



- Switchgear & PDU, Automatic Control Panel
- Electric Contractor License : Gyeonggi - 04509

New Paradigm of
Self-Assembly Panel Board

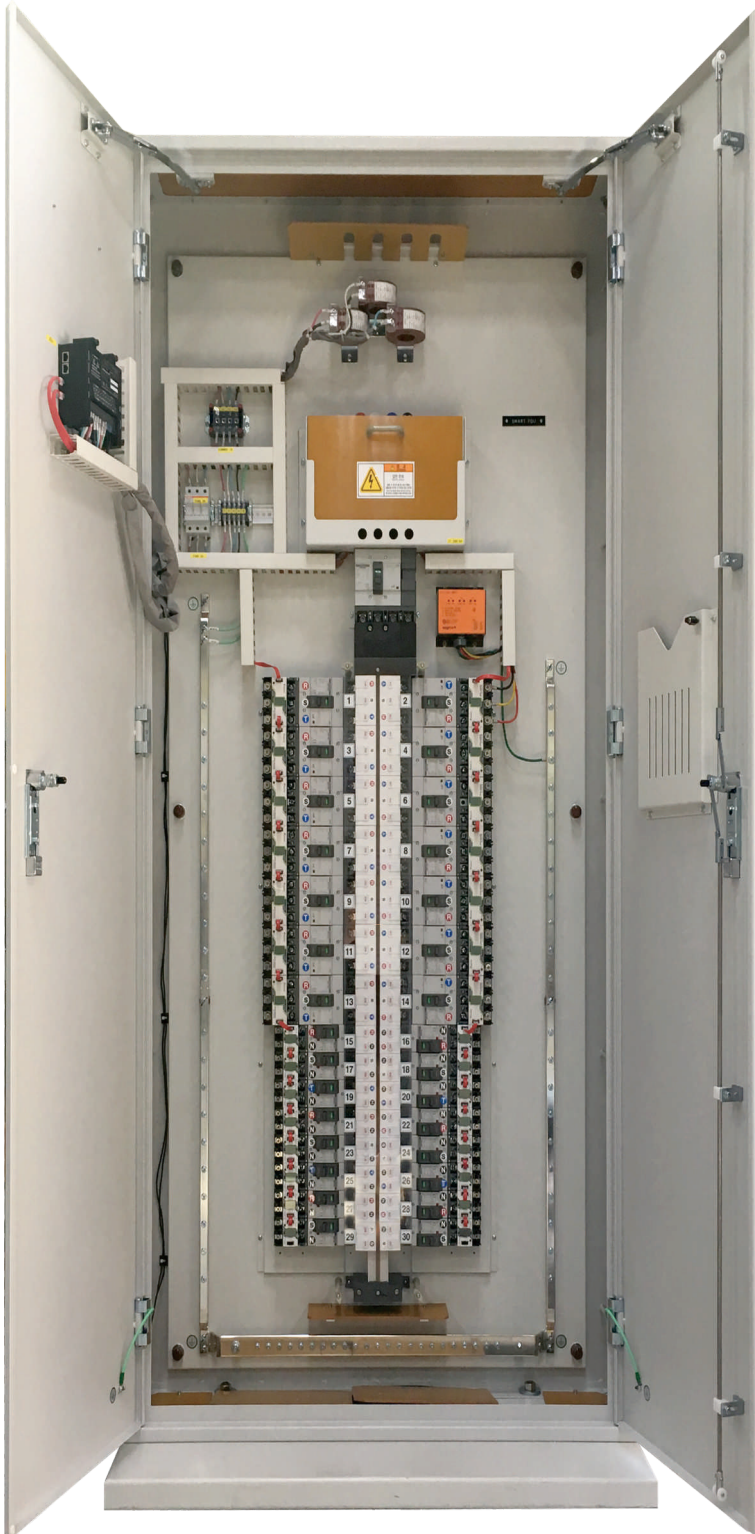
UPCD

Uninterruptible Power Change Distribution



SunWoo
Electric Co., Ltd.

UPCD (Uninterruptible Power Change Distribution)



○ Characteristic

- 1) Electrical stability
- 2) Slimness in size
- 3) Unnecessariness of Backup Feeder
- 4) Reduction in production time
- 5) 100% Reusable components
- 6) Easiness in Changing

Internal DESIGN

1. Flexibility and Quickness to replacement and extension
 - Capable of uninterrupted changing without contacting on the live part of main bus bar in case of replacing and changing the branch circuit breaker
2. Insertion of Communication MODULE
 - Enable to check load current and temperature at same time
 - Implement RS-485 Communication

INSTALLATION WORK

- Perfect connection only by fitting connecting kits
- Slim Model : UDCP can be installed in narrow space
- Single Process saving the installation time
- Standardized Model; enhance economical efficiency and reliability in construction
- Environmental safety for workers
- Easiness in managing the components

FOLLOW-UP MANAGEMENT

- Low risk of electric shock and fire accident
 - : the Panel Body is insulated(PC) and resisting to fire
- High level of safety when changing circuit breakers in the Live wire
- Easy to check and manage
- Flexible handling in changing load
- 100% Reusing the existing parts
- Standardized Block Module Type ; easy to change and extend, quick to additional installation

UPCD Characteristic

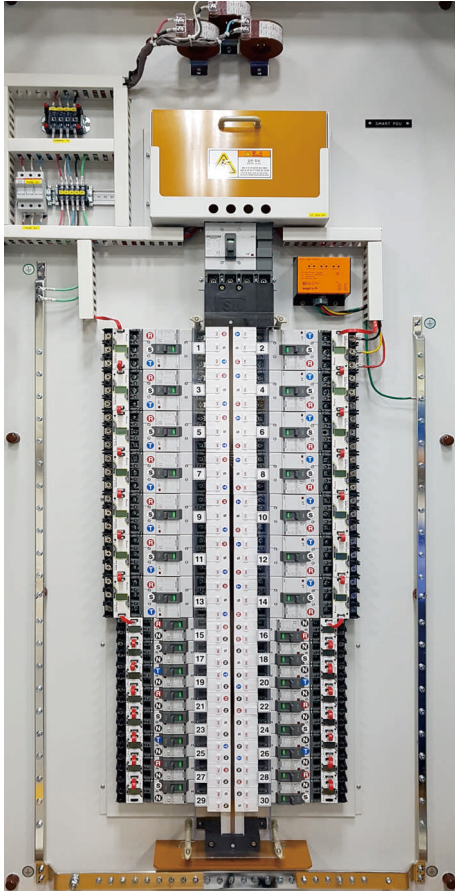
- MODULE TYPE ; capable of uninterrupted changing without touching source side in case of changing branch circuit breakers
- Ensure stability by applying MODULE on main bus bar ; it protects the main bus bars from getting damaged by the diffusion of arc, which occurs in case of fault on second side of the branch breakers
- Patent applied Model; Patent No10-1135150 and No10-1167575, Performance Verification and Certification proved by Certificate Authority
- Easy to assemble and change; featuring neat and Free the Frame
- Prevent the penetration of conductor

UPCD Cost cutting and Maintenance

- Reduced size by 10 ~ 20% contrasted to General Panel Board
- Injection Mold Model; fits to mass production
- Fast and easy response to changing design and Short Turn Over
- Standardized MODULE; The users can easily do A/S with spare part
- Lower cost of labor; reducing man-hour in Inner Plate work process and bus bar process(HOLE, TAP, COATING, BENDING)

NO.	PARTS	DESCRIPTION	MAKER
1	PANEL BODY	STEEL COATED (EPOXY) IN BOX BASE COLOR : (EPOXY) VSD4036	Sunwoo electric co.,Ltd
2	NAME PLATE	ACRYL (A ST-20445)	
3	NAME PLATE	ACRYL (A ST-100-20)	
4	DIGITAL METER	EPIC-M2550S	NUCHIS
5	KEY HANDLE	KHP-1186-B	Korea Ace
6	DRAWING CASE	W236 * H310 * D30	
7	MAIN CT	DL-21 2500A 5VA	Light Star
8	IL-ISE	(CM6102) 2A	FERRAZ
9	COAL TB	V5CT-04 (250A 30A)	Zing'ing Electric
10	CONTROL TB	SP 25A	Jeone Electric
11	PVC DUCT	30 x 60	Chungmu Chemical
12	TOP & BOTTOM COVER	SMC/ULTE 95	
13	PROTECTION COVER	POLYCARBONATE 95	
14	CABLE SUPPORT		
15	E-TB	ET x 40	
16	MICROMETER(S)	(ARS10A) 3P 250A / 250A	LSB
17	MICROMETER(S)	(ARS10A) 3P 125A / 100A	LSB
18	MICROMETER(S)	(ARS10A) 3P 50A / 50A	LSB
19	FEEDER POWER MODULE	EPIC-M2550 / 3P-25A-40	NUCHIS
20	FEDER POWER MODULE	EPIC-M2550 / 3P-100A-40	NUCHIS
21			
22			
23			
NOTE			

UPCD Main point



UPCD Key components

▼ 30AF ~ 400AF BUS



▼ Connecting part of bus bar



▼ Axis of cylinder



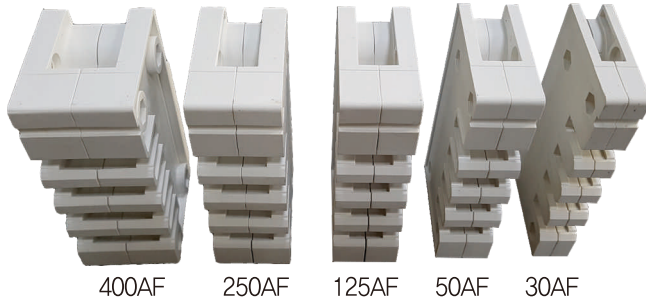
▼ Internal parts



▼ Switchgear

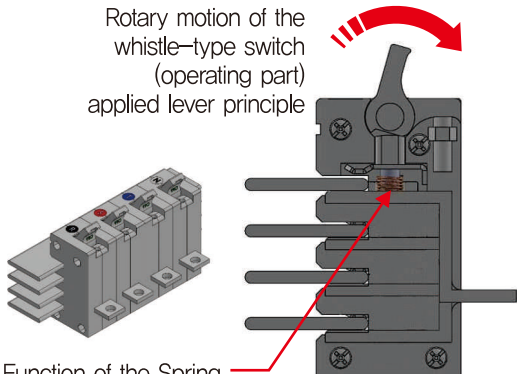


▼ 30AF ~ 400AF Branch module (630AF in progress)



How the MODULE lever works

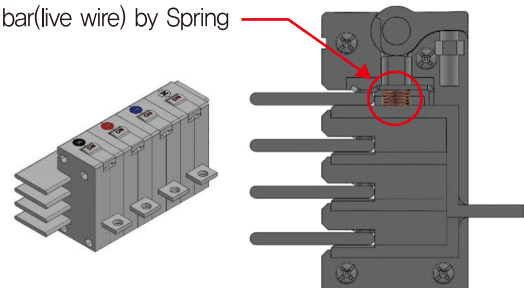
Rotary motion of the whistle-type switch (operating part) applied lever principle



Function of the Spring

When the switch is opened, raising the axis of the cylinder, it makes solid connection between main bus bar and the MODULE

Connect main bus bar with branch bus bars by pressing the main bus bar to the branch bus bar(live wire) by Spring



UPCD Easy Compatibility and Assembly



- 1** – Exclude the possibility of electric shock accident by applying MODULEs from main to branch bus bars at second side of main circuit breaker
– Measuring voltage, electric current, power factor, wattage, temperature for each branch MODULE



- 2** – Prefabricated protect cover over Terminal area of first side of main circuit breaker
– Infrared measuring; measure the temperature of Phase without separating the cover



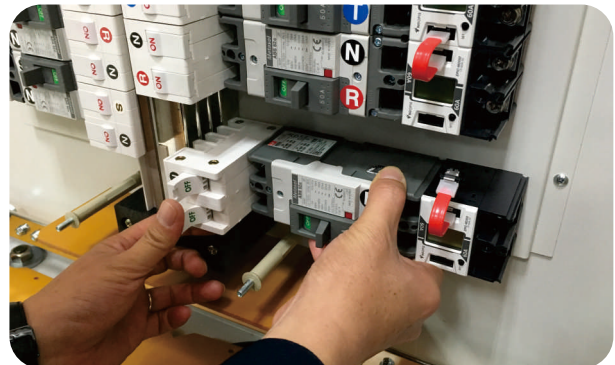
- 3** – Switchgear on MODULE; No special tool is needed to power on
– Distinct MODULE; clearly distinct MODULEs for each Phase



- 4** – Special opener for removing MODULE
– ON / OFF switchgear on branch circuit breakers works the same way as General Distribution

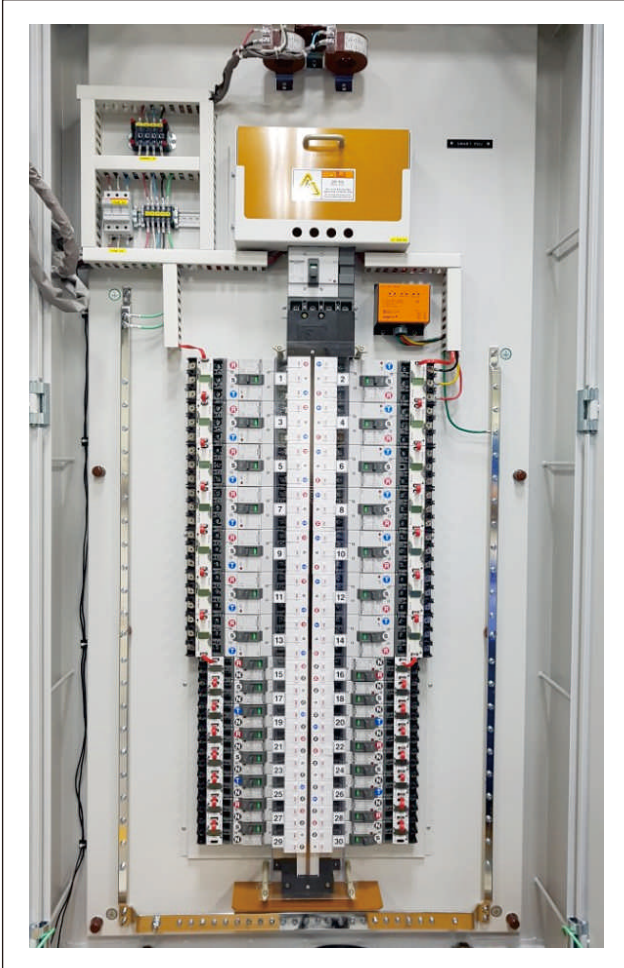


- 5** – Laminated main bus line (R-S-T-N from bottom to top)
– Flame retardant cover on main bus bar where the MODULE is not connected



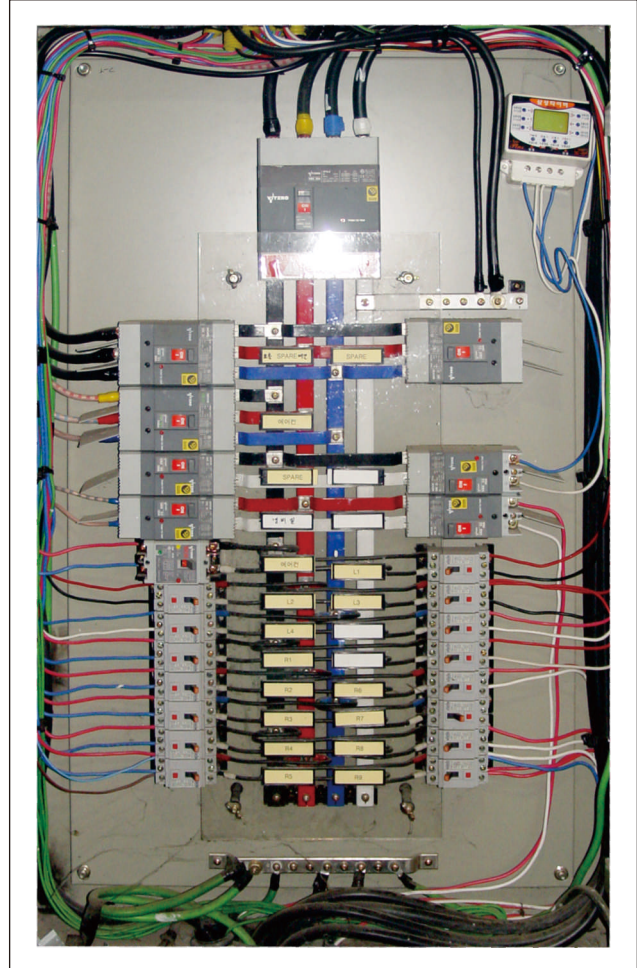
- 6** – One Piece Style that can be removable (MULTILAYER TYPE MODULE, branch circuit breaker, and Communication module are in One Piece) – All MODULEs are available separately
– UP/DOWN movable MODULEs for each branch circuit breaker
Easy for changing Phase and Pole

UPCD and General Distribution



UPCD

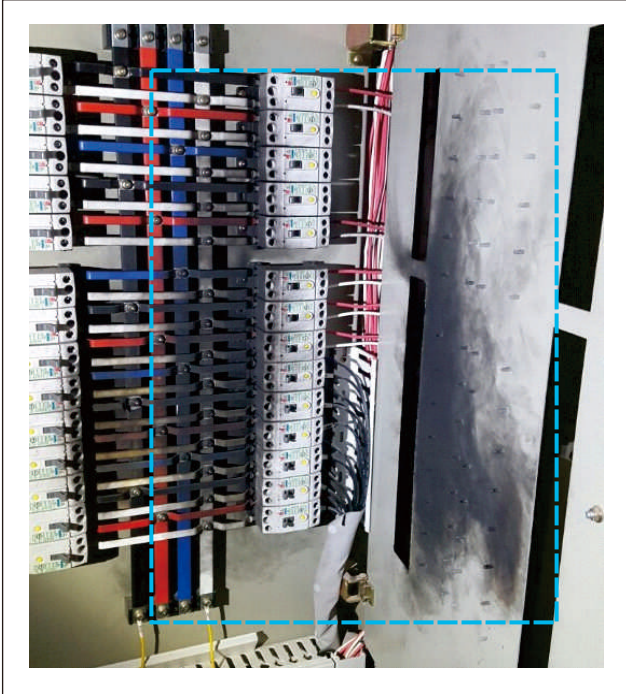
- Laminated main bus line (R-S-T-N from bottom to top)
- Capable of uninterrupted changing in case of changing branch circuit breakers
- Minimize in Panel Board size(width and height); advantages of freely UP/DOWN movable MODULEs and laminated main bus line helpful in changing the pole and capacity of Panel Board.
- MODULE for the live part of main bus bar; no additional protect cover is needed
- MULTILAYER TYPE MODULEs themselves protect the main bus bars from the damage by fault on branch making arc diffusion from branch to main.
- One Piece Style; it contributes to neat appearance and cost cutting
- Resistance to vibration
- High level of safety



General Distribution

- Side-arranged main bus line (from left to right)
- Interrupted changing in case of changing branch circuit breakers
- Fixed and symmetry type of branch circuit breaker; replaceable only for the same Frame or Pole
- Difficulty in reducing the size and installing at small space like EPS
- High possibility of chain accident to the first side when occurs fault at second side of the branch, which can damage the main; whole parts of the Distribution could need to be replaced
- Cross-connection main and branch bus bars; protect cover is needed on the live part
- Bolt loosening of main bus bars causing a blaze and accident
- Complex interior, Original Equipment Manufacturing and Manual Process

UPCD Prevention of chain accident to the main



General Distribution

- Possibility of chain accident to first side of branch circuit breakers when occurs fault on the second side, which can damage the main, making arc



UPCD

- MODULEs covering main bus bars can prevent the chain accident to the main bus bars

UPCD Uninterrupted Changing Work



MODULE Changing Style; capable of uninterrupted changing without contacting on the source side in case of changing branch circuit breakers in the Live wire : low-risk of electric shock.

UPCD Performance Authentication



Test Report – Panel Board in layers



Test Report – Panel Board 600V



Test Report – Panel Board PDU

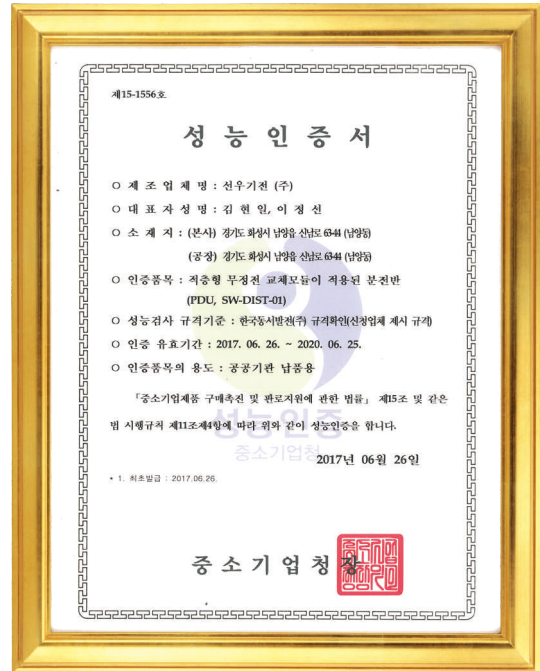


Test Report – PDU

UPCD Performance Authentication



Test Report of Branching Device of Distribution Panel



Performance Certificate (15-1556, Sunwoo Electric)



Letters of a Patent – 01



Letters of a Patent – 02

UPCD Performance Authentication



ISO Certificate – 9001



ISO Certificate – 14001



V-Check Mark Certificate 01



V-Check Mark Certificate 02

UPS

Uninterruptible Power

Change Distribution



**SunWoo
Electric Co., Ltd.**



63-44, Sinnam-ro, Namyang-eup, Hwaseong-si,
Gyeonggi-do, Republic of Korea
TEL. +82-31-763-1200 FAX. +82-31-763-1217
Homepage. www.sunwooelec.co.kr
E-mail. swe1302@hanmail.net