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MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1

500 KVA Submersible Distribution Transformer, Vault Mount, 3PH 12000 V Delta Primary, 216Y/125 Wye-N Secondary, FR3 Oil, Copper, KNAN, Tap Changer - NEMA 6

Product ID: 321655

Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Image: MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1 Submersible Vault Distribution Transformer

Transformer Type: Submersible Vault Distribution Transformer
Transformer Configuration: Underground Vault Installation, Suitable for Temporary Submersion
Transformer Feed Type: Radial Feed
Operation: Step-Down Operation (Not Approved for Step-Up)
Phase: Three Phase
Capacity: 500 KVA
Vector Group: Dyn1
Primary Voltage: 12000 V
Primary Voltage Switch: N/A
Primary Voltage Class: 15 kV Class
Primary Phasor: Delta
Primary BIL: 95 kV
Secondary Voltage: 216Y/125 V

Secondary Voltage Class: 1.2 kV Class

Secondary Phasor: Wye-N
Secondary BIL: 30 KV
Frequency: 60 Hz
Temperature Rise: 55/65°C

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings

Meets/Exceeds CSA Efficiency Ratings

Complies with ANSI / IEEE #C57.12.00
Complies with ANSI / IEEE #C57.12.24
Complies with ANSI / IEEE #C57.12.31
Complies with ANSI / IEEE #C57.12.32
Complies with ANSI / IEEE C57.12.70
Complies with ANSI / IEEE C57.12.80
Complies with ASTM D3487
Non-PCB Insulating Fluid
Lifting Lugs Included

Efficiency: 99.10%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.
No Load Loss (in watts): +/- 700W
Full Load Loss (in watts): +/- 5,000W

Insulation Rating: Class E Insulation - 120°C, 248°F
Cooling Class: KNAN; Self-Cooled
Forced Air (Fans): None
Tap Changer: 5-position Tap Changer
Tap Qty: (2) FCBN Below Taps, (2) FCBN Below Taps
Tap %: 2.5%
Tap Changer Switch Rating: 300-Amp, 15 kV
Tap Changer Switch Location: High Voltage (HV) [Left Side] Front Compartment
Impedance (Typical): 5.0%
Primary Connection Type: Dead Front
Primary Termination Arrangement: Inline Terminal Arrangement
Primary Termination: 200 ampere load break bushing well inserts in all bushing wells, Elastimold catalog # 1601A4. Bushing inserts are covered with dust caps prior to shipment. Dust caps are UV light resistant and watertight
Primary Switch Chamber: Included, Filled with FR-3 Oil, 60" Height from the floor
Primary Connection Qty: (3) Primary Connections for use w/ Elbow Connectors
Primary Parking Stand Qty: (3) Welded Brackets for Installing Accessory Parking Stand Bushings
Primary Bushing Rating: 15 kV Class, 95 kV BIL, 200A
Primary Neutral Connection: N/A
Primary Surge Arrestors: N/A
Primary Surge Arrestor Voltage Rating: N/A
Primary Surge Arrestor MCOV Rating: N/A
Primary Overcurrent Protection (OCP): N/A
Primary Overcurrent Protection Method: N/A
Primary Overcurrent Protection Holder: N/A
Primary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in HV Cabinet
Secondary Connection Type: Live Front
Secondary Termination Arrangement: Inline Terminal Arrangement
Secondary Connections: NEMA Spade Terminals, 12-Hole Spade, Externally Clamped, Accepts up to (12) Double Lug connections with (6) cables per side of Spade connector, suitable for connecting to a network protector
Secondary Connection Qty: (4) Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs
Secondary Connection Supports: N/A
Secondary Overcurrent Protection (OCP): N/A
Secondary Neutral Connection: Secondary X0 Neutral Grounded to Tank via 1/2"-13 UNC Tapped Hole, 7/16" Deep Bung & Copper Ground Strap
Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in LV Cabinet
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel: N/A
Load Break Switch: Fluid immersed, Gang operated, Three pole, 3-position switch, Quality Switch Type QS-GBN switch Model 4L0201503ST3-NQ1
Load Break Switch Qty: (1)
Load Break Switch Rating: 200A- 15 kV
Load Break Switch Location: HV Side
Grounding Pads: (2) Unpainted, copper-faced-steel or stainless steel pads, 2 inches x 3 ½ inches at the opposite sides of the tank wall at six inches above floor level
Efficiency Standard(s): Meets DOE 2016 Standards, Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: Envirotemp FR-3, Non-PCB Fluid
Fluid (Oil) Capacity*: N/A
Fluid (Oil) Weight*: N/A
Liquid Level Gauge: Included, readable while standing on vault floor, equipped with one

Total Load Loss (in watts): +/- 5,700

Total Losses at 55°C LL Temp. & 20°C NL Temp.
Total Load Loss (in watts) at 50%: +/- 1,889W
Note: *Losses offered are typical only, not guaranteed*

Factory Tests:
Winding Resistance Test
Insulation Resistance Test
Voltage Ratio Error Test
Short-circuit Impedance Test
No-load Loss (Wattage) Test
Load Loss (Wattage) Test
Separate Source Voltage Withstand Test
Induced Voltage Withstand Test
Pressure Integrity Test

Shipping:
Shipped on pallet on open flatbed
Palletized on Wooden Pallet w/ Skid Pockets
Pallet Skid Facing Outward Sides of Truck
Note: *Crated shipping in lieu of palletizing can be done upon request for an additional fee*

SPDT contact, rated 10 amps at 250 volts to remotely monitor low level. Qualitrol 035 series (CS-47418)
Temperature Indicator: Included, readable while standing on vault floor, equipped with two SPDT contacts, rated 10 amps at 250 volts to remotely monitor high temperature. Qualitrol 16 series (CS-47417)
Pressure/Vacuum Indicator: N/A
Pressure Relief Valve: N/A
Fault Indicator: N/A
Gas Sampler Valve: N/A
Fill Valve: 1" NPT Port w/ Removable Bolt Plug
Fill Valve Location: Top Lid
Drain Valve: 1" NPT Port w/ Removable Bolt Plug
Drain Valve Location: Top Lid
Air Test Provision: Included
Winding Material: Copper
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -40°C to +40°C (-50°F to +104°F)
Sound Level: 56 dBA
Elevation (Altitude): 3300ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: Coated Steel
Cabinet Material: Coated Steel
Base Platform Material: Coated Steel
Portability: Lifting Lugs, Provisions for Jacking Under Base, w/ Base Construction Suitable for Using Rollers or Skidding
Housing Type: Sealed Tank for Vault Installations
Enclosure Rating: NEMA 6
Seismic Rating: Yes
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: ANSI 70 Light Grey
Mounting: Floor Mount
Tank Cover Handhole: Included, with a bolted-on cover, secured by 1/2" minimum diameter bolts
Lifting Lugs: Included
Dimensions*: 69.00"-W x 43.00"-L x 53.00"-H
Dry Weight*: 2,580 Lbs
Total Weight (Liquid Filled)*: 4,190 Lbs
*Please note that numbers are approximate and subject to change

Special Orders - Special Requirements
Contact us for special requirements
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The MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1 from Larson Electronics is a Submersible Vault Distribution Transformer that offers powerful, reliable, and efficient power distribution in outdoor and public locations. The low operating costs, low heat emissions, and low cost of ownership make this transformer ideal for a wide range of applications and businesses. This submersible vault power distribution system is designed for underground installation in concrete vaults where flooding may happen and the transformer may be temporarily submerged.

PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS*

Transformer Features: With a transformer rating of 500 kVA, this submersible industrial transformer features a primary voltage of 12000 V Delta and a secondary voltage of three-phase 216Y/125 Wye-N. This transformer connects to a three-phase electrical grid system to provide three-phase low voltage power for indoor distribution. This transformer features high-voltage, three bushings on the primary side and four bushings on the secondary side.

Equipped with copper windings and a grain oriented steel core, this submersible distribution transformer consists of one coil and two core loops. Tin plated terminals on the primary and secondary sides accept copper or aluminum connections.

The MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1 is air cooled and does not have fans or mounting provisions for fans. This unit features a 55/65°C temperature rise for reduced heat waste, increased reliability and longer life. The submersible design makes this unit suitable for use in concrete vaults where flooding may occur or in other areas where the transformer may be temporarily submerged such as underground.

Insulation Fluid: The MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1 features FR-3 insulating fluid. Internal marking is available for proper oil level monitoring. We offer transformers with mineral oil fluid, if needed.

Gauges: There are no gauges on this transformer. We can add liquid level, temperature, and pressure/vacuum gauges at an additional cost. Standard liquid level, temperature, and pressure/vacuum gauges are analog, manual reading types.

Pressure Relief Device: A relief device is not included with this transformer.

Rapid Rise Relay: There are no rapid rise relays on the unit. This safety component is designed for protection when a rapid increase in tank pressure occurs. The relay is suitable for detecting sudden pressure fluctuations above predetermined safe limits.

Surge arresters: This system is equipped with high voltage elbow surge arresters.

Valves: The MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1 is equipped with fill and drain valves. The transformer can be filled by removing the top lid. A drain port w/ bolt plug is equipped.

Protection Fuses: This transformer does not contain fuses or circuit breakers. For units without protection fuses, upstream protection is provided. We recommend provisions for protection fuses when possible, as blown fuses may require more frequent oil changes.

Mount: The heavy-duty enclosure makes the unit suitable for underground applications such as concrete vaults where flooding may occur. This submersible vault distribution transformer can be floor mounted.

Benefits: The MT-PMUT-R7-3P-DMT-500KVA-YRZ-CC-A6-CF-CZ-1ZZ-M1 heavy-duty transformer offers many benefits to consumers. This transformer provides owners with significant energy savings, as well as offering environmental benefits. Higher efficiency not only extends the life of the transformer, but also turns into cost savings for owners in the form of lower energy bills and decreased cost of ownership.

Applications: Underground installation applications, such as concrete vaults, where the transformer may be temporarily submerged due to flooding.

Larson Electronics is a manufacturer and as such can build stationary and portable transformer systems to your specifications. Although we carry several models of power distribution transformer systems, we can deliver custom ordered units almost as quickly as our

prebuilt units. If this model does not meet your needs, please contact us at 1-800-369-6671 or sales@larsonelectronics.com to discuss your specific requirements.

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Frequently Asked Questions (FAQ)

There are no Faqs

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- **HigResPic2**(https://www.larsonelectronics.com/images/product/HigResPic2/321655.JPG)
- **Video1**(https://www.youtube.com/watch?v=GPRqYY_mJNI)
- **Video2**(https://www.youtube.com/watch?v=oZDa7R7XEZ0)
- **ISO 9001 Certification**(http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF)
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