



WRDS2 Series

Application



WRDS2 Series Auto transfer switch mainly used for electric distribution network or motor network with rated voltage 380V, 50Hz, DC rated voltage 220V, rated current 16A to 3200A, change over between main power and backup power system, power grid and genset. Meanwhile can be used as isolation of unfrequency making and breaking circuit.

It is widely used in the transmission and distribution system and automation system of the important place which not allow power cutoff such as firefighting, Hospital, Bank, high building etc.

WRDS2 Series ATS accord to the following standard:

International:

IEC60947-1(2001) 《Low voltage switchgear and controlgear, part one: General Rules》

IEC60947-3(2005) 《Low voltage switchgear and controlgear, switch, isolator and combined fuse switch etc.》

IEC60947-6-1 (2005) 《Low voltage switchgear and controlgear multi-function switch: auto transfer switch etc. 》

Model Meanings

WR DS 2 - □ / □
 ↓ ↓ ↓ ↓ ↓
 ① ② ③ ④ ⑤

| | |
|---|----------------|
| ① | Company code |
| ② | Dual power ATS |
| ③ | Design code |
| ④ | Rated Current |
| ⑤ | Poles (3, 4) |

Working Conditions

Ambient temperature: -20°C ~+50°C; 24hours average not more than +50°C ;

Atmospheric conditions: humidity not more than 50% at max.+50°C, higher humidity is allowed at lower temperature, at most wet month, the average max humidity is 90% at the average min temperature +35°C , and have considered the condensation on the product surface due to temperature variation;

Altitude: Not more than 2000m;

Pollution Class: The installation site environment pollution Class 3.

WRDS2 Series

Main Technical Parameters

WRDS2-100-3200A series Auto transfer switch electric properties and mechanical properties

| Rated Thermal Current I _{th} | 100A | | | | | | 250A | | | | 630A | | 1000A | | 1600A | | 2000A | 2500A | 3200A | |
|--|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 3Pole Ref.No | W605272 | W605273 | W605274 | W605275 | W605276 | W605277 | W605278 | W605279 | W605280 | W605281 | W605282 | W605283 | W605284 | W605285 | W605286 | W605287 | W605288 | W605289 | W605290 |
| 4Pole Ref.No | W605291 | W605292 | W605293 | W605294 | W605295 | W605296 | W605297 | W605298 | W605299 | W605300 | W605301 | W605302 | W605303 | W605304 | W605305 | W605306 | W605307 | W605308 | W605309 | |
| Rated Current I _n (A) | 16 | 20 | 40 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3200 | |
| Rated insulation voltage U _i (V) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 1000 | 1000 | 1000 | |
| Dielectric strength (V) | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | |
| Rated impulse withstand voltage U _{imp} KV (installation category) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | |
| Rated Working current I _e (A) AC-33iB | 16 | 20 | 40 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3200 | |
| Rated short time withstand current I _{cw} (kA Rms)0.1S/1S | 9/5 | 9/5 | 9/5 | 9/5 | 9/5 | 9/5 | 12/25 | 12/25 | 12/25 | 12/25 | 40/20 | 50/25 | 90/50 | 90/50 | 90/50 | 90/50 | 50 | 50 | 55 | |
| Rated Breaking capacity (A Rms) AC-33iB 380V | 128 | 160 | 320 | 500 | 640 | 800 | 1000 | 1280 | 1600 | 2000 | 3200 | 5000 | 6400 | 8000 | 10000 | 12800 | 16000 | 20000 | 25600 | |
| Rated Making capacity (A Rms) AC-33iB 380V | 160 | 200 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 4000 | 6300 | 8000 | 10000 | 12500 | 16000 | 20000 | 25000 | 32000 | |
| Transfer Time | I-0-II | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 2.4 | 2.4 | 2.4 | |
| | I-0-II (S) | | | | | | | | | | | | | | | | | | | |
| | I-0 II-0(S) | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 1.6 | 1.6 | 1.6 | |
| Weight (kg) | 3Poles | 4.15 | 4.15 | 4.25 | 4.35 | 4.45 | 4.45 | 8.2 | 8.2 | 10.4 | 10.4 | 17.8 | 19 | 28 | 31 | 31 | 34 | - | - | - |
| | 4Poles | 4.2 | 4.2 | 4.3 | 4.4 | 4.5 | 4.5 | 8.7 | 8.7 | 11.3 | 11.3 | 20.2 | 22 | 32 | 36 | 36 | 40 | 95 | 98 | 135 |
| Use category | AC-33iB(PC) | | | | | | | | | | | | | | | | | | | |

WRDS2 Series

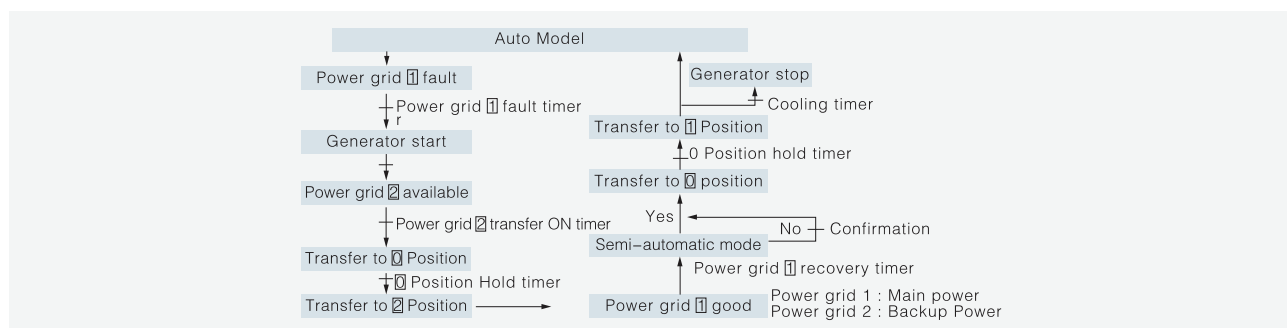
Performance And Characteristic

- It adopted double complex contact/ horizontal pulling mechanism/micro motor energy pre storage and micro-computer control technology, basically come to Zero arc (no arcing chamber);
- Adopted reliable mechanical interlock and electric interlock, executive unit adopt independent load disconnect switch, it makes more reliable and safety;
- Adopt "Zero Position" technology, it can force to set to Zero Position under emergency situation (cut off two way power supply, meet the fire linkage requirements);
- Load disconnect switch change over adopt singleness motor drive, switch over smooth and reliable, no noise, little impact;
- The driving motor have instant current across only under the load disconnect switch change over, stable working status no need to provide the working current, outstanding energy saving;
- Executive load disconnect switch have mechanical interlock, make sure the Normal power and Reserve Power working reliable and no interference;
- Distinct ON and OFF position indicator, padlock function etc., make reliable and safe isolation between power supply and loading.
- High security, high automatization, high reliability, working life more than 8000 times;
- Electromechanical integration design, accuracy change over, flexible, smoothly, adopt international advanced logical control technology, high anti-interference ability, no interference outward.
- Have main power ON, backup power OFF; main power OFF, backup power ON; main and backup power OFF; three working mode (I-o-II);
- Easy installation, control circuit adopt plug type terminal connection;
- Four operating functions: Emergency manual, motor remote control, emergency OFF under auto control status, auto control operation.

Basic Type Switch Control Characteristic

- Suitable for two way main and backup power system, auto change auto recovery;
- Can expand functions by outer connection;
- Auto, Remote, Manual control functions;
- Delay 0.5s signal detect, avoid miss actuation;
- Under Auto control status have "O" position remote control;
- Key switch select the operating mode;
- Can with RS-485 communication port (optional), according to customer required.

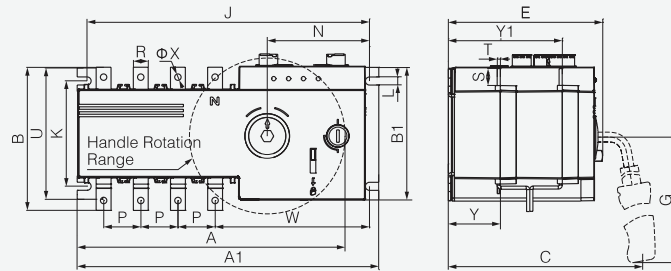
ATS Working Flow



WRDS2 Series

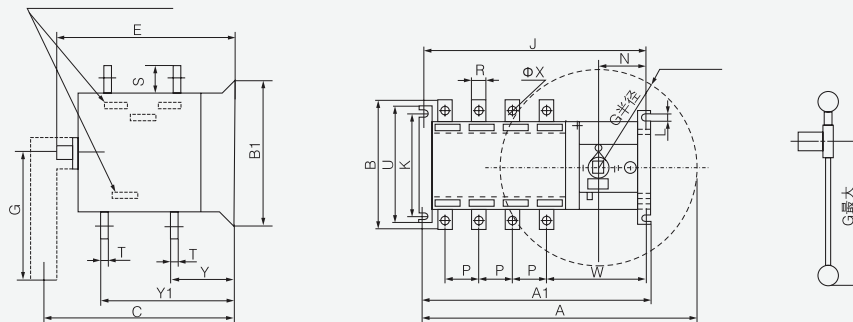
WRDS2-100 - 1600A Auto Transfer Switch

- WRDS2-16A~630A outline and mounting size



| Specification | Outline and mounting size (mm) | | | | | | | | | | | | | | | | | | | |
|---------------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|--------|-----|-----|-----|----|-----|
| In | A | A1 | B | B1 | C | E | G | J | K | L | N | P | R | S | T | U | W | ΦX | Y | Y1 |
| 100A | 330 | 244 | 115 | 107 | 182 | 125 | 174 | 228 | 85 | 6.5 | 83 | 30 | 12 | 18 | (2.5)5 | 99 | 125 | 5.2 | 42 | 92 |
| 250A | 436 | 436 | 178 | 134 | 240 | 198 | 174 | 344 | 108 | 7 | 99 | 50 | 24 | 30 | (3.5)7 | 148 | 173 | 11 | 72 | 157 |
| 630A | 502 | 433 | 260 | 222 | 282 | 244 | 174 | 416 | 176 | 9 | 101 | 65 | 40 | 50 | (5)10 | 222 | 185 | 12 | 83 | 193 |

- WDS2 -800A-1600A outline and mounting size



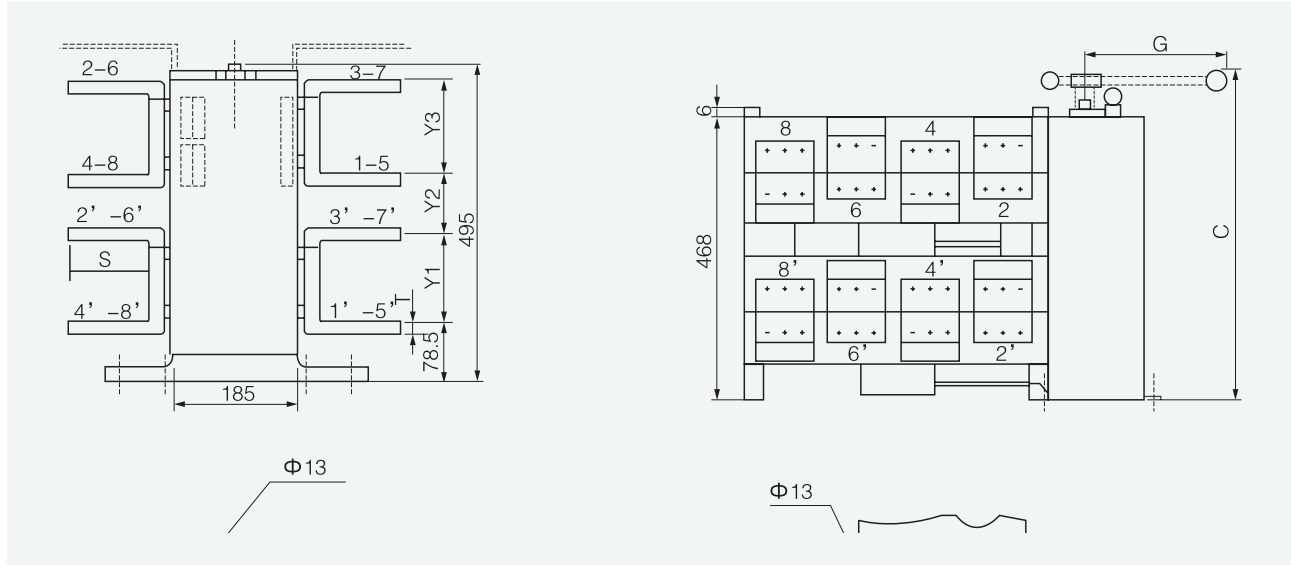
| Specification | Outline and mounting size (mm) | | | | | | | | | | | | | | | | | | | |
|---------------|--------------------------------|-------|-----|-----|-----|-------|-----|-------|-----|----|----|-----|----|----|----|-----|-------|------|-----|-------|
| In | A | A1 | B | B1 | C | E | G | J | K | L | N | P | R | S | T | U | W | ΦX | Y | Y1 |
| 800A/3 | 871.5 | 524 | 340 | 250 | 387 | 319.5 | 448 | 499 | 212 | 11 | 88 | 120 | 60 | 69 | 8 | 250 | 198.5 | 12.5 | 84 | 252 |
| 800A/4 | 975.5 | 637.5 | 340 | 250 | 387 | 319.5 | 448 | 612.5 | 212 | 13 | 88 | 120 | 60 | 69 | 8 | 250 | 207 | 12.5 | 107 | 252 |
| 1000A/3 | 871.5 | 524 | 340 | 250 | 387 | 319.5 | 448 | 499 | 212 | 13 | 88 | 120 | 60 | 69 | 8 | 250 | 198.5 | 12.5 | 107 | 252 |
| 1000A/4 | 975.5 | 637.5 | 340 | 250 | 387 | 319.5 | 448 | 612.5 | 212 | 13 | 88 | 120 | 60 | 69 | 8 | 250 | 207 | 12.5 | 107 | 252 |
| 1250A/3 | 871.5 | 524 | 369 | 250 | 387 | 319.5 | 448 | 499 | 212 | 13 | 88 | 120 | 60 | 69 | 8 | 250 | 198.5 | 13 | 107 | 252 |
| 1250A/4 | 975.5 | 637.5 | 369 | 250 | 387 | 319.5 | 448 | 612.5 | 212 | 13 | 88 | 120 | 60 | 69 | 8 | 250 | 207 | 13 | 107 | 252 |
| 1600A/3 | 871.5 | 524 | 376 | 250 | 387 | 319.5 | 448 | 499 | 212 | 13 | 88 | 120 | 60 | 69 | 10 | 250 | 198.5 | 13 | 109 | 253.5 |
| 1600A/4 | 975.5 | 637.5 | 376 | 250 | 387 | 319.5 | 448 | 612.5 | 212 | 13 | 88 | 120 | 60 | 69 | 10 | 250 | 207 | 13 | 109 | 253.5 |

WRDS2 Series

WRDS2-2000-3200A Outline and Installation Size

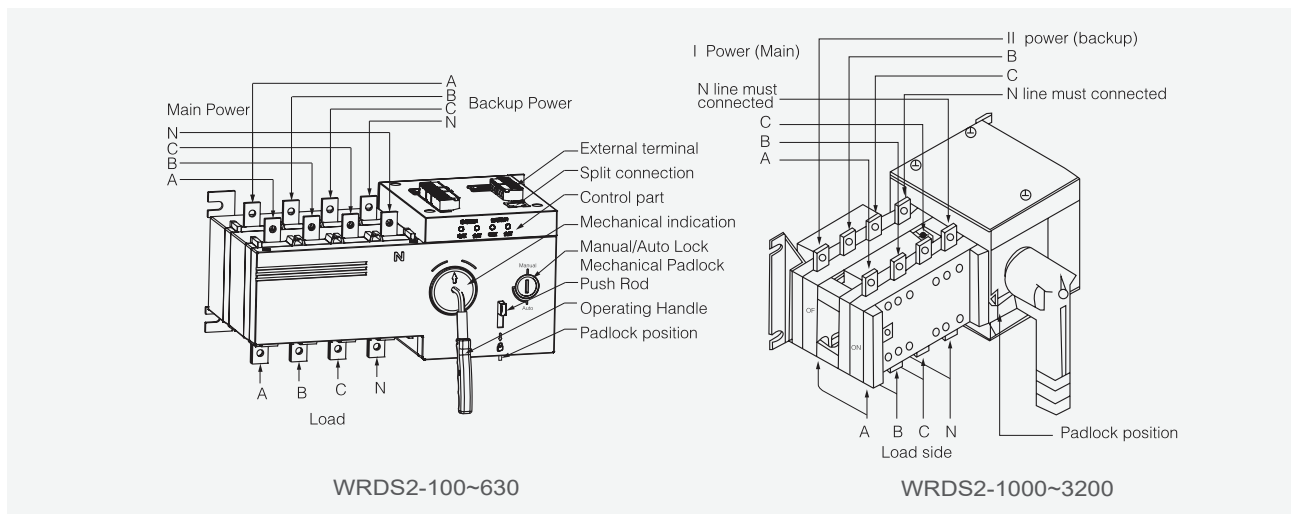
- WRDS2-2000-3200A outline and installation size

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DUAL POWER (ATS)



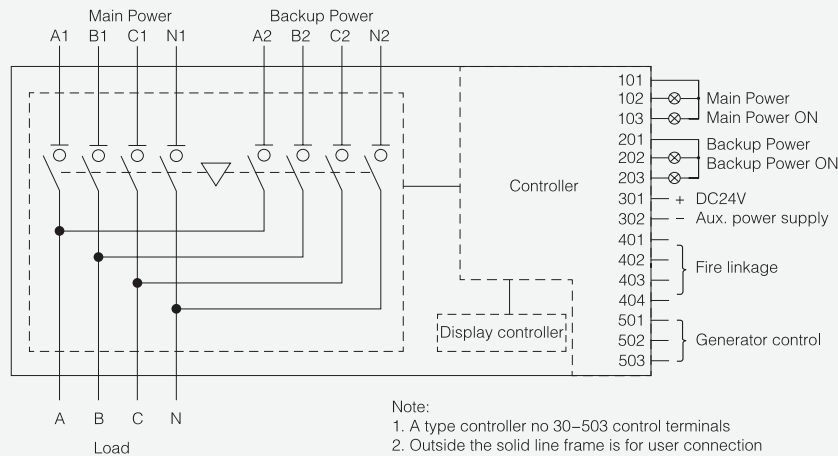
| Spec | Size | | | | | | Switch Installation | | | | | | Terminal | | | | | | | | |
|-------|------|-----|-----|-----|-----|-----|---------------------|-----|-----|----|------|-----|----------|-----|-----|----|-----|----|-----|----|-----|
| | A | A1 | B | C | E | G | H | J | K | L | N | O | P | R | S | T | U | V | Y | Y1 | Y3 |
| 2000A | 1007 | 633 | 455 | 562 | 495 | 470 | 53 | 467 | 220 | 11 | 84.5 | 524 | 120 | 80 | 80 | 10 | 250 | 33 | 147 | 84 | 147 |
| 2500A | 1007 | 633 | 455 | 562 | 495 | 470 | 28 | 467 | 220 | 11 | 84.5 | 524 | 120 | 80 | 100 | 10 | 250 | 13 | 152 | 79 | 152 |
| 3200A | 1007 | 633 | 505 | 562 | 495 | 470 | 28 | 467 | 220 | 11 | 84.5 | 524 | 120 | 100 | 100 | 14 | 250 | 13 | 152 | 79 | 152 |

Wiring Instruction

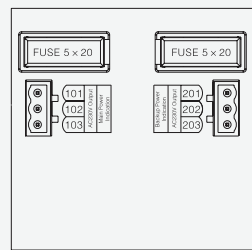


WRDS2 Series

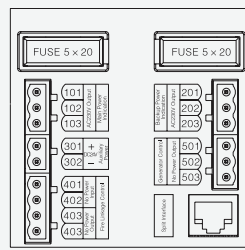
WRDS2-100-630A Auto Transfer Switch Control And Operation (Suitable For Rated Current 16A~630A)



Note:
 1. A type controller no 30-503 control terminals
 2. Outside the solid line frame is for user connection



A type Controller



B Type Controller

101~103 : main power external indicator signal (Active AC230V/0.5A)

101- Indicator common null line 102- Main power indicator signal output 103- Main power ON signal output

201~203 : Backup power external indicator signal (Active AC230V/0.5A)

201- Indicator common null line 202- Backup power indicator signal output 203- Backup power ON signal output

301~302 : DC 24V aux. power input for generator start

301- DC24V positive input 302-DC24V negative input

401,404 : Fire linkage control signal input and feedback signal output

401,402 : Fire linkage control signal passive input, if the signal from fire-fighting equipment is an active signal, must first connect to a small relay, then connect the relay NO point to 401,402, after NO contact closed ATS transfer to OFF position.

403,404 : Feedback signal for ATS transfer to OFF position cutoff the load power supply

Notes: when the fire linkage function is active, the ATS will stop working, if want the ATS to working again, must first clear up the fire-fighting signal and then switching the Auto/Manual control switch one time, the ATS will recovery normal working

501~503 : Generator start control signal output

When the backup power is Auto start generator, users can connecting the 501~503 terminals to the generator controller to achieve the generator auto start function, inside 501~503 terminal, is a set of passive relay contact point, 502 is the relay common terminal, 503 is relay NC point, 501 is relay NO point; when main power normal, 501 and 502 is closed, and 501 open, if main power failure 501 and 502 open, meanwhile 503 and 502 closed, to send generator start signal.

WRDS2 Series

WRDS2-1000-1600A Auto Transfer Switch Control And Operation (Suitable For Rated Current 800A ~1600A)

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DUAL POWER (ATS)

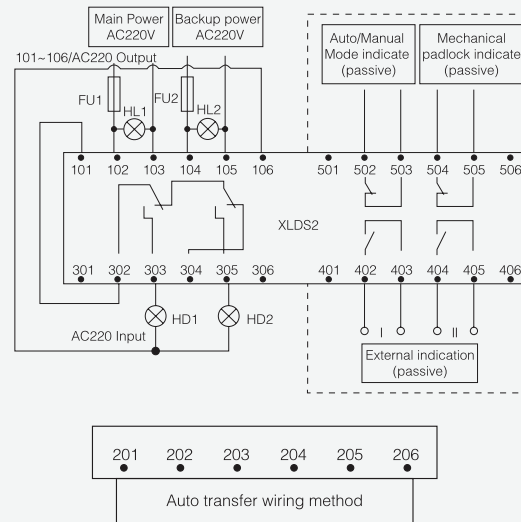
- Basic type terminals

| Output connection | Interior | Connector terminal color |
|--|--|--------------------------|
| AC200V — 101 I AC200V — 102 — 103 — 104 II Ac200 — 105 — 106 0 — | Interior output Second power | |
| Common Point — 201 — 202 Position I — 203 Position 0 — 204 Position II — 205 — 206 | Control | |
| Common point — 301 — 302 Position I — 303 Position 0 — 304 Position II — 305 — 306 | Position indicate | |
| — 401 — 402 — 403 Position I — 404 — 405 Position II — 406 | The 1 break Aux. contact | |
| "Manual" contact open — 501 "Auto" contact closed — 502 "Padlock" contact open — 503 "No padlock" contact closed — 504 Mode — 505 Padlock — 506 | Indicate Auto/Manual Mode and padlock | |
| Main power ON Contact open — 601 Main power fault contact closed — 602 Genset start — 603 — 604 — 605 — 606 | (Special use for genset) Control | |

WRDS2 Series

Automatic Wiring Method (Suitable For Rated Current 800~3200A)

- HL1 Main power good indication;
- HL2 Backup power good indication;
- HD1 Main Power ON indication;
- HD2 Backup power ON indication;
- FU1/U2 is 2A fuse.
- 101-106, 201-206, 301-306 is WRDS2 switch terminal.
- 401-406, 501-506 optional switch terminal for up 630A rating.



2

DUAL POWER (ATS)

Auto+Forced Change "0" Position (For Rated Current 800~3200A) (Fire-Fighting Dual Power Source Off) Wiring Drawing

- HL1 Main power good indication;
- HL2 Backup power good indication;
- HD1 Main Power ON indication;
- HD2 Backup power ON indication;
- FU1/U2 is 2A fuse.
- 101-106, 201-206, 301-306 is WRDS2 switch terminal.
- 401-406, 501-506 optional switch terminal for up 630A rating.

