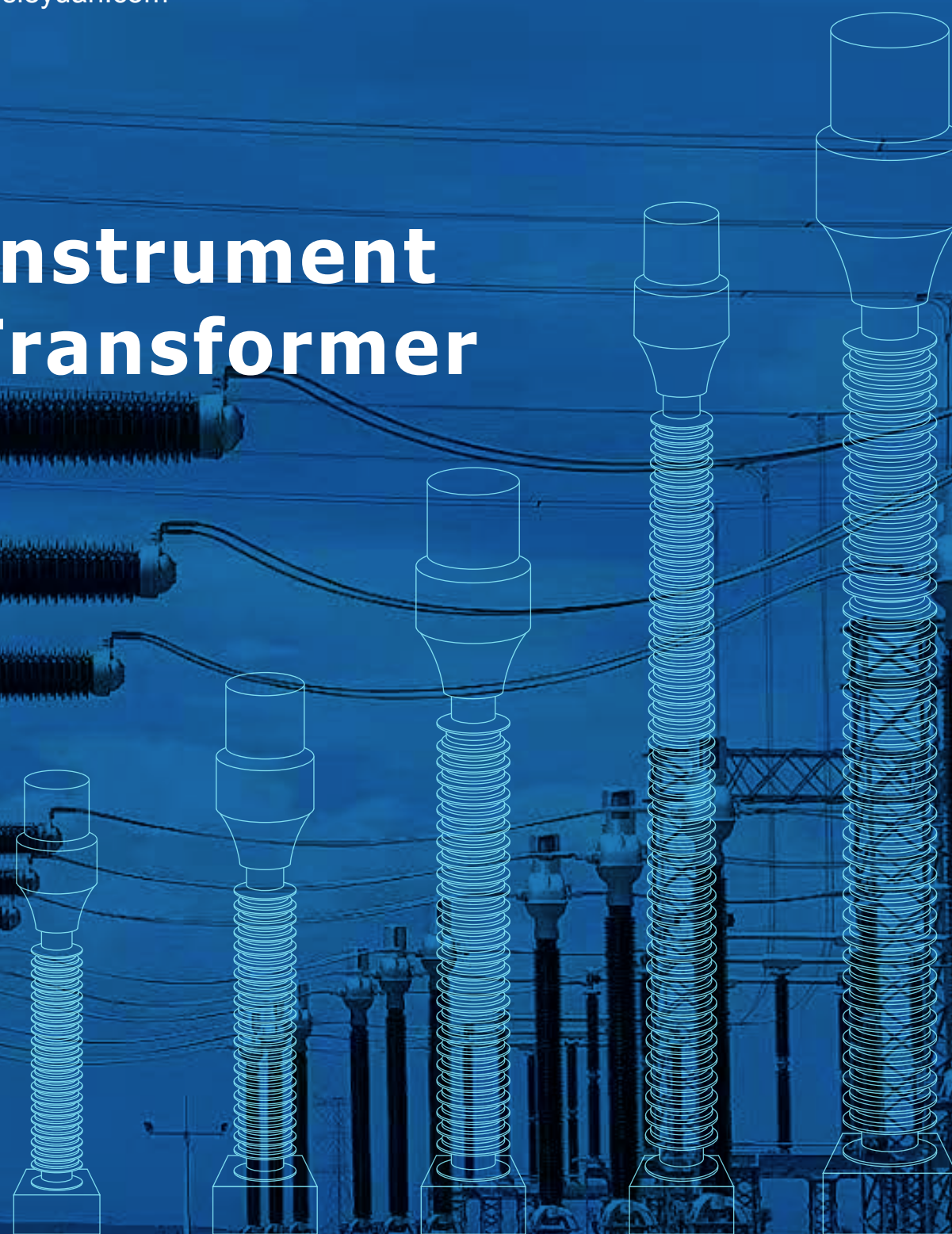


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# Instrument Transformer



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## Instrument Transformer

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# LVB

## Oil immersed current transformer



27.5kV-500kV Oil immersed inverted current transformer

### Product introduction:

LVB series current transformers are of oil impregnated paper insulation and inverted structure to meet the IEC/IEEE standard. The series connected transformer in the line has the functions of electric energy measurement, metering, relay protection and transient protection.

### Product features:

- The primary winding is of through type conductive rod structure, with good dynamic and thermal stability. The maximum thermal stability current is 63kA/3s (when the primary winding is in series).
- The primary winding passes through the center of the secondary winding without the influence of magnetic flux leakage, and the measurement accuracy reaches 0.2S and 0.1.
- The secondary winding is poured into the aluminum shield housing with organic materials, and the measuring and protection lines at the secondary side will not be subject to electrical attack due to insulation breakdown.
- The optimized capacitor screen bushing is wound by a high-performance computer controlled full-automatic wrapping machine with a whole sheet of imported wide width cable paper. The process dispersion is small, and the insulation performance is excellent. The partial discharge test is conducted under the power frequency test voltage.
- The fully automatic vacuum drying treatment system imported from Germany LEYBOLD is adopted. After the overall assembly of the product, the new process of variable pressure vacuum drying treatment and oil injection is carried out. The fully imported insulating materials ensure that the overall dielectric loss factor tand of the product is less than 0.3%.
- The head insulation of the product is wrapped with an automatic binding machine, and the insulation wrapping of the product is uniform, tight and consistent.
- The secondary outlet box is cast with aluminum alloy as a whole, with a dust-proof, waterproof and breathable sealing structure.
- The connection between product parts adopts argon arc welding, and the whole assembly is filled with high-pressure nitrogen for leak detection, which fundamentally solves the problem of oil leakage of oil immersed products.
- The shell, base and junction box are all made of aluminum alloy. The expander and nameplate are made of stainless steel. All exposed parts will never rust.
- The product is maintenance free.

| Technical parameter |                      |                      |                             |                                    |                                                                                                            |                                                                                             |
|---------------------|----------------------|----------------------|-----------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Type                | Highest voltage (kV) | Rated frequency (Hz) | Power-frequency voltage(kV) | Lightning impulse voltage(BIL)(kV) | Rated primary current(A)                                                                                   | Class                                                                                       |
| LVB-31.5            | 31.5                 | 50/60                | 95                          | 200                                | IEC:<br>Min current: 0.5A;<br>Max current: 8000A;<br>IEEE:<br>MR5000/MR4000/MR3000/<br>MR2000/MR1200/MR600 | IEC:<br>0.2/0.5/0.2S/0.5S/5P/<br>10P/TPS/TPX/TPY<br>IEEE:<br>0.3/0.6/1.2/C200/C40<br>0/C800 |
| LVB-40.5            | 40.5                 | 50/60                | 95                          | 200                                |                                                                                                            |                                                                                             |
| LVB-72.5            | 72.5                 | 50/60                | 160                         | 350                                |                                                                                                            |                                                                                             |
| LVB-110             | 123                  | 50/60                | 230                         | 550                                |                                                                                                            |                                                                                             |
| LVB-126             | 126                  | 50/60                | 230                         | 550                                |                                                                                                            |                                                                                             |
| LVB-145             | 145                  | 50/60                | 275                         | 650                                |                                                                                                            |                                                                                             |
| LVB-170             | 170                  | 50/60                | 325                         | 750                                |                                                                                                            |                                                                                             |
| LVB-245             | 252                  | 50/60                | 460                         | 1050                               |                                                                                                            |                                                                                             |
| LVB-300             | 300                  | 50/60                | 460                         | 1050                               |                                                                                                            |                                                                                             |
| LVB-363             | 363                  | 50/60                | 510                         | 1175                               |                                                                                                            |                                                                                             |
| LVB-420             | 420                  | 50/60                | 630                         | 1425                               |                                                                                                            |                                                                                             |
| LVB-550             | 550                  | 50/60                | 740                         | 1675                               |                                                                                                            |                                                                                             |

| Technical parameter |                      |                      |                 |                   |            |         |         |
|---------------------|----------------------|----------------------|-----------------|-------------------|------------|---------|---------|
| Type                | Thermal current (kA) | Dynamic current (kA) | Oil weight (kg) | Total weight (kg) | Dimensions |         |         |
|                     |                      |                      |                 |                   | A(mm)      | T(mm)   | H(mm)   |
| LVB-31.5            | 31.5kA/3S            | 80                   | 34              | 140               | 300        | 984±25  | 1464±30 |
| LVB-40.5            | 40kA/3S              | 100                  | 78              | 315               | 475        | 1075±15 | 1615±25 |
| LVB-72.5            |                      |                      | 80              | 350               | 475        | 1290±25 | 1815±25 |
| LVB-110             |                      |                      | 80              | 400               | 475        | 1790±15 | 2310±25 |
| LVB-126             | 50kA/3S              | 125                  | 80              | 400               | 475        | 1790±15 | 2310±25 |
| LVB-145             |                      |                      | 80              | 400               | 475        | 2198±15 | 2730±25 |
| LVB-170             |                      |                      | 100             | 500               | 475        | 2198±15 | 2730±25 |
| LVB-245             |                      |                      | 180             | 800               | 550        | 2955±15 | 3650±25 |
| LVB-300             | 63kA/3S              | 160                  | 222             | 935               | 550        | 3585±25 | 4285±30 |
| LVB-363             |                      |                      | 330             | 1200              | 600        | 4535±25 | 5100±20 |
| LVB-420             |                      |                      | 440             | 1400              | 600        | 4750±25 | 5650±30 |
| LVB-550             |                      |                      | 550             | 2600              | 650        | 5920±15 | 7015±20 |

Remark: Approximate dimensions and weights for special requirements, please consult us.

# LVQB

## SF6 gas insulated current transformer



27.5kV-500kV Oil immersed inverted current transformer

### Product introduction:

LVQB series current transformers are SF6 gas insulated, inverted structure to meet the IEC/IEEE standard. The series connected transformer in the line has the functions of electric energy measurement, metering, relay protection and transient protection.

### Product features:

- The primary winding is of through type conductive rod structure with good dynamic and thermal stability.
- The maximum thermal stability current is 63kA/3s (when the primary winding is in series).
- The primary winding passes through the center of the secondary winding without the influence of magnetic flux leakage, and the measurement accuracy reaches 0.1 and 0.2s.
- The upper shell is of aluminum alloy welding structure, and the top is equipped with a metal explosion-proof disc. If the internal high-energy discharge occurs, when the gas pressure exceeds 1.0MP a, the explosion-proof disc will break, so as to achieve the purpose of pressure release, improve product safety, and there is no danger of explosion.
- The secondary winding is poured into the aluminum shield housing with organic materials, and the measuring and protection lines at the secondary side will not be subject to electrical attack due to insulation breakdown.
- The optimized electrode shielding structure improves the internal and external electric field distribution of the product, and the insulation performance is excellent. The local discharge test is conducted under the power frequency test voltage.
- The cast aluminum footing is directly cast on the external insulating bushing, and the bottom plate bolt is fixed with the footing from the bottom up to avoid water ingress and ponding from the base fastener. The secondary outlet box is cast with stainless steel or aluminum alloy. The dust-proof, waterproof and breathable sealing structure meets the requirements of IP55.
- The secondary terminals for users to connect are Phoenix special terminal blocks, which are more convenient and fast to plug, pull and connect.
- The sealing ring is made of ethylene propylene diene monomer (EPDM) and imported fluorosilicone rubber. It is suitable for areas with high and low temperature changes and harsh ambient temperatures. The annual air leakage rate is less than 0.5%.
- The product performance remains unchanged after rigorous transportation vibration test.
- The shell, base and junction box are all made of aluminum alloy. The nameplate is made of stainless steel. All exposed parts will never rust. The base is equipped with a density meter, which can display the gas pressure inside the transformer (the displayed value is automatically converted to the internal gas pressure at 20 ℃) and density. When the internal pressure of the transformer drops to the alarm pressure, it will provide a signal and require gas supplement.

### Technical parameter

| Type      | Highest voltage (kV) | Rated frequency (Hz) | Power-frequency voltage(kV) | Lightning impulse voltage(BIL)(kV) | Rated primary current(A)                              | Class                                            |
|-----------|----------------------|----------------------|-----------------------------|------------------------------------|-------------------------------------------------------|--------------------------------------------------|
| LVQB-40.5 | 40.5                 | 50/60                | 95                          | 200                                | IEC:<br>Min current: 0.5A;<br>Max current: 8000A;     | IEC:<br>0.2/0.5/0.2S/0.5S/5P/<br>10P/TPS/TPX/TPY |
| LVQB-72.5 | 72.5                 | 50/60                | 160                         | 350                                |                                                       |                                                  |
| LVQB-126  | 126                  | 50/60                | 230                         | 550                                |                                                       |                                                  |
| LVQB-170  | 170                  | 50/60                | 325                         | 750                                | IEEE:<br>MR5000/MR4000/MR3000/<br>MR2000/MR1200/MR600 | IEEE:<br>0.3/0.6/1.2/C200/C40<br>0/C800          |
| LVQB-245  | 252                  | 50/60                | 460                         | 1050                               |                                                       |                                                  |
| LVQB-300  | 300                  | 50/60                | 460                         | 1050                               |                                                       |                                                  |
| LVQB-363  | 363                  | 50/60                | 510                         | 1175                               |                                                       |                                                  |
| LVQB-550  | 550                  | 50/60                | 740                         | 1675                               |                                                       |                                                  |

### Technical parameter

| Type      | Thermal current (kA) | Dynamic current (kA) | Gas presure (absolute)Mpa | Total weight (kg) | Dimensions |         |           |
|-----------|----------------------|----------------------|---------------------------|-------------------|------------|---------|-----------|
|           |                      |                      |                           |                   | A(mm)      | T(mm)   | H(mm)     |
| LVQB-40.5 | 31.5kA/3S            | 80                   | 0.4                       | 300               | 475        | 1403±5  | 1886.5±10 |
| LVQB-72.5 | 40kA/3S              | 100                  | 0.5                       | 400               | 475        | 1403±5  | 1886.5±10 |
| LVQB-126  |                      |                      | 0.5                       | 490               | 475        | 1700±5  | 2350±10   |
| LVQB-170  | 63kA/3S              | 160                  | 0.5                       | 1000              | 550        | 3360±5  | 3690±10   |
| LVQB-245  |                      |                      | 0.5                       | 1200              | 550        | 3360±5  | 3690±10   |
| LVQB-300  |                      |                      | 0.5                       | 1600              | 660/600    | 4405±5  | 5300±10   |
| LVQB-363  |                      |                      | 0.5                       | 1800              | 660/600    | 4405±5  | 5300±10   |
| LVQB-550  |                      |                      | 0.55                      | 3000              | 900        | 5525±10 | 6350±10   |

Remark: Approximate dimensions and weights for special requirements, please consult us.



# LB

## Oil immersed hair pin current transformer



Oil immersed hair pin current transformer

### Product introduction:

LB series current transformers are oil impregnated paper insulated, vertical structure to meet the IEC/IEEE standard. The series connected transformer in the line has the functions of electric energy measurement, metering, relay protection and transient protection.

### Product features:

- LB series current transformers are of oil immersed fully sealed insulation structure. The primary winding is U type. The body is fixed at the bottom of the box. The main insulation is capacitive oil paper insulation, which is wrapped around the primary winding with high-voltage cable paper. Several capacitance screens are set between them. The inner screen is connected to the high potential, and the outer screen can be grounded.
- The upper part of the oil tank is equipped with a porcelain bushing. The primary outlet terminal is on the top of the porcelain bushing. The series and parallel connection are external exchange devices, that is, they can be exchanged outside the porcelain bushing.
- The stainless steel expander is used as the oil compensation device to ensure the oil quality. The oil level indication of the product is indicated by the eye-catching displacement indication of the upper window of the expander.
- The product can be equipped with 4-6 secondary windings. The secondary measurement windings made of microcrystalline alloys with high magnetic conductivity can ensure the measurement accuracy to reach class 0.2 or 0.2S × The secondary winding of 600A and above current transformer measurement level has taps to achieve two current ratios.
- The secondary terminal box is cast with aluminum alloy as a whole, with a dust-proof, waterproof and breathable sealing structure
- The connection between product parts adopts argon arc welding, and the whole assembly is filled with high-pressure nitrogen for leak detection, which fundamentally solves the problem of oil leakage of oil immersed products.
- The shell, base and junction box are all made of aluminum alloy. The expander and nameplate are made of stainless steel. All exposed parts will never rust.
- The product is maintenance free.

| Technical parameter |                      |                      |                             |                                    |                                                                                       |                                                                                     |
|---------------------|----------------------|----------------------|-----------------------------|------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Type                | Highest voltage (kV) | Rated frequency (Hz) | Power-frequency voltage(kV) | Lightning impulse voltage(BIL)(kV) | Rated primary current(A)                                                              | Class                                                                               |
| LAB6-31.5           | 31.5                 | 50/60                | 95                          | 200                                | IEC:<br>Min current: 0.5A;<br>Max current: 8000A;<br><br>IEEE:<br>MR2000/MR1200/MR600 | IEC:<br>0.2/0.5/0.2S/0.5S/5P/<br>10P<br><br>IEEE:<br>0.3/0.6/1.2/C200/C40<br>0/C800 |
| LB6-40.5            | 40.5                 | 50/60                | 95                          | 200                                |                                                                                       |                                                                                     |
| LB6-72.5            | 72.5                 | 50/60                | 160                         | 350                                |                                                                                       |                                                                                     |
| LB6-110             | 126                  | 50/60                | 230                         | 550                                |                                                                                       |                                                                                     |
| LB6-145             | 145                  | 50/60                | 275                         | 650                                |                                                                                       |                                                                                     |
| LB6-170             | 170                  | 50/60                | 325                         | 750                                |                                                                                       |                                                                                     |
| LB6-245             | 252                  | 50/60                | 460                         | 1050                               |                                                                                       |                                                                                     |

| Technical parameter |                      |                      |                 |                   |            |         |         |
|---------------------|----------------------|----------------------|-----------------|-------------------|------------|---------|---------|
| Type                | Thermal current (kA) | Dynamic current (kA) | Oil weight (kg) | Total weight (kg) | Dimensions |         |         |
|                     |                      |                      |                 |                   | A(mm)      | T(mm)   | H(mm)   |
| LAB6-31.5           | 25kA/3S              | 63                   | 70              | 245               | 258        | 1320±30 | 1700±30 |
| LB6-40.5            |                      |                      | 70              | 245               | 258        | 1320±30 | 1700±30 |
| LB6-72.5            | 40kA/3S              | 100                  | 70              | 340               | 475        | 1600±15 | 2060±20 |
| LB6-126             | 50kA/3S              | 125                  | 100             | 500               | 475        | 2000±15 | 2460±20 |
| LB6-145             |                      |                      | 120             | 520               | 475        | 2200±15 | 2687±20 |
| LB6-170             |                      |                      | 150             | 650               | 475        | 2200±15 | 2687±20 |
| LB6-245             |                      |                      | 320             | 950               | 500        | 3300±20 | 3800±20 |

Remark: Approximate dimensions and weights for special requirements, please consult us.



Capacitor voltage transformer



Capacitor voltage transformer

Product introduction:

Capacitor voltage transformer is mainly used in power frequency power system to meet the IEC/IEEE standard, outdoor rated voltage 40.5-1100kV, frequency 50/60Hz neutral point effective grounding system/neutral point non effective grounding system to provide voltage signals for electrical measuring instruments and protection and control devices, and also as coupling capacitor for power carrier communication system.

Product features:

- It has excellent performance in suppressing ferromagnetic resonance. With a speed saturation damping device, it has fast transient response and can reliably damp ferromagnetic resonance. It can meet the test requirements of 320 times of ferromagnetic resonance under 0-1.5Un, and can effectively suppress ferromagnetic resonance within 10 cycles. The peak value of the secondary voltage of the product drops to 5% of the peak value of the secondary voltage before the short circuit within 0.02s.
- Capacitor voltage transformer has medium voltage switch function, which is convenient for on-site operation and maintenance.
- Porcelain bushing and flange are used for integral casting to reduce bolt connection, improve sealing performance and reduce the risk of oil leakage.
- It is easy to install and maintain. Phoenix Contact terminals are used to facilitate user wiring.
- The oil tank is of cast aluminum structure, which is free of rust after long-term use.

| Technical parameter |                      |                  |                      |                             |                                    |                                                                                                             |
|---------------------|----------------------|------------------|----------------------|-----------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Type                | Highest voltage (kV) | Capacitance (pF) | Rated frequency (Hz) | Power-frequency voltage(kV) | Lightning impulse voltage(BIL)(kV) | Rated burden(VA)                                                                                            |
| TYD 40.5            | 40.5                 | 10000-20000      | 50/60                | 95                          | 200                                | IEC :<br>10/30/50/75/100/120/<br>150/200/300<br>IEEE :<br>0.15Y/0.15MWXYZ/0.3MWXYZ/<br>0.6MWXYZ/0.6ZZ/1.2ZZ |
| TYD 72.5            | 72.5                 | 10000-20000      | 50/60                | 160                         | 350                                |                                                                                                             |
| TYD 126             | 126                  | 10000-20000      | 50/60                | 230                         | 550                                |                                                                                                             |
| TYD 145             | 145                  | 10000-20000      | 50/60                | 275                         | 650                                |                                                                                                             |
| TYD 170             | 170                  | 4000-10000       | 50/60                | 325                         | 750                                |                                                                                                             |
| TYD 245             | 252                  | 5000-10000       | 50/60                | 460                         | 1050                               |                                                                                                             |
| TYD 300             | 300                  | 5000-10000       | 50/60                | 460                         | 1050                               |                                                                                                             |
| TYD 363             | 363                  | 5000-10000       | 50/60                | 510                         | 1175                               |                                                                                                             |
| TYD 420             | 420                  | 5000-10000       | 50/60                | 630                         | 1425                               |                                                                                                             |
| TYD 550             | 550                  | 5000-10000       | 50/60                | 740                         | 1675                               |                                                                                                             |
| TYD 765             | 765                  | 5000-10000       | 50/60                | 975                         | 2100                               |                                                                                                             |
| TYD 1100            | 1100                 | 5000-10000       | 50/60                | 1200                        | 2400                               |                                                                                                             |

| Technical parameter |                                      |                   |                   |            |          |          |
|---------------------|--------------------------------------|-------------------|-------------------|------------|----------|----------|
| Type                | Rated voltage factor                 | Total weight (kg) | Limit output (VA) | Dimensions |          |          |
|                     |                                      |                   |                   | A(mm)      | T(mm)    | H(mm)    |
| TYD 40.5            | 1.2 times/Continuous , 1.9 times/30s | 315               | 1000              | 400        | 1394±20  | 1424±20  |
| TYD 72.5            |                                      | 390               | 1000              | 400        | 1693±20  | 1669±20  |
| TYD 126             | 1.2 times/Continuous , 1.5 times/30s | 400               | 1000              | 400        | 2015±20  | 2045±20  |
| TYD 145             |                                      | 430               | 1000              | 400        | 2414±20  | 2444±20  |
| TYD 170             |                                      | 650               | 1000              | 400        | 2714±20  | 2744±20  |
| TYD 245             |                                      | 760               | 1000              | 400        | 3350±20  | 3380±20  |
| TYD 300             |                                      | 760               | 1000              | 400        | 4049±20  | 4079±20  |
| TYD 363             |                                      | 900               | 1000              | 400        | 4936±20  | 4966±20  |
| TYD 420             |                                      | 1200              | 1000              | 400        | 5643±20  | 5673±20  |
| TYD 550             |                                      | 1200              | 1000              | 400        | 6333±20  | 6363±20  |
| TYD 765             |                                      | 4000              | 1000              | 670        | 10755±20 | 10785±20 |
| TYD 1100            |                                      | 6620              | 1000              | 670        | 13832±20 | 13862±20 |

Remark: Approximate dimensions and weights for special requirements, please consult us.

# JDCF

## Oil immersed inductive voltage transformer



Inductive voltage transformer

### Product introduction:

JDCF series oil immersed electromagnetic voltage transformer is a voltage transformer with transformer oil and insulating paper as the insulating medium. It protects measuring instruments and relays in the power system, and makes the secondary side equipment miniaturized and standardized. It is an indispensable power equipment in the substation.

### Product features:

- It has the characteristics of fast transient response.
- Meet the requirements of IEC 61869-3, CFE NRF-026, IEEE57.13 and other technical standards.
- For single-stage electromagnetic voltage transformer, the upper part is the expander part, the middle part is the porcelain bushing part, the bottom part is the oil tank, and the internal part is the body part. The transformer body contains winding and capacitor voltage equalizing screen, which are bound together.
- The product has small size, light weight, large load and stable dielectric loss.

| Technical parameter |                      |                      |                             |                                    |                                                                                                               |
|---------------------|----------------------|----------------------|-----------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Type                | Highest voltage (kV) | Rated frequency (Hz) | Power-frequency voltage(kV) | Lightning impulse voltage(BIL)(kV) | Rated burden(VA)                                                                                              |
| JDT-27.5            | 31.5                 | 50/60                | 70                          | 200                                | IEC:<br>10/30/50/75/100/120/<br>150/200/300<br><br>IEEE:<br>0.15Y/0.15MWXYZ/0.3MWXYZ/<br>0.6MWXYZ/0.6ZZ/1.2ZZ |
| JDCF-40.5           | 40.5                 | 50/60                | 95                          | 200                                |                                                                                                               |
| JDCF-72.5           | 72.5                 | 50/60                | 160                         | 350                                |                                                                                                               |
| JDCF-126            | 126                  | 50/60                | 230                         | 550                                |                                                                                                               |
| JDCF-145            | 145                  | 50/60                | 275                         | 650                                |                                                                                                               |
| JDCF-170            | 170                  | 50/60                | 325                         | 750                                |                                                                                                               |
| JDCF-245            | 245                  | 50/60                | 460                         | 1050                               |                                                                                                               |
| JDCF-300            | 300                  | 50/60                | 460                         | 1050                               |                                                                                                               |
| JDCF-420            | 420                  | 50/60                | 630                         | 1425                               |                                                                                                               |
| JDCF-550            | 550                  | 50/60                | 740                         | 1550                               |                                                                                                               |

| Technical parameter |                                      |                   |                   |            |         |         |
|---------------------|--------------------------------------|-------------------|-------------------|------------|---------|---------|
| Type                | Rated voltage factor                 | Total weight (kg) | Limit output (VA) | Dimensions |         |         |
|                     |                                      |                   |                   | A(mm)      | T(mm)   | H(mm)   |
| JDT-27.5            | 1.2 times/Continuous , 1.9 times/30s | 180               | 1000              | 320/360    | 1010±10 | 1260±10 |
| JDCF-40.5           |                                      | 152               | 1000              | 450        | 1014±20 | 1290±20 |
| JDCF-72.5           | 1.2 times/Continuous , 1.5 times/30s | 240               | 1000              | 450        | 1225±30 | 1510±30 |
| JDCF-126            |                                      | 344               | 1000              | 450        | 1900±30 | 2180±30 |
| JDCF-145            |                                      | 350               | 1000              | 450        | 1900±30 | 2180±30 |
| JDCF-170            |                                      | 370               | 1000              | 450        | 2300±50 | 2580±50 |
| JDCF-245            |                                      | 655               | 1000              | 600        | 3180±50 | 3540±50 |
| JDCF-300            |                                      | 700               | 1000              | 600        | 3180±50 | 3540±50 |
| JDCF-420            |                                      | 1600              | 1000              | 600        | 5795±50 | 6350±50 |
| JDCF-550            |                                      | 1600              | 1000              | 600        | 6395±50 | 7000±50 |

Remark: Approximate dimensions and weights for special requirements, please consult us.

# Station Service Voltage Transformer



Gas insulated Power PT: SGPVT



Oil immersed Power PT : SOPVT

**Product introduction:**

- Substation power supply: provide power supply for lighting and secondary relay protection equipment in substation switching station;
- Island power supply: electrification in remote areas;
- Mobile transformer: power supply during construction;

**Product features:**

- Low investment, easy installation, low operation and maintenance costs;
- Environment protection, and meet the IEC/IEEE standard in power system;
- No need for distribution network construction, simple and cheap system, short construction period and fast power supply;
- Single phase line to ground design is adopted, and the high-voltage end can be simply connected to the high-voltage overhead line to provide load.
- With the direct connection with the transmission line, the reliability of POWER PT is very high, and it does not depend on the distribution line that is more easily interrupted.

| Type                          | SOPVT & SGPVT |                                                                              |     |     |     |      |      |      |      |      |
|-------------------------------|---------------|------------------------------------------------------------------------------|-----|-----|-----|------|------|------|------|------|
| Voltage level                 | kV            | 72.5                                                                         | 126 | 145 | 170 | 245  | 252  | 300  | 363  | 550  |
| Power-frequency voltage       | kV            | 160                                                                          | 230 | 275 | 325 | 460  | 460  | 460  | 510  | 680  |
| Lightning impluse voltage     | kV            | 325                                                                          | 550 | 650 | 750 | 1050 | 1050 | 1050 | 1175 | 1550 |
| Switching impluse voltage     | kV            | --                                                                           | --  | --  | --  | --   | --   | 850  | 950  | 1175 |
| Output power                  | kVA           | 10, 25, 50, 100, 125, 150, 200, 250                                          |     |     |     |      |      |      |      |      |
| Rated output voltage          | V             | 220/380, 120/240                                                             |     |     |     |      |      |      |      |      |
| Rated voltage factor          |               | 1.5(30s)                                                                     |     |     |     |      |      |      |      |      |
| Rated frequency               | Hz            | 50/60                                                                        |     |     |     |      |      |      |      |      |
| Creepage distance             | mm/kV         | 25-31 (Other requirements can be customized)                                 |     |     |     |      |      |      |      |      |
| Product operation environment | ℃             | -50 ~ +50                                                                    |     |     |     |      |      |      |      |      |
| Insulation class              |               | E                                                                            |     |     |     |      |      |      |      |      |
| Measurement accuracy class    |               | 0.2/0.5/1.0/3.0 (Customized options)                                         |     |     |     |      |      |      |      |      |
| Protection accuracy class     |               | 3P/6P (Customized options)                                                   |     |     |     |      |      |      |      |      |
| Applicable standards          |               | IEC 61869, IEC 60076, IEEE C57.12 (Liquid insulation), IEEE 693, IEEE C57.13 |     |     |     |      |      |      |      |      |

Remark: Approximate dimensions and weights for special requirements, please consult us.



Combined instrument transformer



Combined instrument transformer

Product introduction:

The combined instrument transformer is used to separate the protection and measurement devices from the high voltage, and convert the current and voltage to be measured on the high voltage line into the power equipment with a certain accuracy of current and voltage signals suitable for the protection and measurement devices.

Product features:

- Small volume: the volume is basically the same as the current transformer of the same grade;
- Good anti ferromagnetic resonance performance: the voltage part adopts a new open T-type iron core to avoid ferromagnetic resonance;
- Excellent lightning impulse resistance and system over-voltage performance: the voltage primary coil is divided into multiple sections, which are connected in parallel with the capacitance screen inside the main insulation to increase the longitudinal capacitance of the primary winding and improve the product's ability to withstand lightning impulse over-voltage and system over-voltage;
- Low product temperature rise: the primary winding of the product is thin and high compared with the traditional structure, the total heat dissipation area is large, the product temperature rise is low, and the product performance is reliable;
- The product occupies a small area, reducing the investment in substations;

| Type                           | JLD   |                                                                        |      |     |     |     |      |      |      |      |
|--------------------------------|-------|------------------------------------------------------------------------|------|-----|-----|-----|------|------|------|------|
| Voltage level                  | kV    | 40.5                                                                   | 72.5 | 126 | 145 | 170 | 252  | 300  | 420  | 550  |
| Power-frequency voltage        | kV    | 95                                                                     | 160  | 230 | 275 | 325 | 460  | 460  | 630  | 750  |
| Lightning impluse voltage      | kV    | 200                                                                    | 325  | 550 | 650 | 750 | 1050 | 1050 | 1425 | 1675 |
| Switching impluse voltage      | kV    | --                                                                     | --   | --  | --  | --  | --   | 850  | 1050 | 1300 |
| Rated primary current          | A     | 0.5-4000A                                                              |      |     |     |     |      |      |      |      |
| Rated output voltage           | V     | 100/√3, 110/√3, 115/√3, Optional                                       |      |     |     |     |      |      |      |      |
| Rated voltage level and Burden | VA    | 0.2, 50/50VA(Ultimate burden)                                          |      |     |     |     |      |      |      |      |
| Rated volage factor            |       | 1.9 times(8h) /1.5 times(Continuous) /1.2 times(Continuous) , Optional |      |     |     |     |      |      |      |      |
| Rated frequency                | Hz    | 50/60                                                                  |      |     |     |     |      |      |      |      |
| Creepage distance              | mm/kV | 25-31 (Other requirements can be customized)                           |      |     |     |     |      |      |      |      |
| Product operation environment  | C     | -50~+40                                                                |      |     |     |     |      |      |      |      |
| Insulation class               |       | E                                                                      |      |     |     |     |      |      |      |      |
| Applicable standards           |       | IEC 61869, IEEE 693, IEEE C57.13                                       |      |     |     |     |      |      |      |      |

Remark: Approximate dimensions and weights for special requirements, please consult us.



GC For Live&Dead Tank Circuit Breaker

Porcelain Bushing &Composite Bushing

Rated voltage up to 280kV, meet the IEC/IEEE standard in power system.

Capacitor value is usually from 150 pF to maximum 30 nF, Special specifications by the client requierment to custom .

Temperature scope -55℃ to 75℃

Vibration and Mechanical shock up to 40G

Cantilever withstand strength up to 25kNm

Stable quality, Life up to 30 years

Grading Capacitor for AIS System

| Sieyuan Registration | Arcing Distance [mm] | Rated Voltage Maximum [kV] | Power Frequency Withstand Voltage Maximum [kV] | Lighting Impulse Voltage Maximum [kV] | Different Flange Diameters [mm] Maximum Capacitance[pF] |       |      |      |       | Different Flange Diameters [mm] Maximum mass [kg] |     |     |     |     |
|----------------------|----------------------|----------------------------|------------------------------------------------|---------------------------------------|---------------------------------------------------------|-------|------|------|-------|---------------------------------------------------|-----|-----|-----|-----|
|                      |                      |                            |                                                |                                       | 160                                                     | 200   | 210  | 230  | 255   | 160                                               | 200 | 210 | 230 | 255 |
| SJA-192              | 2130                 | 192                        | 550                                            | 1105                                  | ---                                                     | ---   | ---  | 2500 | ---   | ---                                               | --- | --- | 155 | --- |
| SJA-125              | 1200-1280            | 125                        | 265                                            | 630                                   | 4500                                                    | 12500 | 5000 | 6400 | 12000 | 25                                                | 40  | 75  | 90  | 120 |
| SJA-145              | 1400-1480            | 145                        | 316                                            | 750                                   | 3800                                                    | 10500 | 4000 | 5100 | 9500  | 28                                                | 44  | 78  | 107 | 125 |
| SJA-160              | 1472-1520            | 160                        | 350                                            | 800                                   | 3300                                                    | 9500  | ---  | ---  | ---   | 32                                                | 47  | --- | --- | --- |
| SJA-170              | 1600-1680            | 170                        | 375                                            | 860                                   | 3200                                                    | 9000  | 3200 | 4000 | 7400  | 37                                                | 50  | 110 | 135 | 155 |
| SJA-180              | 1750-1830            | 180                        | 435                                            | 950                                   | 3000                                                    | 8500  | 3100 | 5000 | 7500  | 35                                                | 55  | 100 | 130 | 152 |
| SJA-210              | 1952-2048            | 210                        | 520                                            | 1050                                  | 2300                                                    | 7900  | ---  | ---  | ---   | 48                                                | 60  | --- | --- | --- |
| SJA-250              | 2192-2240            | 250                        | 560                                            | 1200                                  | 2500                                                    | 6200  | ---  | ---  | ---   | 42                                                | 65  | --- | --- | --- |
| SJA-300              | 2000-2672            | 300                        | 600                                            | 1300                                  | 2500                                                    | 7000  | 2500 | 4000 | 6100  | 50                                                | 80  | 125 | 150 | 172 |
|                      |                      |                            |                                                |                                       |                                                         |       |      |      |       |                                                   |     | 137 | 196 | 205 |
|                      |                      |                            |                                                |                                       |                                                         |       |      |      |       |                                                   |     | 190 | 220 | --- |
|                      |                      |                            |                                                |                                       |                                                         |       |      |      |       |                                                   |     | 208 | 296 | --- |

Remark: Approximate dimensions and weights for special requirements, please consult us.

# Inductive Voltage Transformer for GIS



**Product introduction:**

The inductive voltage transformer is used for GIS, it is widely applied to the nominal system voltage is 66-1000kV, and 50/60Hz frequency in power system, for the secondary measurement apparatus, protection and control device provide voltage signal. The product has three-phase and single phase two kinds of structure, in order to facilitate the GIS customer substation site handover test, our company developed the isolated structure of the GIS VT product. When power frequency withstand voltage through the disconnecter directly to the VT and GIS isolation, and enhance the efficiency of acceptance test on site.

**Product features:**

- Gas optional: SF6 , Mixed gas or Clean air
- Epoxy pouring insulator(Spacer): Provided by GIS manufacturer or purchase from customer-specified suppliers.
- Gas charging valve: Provided by GIS manufacturer or purchase from customer-specified suppliers.
- Partial discharge sensor: According to customer demand selective installation.
- Operating box: The box of three phase products placed at the bottom and single phase products places at the side, can be achieved both manually and electrically operation ways.
- Open and close indication: Using the fish eye type indication, consistent with the GIS.

**Main Technical Parameters**

| Type        | Highest voltage (kV) | Rated voltage (kV) | Rated accuracy class and Rated output(VA)                                                                                                        | Insulation level (kV) | Weight (kg) |
|-------------|----------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|
| JDQXFH-66   | 72.5                 | 66/√3              | IEC: 0.2/0.5/3P/3P according to customer design<br>10/30/50/75/100/120/<br>150/200/300<br>IEEE:0.15Y/0.15MWXYZ/0.3MWXYZ/0.6M<br>WXYZ/0.6ZZ/1.2ZZ | 160/350/-             | 150         |
| JSQXFH-66   | 72.5                 | 66/√3              |                                                                                                                                                  | 160/350/-             | 500         |
| JDQXFH-69   | 72.5                 | 69/√3              |                                                                                                                                                  | 160/350/-             | 150         |
| JSQXFH-69   | 72.5                 | 69/√3              |                                                                                                                                                  | 160/350/-             | 500         |
| JDQXFH-110  | 126                  | 110/√3             |                                                                                                                                                  | 230/550/-             | 160         |
| JSQXFH-110  | 126                  | 110/√3             |                                                                                                                                                  | 230/550/-             | 550         |
| JDQXFH-145  | 145                  | 132/√3 or 138/√3   |                                                                                                                                                  | 275/650/-             | 160         |
| JSQXFH-145  | 145                  | 132/√3 or 138/√3   |                                                                                                                                                  | 275/650/-             | 550         |
| JDQXFH-154  | 170                  | 154/√3             |                                                                                                                                                  | 325/750/-             | 170         |
| JSQXFH-154  | 170                  | 154/√3             |                                                                                                                                                  | 325/750/-             | 560         |
| JDQXFH-220  | 245                  | 220/√3             |                                                                                                                                                  | 460/1050/-            | 350         |
| JSQXFH-220  | 245                  | 220/√3             |                                                                                                                                                  | 460/1050/-            | 800         |
| JDQXFH-230  | 245                  | 220/√3             |                                                                                                                                                  | 460/1050/-            | 350         |
| JSQXFH-230  | 245                  | 220/√3             |                                                                                                                                                  | 460/1050/-            | 350         |
| JDQXFH-275  | 300                  | 275/√3             |                                                                                                                                                  | 460/1050/850          | 600         |
| JDQXFH-363  | 363                  | 330/√3             |                                                                                                                                                  | 510/1175/950          | 700         |
| JDQXFH-400  | 420                  | 400/√3             |                                                                                                                                                  | 630/1425/1050         | 700         |
| JDQXFH-500  | 550                  | 500/√3             |                                                                                                                                                  | 740/1675/1300         | 800         |
| JDQXFH-765  | 800                  | 765/√3             |                                                                                                                                                  | 975/2100/1550         | 1500        |
| JDQXFH-1000 | 1100                 | 1000/√3            |                                                                                                                                                  | 1100/2400/1800        | 2600        |

Remark: The parameters in the table are typical engineering parameters, which can be customized according to different customer requirements.

# Resin & Oil

## Impregnated Paper Bushing



**RIP Product introduction:**

**Excellent electrical performance**

Impregnated paper, high insulation and heat resistance grade, to avoid long-term operation aging of insulating materials,  
Sing advanced winding and curing process, the partial discharge of the product is less than 3pc.  
5m winding machine is used for winding. Effectively improve the electric field distribution of external insulation under bad Working conditions.

**Excellent mechanical properties**

Double sealing structure, excellent water proof and leak proof performance.  
HighmechanicalstrengthandmeetstheseseismicrequirementsGrade8.  
Adopt high-strength materials to deal with metal fatigue under long-term operation.  
Stable and reliable  
No oil, no explosion and fire after bushing failure, high safety and reliability

**Excellent insulation performance, No maintenance required**

It can be used in harsh environment  
High altitude areas.  
Dirty area.  
Configuration selection  
Advanced on-line monitoring device to control the operation state of products.

## RIP GIS bushing

| Standard            | IEC 60137                                          |                                                      |     |     |     |           |      |      |      |
|---------------------|----------------------------------------------------|------------------------------------------------------|-----|-----|-----|-----------|------|------|------|
| Technical parameter | Highest voltage for equipment (kV)                 | 72.5                                                 | 126 | 145 | 170 | 252       | 363  | 420  | 550  |
|                     | Power frequency withstand voltage (kV)             | 140                                                  | 230 | 275 | 355 | 460       | 625  | 750  | 870  |
|                     | Lightning impulse full wave withstand voltage (kv) | 325                                                  | 550 | 650 | 750 | 1050      | 1175 | 1550 | 1800 |
|                     | Operating impulse withstand voltage (kV)           | -                                                    | -   | -   | -   | 850       | 950  | 1175 | 1300 |
|                     | Rated current (A)                                  | 2000-3150                                            |     |     |     | 3150-4000 |      |      |      |
|                     | Ambient temperature( C )                           | Minimum temperature:-45 C , maximum temperature:45 C |     |     |     |           |      |      |      |
|                     | Strength under shock (g)                           | 0.5/0.25                                             |     |     |     |           |      |      |      |

## RIP Oil-SF6 bushing

| Standard            | IEC 60137                                          |                                                      |          |          |          |          |          |          |  |
|---------------------|----------------------------------------------------|------------------------------------------------------|----------|----------|----------|----------|----------|----------|--|
| Technical parameter | Highest voltage for equipment (kV)                 | 72.5                                                 | 126      | 145      | 252      | 363      | 550      | 800      |  |
|                     | Power frequency withstand voltage (kV)             | 155                                                  | 255      | 305      | 505      | 625      | 870      | 1075     |  |
|                     | Lightning impulse full wave withstand voltage (kv) | 325                                                  | 550      | 650      | 1050     | 1175     | 1800     | 2400     |  |
|                     | Operating impulse withstand voltage (kV)           | -                                                    | -        | -        | 850      | 950      | 1300     | 1550     |  |
|                     | Rated current (A)                                  | 630-3150                                             | 630-3150 | 630-3150 | 630-3150 | 630-4000 | 630-4000 | 630-4000 |  |
|                     | Ambient temperature( C )                           | Minimum temperature:-45 C , maximum temperature:45 C |          |          |          |          |          |          |  |
|                     | Strength under shock (g)                           | 0.5/0.25                                             |          |          |          |          |          |          |  |

## RIP AC transformer bushing

| Standard            | IEC 60137                                          |                                                      |           |           |           |           |          |          |      |
|---------------------|----------------------------------------------------|------------------------------------------------------|-----------|-----------|-----------|-----------|----------|----------|------|
| Technical parameter | Highest voltage for equipment (kV)                 | 72.5                                                 | 126       | 145       | 170       | 252       | 363      | 550      | 800  |
|                     | Power frequency withstand voltage (kV)             | 155                                                  | 255       | 305       | 355       | 505       | 625      | 870      | 1075 |
|                     | Lightning impulse full wave withstand voltage (kv) | 325                                                  | 550       | 650       | 750       | 1050      | 1175     | 1800     | 2400 |
|                     | Operating impulse withstand voltage (kV)           | -                                                    | -         | -         | -         | 850       | 950      | 1300     | 1550 |
|                     | Rated current (A) (Threading type)                 | 630-1250                                             | 630-1250  | 630-1250  | 630-1250  | 630-1250  | -        | -        | -    |
|                     | Rated current (A) (Current carrying type)          | 1600-3150                                            | 1600-3150 | 1600-3150 | 1600-3150 | 1600-3150 | 630-3150 | 630-4000 | 2500 |
|                     | Ambient temperature( C )                           | Minimum temperature:-45 C , maximum temperature:45 C |           |           |           |           |          |          |      |
|                     | Strength under shock (g)                           | 0.5/0.25                                             |           |           |           |           |          |          |      |
|                     |                                                    |                                                      |           |           |           |           |          |          |      |

## OIP AC transformer bushing

| Standard            | IEC 60137                                          |                                                      |           |           |           |           |           |           |           |
|---------------------|----------------------------------------------------|------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Technical parameter | Highest voltage for equipment (kV)                 | 72.5                                                 | 126       | 145       | 170       | 252       | 363       | 420       | 550       |
|                     | Power frequency withstand voltage (kV)             | 155                                                  | 255       | 305       | 355       | 505       | 625       | 750       | 870       |
|                     | Lightning impulse full wave withstand voltage (kv) | 325                                                  | 550       | 650       | 750       | 1050      | 1175      | 1550      | 1800      |
|                     | Operating impulse withstand voltage (kV)           | -                                                    | -         | -         | -         | 850       | 950       | 1175      | 1300      |
|                     | Rated current (A) (Threading type)                 | 630-1250                                             | 630-1250  | 630-1250  | 630-1250  | 630-1250  | 630-1250  | 630-1250  | 630-1250  |
|                     | Rated current (A) (Current carrying type)          | 1600-3150                                            | 1600-3150 | 1600-3150 | 1600-3150 | 1600-3150 | 1600-3150 | 1600-3150 | 1600-4000 |
|                     | Ambient temperature( C )                           | Minimum temperature:-45 C , maximum temperature:45 C |           |           |           |           |           |           |           |
|                     | Strength under shock (g)                           | 0.5/0.25                                             |           |           |           |           |           |           |           |
|                     |                                                    |                                                      |           |           |           |           |           |           |           |

Remark: The parameters in the table are typical engineering parameters, which can be customized according to different customer requirements.