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MT-PMUT-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-M1

250 KVA Submersible Distribution Transformer, Vault Mount, 13800Y/7970 Grounded Wye Primary, 480Y/277V Grounded Wye Secondary, Copper, 316L S.S, KNAN/FR-3, Light Grey

Product ID: 311935



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-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-M1 Submersible Vault Distribution Transformer

Transformer Type: Submersible Vault Distribution Transformer
Transformer Configuration: Underground Vault Installation, Suitable for Temporary Submersion
Transformer Polarity Type: Subtractive
Phase: Single Phase Grounded Wye
Capacity: 250 KVA
Duty: Continuous
Primary Voltage: 13800GrdY/7970
Primary Voltage Switch: N/A
Primary Voltage Class: 15 kV Class
Primary Phasor: Grounded Wye
Primary BIL: 95 kV
Secondary Voltage: 277/480V Grounded Wye
Secondary Voltage Class: 1.2 kV Class
Secondary Phasor: Three Phase Grounded Wye
Secondary BIL: 30 KV
Overload Capabilities: In accordance with ANSI/IEEE C57.91
Short Circuit Capability: In accordance with ANSI Standard C57.12.00
Frequency: 60 Hz
Temperature Rise: 55°C
Insulation Rating: Class E Insulation - 120°C, 248°F
Forced Air (Fans): None
Cooling Class: KNAN; Self-Cooled
Tap Changer: N/A
Tap Qty: N/A
Tap %: N/A

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings
Complies with ANSI / IEEE #C57.12.00
Complies with ANSI / IEEE #C57.12.23
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 ANSI / IEEE C57.12.90
Complies with ANSI / IEEE C57.19.00
Complies with ANSI / IEEE C57.19.01
Complies with ANSI / IEEE C57.91.00
Complies with ANSI / IEEE C57.105
Complies with ANSI / IEEE 386
Complies with Code of Federal Regulations, Title 10 Chapter II DOE – Part 431 Subpart K
Complies with ASTM D3487
Non-PCB Insulating Fluid
Lifting Lugs Included

Tap Changer Switch Location: N/A
Impedance: 2.0-6.0% Typical

Primary Connection Type: Load Break Bushing

Primary Bushing Rating: 15kV Class, 95kV BIL, 200A, Load Break, IEEE 386 Color Red, Bushing Wells shall be welded to dead front. 10,000 amperes rms, symmetrical short time rating, Shall conform to ANSI Standards
Primary Termination: The high voltage bushings H1A and H1B shall include 200A, 15kV bushing wells and inserts for use with load-break elbow connectors with up to 4/0 AWG copper conductor cables rated 200A loop feed. The bushings shall be externally clamped, externally removable and be supplied with removable stud. Parking stands shall be provided for each phase.
The high voltage separable connectors shall be operable by hot line tools. Bushing well shall be welded to the tank cover. Bushing well studs shall be field replaceable.
Primary Connection Qty: (2) Primary Connections for Use w/ Elbow Connectors.
Primary Neutral Connection: The H2 end of the high voltage winding shall be connected to the tank. internally. This connection shall be independent of all other electrical connections.
Primary Surge Arrestors: N/A
Primary Surge Arrestor Voltage Rating: N/A
Primary Surge Arrestor MCOV Rating: N/A
Primary Over Current Protection (OCP): (2) Oil immersed Bayonet Expulsion Fuse, 65A, 8kV located on the top of the transformer. One per phase in series with a Current-Limiting Fuse. Include 2 spare bayonet fuse.
Primary Over Current Protection Method: Fused, Oil-Immersed, Draw-out, De-energized, hot stick operated
Primary Over Current Protection Holder: Bayonet Fuse Holder w/ External Drip Shield
Primary Over Current Protection Rating: 7.97 kV, 65 A
Secondary Connection Type: Live Bushing Lug
Secondary Connection Arrangement: Low voltage cable leads shall be provided and arranged for vertical takeoff and shall extend 14 inches above the top of the cover. Two (2) cables shall be utilized per terminal.
Secondary Connections: Terminal connections shall accommodate Aluminum or Copper conductors. The connections between the low voltage bushings and the cables shall be fully insulated and sealed to prevent entrance of moisture into the cable.
Secondary Connection Qty: (2) per phase
Secondary Neutral Connection: The X2 end of the secondary winding shall be securely grounded internally to the tank, adequate connection shall be made between the tank and hand hole cover when provided.
Grounding Provisions: Stainless steel or a non-corrosive metal, a minimum of two on the side of the tank (180º apart). The grounding connection shall be a clamp-type for #8 solid - #2 stranded conductor shall be located on the top of the tank, centered between the high voltage terminals.
*All terminals shall be so designed that there will be no undue stressing of any bushings because of temperature changes and adequate means shall be provided to accommodate conductor expansion. Terminal markings shall be in accordance with ANSI C57.12.70.
Load Break Switch: 2-Position Load Break Switch, one per phase, (2) internal oil-immersed-feed/load-break sectionalizing switches. Load break switch shall be on the load side of the incoming primary bushing (one switch per bushing), and on the line side of the primary fuse and transformer winding. Load break switches shall be mounted internally under oil and operated externally by two (2) handles (one for each switch), mounted on the cover of the tank. Load-break switches shall be designed for operation with standard insulated hook-stick.
Load Break Switch Qty: (2)
Load Break Switch Rating: 200 A Cont./Interrupting Current Rating, 15 kV Class (17.2 kV maximum), 16 kA Momentary Current, 10 kA Close-And-Latch Rating, 95 kV BIL
Load Break Switch Location: On top of the transformer
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: Enviro-temp FR-3 type less flammable fluid
Fluid Capacity*: TBD
Fluid Weight*: TBD
Liquid Level Indicator: Analog Dial Type
Temperature Indicator: N/A
Pressure/Vacuum Indicator: N/A
Pressure Relief Device: Included, Automatic Action, Diaphragm Type, Replaceable, Designed to re-seal after operating
Fault Indicator: N/A
Oil Level Marking: Internal
Fill Valve: N/A (Tank Filled via Removable Lid)
Drain Valve: 1/2" NPT Port w/ Removable Bolt
Winding Material: Copper

Efficiency: 99.20%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.

No Load Loss (in watts): +/- 683W
Full Load Loss (in watts): +/- 2,763W
Total Load Loss (in watts): +/- 3,445W

Note: Losses offered are typical only, not guaranteed

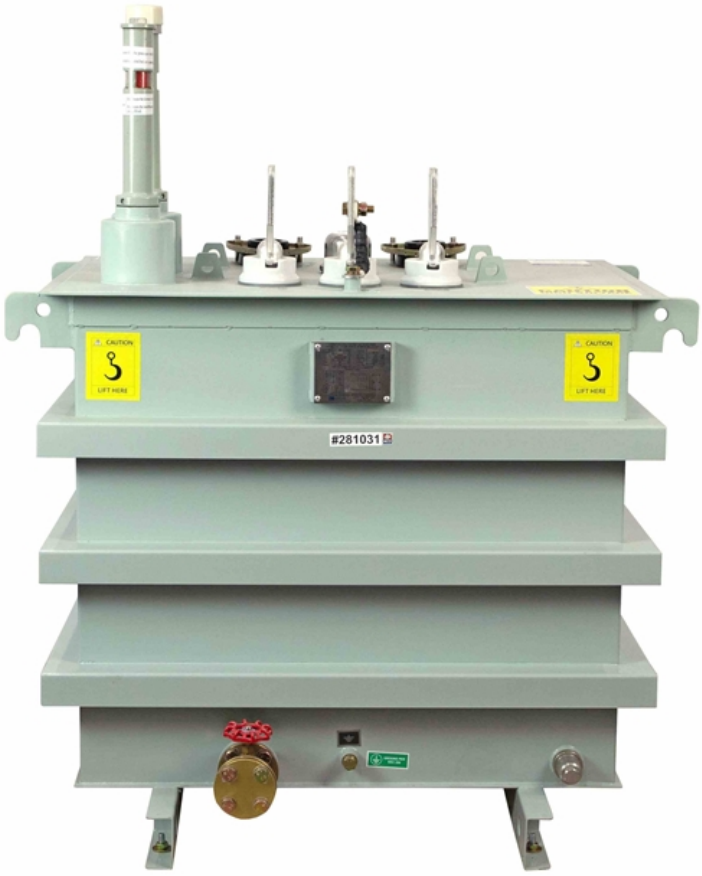
Service Condition: Outdoor
Ambient Temperature Rating: 40°C
Sound Level: 55 dBA
Elevation Level: N/A
Core Material: Highest quality, non-aging, cold-rolled, grain-oriented, stress free, thin silicon steel laminations. The core shall be rigidly clamped and blocked to prevent deteriorating vibration, interference with oil circulation, objectionable noise conditions and short circuit and shipment distortions. The core shall be securely grounded to the tank.
Housing Type: The transformer tank shall be conventional, round, vertical tank formed from Type 316L stainless steel, and be welded to form a leak proof (hermetically sealed) system. The cover shall be of the same stainless steel, and welded to the tank, for continuous submersible operation. Lifting lugs and hanger brackets shall be welded to the tank. All items shall be protected from moisture and corrosion. All exterior bolts and nuts shall be brass or stainless steel.
Tank Material: 316L Stainless Steel, Sealed Tank
Housing Material: 316L Stainless Steel Steel w/ Corrosion Resistant Cover Band, Welded Top Cover
Hardware Material: 316L Stainless Steel
Nameplate Material: 316L Stainless Steel
Paint Type: The exterior surface shall be protected by a 2-coat, 3 mil thickness, corrosion resistant, water-based, acrylic primer, and finish coat of paint.
*Operation - the transformer including its terminations shall be capable of continuous unattended operation while continuously submerged under a head of 10 ft of water. This water may include road salt.
Finish Color: ANSI 70 Light Grey, all tank finishing shall comply with IEEE C57.12.23, Section 7.1 and 7.6
Mounting: Floor Mount
Lifting Lugs: Included
Dimensions*: TBD
Overall Tank Height: 52.00" (not exceed 52")
Tank Diameter: 32.00" OD overall (not exceed 32")
*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-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-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 makes 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 250 kVA, this submersible industrial transformer features a primary voltage of 13800Y/7970 Grounded Wye and a secondary voltage of three-phase 277V (L-N) Grounded Wye. This transformer connects to a three phase electrical grid system to provide single phase low voltage power for indoor distribution. This submersible transformer features porcelain high-voltage, dual load break bushings on the primary side and three 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 side accepts copper or aluminum connections.
The MT-PMUT-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-M1 is air cooled and does not have fans or but has a radiator and mounting provision for fans. This unit features a 55°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-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-M1 features FR-3 insulation fluid. Internal marking is available for proper oil level monitoring. We offer transformers with biodegradable fluid, if needed.
Gauges: There is a liquid level gauge. We can add temperature, and pressure/vacuum gauges at an additional cost. Standard liquid level gauge is

analog, manual reading type.
Pressure Relief Device: An automatic pressure relief device is 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 doesn't contain surge arrestors.
Valves: The MT-PMUT-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-M1 is not equipped with fill or drain valves. The transformer can be filled via removing the top lid. A drain port w/ bolt plug is equipped.
Protection Fuses: This transformer contains Bayonet fuses. For units without protection fuses, up stream 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-R7-1P-GMP-250KVA-SM-HT-LT-Z6-AF-CC-1C3-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)