



EQUIPMENT CATALOGUE

Transformers & Accessories

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Transformers **03**

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Accessories **08**

Buchholz relay · Hermetic protection relay · Pressure relief valve · Oil level indicator · Oil thermometer · Dehydrating breather · Porcelain bushing · Cooling fan



Oil-Immersed Distribution Transformer

Corrugated-wall hermetic or conservator type

Power 25–5,000 kVA · **HV** up to 36 kV · **LV** from 400 V · **Cooling** ONAN · **Vector** Dyn5 / Dyn11 · **Oil** mineral (ester on request)

- Hermetic or conservator tank
- Off-circuit or on-load tap changer
- Corrosion protection C3–C5
- Low-loss CRGO core
- Aluminium or copper windings
- Compliant with IEC 60076



Pad-Mounted Distribution Transformer

Tamper-resistant outdoor cabinet, live- or dead-front

Power 45–25,000 kVA · **Primary** 2.4–36 kV · **Secondary** 208Y/120 V–14.4 kV · **3-ph** 50/60 Hz · **Oil** mineral / natural · **Rise** 65 °C · **Std** ANSI/IEEE C.57

- Live-front or dead-front
- Three-point latching door
- Pressure relief & oil gauge
- Loop or radial feed
- Integral fusing & switching
- Custom paint finishes



Pole-Mounted CSP Transformer

Completely self-protected, single- or three-phase, overhead

Power 15–167 kVA · **Voltage** up to 36 kV · **Protection** CSP (integrated) · **Std** IEEE C57.12.31

- Bay-O-Net + ELSP backup fuses
- Secondary circuit breaker
- Extra-creep HV bushings (150 kV BIL)
- Laser-engraved nameplate
- Internal lightning / surge arresters
- Internal pressure relief device
- Wet-process porcelain bushings
- Tank coating exceeds IEEE C57.12.31



Cast-Resin Dry-Type Transformer

Vacuum cast coil, maintenance-free, for indoor or polluted sites

Power 100 kVA–20 MVA · **HV** up to 36 kV · **LI** up to 170 kV · **Insulation** F / H ·
Std IEC 60076-11, EU 548/2014

- Moisture- and fire-resistant
- No maintenance required
- Operates to $-25\text{ }^{\circ}\text{C}$ / $>95\%$ RH
- Self-extinguishing, low emissions
- IP20–IP23 enclosure option
- Low core & winding losses



Power Transformer

Continuous-duty, primary substations and heavy industry

Power up to 50 MVA · **Voltage** up to 69 kV · **Cooling** ONAN/ONAF/OFAF · **Core**
CRGO or amorphous

- Hermetic or conservator + Buchholz
- Copper or aluminium disc windings
- Custom vector groups
- OLTC voltage regulation
- Reinforced short-circuit bracing
- Tailored to site conditions



Substation Transformer

Utility substations, renewables step-down, industrial hubs, metro and commercial sites

Power up to 25 MVA · **Voltage** up to 36 kV (config LV) · **Cooling**
ONAN/ONAF/KNAN · **Tank** sealed or conservator · **Vector** Dd0/Yyn0/Yd5 or
custom

- HV/LV switchgear integration (RMU, CBs)
- Anti-condensation heaters
- Standalone or kiosk-integrated
- Sealed or conservator tank
- Smart sensors / SCADA-ready
- Configurable LV winding



Solar Power Plant (SPP) Transformer

Steps up PV inverter output to MV for feeder or grid connection; built for outdoor PV plants and inverter-side duty

Power 250 kVA–10 MVA · **Cooling** ONAN/ONAF/KNAN · **Fluid** mineral or natural ester (FR3) · **Std** IEEE C57 · IEC 60076

- Electrostatic shield for inverter harmonics
- Split winding (central or string inverters)
- Natural ester (FR3) for eco-friendly sites
- Handles high-frequency & MPPT cycling
- Double secondary or custom config on request
- Local codes: RETIE, UL 1741-SA, etc.



Wind Turbine Transformer

Tower-base or pad-mounted; oil-immersed, or dry-type if nacelle-mounted

Power 100 kVA–10 MVA · **Primary** 690 V–1.1 kV · **Secondary** up to 36 kV

- Withstands vibration, tilt & acceleration
- Compact footprint & low noise
- Oil-immersed or dry-type option
- Continuous load variation (wind cycling)
- High thermal endurance
- IEC 60076 / 60034 & wind-industry compliant



BESS (Battery Energy Storage) Transformer

Bidirectional interface between battery storage and the MV grid

Power 250–5,000 kVA · **Cooling** ONAN/ONAF/KNAN · **Duty** bidirectional

- Charge / discharge cycling duty
- K-factor windings
- High thermal reserve
- Low impedance, harmonic-robust
- Electrostatic shield
- Step-up or isolation config



Power Grid Step-Down Distribution Transformer

Medium-voltage utility step-down to LV distribution; mainline grid duty

Power 25–3,150 kVA · **Primary** 400–36,000 V · **Secondary** 208Y/400–36,000 V
· **1-ph / 3-ph** 50/60 Hz · **Oil** mineral / natural · **Impedance** IEC 2.5%–10%

- Ambient –25 °C to +50 °C (std)
- Insulation Class A / F / H
- Mineral oil or natural ester
- Extended –45 °C to +55 °C (option)
- Altitude ≤ 1,000 m std (derated above)
- IEC compliant



Grounding (Earthing) Transformer

Provides a neutral point in delta-connected systems

Power 100–5,000 kVA · **Voltage** up to 36 kV · **Winding** zig-zag (ZnO) or wye-delta

- Enables ground-fault detection
- Optional grounding resistor / reactor
- Outdoor tank C3–C5
- Withstands 1–25 kA fault (short)
- Arc-suppression (Petersen) coil option
- IEC / IEEE compliant



Rectifier / Isolation Transformer

AC–DC conversion: electrolysis & plating, EV charging, industrial DC drives, traction (rail/metro), data centres & UPS

Configuration 6 / 12 / 24-pulse · **Insulation** F / H · **Cooling** ONAN/ONAF/water

- Phase-shifted harmonic cancelling
- K-rated for nonlinear loads
- Withstands ripple & DC bias
- Galvanic isolation
- Electrostatic inter-winding shield
- Custom vector groups

Full per-rating selection tables — losses, dimensions and weights — are available on request.



Buchholz Relay

Collects gas from internal arcs or discharges in conservator transformers; gives alarm and trip signals, plus a low-oil alarm.



Hermetic Protection Relay

For hermetically sealed transformers; detects over-pressure and over-temperature, with a sight reservoir and gas / oil sampling.



Pressure Relief Valve

Relieves internal over-pressure and reseals leak-tight; mounts in any position on the cover or wall.



Magnetic Oil Level Indicator

Magnetic gauge that follows the conservator oil level; gives alarm and trip signals on sudden changes.



Oil Thermometer

Pocket-mounted dial gauge tracking maximum oil temperature, with optional contacts for alarm and tripping.



Dehydrating Breather

Silica-gel breather that removes moisture and dust from conservator air, protecting dielectric strength.



Porcelain Oil Bushing

Non-condenser LV / MV bushing; a copper conductor in a porcelain shell, insulated by the shell and transformer oil.



Cooling Fans

Sturdy, weatherproof fans that circulate air over the radiators (ONAF) to speed cooling and lower the operating temperature.