



BESS TRANSFORMERS



SMART, SAFE, AND EFFICIENT SOLUTIONS FOR ENERGY STORAGE

The global energy transition is accelerating the adoption of Battery Energy Storage Systems (BESS). These systems store and release energy exactly when needed—by the market, the grid, or the user helping stabilize power networks, optimize energy costs, and ensure operational continuity.

Integrating BESS into electrical grids requires specialized equipment. Rymel has developed transformers specifically designed for BESS applications, engineered to operate under demanding conditions such as bidirectional inverter operation, high harmonic levels, rapid charge/discharge cycles, and dynamic power flows.

Built for Dynamic Operation:

- High harmonic content generated by inverters
- Transient overvoltages
- Stable charge/discharge operation with bidirectional power flow
- Continuous cycling with rapid thermal variations

Advantages of RYMEL Transformers for BESS

- Reinforced thermal design for cyclic operation and extended service life
- Harmonic withstand capability with K-factor rating
- Special insulation system resistant to transients up to 2400 V/ μ s
- Electrostatic shielding to filter dV/dt gradients and protect windings
- Bidirectional power flow design for both charging and discharging
- High tolerance to cyclic overloads, supported by advanced thermal materials
- Full galvanic shielding to minimize interference propagation
- High efficiency with low losses
- Low audible noise levels
- Fast energy discharge capability, ideal for BESS operation
- Dead-front terminals for enhanced safety
- Four-position switch (ON–OFF–A–B) enabling safe load switching

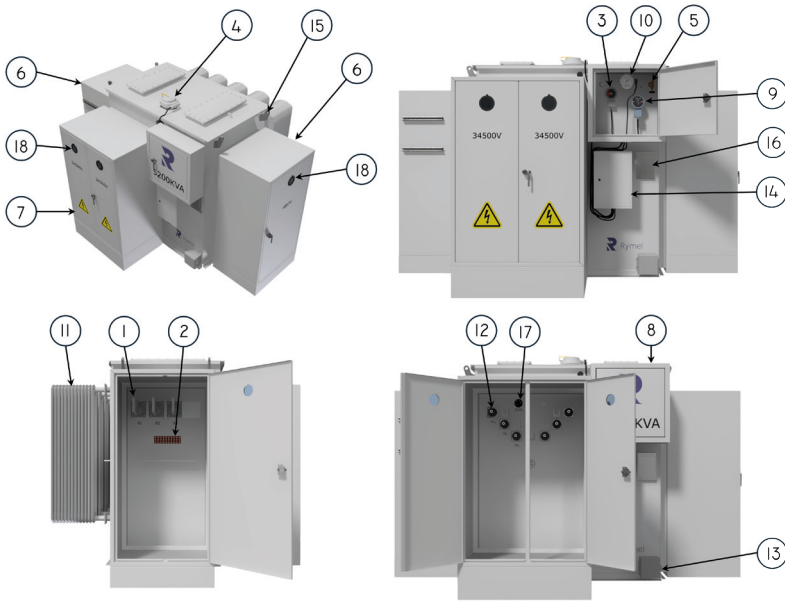


For further information, please contact a Rymel representative

rymel@rymel.com.co



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1. Lv bushing
2. Ground provision
3. Oil level
4. Pressure relief device (PRD)
5. Oil filling / drain
6. Lv cabinet
7. Hv cabinet
8. Accessory box
9. Thermometer
10. Pressure gauge
11. Radiator
12. Hv bushing
13. Liquid sampling box device
14. Control box
15. Lifting lug
16. Nameplate
17. Tap changer
18. Ir window

*Additional requested accessories can be integrated into the transformer.

TECHNICAL INFORMATION	
Power Ratings [kVA]:	500 to 5000
System voltage [kV]:	15, 36
Voltage HV [V]	13200 - 34500
Voltage LV [V]:	Up to 800 V
Number of Phases:	3
Operating Frequency Range [Hz]:	50 - 60
Vector Group:	DD, YY, DY
Mounting Type:	Outdoor
Standards:	IEEE
Winding Temperature Rise:	65 °C or 55 °C
BIL [kV]	Up to 200
K Factor	1 to 20
Insulation Class	120
Insulating Fluid	Mineral or Vegetable
Cooling	ONAN KNAN
Tap Changer	5 positions

Special Features:

- Load break switch
- Capability to operate with harmonics
- Electrostatic shield
- Dead-front bushings
- Low-voltage side cabinets for easy connection
- Electrostatic powder coating
- Designed for integration with BESS systems

