AIR CIRCUIT BREAKER

# LS ACB production specification

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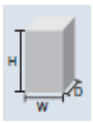
LS Industrial Systems

# LS ACB production specification

## 1. Major specification table

| NO | Item | Rating of ACB | | Remarks |
|---|---|---|---|---|
| 1 | Type | AH-F | | |
| 2 | Description | AH-40F | AH-50F | |
| 3 | Ampere Frame | 4000AF | 5000AF | |
| 4 | Rated current (In max) | 4000A | 5000A | at 40°C |
| 5 | Rated current of neutral pole | 4000A | 5000A | |
| 6 | Number of poles | 3P / 4P | | |
| 7 | Setting current | (0.4~1.0) X In max | | |
| 8 | Rated insulation voltage | 1000V | | |
| 9 | Rated operation voltage | 690V | | |
| 10 | Rated impulse withstand voltage | 12kV | | |
| 11 | Rated frequency | 50/60Hz | | |
| 12 | Rated breaking capacity (AC 50/60Hz) | 85kA | | at 220V |
| 13 | Rated making capacity (AC 50/60Hz) | 220kA | | at 220V |
| 14 | Rated short-time withstand current | 1s | 85kA | |
| | | 2s | 75kA | |
| | | 3s | 65kA | |
| 15 | Maxium total breaking time | 40ms | | |
| 16 | Maxium closing time | 80ms | | |
| 17 | Life cycle | Mechanical | 20,000times | |
| | | Electrical | 5,000times | |
| 18 | standards | IEC 60947-2 | | |
| 19 | External dimensions (mm)  | Draw-out type | 3P: 460X629X375 | |
| | | | 4P: 460X799X375 | |
| | | Fixed type | 3P: 300X597X295 | |
| | | | 4P: 300X767X295 | |
| 20 | Weight (3P/4P) | Draw-out type (kg) | Main Body (With cradle) | Motor chaging type: 145/173 |
| | | | | Manual charging type: 143/171 |
| | | | Cradle only | 78//90 |
| | | Fixed type (kg) | | Motor chaging type: 76/94 |
| | | | | Manual charging type: 74/92 |

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## 1. Major specification table

**AH — 40 F 3 — 40 J**

### Type
AH

### Ampere frame

| | |
|---|---|
| 40 | 4000AF |
| 50 | 5000AF |

### Frame sizes & phase array

| | |
|---|---|
| F | 3P/4P Standard type RST(N) |
| Y | 4P Reverse phase type NRST |

### No. of pole

| | |
|---|---|
| 3 | 3P(F) |
| 4 | 4P(F, Y) |

### Rated current (CT Spec.)

| | |
|---|---|
| 40 | 4000A |
| 50 | 5000A |

### Connections

| | |
|---|---|
| Draw-out type | |
| J | Manual connection |
| A | Automatic connection |
| Fixed type | |
| H | Horizontal type |
| V | Vertical type |
| P | Front type |
| M | Mixed type Line: Horizontal Load: Vertical |
| N | Mixed type Line: Vertical Load: Horizontal |

**M2 D2 D2 BX SC1 U0 T Hyx CN**

### Motor rated voltage

| | |
|---|---|
| M2 | AC/DC 200V~250V |

### Closing coil rated voltage

| | |
|---|---|
| D2 | AC/DC 200V~250V |

### Shunt coil rated voltage

| | |
|---|---|
| D2 | AC/DC 200V~250V |

### Aux.contact & charging types

| | |
|---|---|
| BX | Standard OFF charge/5a5b |

### Trip relay

| | |
|---|---|
| 000 | Without trip relay |
| S | |
| S | Supreme meter |

### UVT coil rated voltage

| | |
|---|---|
| U0 | Without UVT coil |

### Option

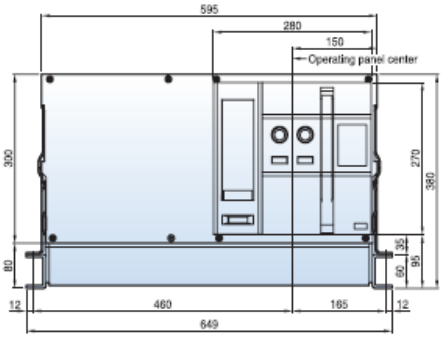
| Code | Description | | Code | Description | |
|---|---|---|---|---|---|
| AL | AL1+MRB | | M | MI | Mechanical interlock |
| A1 | AL1+MRB +RES(AC110~130V) *AC only | | D | DI or MOC | Door Interlock or MOC(Mechanism operated cell switch) |
| A2 | AL1+AL2 +MRB | | K | K1 | Key Lock |
| A3 | AL1+MRB +RES(DC110~125V) *DC only | | K2 | K2 | Key Interlock Set |
| A4 | AL1+MRB +RES(AC200~250V) *AC only | | K3 | K3 | Key Interlock Double |
| A5 | AL1+MRB +Auto Reset | | R | RCS | Ready to Close switch |
| A6 | AL1+AL2 +MRB +Auto Reset | | T | TM | Temperature Monitoring |
| A7 | AL1+MRB +RES(DC110~125V) +Auto Reset *DC only | | H1 | | AC/DC 100V ~125V, Double Shunt coil |
| A8 | AL1+MRB +RES(AC200~250V) +Auto Reset *AC only | | H2 | | AC/DC 200V ~250V, Double Shunt coil |
| A9 | AL1+MRB +RES(AC110~130V) +Auto Reset *AC only | | H3 | SHT2 | DC 125V, Double Shunt coil |
| C | C | COUNTER | H4 | | DC 24V ~30V, Double Shunt coil |
| S | CS2 | Charge switch communication | H5 | | DC 48V ~60V, Double Shunt coil |
| B | B | On/Off Button lock | H7 | | AC 48V, Double Shunt coil |

# LS ACB production specification

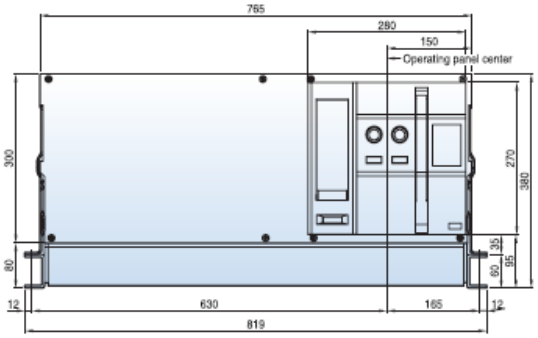
## 2. Outline drawing

### 1) Fixed type (ACB, AH-50F3-50A M2D2D2BX SC1U0T Hyx CN )

**Front view**

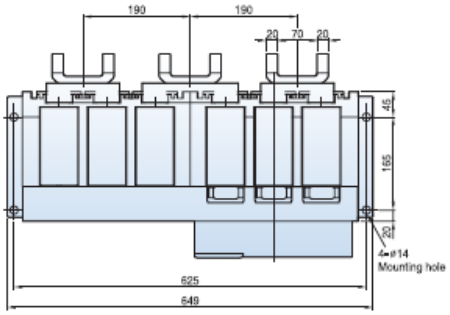



3P

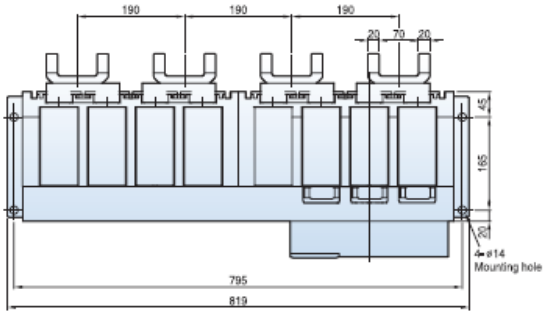



4P

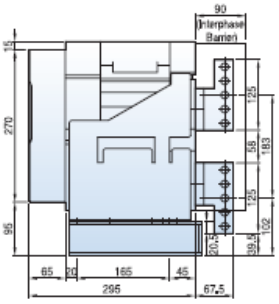
**Vertical type**

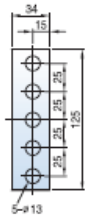



3P




4P



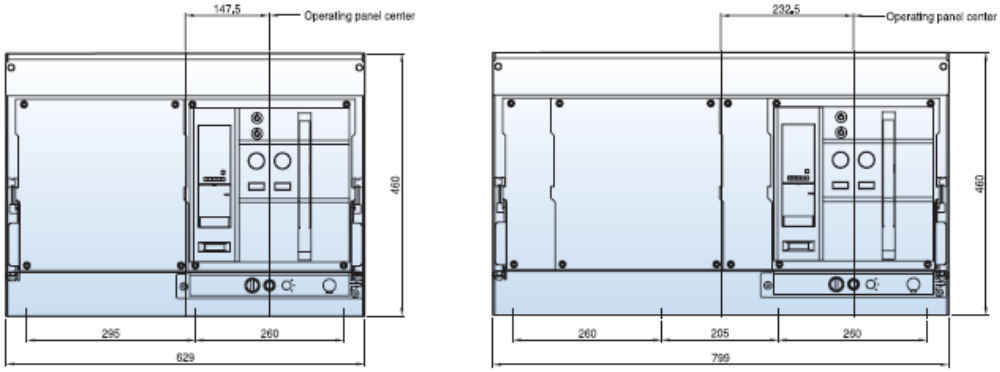

<Conductor>

# LS ACB production specification

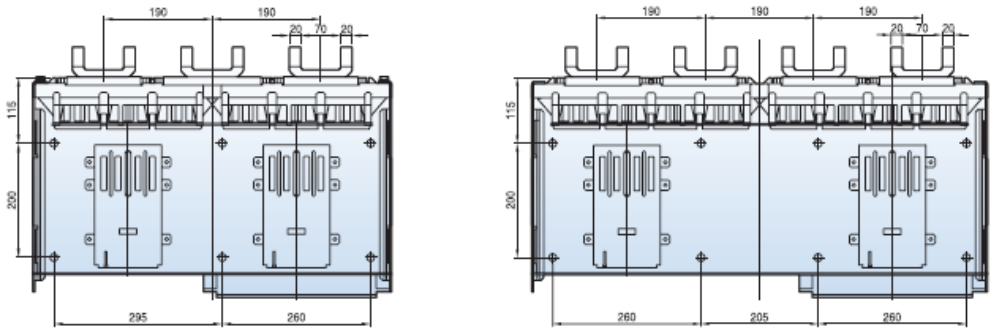
## 2. Outline drawing

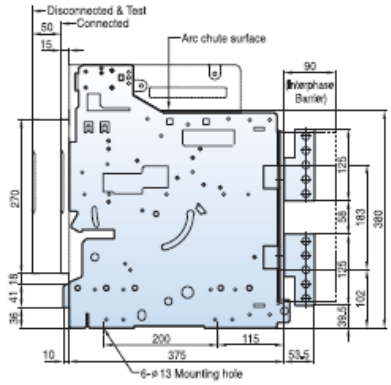
### 2) Draw-out type (CRADLE, AL-S40~50F4-AVES )

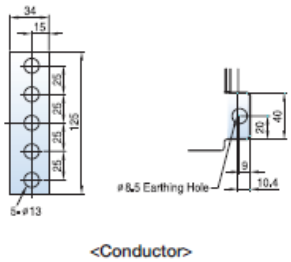
**Front view**




**Vertical type**



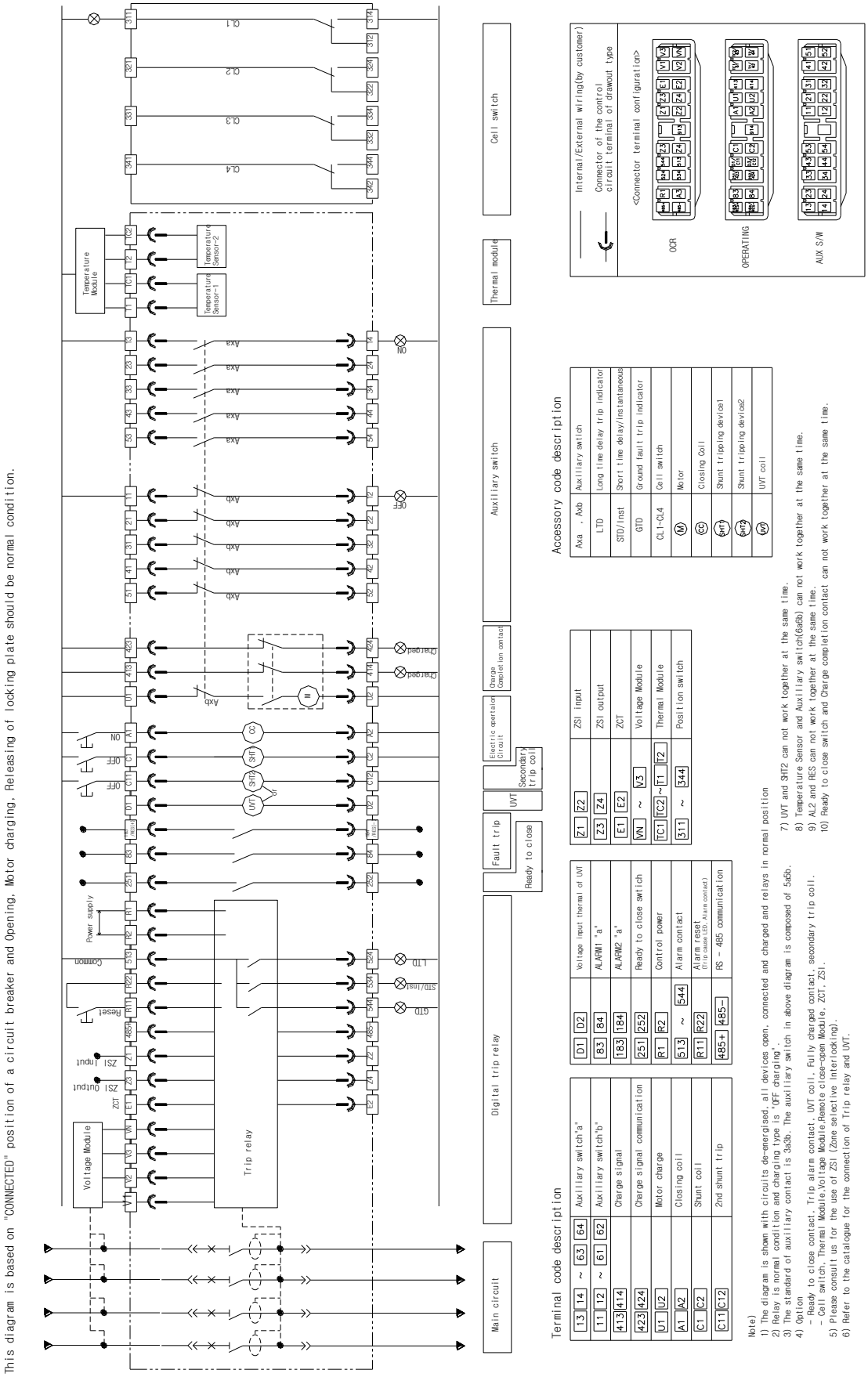




<Conductor>

# LS ACB production specification

## 3. Wiring diagram




Terminal code description

| | | | |
|---|---|---|---|
| 13 14 ~ 63 64 | Auxiliary switch"a" | D1 D2 | Voltage input thermal of UVT |
| 11 12 ~ 61 62 | Auxiliary switch"b" | 83 84 | ALARM1 "a" |
| 413 414 | Charge signal | 183 184 | ALARM2 "a" |
| 423 424 | Charge signal communication | 251 252 | Ready to close switch |
| U1 U2 | Motor charge | R1 R2 | Control power |
| A1 A2 | Closing coil | 513 ~ 544 | Alarm contact |
| C1 C2 | Shunt coil | R11 R22 | Alarm reset (Trip cause LED, Alarm contact) |
| C11 C12 | 2nd shunt trip | 485+ 485- | RS - 485 communication |

| | | | |
|---|---|---|---|
| Z1 Z2 | | ZSI input | |
| Z3 Z4 | | ZSI output | |
| E1 E2 | | ZCT | |
| VN ~ V3 | | Voltage Module | |
| TC1 TC2 | ~ T1 T2 | Thermal Module | |
| 511 ~ 544 | | Position switch | |

Accessory code description

| | |
|---|---|
| Axa , Axb | Auxiliary switch |
| LTD | Long time delay trip indicator |
| STD/Inst | Short time delay/instantaneous |
| GTD | Ground fault trip indicator |
| CL1-CL4 | Cell switch |
| M | Motor |
| CC | Closing Coil |
| SHT1 | Shunt tripping device1 |
| SHT2 | Shunt tripping device2 |
| UVT | UVT coil |

Note)
1) The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position
2) Relay is normal condition and charging type is "OFF charging".
3) The standard of auxiliary contact is 3a3b. The auxiliary switch in above diagram is composed of 5a5b.
4) Option
- Ready to close contact, Trip alarm contact, UVT coil, Fully charged contact, secondary trip coil.
- Cell switch, Thermal Module,Voltage Module,Remote close-open Module, ZCT, ZSI.
5) Please consult us for the use of ZSI (Zone selective interlocking).
6) Refer to the catalogue for the connection of Trip relay and UVT.
7) UVT and SHT2 can not work together at the same time.
8) Temperature Sensor and Auxiliary switch(6a6b) can not work together at the same time.
9) AL2 and RES can not work together at the same time.
10) Ready to close switch and Charge completion contact can not work together at the same time.