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MT-PML-R4-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1

3 MVA Pad Mount Transformer - 600Y/347 Grounded Wye Primary, 25000Y/14430 Grounded Wye Secondary - KNAN - FR-3 - Aluminum - ANSI 70 Gray

Product ID: 313351



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-PML-R7-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1 Pad Mount Transformer

Transformer Type: Pad Mounted, Compartmental-Type
Transformer Configuration: Liquid Filled Pad Mounted
Transformer Feed Type: Loop Feed
Operation: Step-Up Operation
Phase: Three Phase
Capacity: 3 MVA (3000 KVA)
Vector Group: YnYn0
Primary Voltage: 600Y/347
Primary Voltage Switch: N/A
Primary Voltage Class: 1.2 kV Class
Primary Phasor: Grounded Wye
Primary BIL: 30 kV
Secondary Voltage: 25000Y/14430
Secondary Voltage Class: 25 kV Class
Secondary Phasor: Grounded Wye
Secondary BIL: 125 kV
Frequency: 60 Hz
Temperature Rise: 65°C
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) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.5%
Tap Changer Switch Rating: 200-Amp, 25 kV
Tap Changer Switch Location: High Voltage (HV) Front Compartment
Impedance (Typical): 5.75-7.5% Typical

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings
Meets/Exceeds CSA Efficiency Ratings
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57 12.28
Complies with ANSI / IEEE C57 12.29
Complies with ANSI / IEEE C57 12.34
Complies with ANSI / IEEE C57 12.35
Complies with ANSI / IEEE C57.12.70
Complies with ANSI / IEEE C57.12.110
Complies with ANSI / IEEE C57.12.131
Complies with ANSI / IEEE C62.11
Complies with ANSI / IEEE C62.22
Complies with ANSI / IEEE 386
Complies with ANSI / IEEE C2
Complies with ANSI / IEEE C37.47
Complies with ANSI Z535.4
Complies with ASTM D3487
Complies with ASTM D6871
Complies with NEMA 260-1996
Complies with 10 CFR Part 431
Complies with CSA C2.1-06
Complies with CSA C50
Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C88-16
Complies with CSA C227.4
Complies with CSA C227.5

Primary Connection Type: Live Front
Primary Termination Arrangement: Staggered Terminal Arrangement
Primary Termination: NEMA Spade Terminals, 4-Hole Spade, Externally Clamped, Accepts up to (4) Double Lug connections with (2) cables per side of Spade connector
Primary Connection Qty: (4) Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs
Primary Parking Stand Qty: N/A
Primary Bushing Rating: 1.2kV Class, 30kV BIL, 4514A
Primary Neutral Connection: H0 Neutral with insulation and Grounded to Tank via 1/2”-13 UNC Tapped Hole, 7/16” Deep Bung & Copper Removable Ground Strap
Primary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in Primary Cabinet

Secondary Connection Type: Dead Front

Secondary Termination Arrangement: V Terminal Arrangement
Secondary Connections: Externally Clamped Integral Bushings w/ Removable Studs, 200A Dead Break Elbows
Secondary Connection Qty: (6) Primary Connections for use w/ Elbow Connectors
Secondary Parking Stand Qty: (6) Welded Brackets for Installing Accessory Parking Stand Bushings
Secondary Bushing Rating: 25 kV Class, 125 kV BIL, 200A, Load Break, IEEE 386 Color Maroo
Secondary Neutral Connection: Secondary X0 Neutral Internally Bonded to Tank, with ground straps
Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in LV Cabinet

Secondary Surge Arrestors: (3) High Voltage Elbow Surge Arrestors, Included

Secondary Surge Arrestor Voltage Rating: 18 kV Class Elbow Arrestor

Secondary Surge Arrestor MCOV Rating: 15.3 kVrms

Secondary Over Current Protection (OCP): Bayonet Expulsion Fuse (140A) in series w/ Partial-Range Current-Limiting Fuse (315A)

Secondary Over Current Protection Method: Fused, Oil-Immersed

Secondary Over Current Protection Holder: Bayonet Fuse Holder w/ Flapper Valve and External Drip Shield

Metering Current Transformer (CT): N/A

Metering Panel: N/A
Auxiliary Control Panel : All gauge's alarm contacts are to be wired to terminals in the low voltage compartment
Load Break Switch: 2-Position Load Break Switch, Hot Stick Operable

Load Break Switch Qty: (3)

Load Break Switch Rating: 300-Amp, 25 kV
Load Break Switch Location: High Voltage (HV) Front Compartment
Efficiency Standard(s): Meets DOE 2016 Standards, Meets CSA Standards Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: FR-3 Oil Insulating Fluid - Non-PCB Fluid
Fluid (Oil) Capacity*: 330 Gallons
Fluid (Oil) Weight*: 2,545 lb
Liquid Level Indicator: Analog Dial Gauge w/ contacts
Temperature Indicator: Analog Dial Gauge w/ contacts
Pressure/Vacuum Indicator: Analog Dial Gauge w/ contacts
Pressure Relief Device: Included, Automatic Action
Fault Indicator: N/A
Gas Sampler Valve: Included, Schrader Valve
Fill Valve: 1" NPT Port w/ Removable Bolt Plug
Fill Valve Location: Front Compartment
Drain Valve: 1" NPT Port w/ 5/8" NPT Sampler Valve
Drain Valve Location: Front Compartment
Winding Material: Aluminum with static shield externally grounded in LV cabinet

Ambient Temperature Rating: 40°C

Ambient Operating Temperature Range: -20°C to +40°C (-50°F to +104°F)

Sound Level: 63 dBA

Elevation (Altitude): 3300ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: Coated Steel

Complies with CSA C802-3
Complies with CSA C802.1

Features

Pentahead Bolt Entry Assembly
High-Fire Point Insulating Fluid

Non-PCB Insulating Fluid

Tamper Proof Housing

Hinged Front Compartment Doors, Pad Lockable
NEMA 3R Wiring Compartment

Hot Stick Included, HV Door Mount

Efficiency %: 98.00%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.

No Load Loss (in watts): +/- 5,985W

Full Load Loss (in watts) at 100%: +/- 24,402W
Total Load Loss (in watts) at 100%: +/- 30,387W

Total Losses at 55°C LL Temp.& 20°C NL Temp.
Total Load Loss (in watts) at 50%: +/- 12,090W

Note: Losses offered are typical only, not guaranteed

Labeling:

Externally Stencilled (Painted) KVA Rating
Externally Stencilled (Painted) Voltage Rating
External Non-PCB Label
External Warning & Danger Label

External Barcode Label

Internal Busing & Accessory Labeling
Stainless Steel Riveted Nameplate

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
Induced Voltage Withstand Test
Separate Source Voltage Withstand Test
Pressure Integrity Test 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

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: Compartmental Air-Filled Cabinet w/ Locking Doors, Primary Compartment Left, Secondary Compartment Right, Steel Barrier Separation, Primary Door Spring-Loaded Release Pin in Secondary Compartment
Enclosure Rating: NEMA 3R Weatherproof Wiring Cabinet, Sealed Tank
Seismic Rating: Yes
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: ANSI 70 Gray
Mounting: Pad Mounted
Conduit Opening: Bottom Feed Underground Entry/Exit
HV Compartment Base Wireway Dimensions*: 21"-7 x 7"-D
LV Compartment Base Wireway Dimensions*: 26"-W x 7"-D
MV/LV Compartment Cabinet Depth*: 24"-D
Tank Cover Access Handhole: N/A
Dimensions*: 90"-W x 80"-D x 83"-H
Dry Weight (w/o Oil)*: 5,810 lb
Total Weight (Liquid Filled)*: 12,576 lb
*Please note that numbers are approximate and subject to change

Special Orders - Special Requirements
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The MT-PML-R4-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1 from Larson Electronics is an Industrial Pad Mount Transformer that offers powerful, reliable, and efficient power distribution in indoor, 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. An enclosed design caters to installations on concrete pads without protective fencing.

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

Transformer Features: With a transformer rating of 3000 KVA (3 MVA), the industrial transformer features a dual rated primary voltage of three-phase 600Y/347 grounded Wye and a secondary voltage of three-phase 25000Y/14430 V Wye. The unit has a primary loop feed for single installations and dead-front primary connections. This transformer features a 5-position tap changer with two, +/- 2.5% taps above and two, +/- 2.5% taps below to allow small changes for voltage.

Aluminum transformer winding material helps improve performance, reduce weight and lower cost. Compared to copper, aluminum windings have lower eddy losses due to higher resistivity. This transformer consists of rectangular coil and five-legged wound core design with three coils and four core loops (this is for three-phase transformers only; single-phase units have one coil and two core loops).

The MT-PML-R4-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1 is air cooled and does not have fans or mounting provision for fans.

Enclosure Design: This pad mounted transformer is a compartmental design. The tank and housing are fabricated from steel. The front electrical enclosure carries a NEMA 3R rating. The high voltage and low voltage compartments are located in front of the transformer tank, with the high voltage compartment on the left side and low voltage compartment on the right side. The HV and LV compartments are air filled and separated by a full length steel barrier between the compartments. A removable steel plate at the base of the HV and LV compartments prevents rodents and other intrusions from entering the enclosure once installed. This steel plate allows for underground conduit entry into the enclosure compartments. Two hinged exterior doors allows for access into the compartments. A single pad lockable handle on the low voltage compartment door allows for securing the transformer. A spring loaded pin within the low voltage compartment prevents the high voltage door from being opened without pulling the safety pin. A hot stick is included in the high voltage compartment, mounted to the HV door.

Temperature Rise: This unit features 65°C temperature rise for reduced heat waste, increased reliability and longer life. At 65°C temperature rise, the

transformer offers 3000 KVA (3 MVA). The transformer meets standard efficiency requirements. The combination of low temperature rise and high efficiency makes this unit suitable for use in electrical rooms, air conditioned spaces in buildings, underground vaults and similar locations, in addition to outdoor areas.
Insulation Fluid: The MT-PML-R4-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1 features FR-3 cooling fluid (KNAN) with a capacity of 350 gallons. We offer transformers with mineral oil fluid, if needed.
Biodegradable Fluid: Biodegradable cooling fluid (vegetable oil) has a higher heat capacity compared to mineral oil, making the liquid safer to use and more reliable during operations. Vegetable oil has a higher flash point and fire point than mineral oil, hydrocarbon oil, silicone oil and synthetic ester. This cooling fluid is also non-toxic and can tolerate higher breakdown voltages than mineral oil. When operating at high temperatures, biodegradable cooling liquid sustains up to 120% loan conditions, which helps preserve the transformer's lifespan and performance.
Gauges: The following gauges are included with the system: liquid level, temperature and pressure/vacuum gauges. Standard liquid level, temperature and pressure/vacuum gauges are analog, manual reading types. These gauges do not have auxiliary contacts.
Fault Pressure Devices: This transformer features an automatic action fault pressure device. Fault pressure devices are used to detect high rates of pressure rise within the tank.
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 comes with high elbow surge arresters on the primary side. Designed for over-voltage and transient voltage protection, the components prevent damage caused by lightning, internal switching or voltage surges. We can offer models without high elbow surge arresters that have mounting provisions for customer-provided surge arresters.
Valves: The MT-PML-R4-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.
Protection Fuses: This transformer does not contain protection 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 both indoor and outdoor applications. This power distribution system can be pad mounted on concrete pads.
Benefits: The MT-PML-R4-3P-GC-3MVA-GVD-LT-DF-A6-BF-AZ-2B6-M1 pad mount 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: General purposes, industrial sites, electrical rooms, underground vaults, manufacturing facilities, steel plants, offshore, commercial, military, processing plants, electric power distribution, utilities, public locations, and more. 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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