

35 kV class pad-mount and inverter step-up transformers

RG-B | Submittal-ready specification

Liquid-filled pad-mount transformers for 34.5 kV solar and battery storage collection systems, data centers distributing at 34.5 kV, and cooperatives at 24.9 kV. Dual low-voltage windings for central inverters and bidirectional ratings for BESS duty. Lead time 12 to 16 weeks after drawing approval.

Ratings and construction

Ratings	2,500 to 5,000 kVA. 3,200 and 4,480 kVA string-skid ratings.
Primary voltage	34,500 V delta or 34,500GrdY/19,920 V. 24,940GrdY/14,400 V for cooperatives. Taps plus or minus two 2.5 percent steps, de-energized.
Secondary voltage	600 to 800 V, single or dual windings for central inverters. 800 V for string-inverter skids. 480Y/277 V for station-service units.
Basic impulse level	150 kV high voltage standard, 200 kV option. 60 kV low voltage.
Impedance	5.75 percent plus or minus 7.5 percent two-winding. 7.5 percent three-winding. 8 percent on skid ratings. Other values to the interconnection study.
Cooling and fluid	ONAN with mineral oil or KNAN with FM Approved FR3 natural ester, rated to minus 40 C.
Temperature rise	65 C standard. 55 C option for 50 C maximum ambient.
Construction	Dead-front loop feed per IEEE C57.12.34. Five-legged core. Electrostatic shield between windings standard. Type 3R enclosure on skid units. Bayonet plus current-limiting fuses. Under-oil surge arresters. Altitude 3,300 ft standard.
BESS duty	Bidirectional rating with cycling thermal design and low-loss core steel. 600 A load-break oil-rotary switch. Gauges with alarm contacts. Kirk-key interlock provisions. Viewing and infrared windows.
Harmonic rating	K-4 to K-13 for inverter spectra; K-19 available. Harmonic spectrum of the power conversion system reviewed at order.
Auxiliary power	Station-service winding or separate unit, 5 to 40 kVA at 120/240 or 480 V.
Lead time	12 to 16 weeks after drawing approval. Production slot confirmed at order.

Standards and testing

IEEE C57.12.00, IEEE C57.12.90, IEEE C57.12.34, IEEE C57.159 (transformers for photovoltaic applications), IEEE C57.110 (non-sinusoidal load currents). Model data supplied for IEEE 2800 interconnection studies. Efficiency per US Department of Energy 10 CFR 431 where the rating is covered. Routine tests on every unit per C57.12.90 with certified reports; design tests and witnessed factory acceptance tests on request.

Options

200 kV BIL. 55 C rise. Three-winding dual low-voltage. Bidirectional BESS rating. Stainless cabinet. FR3 natural ester. Station-service winding. Gauges with alarm contacts. Skid base with lifting provisions. Cold-weather package.

Ordering information

To quote, send the primary and secondary voltages, kVA rating, quantity, impedance if specified, fluid, enclosure material, accessories, the site location, and the date units are needed on site. Submittal drawings are returned within 10 business days of order. Quotes are delivered duty paid (DDP) to the site. Request a quote at riogridpower.com/quote or contact@riogridpower.com.

Ratings and dimensions are confirmed on the submittal drawings for each order. Specifications may be revised without notice; the drawing package governs.