



# Dry-Type Transformers

## Up to 31.5MVA

for best-cost customization, availability and operating efficiency



All PDM low voltage and medium voltage dry-type transformers are designed, manufactured, and tested thoroughly in compliance with the highest standards in the industry including NEMA, ANSI C.57, DoE, and IEEE as applied. Transformers are customizable with many optional features including resin cast core or amorphous core, aluminum or copper windings, and multiple temperature rise designs.

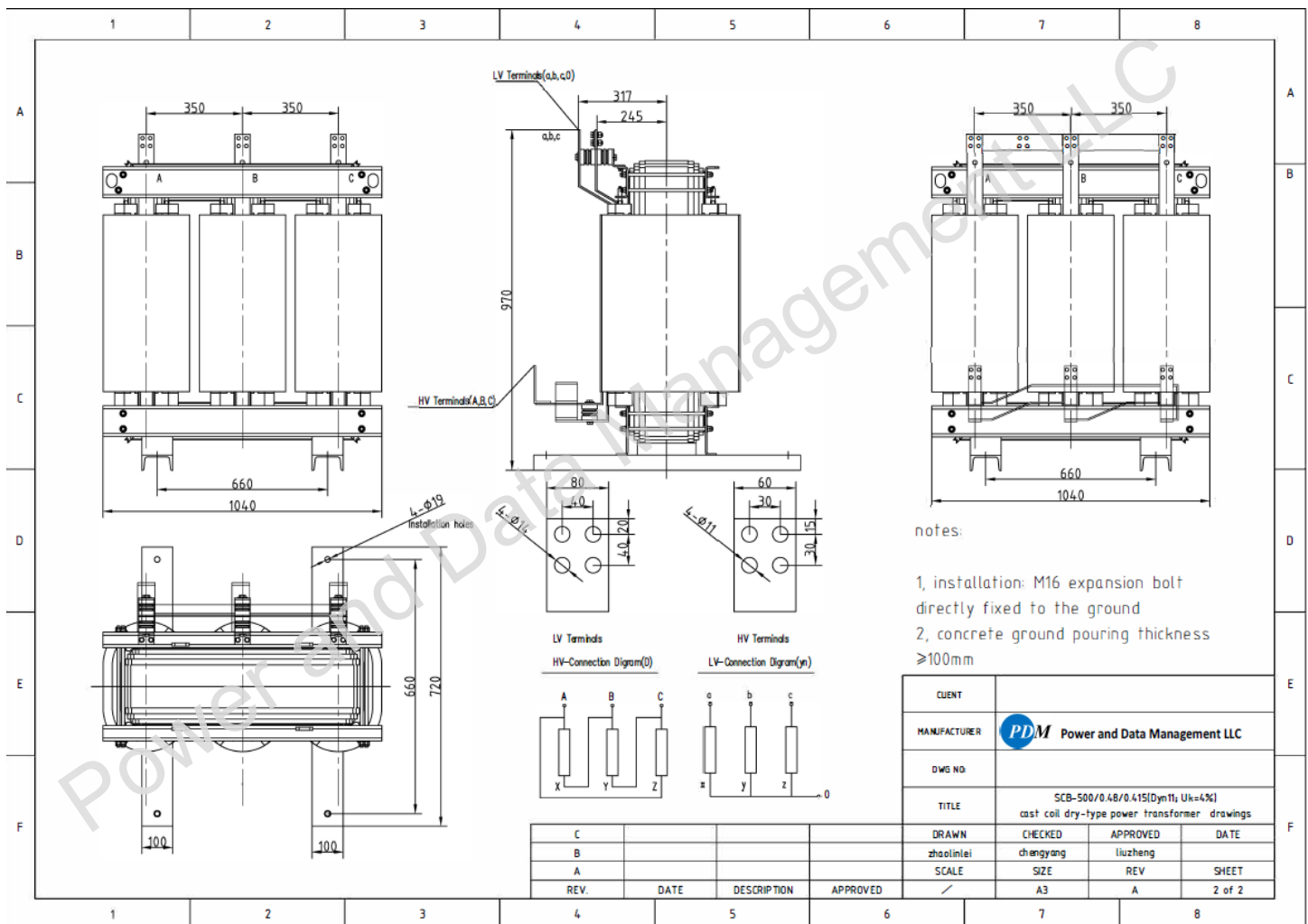
All new PDM dry-type transformers are constructed of the highest quality materials and built to heavy duty industrial standards, making them ideal for commercial and industrial applications such as data centers, solar step-up, manufacturing facilities, shopping centers, etc. The dry type cast resin transformer shall be suitable for usage under expected climate conditions. Passing the C2 E2 F1 class tests, they are self-extinguishing and will not produce toxic gases in the event of fire. Our dry-type transformers can be customized for both step-up and step-down power distribution, energy storage, and general purpose, and the sealed cast resin insulates the windings and core providing added protection from fire, moisture, or leakage. **All products are CE<sup>®</sup> and UL<sup>®</sup> listed.**

# Technical specifications: Single and Three Phase Dry-Type Transformers

## Available Ratings

<b>Size (kVA)</b>	30, 50, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000, 20000, 25000
<b>Frequency</b>	60 Hz or 50 Hz
<b>Winding &amp; Core Options</b>	Copper or Aluminum (Std): in Cast Resin Core (Standard), VPI Core, Amorphous Core
<b>Temperature Rise</b>	80°C, 100°C, 125°C (Standard). All are C2 E2 F1 Class
<b>Primary Voltages by Class</b>	<i>Available in Δ or Y configuration</i>
<b>600V</b>	208, 240, 416, 480, 600
<b>2.5kV – 5kV – 10kV</b>	2400, 4160, 4800, 6000, 6300, 6600, 10000, 10500, 11000
<b>15kV</b>	12000, 12470, 13200, 13800, 14400
<b>25kV</b>	20780, 21600, 22900, 24940, 26400
<b>35kV</b>	33000, 34500, 38500

## Sample Transformer Design (500kVA, Primary Voltage: 480V, Secondary: 415/240VAC)



## Standard Features:

1. Self-cooled, Cast Resin Core (AA)
2. Aluminum Windings
3. Voltage Adjustment Taps
4. Short-circuit Impedance: 4%
5. 125°C Temperature Rise
6. NEMA 3R indoor/outdoor enclosure
7. High-grade silicon steel core
8. Stainless Steel hardware
9. Stub-up/down bus
10. PDM Nameplate
11. Removable neutral ground strap
12. Lifting lugs
13. NEMA safety labels
14. The paint finish process applies a durable, corrosion resistant finish to the product. The finish meets or exceeds all the performance requirements of ANSI C57.12.28. The multi-step process includes an epoxy primer uniformly applied by cathode electrodeposition and a urethane top coat.

## Optional Features:

- Vacuum Pressure Impregnated (VPI) core windings
- Rectifier with dual secondary
- Amorphous core
- Copper windings
- Short-circuit Impedance: 6% (630kVA – 2500kVA), 8% (1600kVA – 5000kVA)
- 80°C or 110°C degree rise
- Forced air-cooling system
- Solar step-up design
- Electrostatic shielding
- K-rated design to withstand >300°C ambient environment
- Double or Triple-thick varnish for extra corrosion protection
- Grounding/zig-zag design
- Transition section/terminal chambers
- Temperature control system
- Primary load-interrupter switch

## NEMA Enclosures

Enclosures for dry-type transformers are fabricated in stainless steel or aluminum alloy, and all provide protection from touch by hands. The minimal protection grade of IP20 where the enclosure can prevent solid foreign objects with diameter of more than 12 millimeters from entering the enclosure, protecting the transformer for safe operation suitable for indoor applications. In addition to protecting from objects greater than 12mm, the IP23 rated NEMA 3R enclosures can protect from condensation, as it prevents water spray less than 60 degrees from vertical from entering the enclosure, making it suitable for outdoor operation as it protects against falling rain, sleet, snow, and external ice formation.



### Temperature Control System

The Temperature Control System is composed of the controller and PTC thermocouple element placed in the Low Voltage winding at the hottest point. It enables control and temperature measurement of the transformer. If the operation fails at overload, or if the transformer winding temperature is too high, the controller will send an alarm signal. When the temperature exceeds the safety threshold it will trip operation. Forced air cooling via external fans can be managed by the controller through direct inputs according to the winding temperature. Direct indication of the “hot spot” temperature is displayed during operation of the transformer. The controller can be mounted inside the transformer control cabinet (optional), or managed remotely through RS-485 cable connections up to 65 feet without an electrical signal boosting conductor.



**All products are covered by PDM’s Limited Warranty for five (5) years. Extended warranties are available.**

Lead times are ***eight to nine (8-9) weeks***, depending on options and customizations selected. Large volume orders may be produced all at once and shipped in batches of multiples of transformers per batch, depending on the size and weight constraints of standard ISO shipping containers.