Better Electric, Better Life...

Brief Catalog
### Brief Catalog

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### Corporate Culture - Value System

**Better Vision**
Exceeding customers’ expectation with remarkable products and services, being an enterprise that society respects and staff take pride in.

**Sacred Mission**
Growing together with top electric enterprise in the world.
Offering integrated electric solutions and services to top clients.

**Core Value**
Confidence, Faith, Credit

**Slogan**
Better Electric, Better Life
ACBs Series 3SW68
- Standard: IEC60947-2
- Approvals: 
- Number of poles (P): 3, 4
- Installation type: L, M, H
- Frame type: A, B, C, D
- N-pole rated current: 100% In
- Rated voltage, Ue: 400/690
- Rated current In(A): 200~6300
- Rated frequency (Hz): 50/60
- Rated impulse withstand voltage, Uimp(kV): 12
- Installation type: Fixed/drawer
- Ambient air temperature(℃): -5~+40, max. 95 % humidity
- Storage temperature(℃): -40~+75
- Maximum operating altitude (meters): 2000

ACBs Series 3SW8
- Used in building, industry, energy and infrastructures
- Standard: IEC60947-4-1
- Approvals: 
- Number of poles (P): 3, 4
- Installation type: L, M, H
- Frame type: A, B, C
- N-pole rated current: 100% In
- Rated voltage, Ue: 400/690
- Rated current In(A): 400~6300
- Rated frequency (Hz): 50/60
- Rated impulse withstand voltage, Uimp(kV): 12
- Installation type: Fixed/drawer
- Ambient air temperature(℃): -5~+40, max. 95 % humidity
- Storage temperature(℃): -40~+75
- Maximum operating altitude (meters): 2000
MCCBs
Series 3SM29
- Standard: IEC60947-2
- Approvals: CB, CQC
- Number of poles (P): 1, 2
- Rated current from 12.5 to 1600A
- Incoming and outgoing function in distribution systems
- Switching and protection of short circuit and overload for motors, transformers and capacitors
- Stopping and switching off in an emergency in conjunction with lockable rotary operating mechanisms and terminal covers.
- Available in the following versions:
  - System protection: the overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads
  - Motor protection: the overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors.

MCCBs
Series 3SM8N
- Breaking capacity: L, M, H
- Rated current (A): 10~800
- Protection type: Power protection, Motor protection
- Number of poles (P): 3, 4
- Rated frequency (Hz): 50/60
- Standards: IEC60947-2, IEC60947-4-1
- Approvals: CB
- Frame current Inm (A): 63~800
- Rated impulsed withstand voltage, Uimp (kV): 6
- Ambient air temperature (°C): -5~+40, max. 95% humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000

1. Body
2. Plug-in base
3. Electronic release
4. Drawer type base
5. Rotary manual operating handle
6. Motor driven operating mechanism
7. Shunt release
8. Under-voltage release
9. Alarm contact
10. Auxiliary contact
11. Front connection plate
12. Rear connection plate
13. Cage clamp terminal
Power Distribution Electrics
Automatic Transfer Switches

**Automatic Transfer Switches Series 3SAQ1 CB Class**
- Approval
- Number of poles (P): 3, 4
- Rated operating current (A): 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated operating voltage (VAC): 230/400
- Rated control voltage (VAC): 230
- Rated insulation voltage (VAC): 500
- Rated ultimate short circuit breaking capacity at 400V AC (KA): 6/10
- Rated short circuit connecting capacity (kA): 17
- Use category: AC-33B

**Automatic Transfer Switches Series 3SAQ2 CB Class**
- Approval
- Number of poles (P): 3, 4
- Rated operating current (A): 6~800
- Rated operating voltage (VAC): 400
- Rated control voltage (VAC): 230
- Rated insulation voltage (VAC): 500, 800
- Rated ultimate short circuit breaking capacity at 400V AC (KA): 25, 35, 50, 65, 75, 85, 100
- Use category: AC-33B

**Automatic Transfer Switches Series 3SAQ3 PC Class**
- Standard: IEC60947-6-1
- Approval
- Current frame (A): 63~5000
- Rated operating current (A): 16~5000
- Number of poles (P): 2, 3, 4
- Operating current at AC 230V (A): 1.5, 2, 2.5, 3, 3.5, 4, 5, 6, 7, 8, 9
- Rated operating voltage (VAC): 400
- Rated control voltage (VAC): 230
- Rated frequency (Hz): 50/60
- Rated limit short-circuit current (KA): 25, 30, 35, 37.5, 50, 55, 65, 80, 100, 120
- Short time withstand current (kA): 10, 12, 12.5, 15, 22, 25, 35, 50
- Control mode:
  - R: Automatic transfer with automatic restore
  - S: Automatic transfer without automatic restore
- Wiring: Front connection
- Breaking capacity: 10 le connect, 8 le breaking, cosΦ=0.35
- Use category: AC-33B
- Applicable Mode: NB: grid-grid, NG: grid-generator

Power Distribution Electrics

**MCCBs with Earth Leakage Protection Series 3SMBL**
- Breaking capacity: L, M, H
- Rated current (A): 16~630
- Protection type: Power protection, Motor protection
- Number of poles (P): 3, 4
- Rated frequency (Hz): 50/60
- Standards: IEC60947-2, IEC60947-4-1
- Approval
- Frame current IInn (A): 100~630
- Rated impulsed withstand voltage, Uimp (kV): 8

**Load Break Switches Series 3SGL**
- Operation type: Front operation
- Hand type: Internal handle, External handle
- Rated voltage (V): 400
- Conventional thermal current Ith (A): 125~630
- Rated insulation voltage (V): 800
- Operating voltage type poles: AC voltage
- Number of poles (P): 3, 4
- Rated frequency (Hz): 50/60
- Standard: IEC60947-3
- Approval
- Ambient air temperature (°C): -5~+40, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000

**Fuse Combination Switches Series 3SGLR**
- Operation type: Front operation
- Hand type: Internal handle, External handle
- Rated voltage (V): 400
- Conventional thermal current Ith (A): 160~630
- Rated insulation voltage (V): 690/800
- Operating voltage type poles: AC voltage
- Number of poles (P): 3, 4
- Rated frequency (Hz): 50/60
- Standard: IEC60947-3
- Approval
- Ambient air temperature (°C): -5~+40, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000
Power Distribution Electrics

Fuse Disconnector Switches
Series 3SHR17
- Rated current (A): 160~630
- Conventional thermal current Ith(A): 160~630
- Rated operational voltage Ue(V): 800
- Rated insulation voltage Ui (VAC): 800
- Rated current at 500 V/690 V AC(KA): 50
- Rated conditional short-circuit current with fuses (size/A): 00/160, 1/250, 3/400, 4/630
- Number of poles(P): 3, 4
- Rated frequency (Hz): 50/60
- Standard: IEC60947-3
- Approval: CE
- Ambient air temperature(℃): -5~+40, max. 95 % humidity
- Storage temperature(℃): -40~+75
- Degree of protection (operator side): Ip20

Low Voltage Fuses
Series RT16
- Frame current Inm(A): 160~1000
- Rated current(A): 10~1000
- Rated voltage Un(V AC): 550/560
- Rated frequency (Hz): 50/60
- Blade size: 00C, 00, 1, 2, 3, 4
- Circuit protection
- Standard: IEC60269
- Approvals: CE
- Rated breaking capacity (KA): 120

Modular Devices
Miniature Circuit Breakers

MCBs
Series 3SB71-63
- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure
- Standards: IEC60898-1, IEC60947-2
- Approvals: CE CB
- Rated current In (A): 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated voltage Un (V AC): 230/400
- Operational voltage (VAC): Min. 24 Max. 250/440
- Rated frequency (Hz): 50/60
- Rated insulation voltage (VAC): 500
- Number of poles(P): 1, 2, 3, 4
- Tripping characteristic: B, C, D
- Characteristic curve B (In): 3-5
- Characteristic curve C (In): 5-10
- Characteristic curve D (In): 10-20
- Breaking capacity (KA): F(15), H(10), N(6)
- Rated switching capacity Icn (KA): 10

IEC 60898-1 Standard

IEC 60947-2 Standard
Modular Devices
Miniature Circuit Breakers

**MCBs**
**Series 3SB71-125**
- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure
- Standard: IEC60947-2
- Approval: 
- Rated current $I_n$: 80, 100, 125
- Rated voltage $U_n$: 230/400
- Operational voltage $V_A$: Min: 24, Max: 250/440
- Number of poles $P$: 1, 2, 3, 4
- Trip characteristic: B, C, D
- Characteristic curve B ($I_n$): 4
- Characteristic curve C ($I_n$): 8
- Characteristic curve D ($I_n$): 12

**DC MCBs**
**Series 3SB71Z-63**
- Overload protection
- Short circuit protection
- Controlling
- Protection for people and big length cables in TN and IT systems
- DC string protection: Protect the PV module from dangerously high DC back current
- Application in direct current circuit, like motors, auxiliary, circuits and photovoltaic:
- Used in industry and new energy
- Standards: IEC60898-2, IEC60947-2
- Approval: 
- Rated current $I_n$: 6, 10, 16, 20, 25, 32, 40, 50, 63
- Number of poles $P$: 1, 2, 3, 4
- Rated voltage $U_e$: 1P 220, 2~4P 440
- Operational voltage $U_b$: Min: 12, Max: 1P 250, 2~4P 500
- Rated insulation voltage ($V_{AC}$): 500
- Rated frequency (Hz): 50/60
- Rated impulse withstand voltage (kA): 5
- Tripping characteristic: B, C
- Characteristic curve B ($I_n$): 4~7
- Characteristic curve C ($I_n$): 7~15
- Breaking capacity code (kA): H(10)

**DPN MCB**
**Series 3SB66**
- Overload protection
- Short circuit protection
- Isolation both for phase and neutral line, Controlling
- Used for the protection of plants with switched neutral
- Used in residential building
- Standard: IEC60898-1
- Approval: 
- Rated current $I_n$: 6, 10, 16, 20, 25, 32, 40
- Rated voltage $U_n$: 230
- Rated frequency (Hz): 50/60
- Operational voltage $U_{op}$: Min: 12, Max: 24/250
- Number of pole $P$: 1+N (1 mod)
- Tripping characteristic: B, C
- Characteristic curve B ($I_n$): 3~5
- Characteristic curve C ($I_n$): 5~10
- Rated breaking capacity (kA): N(6)
- Rated switching capacity (kA): 6

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IEC 60947-2 Standard

![IEC 60947-2 Standard](image)
Modular Devices
Miniature Circuit Breakers

MCBs
Series 3SB5
- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, energy sources, industry and infrastructure
- Standard: IEC 60898-1
- Approvals: CE & CB
- Rated current In (A): 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated voltage Un (VAC): 230/400
- Operational voltage (VAC):
  - Min.: 24
  - Max.: 250/440
- Rated insulation voltage (VAC): 500
- Number of poles (P): 1, 2, 3, 4
- Tripping characteristics: B, C, D
- Characteristic curve B (In): 3-5
- Characteristic curve C (In): 5-10
- Characteristic curve D (In): 10-20
- Breaking capacity code (kA): T(3), D(4.5)
- Rated switching capacity Icn (KA): 6

MCBs
Series 3SB52
- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, energy source, industry and infrastructure
- Standards: IEC 60898-1, IEC 60947-2
- Approvals: CE & CB
- Rated current In (A): 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
- Rated voltage Un (VAC): 230/400
- Operational voltage (VAC):
  - Min.: 24
  - Max.: 250/440
- Rated insulation voltage (VAC): 500
- Number of poles (P): 1, 2, 3, 4
- Tripping characteristics: B, C, D
- Characteristic curve B (In): 3-5
- Characteristic curve C (In): 5-10
- Characteristic curve E (In): 10-20
- Breaking capacity code (kA): D(6)
- Rated switching capacity Icn (KA): 6

Modular Devices
Mechanical Interlocking Miniature Circuit Breakers

MCBs
Series 3SB5K
Overload protection
Short circuit protection
Isolation
Controlling
Interlocking the two miniature circuit breakers
Standard: IEC 60898-1
Approvals: CE
Rated current In (A): 10, 16, 20, 25, 32, 40, 50, 63
Rated voltage Un (VAC): 230/400
Operational voltage (VAC):
- Min.: 24
- Max.: 250/440
- Rated insulation voltage (VAC): 500
- Number of poles: 1, 2
- Tripping characteristics: C
- Characteristic curve B (In): 3-5
- Characteristic curve C (In): 5-10
- Characteristic curve D (In): 10-20
- Thermal operating limit (In): 1.13 - 1.45
- Rated switching capacity Icn (KA): 6 (In:6-40A)
- Degree of protection: IP20, with connected conductors
- Electrical life (times): 4,000
- Mechanical life (times): 10,000
- Breaking Capacity:

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated current (A)</th>
<th>Icu=Ics (kA)</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SB5K-T</td>
<td>1P: 230</td>
<td>1</td>
<td>IEC 60898-1</td>
</tr>
<tr>
<td>3SB5K-D</td>
<td>2P: 400</td>
<td>6 (10-40A)</td>
<td>4.5 (50-63A)</td>
</tr>
</tbody>
</table>
Modular Devices

Residual Current Circuit Breakers

RCCBs
Series 3SL71
- Switching and isolation function
- Controlling
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts
- Protection against fire hazard caused by insulation faults
- Used in residential building, non-residential building, energy sources, industry and infrastructure
- Combination with auxiliary elements: auxiliary contact, signal contact, shunt trip, undervoltage release
- Standard: IEC 61008-1
- Approvals: CB TUV
- Type (wave form of the earth leakage sensed): AC, A
- Trip time type: general use, selectivity of S
- Number of poles: 1P+N, 3P+N
- Rated current In(A): 16, 25, 40, 63, 80, 100
- Rated voltage Ue (VAC): 230/400
- Rated insulation voltage Ui (VAC): 500
- Rated Frequency fn (Hz): 50/60
- Rated residual currents (I△n)(mA): 10(2P 16A), 30, 100, 300
- Rated conditional short-circuit current: Inc=I△c= 6000A SCPD fuse 100A Gg
- Rated residual breaking capacity I△m (A): 1000
- Rated impulse withstand voltage (1.2/50) Uimp (kV): 8
- Dielectric test voltage at ind. freq. for 1 min. (kV): 2.5

RCCBs
Series 3SL66
- Switching and isolation function
- Controlling
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts
- Protection against fire hazard caused by insulation faults
- Used in residential building, non-residential building, energy sources, industry and infrastructure
- Standard: IEC 61008-1
- Approvals: CB TUV
- Type (wave form of the earth leakage sensed): AC, A
- Trip time type: general use, selectivity of S
- Number of poles (P): 2, 4
- Rated current In(A): 16, 25, 32, 40, 63, 80, 100
- Rated voltage Ue (VAC): 230/400
- Rated insulation voltage Ui (VAC): 500
- Rated frequency fn (Hz): 50/60
- Rated residual currents (I△n)(mA): 10(2P 16A), 30, 100, 300
- Rated conditional short-circuit current: Inc=I△c= 6000A SCPD fuse 100A Gg
- Rated making and breaking capacity Im (A): 1000
- Rated residual breaking capacity I△m (A): 1000
- Rated impulse withstand voltage (1.2/50) Uimp (kV): 8
- Dielectric test voltage at ind. freq. for 1 min. (kV): 2.5
Modular Devices
Residual Current Circuit Breakers with Overcurrent Protection

### RCCBs
**Series 3SB71LN**
- Switching and isolation function
- Protection against overload and short-circuit currents
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts
- Protection against fire hazard caused by insulation faults
- Used in residential building
- Standard: IEC 61009-1
- Approval:
  - Type (wave form of the earth leakage sensed): AC, A
  - Number of poles(P): 2, 3, 4
  - Rated current In (A): 6, 10, 16, 20, 25, 40
  - Rated voltage Ue (V): 230/400
  - Rated insulation voltage Ui (VAC): 500
  - Rated frequency fn (Hz): 50/60
  - Rated residual currents IΔn (mA): 30, 100, 300
  - Rated breaking capacity acc. to IEC61009 ultimate Icn (kA): 10
  - Rated breaking capacity acc. to IEC60947-2 ultimate Icu (kA): 10
  - Rated residual breaking capacity IΔm (kA): 6
  - Rated impulse withstand voltage (1.2/50) Uimp (kV): 8
  - Dielectric test voltage at ind. freq. for 1 min. (kV): 2.5
  - Surge current resistance (wave 8/20) (A): 3,000
  - Tripping characteristic: B, C, D
  - Characteristic curve B (In): 3-5
  - Characteristic curve C (In): 5-10
  - Characteristic curve D (In): 10-14

### RCBOs
**Series 3SB71L-50**
- Switching and isolation function
- Protection against overload and short-circuit currents
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts
- Protection against fire hazard caused by insulation faults
- Used in residential building and distribution boards
- Standard: IEC 61009-1
- Approval:
  - Type (wave form of the earth leakage sensed): A
  - Number of poles(P): 1+N (1 module)
  - Rated current In (A): 6, 10, 16, 20, 25, 40, 50
  - Rated voltage Ue (V): 230
  - Rated insulation voltage Ui (VAC): 500
  - Rated frequency fn (Hz): 50/60
  - Rated residual currents IΔn (mA): 30
  - Rated breaking capacity acc. to IEC61009-1 ultimate Icn (kA): 10
  - Rated breaking capacity acc. to IEC60947-2 ultimate Icu (kA): 10
  - Rated residual breaking capacity IΔm (kA): 10
  - Rated impulse withstand voltage (1.2/50) Uimp (kV): 4
  - Dielectric test voltage at ind. freq. for 1 min. (kV): 2
  - Surge current resistance (wave 8/20) (A): 3,000
  - Tripping characteristic: B, C
  - Characteristic B (In): 3-5
  - Characteristic C (In): 5-10

### RCD Blocks
**Series 3SB71LB**
- Assembly on site with MCBs
- Protection against the effects of sinusoidal alternating earth fault currents
- Protection against indirect contacts and additional protection against direct contacts
- Standard: IEC 61009-1
- Approval:
  - Type (wave form of the earth leakage sensed): A, AC
  - Number of poles(P): 2, 3, 4
  - Rated current In (A): 40, 63
  - Rated voltage (VAC): 230/400
  - Rated voltage Ue (VAC): 230/400
  - Rated insulation voltage Ui (VAC): 500
  - Rated frequency fn (Hz): 50/60
  - Rated residual currents (mA): IΔm= 30, 100, 300
  - Rated breaking capacity (Icn): Icn of the associated MCB
  - Rated residual breaking capacity (IΔm): Icn of the associated MCB
Modular Devices

Main Switches
Series 3SB71G
- Making and breaking under load condition
- Providing safety isolation for terminal distribution system
- Used in residential building, non-residential building
- Standard: IEC 60947-3
- Approval
- Rated current In (A): 32, 63, 100
- Rated voltage Un (VAC): 230/400
- Rated insulation voltage (VAC): 500
- Number of poles (P): 1, 2, 3, 4
- Rated short-time withstand current 20 In: 15

Pushbuttons and Indicator Lamps
Series 3SB71PD, 3SB1D
- The pushbuttons are used for remote control in every kind of electric installation
- The indicator lamps signal any event in every kind of electric installation
- 3SB71P, 3SB71D, 3SB71PD may match with MCB series 3SB71-63
- 3SB1D may match with MCB series 3SB5, 3SB52, 3SB1-63N
- Standard: IEC 60947-5-1
- Approval
- Rated voltage Ue (V): 230
- Rated current In (A): 6
- Conventional glowing current (A): 16
- Frequency (Hz): 50/60
- Modules (18mm): 1
- Utilization category: AC14, DC13

Mini Contactors
Series 3SCB8
- Remote switching and controlling of power circuits
- Used in building automation, controlling of small pumps, ventilations, heating systems, lighting systems, and so on
- Standards: IEC61095, IEC60947-4-1
- Approval
- Number of poles (P): 2, 4
- Type of current: AC
- Frequency (Hz): 50/60
- Rated voltage Un (V): 230/400
- Rated current In in AC-7a / Ac1 (A): 10, 16, 20, 25, 32, 40, 63
- Rated current In in AC-7b / Ac1 (A): 4, 5, 7, 8.5, 12, 15, 25
- Rated power in AC3 (Kw): 230V: 2-5/5-13
- Control circuit voltage (V): 24, 230

Surge Protective Devices
Series 3SU71
- Types 2 surge arresters
- Handling energy from distant/indirect lightning strikes or from switching operations
- Feature lower protection level (Up)
- Recommended at the incoming of installation for locations with no exposure to direct lightning impulses
- Standard: IEC61643-1
- Approval
- Type / test class: 2/ II
- Number of poles (P): 1P, 1P+NPE, 2P, 2P+NPE, 3P, 3P+NPE, 4P
- Type of current: AC
- Frequency (Hz): 50/60
- Rated voltage Un (V): 230/400
- Max. Cont. operating voltage U (V): 140, 275, 320, 385, 420
- Max. discharge current Imax (8/20) per pole (kA): 10, 20, 40, 60
- Nominal discharge current In (8/20) per pole (kA): 5, 10, 15, 20
- Voltage protection level Up (kV): 1.0, 1.2, 1.5, 3.8
- Tov (Temporary overvoltage) withstand UT (Us, Uc) (V): 440
- Continuous operating current Ic (mA): <1

Surge Protective Devices
Series 3SU1
- Types 2 surge arresters
- Handling energy from distant/indirect lightning strikes or from switching operations
- Feature lower protection level (Up)
- Recommended at the incoming of installation for locations with no exposure to direct lightning impulses
- 3SU1 DC provide protection for equipment on photovoltaic connected system, against transient overvoltages that occur on the electrical network
- Standard: IEC61643-1
- Approval
- Type / test class: 2/ II
- Number of poles (P): 1, 1+N, 2, 2+N, 3, 3+N, 4
- Type of current: AC/DC
- Frequency (Hz): 50/60
- Rated voltage Un (V): 230/400
- Max. Cont. operating voltage U (V): 440
- Max. discharge current Imax (8/20) per pole (kA): 10, 20, 40, 60
- Nominal discharge current In (8/20) per pole (kA): 5, 10, 15, 20
- Voltage protection level Up (kV): 1.0, 1.2, 1.5, 3.8
- Tov (Temporary overvoltage) withstand UT (Us) (V): 440
- Continuous operating current Ic (mA): <1

Remote switching and controlling of power circuits
- Used in building automation, controlling of small pumps, ventilations, heating systems, lighting systems, and so on
- Standards: IEC61095, IEC60947-4-1
- Approval
- Number of poles (P): 2, 4
- Type of current: AC
- Frequency (Hz): 50/60
- Rated voltage Un (V): 230/400
- Rated current In in AC-7a / Ac1 (A): 10, 16, 20, 25, 32, 40, 63
- Rated current In in AC-7b / Ac1 (A): 4, 5, 7, 8.5, 12, 15, 25
- Rated power in AC3 (Kw): 230V: 2-5/5-13
- Control circuit voltage (V): 24, 230

Control circuit voltage (V): 24, 230
Modular Devices
Distribution Boxes

Equipped with various modular electric for the function of terminal power distribution
Suitable for the installation of all Sassin individual modular devices. (RCDs, MCBs, RCCBs, Isolators etc)
Used in residential building, non-residential building, industry

Standard: IEC60439-3
Approval:
Modules (No.): 4, 6, 8, 12, 18, 24, 36
Row: Single
Rated frame current In(A): 63, 100
Color: White RAL 9003 and grey RAL 7035
The color of door: Transparent, non transparent
Mounting type: Surface, Flush
Material: HIPS for body, AS for door

Distribution Boxes
Series 3SDT (Metal Base)

Standard: IEC60439-3
Approval:
Modules (No.): 4, 6, 8, 12, 18
Row: Single
Rated frame current In(A): 63
Color: White RAL 9003, Grey RAL 7035
Mounting type: Flush
Material: HIPS for body, SAN for the door, Metal for the base

Distribution Boxes
Series 3SDB

Equipped with various modular electric for the function of terminal power distribution
Suitable for the installation of all Sassin individual modular devices. (RCDs, MCBs, RCCBs, Isolators etc)
Used in residential building, non-residential building, industry

Standard: IEC60439-3
Approval:
Row: Single
Rated voltage In(A): 100
Color: White RAL 9003
Color of door: Transparent, non transparent
Mounting type: Surface, Flush
Material:
HIPS for body
AS for door

Three Phase Metal Distribution Boxes
Series 3SD23

Equipped with various modular electric for the function of terminal power distribution
Suitable for the installation of all Sassin individual modular devices MCCB, MCB, Isolator, RCCB
Used in residential building, non-residential building industry

Standard: IEC 60439-3
Busbar rating: 250A
Tinned Copper Busbar to prevent corrosion
Rated short-circuit withstand capacity: 20KA For 200msec
IP: 41
Flush mounted:
Main Incomer: MCCB
Operation voltage (VAC): up to 440
Frequency (Hz): 50/60
Rated Insulation voltage (VAC): 690/800
Impulse voltage (KV): 8
Electrical endurance: 10000 operation

Single Phase Metal Distribution Boxes
Series 3SD22

Standard: IEC60439-3
Busbar rating: 125A Used for Single phases circuit system
Tinned Copper busbar to prevent corrosion
Rated short-circuit withstand
Capacity: 20KA for 200msec
IP: 41
Flush mounted:
Main Incomer: Modular Isolator and RCCB
Isolator current rating (A): 100 ~ 125
Utilisation category: AC 22
Insulation voltage (V): 500
Impulse Voltage (KA): 6
Main Incomer: Residual Current Circuit Breaker (RCCB)
Current rating (A): 100
Sensitivity (mA): 300
**Modular Devices**

**Distribution Boxes**

**Series: 3SHT & 3SHA**
- **Standard:** IEC60947-3
- **Approval:** C
- **Number of modules:** 5, 8, 12, 15, 18, 24 for 3SHT
  4, 8, 12, 24 for 3SHA
- **Row:** Single for 5, 8, 12, 15, 18 modules
  Two for 24 modules
- **Rated voltage (InA):** 63
- **Color:** White
- **The color of door:** Transparent
- **Mounting type:** Surface
- **Degree of protection:** IP54
- **Material:** ABS for body
  PC for door
- **Fire resistance:** 630°C/30s
- **Ambient temperature (°C):** -5 ~ +40, max. 95% humidity
- **Storage temperature (°C):** -40 ~ +75

**Terminal Box**

**Series 3SD7N**
- **Standard:** IEC60929
- **Approval:** C
- **Modules (NO.):** 1, 2, 4, 8
- **Mounting type:** Surface
- **Color:** White
- **Degree of protection:** IP30
- **Material:** ABS
- **Fire resistance:** 650°C/30s
- **Ambient temperature (°C):** -5 ~ +40, max. 95% humidity
- **Storage temperature (°C):** -40 ~ +75

**Distribution Boxes**

**Series TY3**
- **Executive Standard:** IEC17466-1998
- **Protection degree:** IEC60529 IP40
- **Approval:** C
- **Number of modules:** 8/12/16/18/24/32/40/48/60
- **Rated voltage:** 230/380V
- **Color:** White
- **Type:** flush type and suspension type

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**Industry Control Electrics**

**Contactors & Thermal Relays**

**AC Contactors**

**Series 3SCH-K**
- **Used for controlling 3-phase motors and generally for controlling power circuits.**
- **Used for many other applications such as isolation, capacitor switching and lighting.**
- **Standard:** IEC60947-4-1
- **Approval:** C
- **Number of contacts:** 3+N, 3+N1, 3, 4NO2, 2NO+2NC
- **Rated conventional thermal current (InA) C1:** 20
- **Rated operational voltage Ul (V):** 690
- **Rated insulation voltage Ul (V):** 690
- **Degree of protection:** IP20
- **Ambient air temperature (°C):** -5 ~ +40, max. 95% humidity
- **Storage temperature (°C):** -40 ~ +75
- **Maximum operating altitude (meters):** 2000

**Thermal Relays**

**Series 3SR8-K**
- **Protecting the loads from overload and phase failure**
- **Implementing short-circuit protection by means of a fuse or circuit breaker.**
- **Used for the protection of motors.**
- **Standard:** IEC60947-4-1
- **Approval:** C
- **Tripping class:** 10A
- **Number of connecting pins:** 3, 4
- **Rated operational voltage Ul (V):** up to 690
- **Rated insulation voltage Ul (V):** 690
- **Rated impulse withstand voltage Uimp (kV):** 6
- **Signalling:** Trip indicator
- **Tightening torque (Nm):** 0.8
- **Degree of protection:** IP20
- **Ambient air temperature (°C):** -5 ~ +40, max. 95% humidity
- **Storage temperature (°C):** -40 ~ +75
- **Maximum operating altitude (meters):** 2000
- **Flame resistance:** V1
- **Mounting:** Directly under the contactor
Industry Control Electrics
Contactors & Thermal Relays

AC Contactors
Series 3SC8
- Used for controlling 3-phase motors and generally for controlling power circuits.
- Used for many other applications such as isolation, capacitor switching, lighting.
- Standard: IEC60947-4-1
- Approvals: Ā ā CB
- Rated operational voltage Ue (V): Up to 690
- Frequency limits of the operational current (Hz): 25-400
- Rated insulation voltage Ui (V): 690
- Rated impulse withstand voltage Uimp (kV): 6
- Rated frequency (Hz): 50/60
- Degree of protection: IP20
- Ambient air temperature (°C): -5~+40, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000
- Flame resistance: Conforming to UL 94 V1

Thermal Relays
Series 3SR8
- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.
- Standard: IEC60947-4-1
- Approvals: Ā ā CB
- Tripping class: 10A
- Rated working current le (A): 25, 36, 93
- Rated insulation voltage Ui (V): 690
- Rated impulse withstand voltage Uimp (kV): 6
- Signalling: Trip indicator
- Tightening torque (Nm): 0.8
- Degree of protection: IP20
- Ambient air temperature (°C): -5~+40, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000
- Flame resistance: V1
- Mounting: Directly under the contactor

Capacitor Switching Contactors
Series 3SC19
- Switching parallel connection capacitance from low voltage reactive power compensating equipments
- Reducing efficiently the impact to capacitor and restraining over-voltage when switching on/off with special flow-cut equipment
- Standard: IEC60947-4-1
- Approvals: Ā ā CB
- Rated insulation voltage Ui (V): 690

Industry Control Electrics
Contactors & Thermal Relays

AC Contactors
Series 3SC8-F
- Used for controlling 3-phase motors and generally for controlling power circuits.
- Used for many other applications such as isolation, capacitor switching and lighting.
- Standard: IEC60947-4-1
- Approvals: Ā ā CB
- Number of poles (P): 3, 4
- Rated operational voltage Ue (V): Up to 1000
- Frequency limits of the operational current (Hz): 16-200
- Rated insulation voltage Ui (V): 1000
- Rated impulse withstand voltage Uimp (kV): 8
- Rated frequency (Hz): 1000
- Rated making capacity (A): 10 x I in AC-3 or 12 x I in AC-4
- Rated breaking capacity (A): 400V: 8 x I in AC-3 or 10 x I in AC-4
- Degree of protection: IP20
- Ambient air temperature (°C): -5~+40, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000
- Flame resistance: Conforming to UL 94 V1

Thermal Relays
Series 3SR8-F
- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of fuse or circuit breaker.
- Used for the protection of motors.
- Standard: IEC60947-4-1
- Approvals: Ā ā CB
- Tripping class (A): 10, 20
- Rated operational voltage Ui (V): 1000
- Rated working current le (A): 220, 630
- Setting range (A): 30-220, 200-630
- Reset: Manual on front of relay
- Rated insulation voltage Ui (V): 1000
- Rated impulse withstand voltage Uimp (kV): 8
- Tightening torque (Nm): 0.8
- Degree of protection: IP20
- Ambient air temperature (°C): -5~+40, max. 95 % humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000
- Flame resistance: V1
Industry Control Electrics
Contactors & Thermal Relays

**DC Operated AC Contactors**
**Series 3SC8-P**
- DC operated AC contactor
- Remote control of circuit making
- Breaking or protecting the start of AC motor frequently
- Standard: IEC60947-4-1
- Approval:
- Number of contacts: 3P+1NO, 3P+1NC, 3P+1NO+1NC
- Rated operational voltage Ue (V): 690
- Rated insulation voltage Ue (V): 690
- Rated frequency (Hz): 50/60
- Rated making capacity (VA): 360
- Rated breaking capacity (VA): 3600
- Short-circuit protection (A): 69 fuse U≤440V: 25
- Average impedance per pole (MΩ): 3
- Tightening torque (Nm): 0.8
- Degree of protection: IP20
- Ambient air temperature(℃): -5~+40, max. 95 % humidity
- Storage temperature(℃): -40~+75
- Maximum operating altitude (meters): 2000
- Flame resistance: Conforming to UL 94 V1

**AC Contactors**
**Series 3SC7**
- Used for controlling 3-phase motors and generally for controlling power circuits.
- Used for many other applications such as isolation, capacitor switching and lighting.
- Standard: IEC60947-4-1
- Approval:

**Thermal Relays**
**Series 3SR7**
- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors
- Standard: IEC60947-4-1
- Approval:

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**Dol Starters**
**Series 3SQ1**
- Controlling the direct start and halt of the electromotor
- Protecting the motor from overload and phase failure
- Used in remote making and breaking circuit and frequently starting and controlling motor.
- Standards: IEC60947-4-1, IEC60439-1
- Approval:
- Rated working current (A): 09, 12, 18, 25, 32, 40, 50, 65, 80, 95
- Rated operational voltage Ue (V): 690
- Rated insulation voltage Ue (V): 690
- Rated impulse withstand voltage Uimp (kA): 8
- Rated frequency (Hz): 50/60
- The model of matched AC contactor: 3SC8
- The model of matched thermal relay: 3SR8
- Ambient air temperature(℃): -5~+40, max. 95 % humidity
- Storage temperature(℃): -40~+75
- Maximum operating altitude (meters): 2000

**Star-delta Starters**
**Series 3SQ8-D**
- For startup of motor that has heavy duty and current used is high
- Reducing the starting current and starting torque when motor starts up
- Smaller circuit breakers and thinner 3-phase line wires can be installed to supply power to the motor
- Standards: IEC60947-4-1, IEC60439-1
- Approval:

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**Delay timer**
**Auxiliary block**
**Star-delta starter**
Industry Control Electrics

Motor Protection Circuit Breakers
Series 3SM18
- Providing motor overload protection and short-circuit protection
- Standards: IEC60947-2, IEC60947-4-1
- Approval: 
- Utilization category: A, AC-3
- Rated insulation voltage $U_i$ (V): 690
- Rated operational voltage $U_e$ (V): 230/240, 400/415, 440, 500, 660/690
- Rated impulse withstand voltage $U_{imp}$ (kA): 8
- Rated frequency (Hz): 50/60
- Tightening torque (N·m): 1.7
- Degree of protection: IP20; IP65 with enclosure
- Ambient air temperature (°C): -5~+40, max. 95% humidity
- Storage temperature (°C): -40~+75
- Maximum operating altitude (meters): 2000

Vector Inverters
Series 3SVI 6000
- Brand new dimensional vector technique
- Unique software dead area compensation
- Self-start of speedless sensor excellent speed tracking
- Automatic energy saving
- Voltage fluctuation restrain
- Complete protection
- DC power supply
- Preset flexible PWM power consumption control
- Friendly man-machine interface, flexible input and output interface digital output connection.
- Standards: IEC60947-2, IEC60947-4-1
- Approval: 

Soft Starters
Series 3SST
- Centrifugal pumps, piston pumps
- Fans
- Screw compressors, etc.
- Material handling (conveyors, etc.)
- Specialist machines (agitators, mixers, centrifugal machines)
- Screw compressor, lifting screw
- Approval: 
- Degree of protection: IP20 (IP40 at request)
- Shock resistance: 15kg 11ms
- Ambient temperature (°C): -30~55
- Ambient humidity: 95% No dew, no dropping water

Switches and Time Relays
Pushbutton Switches and Indicators

Pushbutton Switches
Series 3SA8
- Standard: IEC60947-5-1
- Approval: 
- Rated insulation voltage $U_i$ (V): 400
- Conventional thermal current $I_{th}$ (A): 10
- Rated operational voltage $U_e$ (V): 110, 230, 400
- Rated operational current $I_e$ (A): 2.5 for 400V, 4.5 for 230V; 0.3 for 230V, 0.6 for 110V
- Rated frequency (Hz): 50~60
- Degree of Protection: IP40
- Pollution degree: 3
- Overvoltage category: II
- Ambient temperature (°C): -5 to +40, max. 95% humidity
- Storage temperature (°C): -30 to +65
- Maximum operating altitude (meters): 2000

Pushbutton Switches
Series 3AS5
- Standard: IEC60947-5-1
- Approval: 
- Rated insulation voltage $U_i$ (V): 400
- Conventional thermal current $I_{th}$ (A): 10
- Rated operational voltage $U_e$ (V): 110, 230, 400
- Rated operational current $I_e$ (A): 2.5 for 400V, 4.5 for 230V; 0.3 for 230V, 0.6 for 110V
- Rated frequency (Hz): 50~60
- Degree of Protection: IP40
- Pollution degree: 3
- Overvoltage category: II
- Ambient temperature (°C): -5 to +40, max. 95% humidity
- Storage temperature (°C): -30 to +65
- Maximum operating altitude (meters): 2000

Indicators
Series 3SD22
- Standard: IEC60947-5-1
- Approval: 
- Rated insulation voltage $U_i$ (V): 400
- Conventional thermal current $I_{th}$ (A): 10
- Rated operational voltage $U_e$ (V): 110, 230, 400
- Rated operational current $I_e$ (A): 2.5 for 400V, 4.5 for 230V; 0.3 for 230V, 0.6 for 110V
- Rated frequency (Hz): 50~60
- Degree of Protection: IP40
- Pollution degree: 3
- Overvoltage category: II
- Ambient temperature (°C): -5 to +40, max. 95% humidity
- Storage temperature (°C): -30 to +65
- Maximum operating altitude (meters): 2000
Control Stations
Series 3SA7
- Standard: IEC60947-5-1
- Approval 💿
- Rated insulation voltage Ui (V): 400
- Conventional thermal current Ith (A): 10
- Rated operational voltage Ue (V): 110, 230, 400
- Rated operational current Ie (A): In DC-13: 0.3 for 230V, 0.6 for 110V;
  In AC-15: 2.5 for 400V, 4.5 for 230V;
- Rated frequency (Hz): 50/60
- Degree of Protection: IP65
- Pollution degree: 3
- Overvoltage category: II
- Ambient air temperature(℃): -5~+40, max. 95% humidity
- Storage temperature(℃): -30~+65
- Maximum operating altitude (meters): 2000

Control Stations
Series 3SA10
- Standard: IEC60947-5-1
- Approval 💿
- Rated insulation voltage Ui (V): 400
- Conventional thermal current Ith (A): 10
- Rated operational voltage Ue (V): 110, 230, 400
- Rated operational current Ie (A): In DC-13: 0.3 for 230V, 0.6 for 110V;
  In AC-15: 2.5 for 400V, 4.5 for 230V;
- Rated frequency (Hz): 50/60
- Degree of Protection: IP65
- Pollution degree: 3
- Overvoltage category: II
- Ambient air temperature(℃): -5~+40, max. 95% humidity
- Storage temperature(℃): -30~+65
- Maximum operating altitude (meters): 2000

Control Stations
Series 3SP
- Standard: IEC60947-5-1
- Approval 💿
- Rated insulation voltage Ui (V): 400
- Conventional thermal current Ith (A): 10
- Rated operational voltage Ue (V): 110, 230, 400
- Rated operational current Ie (A): In DC-13: 0.3 for 230V, 0.6 for 110V;
  In AC-15: 2.5 for 400V, 4.5 for 230V;
- Rated frequency (Hz): 50/60
- Degree of Protection: IP65
- Pollution degree: 3
- Overvoltage category: II
- Ambient air temperature(℃): -5~+40, max. 95% humidity
- Storage temperature(℃): -30~+65
- Maximum operating altitude (meters): 2000

Control Stations
Series BS
- Standard: IEC60947-5-1
- Approval 💿
- Rated insulation voltage Ui (V): 400
- Conventional thermal current Ith (A): 10
- Rated operational voltage Ue (V): 110, 230, 400
- Rated operational current Ie (A): In DC-13: 0.3 for 230V, 0.6 for 110V;
  In AC-15: 2.5 for 400V, 4.5 for 230V;
- Rated frequency (Hz): 50/60
- Degree of Protection: IP65
- Pollution degree: 3
- Overvoltage category: II
- Ambient air temperature(℃): -5~+40, max. 95% humidity
- Storage temperature(℃): -30~+65
- Maximum operating altitude (meters): 2000
Switches and Time Relays

Rotary Change-over Cam Switches

Series 3SLW28
- Suitable for many different switching and control functions, such as ON/OFF, Hand/Auto and changeover
- Suitable for maintenance and emergency-stop switches
- Being available in their own enclosures or for mounting in control cabinets
- Standard: IEC60947-3
- Approval:
  - Rated uninterrupted current \( I_u \) (A): 20, 25, 32, 63, 125, 160
  - Rated thermal current \( I_{th} \) (A): 20, 25, 32, 63, 125, 160
  - Rated operational voltage \( U_e \) (V): 240/440
  - Rated insulation voltage \( U_i \) (V): 660
  - Rated impulse withstand voltage \( U_{imp} \) (kA): 4, 6
  - Rated frequency (Hz): 50/60
  - Number of poles (P): 1, 2, 3, 4
  - Rated operational current in category: AC-21A 280/440V (A): 20, 25, 32, 63, 125, 160
  - Handle type: black thumb grip and light grey front plate, padlockable handle
  - Degree of protection: IP65
  - Ambient air temperature (°C): -5~+40, max. 95 % humidity
  - Storage temperature (°C): -40~+75
  - Maximum operating altitude (meters): 2000

Series 3SD11
- Suitable for many different switching and control functions, such as ON/OFF, Hand/Auto and changeover
- Suitable for maintenance and emergency-stop emergency-stop switches
- Being available in their own enclosures or for mounting in control cabinets
- Standard: IEC60947-3
- Approval:
  - Rated uninterrupted current \( I_u \) (A): 25, 32, 40, 63, 80, 100
  - Rated thermal current \( I_{th} \) (A): 25, 32, 40, 63, 80, 100
  - Rated operational voltage \( U_e \) (V): 240/440
  - Rated insulation voltage \( U_i \) (V): 660
  - Rated impulse withstand voltage \( U_{imp} \) (kA): 4, 6
  - Rated frequency (Hz): 50/60
  - Number of poles (P): 3, 4, 3+N, 3+N+E, 6
  - Handle type: padlockable handle
  - Degree of protection: IP65
  - Ambient air temperature (°C): -5~+40, max. 95 % humidity
  - Storage temperature (°C): -40~+75
  - Maximum operating altitude (meters): 2000

Micro Switches

Series AZ & Series LXW5
- Side mount switches
- Momentary contacts
- Wide choice of heads and actuators
- Sealed actuators
- Completely sealed construction
- Plastic sealed housing

Limit Switches

Series 3SX5-M & Series 3SX5-ME & Series 3SX5-WL
Limit switches are ideal electrical control switches. They feature compact structure, nice appearance, excellent performance, reliable action, easy installation, operation, maintenance and adjustment. At Sassin we have a variety of limit switches so you can find the limit switch that fits your individual needs.

The switches are applicable to AC control circuits of 50 to 60Hz, with a voltage up to 500V or DC control circuits with a voltage up to 250V, and a current up to 15A to convert a mechanical signal into an electrical signal for the purpose of controlling mechanical movement or performing sequential control.
Switches and Time Relays

Multi Range Time Relays
- Standard: IEC60050-445
- Approval:
- Accuracy (class):
- Repeat error: 1%~2% max.
- Setting error: 5%~10% max.
- Voltage error: 1%~5% max.
- Temp. Error: 2% max
- Rated Voltage (V DC/AC): 12~240
- Indicator Operation:
- ON, UP Operation; Time Operation flicker
- O/P contact capacity (A): 5
- Reset time: 0.1~0.5 second max.
- Self-consumed power (VA): 2
- Ambient temperature (℃): -10~+55
- Ambient humidity: 35~85%RH

Power Relays
- Standard: IEC60255-1
- Approval:
- Contact arrangement: 2Z, 3Z, 4Z
- Rated voltage (V): Max. AC 250, DC125
- Rated current (A): 3, 5, 10
- Rated power (W): 280 for 2Z, 140 for 3Z, 84 for 4Z
- Holding voltage: 80% Un for AC coil, 75% Un for DC coil
- Drop-out voltage: 30% Un for AC coil, 10% Un for DC coil
- Operating voltage range (Un): (80%~110%)
- Contact material: Silver alloy
- Contact resistance (mΩ): ≥50
- Installation resistance (mΩ): ≥100
- Ambient temperature (℃): -5~+55

Power Sources

AVR

Automatic Voltage Stabilizers
Series SVC -N
- Continuously stabilize power supply where output voltage is unstable
- Protection for office equipment, household appliance
- Protection for industrial equipment, medical equipment
- Protection for communication system etc.
- The updated version of traditional SVC model
- Stylish appearance
- Smaller size and lighter weight
- Higher efficiency
- Lower noise
- Wider input voltage
- Automatic resume
- Abnormality warning
- Full protections: Under / Over voltage, Short circuit, Load / heat, Long-time delay
- Approval:

Relay Type Voltage Stabilizers
Series PCH
- Continuously stabilize power supply where output voltage is unstable
- Protection for office equipment, household appliance
- Protection for industrial equipment, medical equipment
- Protection for communication system
- Small size and light weight
- Wide range of input voltage
- Elegant appearance
- Reliable performance
- High efficiency
- Approval:

Connector accessory selectable
- ≤2000VA
- ≥3000VA

Terminal Blocks
A B C D E F
Power Sources

AVR

Automatic Voltage Stabilizers
Series SVC Single Phase Horizontal
- Continuously stabilize power supply where output voltage is unstable
- Protection for office equipment, household appliance
- Protection for industrial equipment, medical equipment
- Protection for communication system etc.
- Connector accessory select
- High efficiency power supply
- No wave distortion
- Reliable performance
- Work continually for long time
- Long-time delay and under-voltage protection can be customized
- Approval: 

<table>
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<th>Connector accessory-selectable</th>
<th>≤1500VA</th>
<th>≥2000VA</th>
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<td>Terminal Blocks</td>
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Automatic Voltage Stabilizers
Series SVC Single Phase Vertical
- Continuously stabilizing power supply where output voltage is unstable
- 3G serving base station
- Industrial equipment
- Medical equipment
- Office equipment etc.
- Connector type select
- High efficiency power supply
- No wave distortion
- Reliable performance
- Working continually for long time
- Digital display type is available
- Approval: 

Automatic Voltage Stabilizers
Series SVC Three Phase
- Continuously stabilize power supply where output voltage is unstable
- Computer
- Test equipment
- Lighting equipment
- Alarm and security system
- X-ray equipment
- Communication system
- Medical treatment & hygiene
- Hi-Fi equipment
- Compact structure
- High efficiency power supply
- No wave distortion
- Reliable performance
- Work continually for long time
- Approval: 

Compensated Voltage Stabilizers
Series DBW/SBW
- Continuously stabilize power supply where output voltage is unstable
- Industrial production
- Scientific research
- Medical treatment & hygiene
- National defense
- Railway system
- Small volume, light weight
- Large-capacity
- High efficiency
- No wave distortion
- Stable voltage adjustment
- Reliable running
- Long working time
- Free transferring between manual control and automatic control
- Suitable for kinds of loads and bearing instantaneous overload
- Convenient installation
- Approval: 

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**Power Sources**

**Voltage Regulators**
**Series TDGC2J / TSGC2J**

- Wide output voltage from zero to the maximum value
- Applied in industries, scientific researches
- Suited to serve as ancillary facilities for analytical instruments in petroleum industry etc.
- Voltage regulating
- Temperature controlling
- Energy saving type
- No wave distortion
- Small size and light weight
- Reliable performance
- High efficiency
- Convenient installation
- Approval: CE

**Meters & Electrical Accessories**

**Meters**

**Electronic Kilowatt Hour Meters**
**Series DDS989, DTS989**

- Standards: IEC62053-21, IEC62056-21
- Approval: CE
- Accuracy (class): 1.0
- Starting condition: Nominal frequency, 1.0 power factor, load current >0.4% nominal value. Equipped with electrical pulses and continuous electrical pulse display
- No load rotation: It is regulated that within given time, there is no pulse output, while the voltage is more than 115% of reference value and current circuit is off
- Mistake linearity: 5% Ib~I max
- Rated voltage (V):
  - DDS989: 230
  - DTS989: 3X220/400
  - Rated current (A):
    - DDS989: 1.5(6), 2.5(10), 5(20), 10(40), 5(30), 10(60), 15(60), 20(80)
    - DTS989: 3X1.5(6), 3X3(6), 3X5(20), 3X10(40), 3X15(60), 3X30(30), 3X10(60)
  - Frequency (HZ): 50/60
  - Ambient temperature (°C): -5~+55
  - Storage and limit temperature (°C): -40~+70
  - Power loss:
    - voltage circuits≤3W and 10VA
    - current circuits≤4.0VA

**Switching Power Supplies**

- High reliability
- Built-in EMI filter, good anti-jamming performance
- High efficiency
- Soft-start circuit design, AC surge current limiting
- Low operating temperature, long working life
- Wide input voltage range
- Good insulation, high dielectric strength
- Short circuit, overload, over-voltage protection
- 100% burn-in test
- Small size, light weight, beautiful appearance
- Approval: CE

**Analogue Panel Meters**
**Series SE**

- Standard: IEC60051-1
- Approval: CE
- Accuracy (class): 1.5/2.5
- Material:
  - External case: ABS plastic
  - Base: PPO
- Mechanical character: It can withstand vibration of acceleration 30 meters/second2 with shock frequency 80~120 per minute 2 hours transportation
- Dielectric strength: AC voltage 50Hz 2kW, minute
- Voltage influence: When rated value changes ±15%, the indicated value should not exceed the basic tolerance
- Operating position: Vertical
- Thermal resistance (°C): 70~120
- Operating temperature (°C): -20~+40 relative humidity ≤80%
**Meters & Electrical Accessories**

**Meters**

**Digital Panel Meters**

**Series SE**

- Standard: ICS 17.220.20
- Approval: 
- Accuracy: ±0.5%
- Measurement display method: 3 and a half digits LED
- Display range: 0~1999
- Working power: AC220V±10%, 50/60Hz
- Measuring range:
  - AC voltmeter: ACD-600V, ACD-200V(199.9V), ACD-2TV(19.99V)
  - DC voltmeter: DCD-600V, DCD-200V(199.9V), DCD-2TV(19.99V)
  - AC ammeter: ACO-20A (direct), external CT is necessary of more than 20A
  - DC ammeter: DCO-20A (direct), external shunt is necessary of more than 20A
- Frequency meter (Hz): 10.0-999.9 or 10.00-99.99
- Max Signal Consumption (VA): <0.5
- Hipot testing (V/min): AC 2000/1

**Current Transformers**

**Series MSQ**

- Standard: IEC60044-1
- Approval: 
- Accuracy(class): 1.0
- Max. voltage rating Ue (V): 660.0
- Secondary-current Isn (A): 5.0
- Frequency (Hz): 0.8
- Tolerable max overload current: 1.2Isn
- Safety factor (sf): 30~3000A: sf≤5

**Power Capacitors**

**Series BSMJ, BGMJ**

- Standard: IEC60831
- Approval: 
- Rated Voltage (VAC): 230, 250, 280,400,415, 450, 525, 690
- Frequency (Hz): 50/60
- Rated output (Kvar): 1~80
- Capacitance tolerance: -5~+10%
- Material:
  - Body: dielectric-metallized poly propylene film;
  - Impregnant: semi-solid
- Over-voltage permitted: 1.0Un, 1.1Un6h/day, 1.3Un 1min
- Over-current permitted (In): 1.3
- Loss angle tangent BSMJ: tg δ ≤0.1%; BGMJ: tg δ ≤0.0015

**Metal Boxes**

**Series 3SM**

- Standard: IEC60529
- Approval: 
- Material: Cold rolled plate/Galvanized sheet
- Body and door: 1.5mm steel sheet
- Mounting plate: 2.5mm steel sheet
- Finish:
  - Case and door: RAL 7032 mat finish
  - Mounting plate: RAL 9004 smooth finish
- Protection degree: IP 65
- Boxes are completed with:
  - Mounting plate
  - Gland plate and gasket
  - Locking system with 3mm double bar key
- Package with hardware for earth connection and screws to mount all components

**PC Plug Socket Couplings**

**Series 3SP1, 3SP2**

- Standard: IEC60309-1-2
- Approval: 
- Voltage range (V): 110~415
- Current range (A): 16~63
- Material: Plastic/Nylon PA66
- Thermal resistance: Up to +120°C according to IEC60695-2-1
- Fire resistance (°C): 850
- Degree of protection according to IEC60529:
  - 3SP1: IP44, IP67; 3SP2: IP67

**Terminal Blocks**

**Series JXB & 3SUK & 3SUSLKG & TB & TC & HFW**

- Standards: IEC60947, IEC6079
- Approval: 
- Material: PA66 and pure copper volume is more than 99%