V



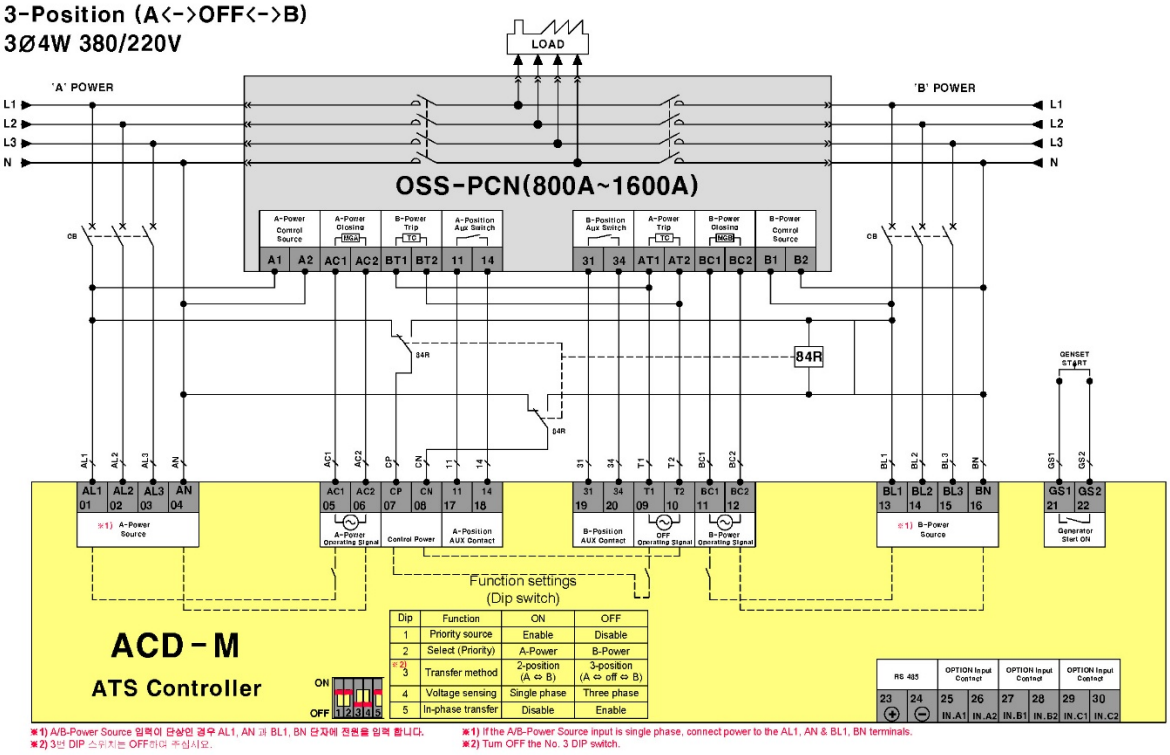
Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
※3) 3	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) ATS 1,600A 이하 사용시 전선의 굵기는 2.5㎟ 이상 사용합니다.
ATS 2,000A 이상 사용시 전선의 굵기는 4.0㎟ 이상 사용합니다.
ATS 4,000A 이상 사용시 전선의 굵기는 6.0㎟ 이상 사용합니다.
※3) 3번 DIP 스위치는 ON하여 주십시요.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) More than 2.5㎟ power cable used for 1,600A ATS or less.
More than 4.0㎟ power cable used for 2,000A ATS or over.
More than 6.0㎟ power cable used for 4,000A ATS or over.
※3) Turn ON the No. 3 DIP switch.

6.4 OSS-PCN wiring

OSS-PCN Type (AC220V)
800A ~ 1600A
3-Position (A<->OFF<->B)
3Ø4W 380/220V

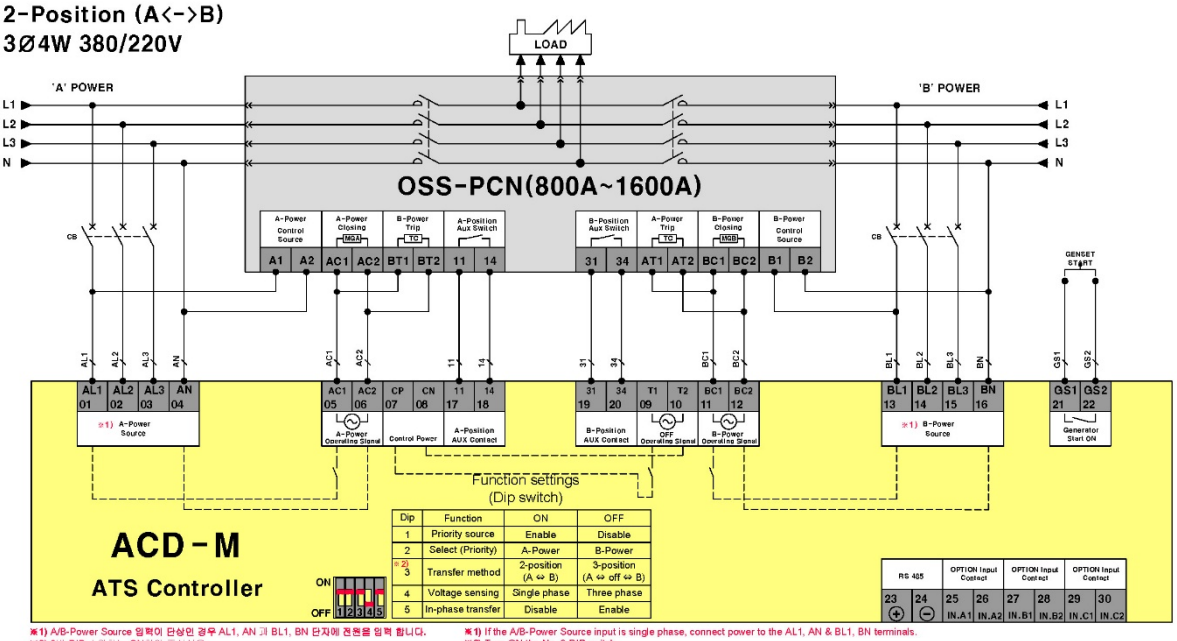


Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
※2) 3	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) 3번 DIP 스위치는 OFF하여 주십시오.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) Turn OFF the No. 3 DIP switch.

OSS-PCN Type (AC220V)
800A ~ 1600A
2-Position (A<->B)
3Ø4W 380/220V



Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
※2) 3	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) 3번 DIP 스위치는 ON하여 주십시요.

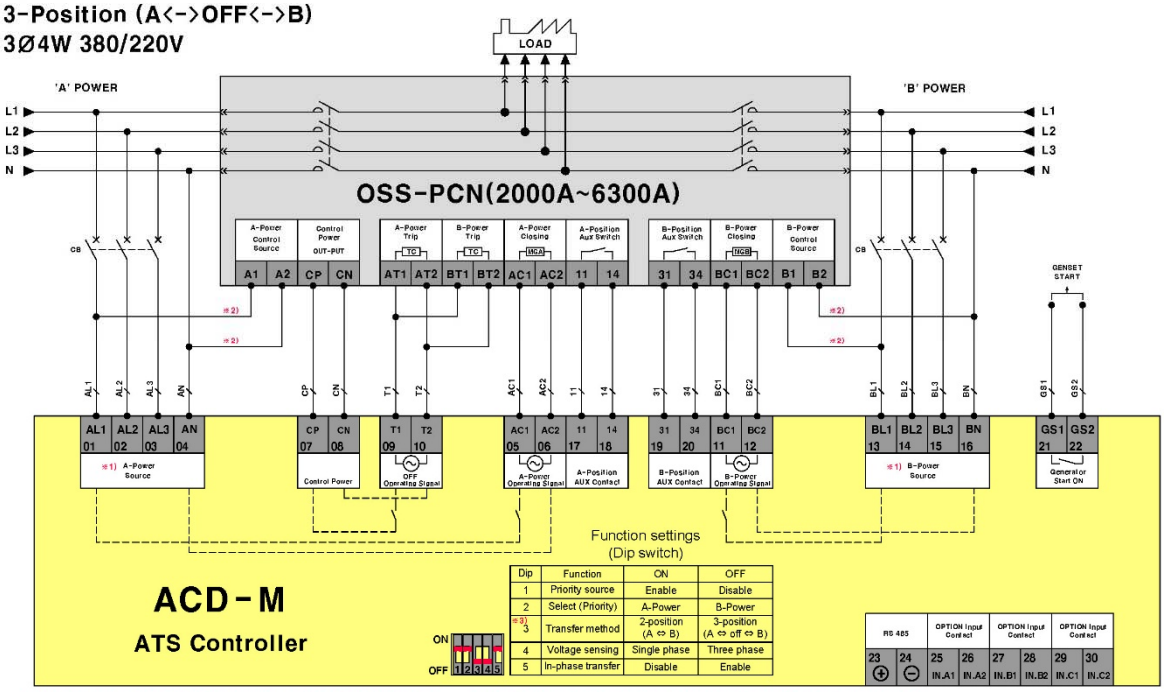
※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) Turn ON the No. 3 DIP switch.

OSS-PCN Type (AC220V)

2000A ~ 6300A

3-Position (A<->OFF<->B)

3Ø4W 380/220V



Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
※3) 3	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

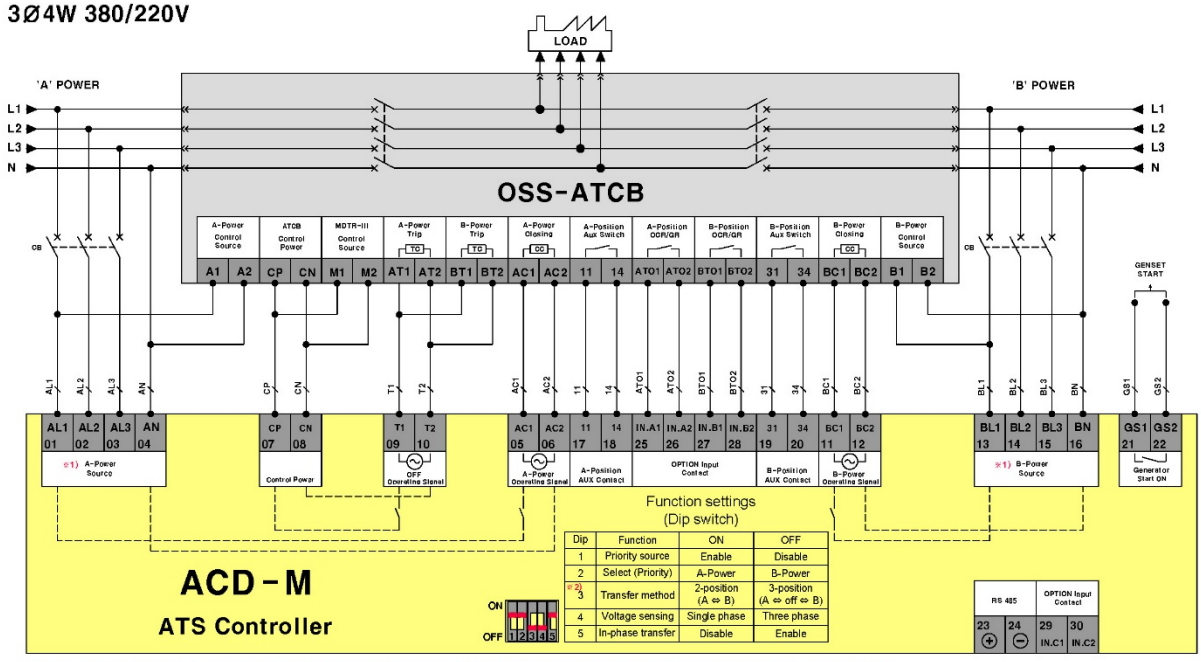
※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) ATS 2,000A 이상 사용시 전선의 굵기는 4.0㎟ 이상 사용합니다.
ATS 4,000A 이상 사용시 전선의 굵기는 6.0㎟ 이상 사용합니다.
※3) 3번 DIP 스위치는 OFF하여 주십시요.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) More than 4.0㎟ power cable used for 2,000A ATS or over.
More than 6.0㎟ power cable used for 4,000A ATS or over.
※3) Turn OFF the No. 3 DIP switch.

6.5 OSS-ATCB wiring

OSS-ATCB Type (AC220V)

3Ø4W 380/220V



Dip	Function	ON	OFF
1	Priority source	Enable	Disable
2	Select (Priority)	A-Power	B-Power
※2) 3	Transfer method	2-position (A ⇔ B)	3-position (A ⇔ off ⇔ B)
4	Voltage sensing	Single phase	Three phase
5	In-phase transfer	Disable	Enable

※1) A/B-Power Source 입력이 단상인 경우 AL1, AN 과 BL1, BN 단자에 전원을 입력 합니다.
※2) 3번 DIP 스위치는 OFF하여 주십시요.

※1) If the A/B-Power Source input is single phase, connect power to the AL1, AN & BL1, BN terminals.
※2) Turn OFF the No. 3 DIP switch.