

# TECHNICAL SPECIFICATIONS FOR PAD-MOUNTED DISTRIBUTION TRANSFORMERS



Power Partners pad-mounted distribution transformers are designed per applicable ANSI, IEEE, NEMA and Department of Energy standards and are built to allow safe and reliable operation in underground electrical distribution networks. Our transformers are designed to be installed in radial or loop feed distribution systems and can be configured to meet specified switching and protective requirements.

## Ratings

- Single phase 25 kVA and 50 kVA
- Primary voltages 25 kV, 125 kV BIL and below
- Secondary voltages 480/240 Volts, 30 kV BIL and below
- 65°C temperature rise above ambient
- Operating frequency 60 Hertz

## Standard Features

- Penta head locking bolt
- Tamper proof hinged door
- Parking stand for load break primary connector
- HV bushing wells for dead front elbow connectors
- Powder paint color - Green Munsell 7GY 3.29/1.5
- Upper filter press connection and drain valve
- Mineral oil filled (Cooling type ONAN)
- Low voltage stud type bushings
- Pressure relief valve
- Provisions for lifting
- Crowned tank
- Removable sill

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## Optional Features

- No-load tap changer or series-multiple ratings
- 304L stainless steel or combination stainless/mild steel construction
- Bayonet fuse with isolation link or partial range under oil current limiting fuse
- Secondary breaker and coordinated internal primary fuse
- Type I or Type II cable terminating compartment design
- Automatic pressure relief device
- High voltage load break switch
- FR3 fluid (Cooling type KNAN)
- Custom stencils and decals
- Under oil surge arrester

## Industry Standards

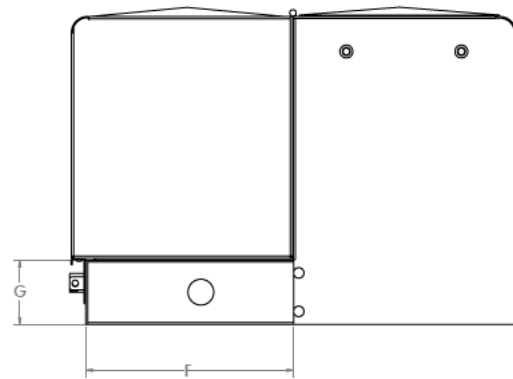
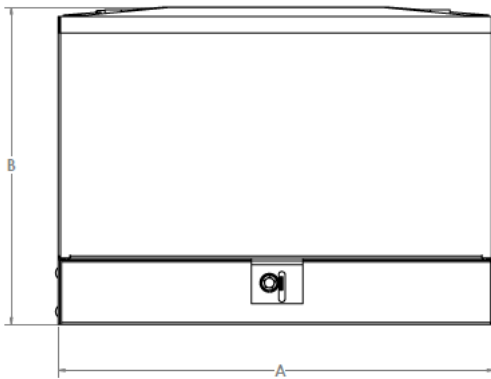
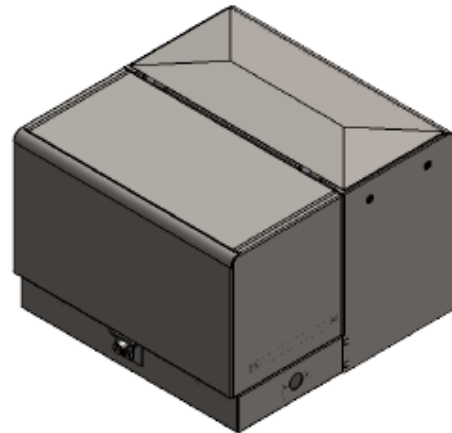
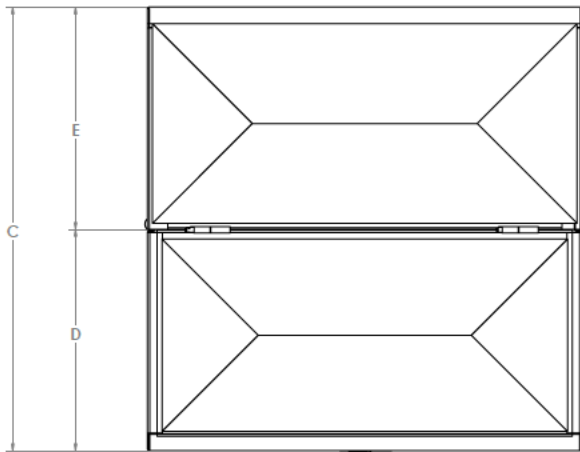
The design, manufacture and testing of our single-phase pad-mounted distribution transformers strictly comply with the latest revisions of applicable ANSI, IEEE, NEMA and Department of Energy standards.

C57.12.00	IEEE standard for standard general requirements for liquid-immersed distribution, power, and regulating transformers
C57.12.38	IEEE standard for pad-mounted type, self-cooled, single-phase distribution transformers 250 kVA and smaller: High voltage, 34500GrdY/19920V and below; Low voltage, 480/240V and below
C57.12.28	IEEE standard for pad-mounted equipment - Enclosure integrity
C57.12.90	IEEE standard test code for liquid-immersed distribution, power, and regulating transformers
C57.91	IEEE guide for loading mineral oil immersed transformers
NEMA TR 1	Transformers, step voltage regulators and reactors
10 CFR Part 431	Department of Energy - Energy Conservation Program: Energy conservation standards for distribution transformers; Final rule

## Typical Dimensions

kVA	A	B	C	D	E	F	G	Weight	Oil
25	33.9	24.5	34.6	17.2	17.3	16.1	5.0	595	39
50	33.9	24.5	34.6	17.2	17.3	16.1	5.0	750	43

Dimensions shown are in inches, weights in pounds and oil quantities in gallons.



## Paint

Per the requirements of IEEE C57.12.28, all pad-mounted distribution transformers are finished in Munsell Number 7GY 3.29/1.5 high-gloss or 7GY 3.29/1.5 SG semi-gloss pad-mount green. Our compliance with the above performance standard has been certified by an independent test facility.

# Testing

The Power Partners commitment to manufacture quality pad-mounted distribution transformers is backed by a series of transformer tests used to verify conformance to performance characteristics outlined in the latest revisions of ANSI C57.12.00, ANSI C57.12.90 and ANSI C57.12.29.

Factory tests are performed on a transformer to confirm that it is properly designed and constructed to carry rated load and that it will withstand the conditions it will be exposed to in service.

Each pad-mounted transformer manufactured by Power Partners must undergo a series of routine tests.

1. Polarity and phase-relation tests on the rated voltage connection
2. Turns ratio on the rated voltage connection and on all tap connections
3. Full wave impulse (for the high voltage winding only)
4. Applied voltage test of the HV winding (for radial feed designs only)
5. Applied voltage test of the LV winding
6. Induced overvoltage test
7. No-load loss and excitation current at 100% of rated voltage and at rated power frequency on the rated voltage tap connection
8. Resistance measurements of all windings on the rated voltage tap
9. Load loss and impedance voltage at rated current and rated frequency on the rated voltage connection
10. Tank leak test
11. Wire probe test

Some tests are performed at the option of the customer.

1. Audible sound level
2. Temperature rise

Test equipment is calibrated on a scheduled basis by trained technicians. Calibration records are maintained in accordance with the quality system procedures. These are audited annually by a third party in accordance to ISO.