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MT-PML-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1

1.5 MVA Pad Mount Transformer - 12000V & 4160V Delta Primary, 480/277V Secondary - Biodegradable Fluid / KNAN

Product ID: 310597

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



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-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1 Pad Mount Transformer

Transformer Type: Pad Mounted, Compartmental-Type II
Transformer Configuration: Liquid Filled Pad Mounted
Transformer Feed Type: Loop Feed
Polarity: Additive
Phase: Single Phase (Connects to 3-Phase electrical grid)
Capacity: 1.5 MVA (1500 KVA)
Vector Group: II6
Primary Voltage: 12000V & 4160V
Primary Voltage Switch: N/A
Primary Voltage Class: 15 kV Class
Primary Phasor: Delta
Primary BIL: 95 KV
Secondary Voltage: 480/277V (L-N-L)
Secondary Voltage Class: 1.2 kV Class
Secondary Phasor: Dual Winding Single Phase
Secondary BIL: 30 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, Hot Stick Operable
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.50%

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings
Meets/Exceeds CSA Efficiency Ratings
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57.12.21
Complies with ANSI / IEEE C57.12.25
Complies with ANSI / IEEE C57 12.28
Complies with ANSI / IEEE C57 12.29
Complies with ANSI / IEEE C57 12.35
Complies with ANSI / IEEE C57 12.38
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

Tap Changer Switch Rating: 200-Amp, 15 kV
Tap Changer Switch Location: Front Compartment, High Voltage (HV) Left Side
Impedance: 5.0-7.5% Typical
Primary Connection Type: Dead Front
Primary Termination Arrangement: ANSI Type II Arrangement
Primary Termination: Externally Clamped Well Bushings w/ Removable Studs, 600A Load Break Elbows w/ Inserts. Size for 4/0 AWG Cable.
Primary Connection Qty: (2) Primary Connections for use w/ Elbow Connectors
Primary Parking Stand Qty: (1) Welded Bracket for Installing Accessory Parking Stand Bushings
Primary Bushing Rating: 15 kV Class, 95 kV BIL, 600A, Load Break, IEEE 386 Color Red
Primary Surge Arrestors: (1) High Voltage Elbow Surge Arrestors, Included
Primary Surge Arrestor Voltage Rating: 18 kV Class
Primary Surge Arrestor MCOV Rating: 15.3 kVrms
Primary Over Current Protection (OCP): Bayonet Expulsion Fuse in series w/ Partial-Range Current-Limiting Fuse
Primary Over Current Protection Method: Fused, Oil-Immersed
Primary Over Current Protection Holder: Bayonet Fuse Holder w/ Flapper Valve and External Drip Shield
Primary Neutral Connection: Primary H2 Neutral Internally Bonded to Tank
Primary Grounding Provisions: (1) Welded Ground Bung, 1/2”-13 UNC Tapped Hole, 7/16” Deep Bung, w/ Grounding Terminal Clamp for 2/0-8 AWG Stranded Wire
Secondary Connection Type: Live Font
Secondary Termination Arrangement: ANSI Type II Arrangement
Secondary Connections: NEMA Spade Terminals, 6-Hole Spade, Accepts up to (6) Single Lug connections with (3) cables per side of Spade connector
Secondary Over Current Protection (OCP): N/A
Secondary Connections: NEMA Spade Terminals, 6-Hole Spade, Externally Clamped, Accepts up to (6) Single Lug connections with (3) cables per side of Spade connector
Secondary Connection Qty: (3) Externally Clamped One-Piece Epoxy Bushings w/ 5/8"-11 x 1-1/2" Long Copper Threaded Studs
Secondary Neutral Connection: Secondary X2 Neutral Grounded to Tank via 1/2”-13 UNC Tapped Hole, 7/16” Deep Bung & Copper Ground Strap
Secondary Grounding Provisions: (1) Welded Ground Bung, 1/2”-13 UNC Tapped Hole, 7/16” Deep Bung, w/ Grounding Terminal Clamp for 2/0-8 AWG Stranded Wire
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel : N/A
Load Break Switch: 4-Postion LBOR, Hot Stick Operable
Load Break Switch Qty: 1
Load Break Switch Rating: 200-Amp, 15 kV
Load Break Switch Location: 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: Biodegradable Natural Vegetable Oil Ester Insulating Fluid - Non-PCB Fluid
Fluid (Oil) Capacity*: - Gallons
Fluid (Oil) Weight*: - Lbs
Liquid Level Indicator: Analog Gauge
Temperature Indicator: Analog Gauge
Pressure/Vacuum Indicator: Analog Gauge
Pressure Relief Device: Automatic Action, Cracking Pressure @ 10 PSIG, Releasing Pressure @ 8 PSIG, Flow @ 15 PSIG (50 SCFM) @ 14.7 PSGI
Fault Indicator: N/A
Gas Sampler Valve: N/A
Fill Valve: 1/2" NPT w/ Removable Bolt Plug
Fill Valve Location: Front Compartment
Drain Valve: 1/2" NPT w/ Removable Bolt Plug, w/o Sampler Valve
Drain Valve Location: Front Compartment
Winding Material: Copper
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -40°C to +40°C (-50°F to +104°F)
Sound Level: 60 dBA
Elevation (Altitude): 3300ft (1000 meters) Above Sea Level or Below
Core Material: Grain Oriented Steel
Tank Material: Coated Steel

Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C88-16
Complies with CSA C227.3
Complies with CSA C802.1
Complies with CSA C802.2
Complies with CSA C802.3

Features

Pentahead Bolt Entry Assembly
High-Fire Point Insulating Fluid
Non-PCB Insulating Fluid
Tamper Proof Housing
NEMA 3R Wiring Compartment
Lift-Up Pad lockable Lid

Efficiency: 99.40%

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

Load Losses Based on 85°C Reference Temp.

No Load Loss (in watts)*: +/- 2,270W

Load Loss (in watts)*: +/- 9,145W

Total Load Loss (in watts)*: +/- 11,414W

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: For low quantity purchases, enclosed truck can be requested
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
Housing Type: Low Profile Air-Filled Cabinet w/ Locking Hinged Door, HV/LV in Same Compartment ,Tamper Resistant, w/ Pad-lockable Lift-up Lid
Enclosure Rating: NEMA 3R Weatherproof Wiring Cabinet, Sealed Tank
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: Munsell™ 7.0 GY 3.29/1.5 Bell Green
Mounting: Pad Mount
Conduit Opening: Bottom Feed Underground Entry/Exit
Compartment Base Wireway Dimensions*: 55"-L x 21"-D
Compartment Cabinet Depth: 19"-D
Dimensions*: -
Dry Weight (w/o Oil)*: - Lbs
Total Weight (Liquid Filled)*: - Lbs
*Please note that numbers are approximate and subject to change

Special Orders - Requirements
Contact us for special requirements
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The MT-PML-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1 Industrial Pad Mount Transformer from Larson Electronics 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 1.5 MVA (1500 kVA), the industrial transformer features a primary voltage of single-phase 12000V & 4160V Delta and a secondary voltage of single-phase 480/277V (L-N-L). The unit has a primary loop feed and dead-front primary connections. We also offer systems with loop feed and dead front primary/live front secondary connections. This transformer features a 5-position tap changer with (2) +/- 2.5% taps above and (2) +/- 2.5% taps below to allow small changes for voltage. This pad mount transformer features primary well bushings and standard spade connectors on the secondary side. Equipped with copper windings, this transformer consists of one coil and two core loops.

The MT-PML-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1 is air cooled and does not have fans or mounting provision for fans. This unit features a 60°C temperature rise for reduced heat waste, increased reliability and longer life. The transformer meets DOE 2016 efficiency standards. 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-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1 features biodegradable cooling fluid (KNAN). We offer transformers with FR-3 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% load 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.
Load Breaker Switch: The MT-PML-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1 is equipped with a load break switch. This switch has four positions: A side on + transformer on, B side on + transformer on, A and B sides + transformer on, and A and B sides + transformer off.
Valves: The MT-PML-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-M1 is equipped with a fill valve and drain valve with sampler port.
Protection Fuses: This transformer contains bayonet protection fuses on the primary side. 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-R7-1P-DMT.NF-1.5MVA-SE-LT-DF-A6-BB-CZ-2B4-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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Frequently Asked Questions (FAQ)

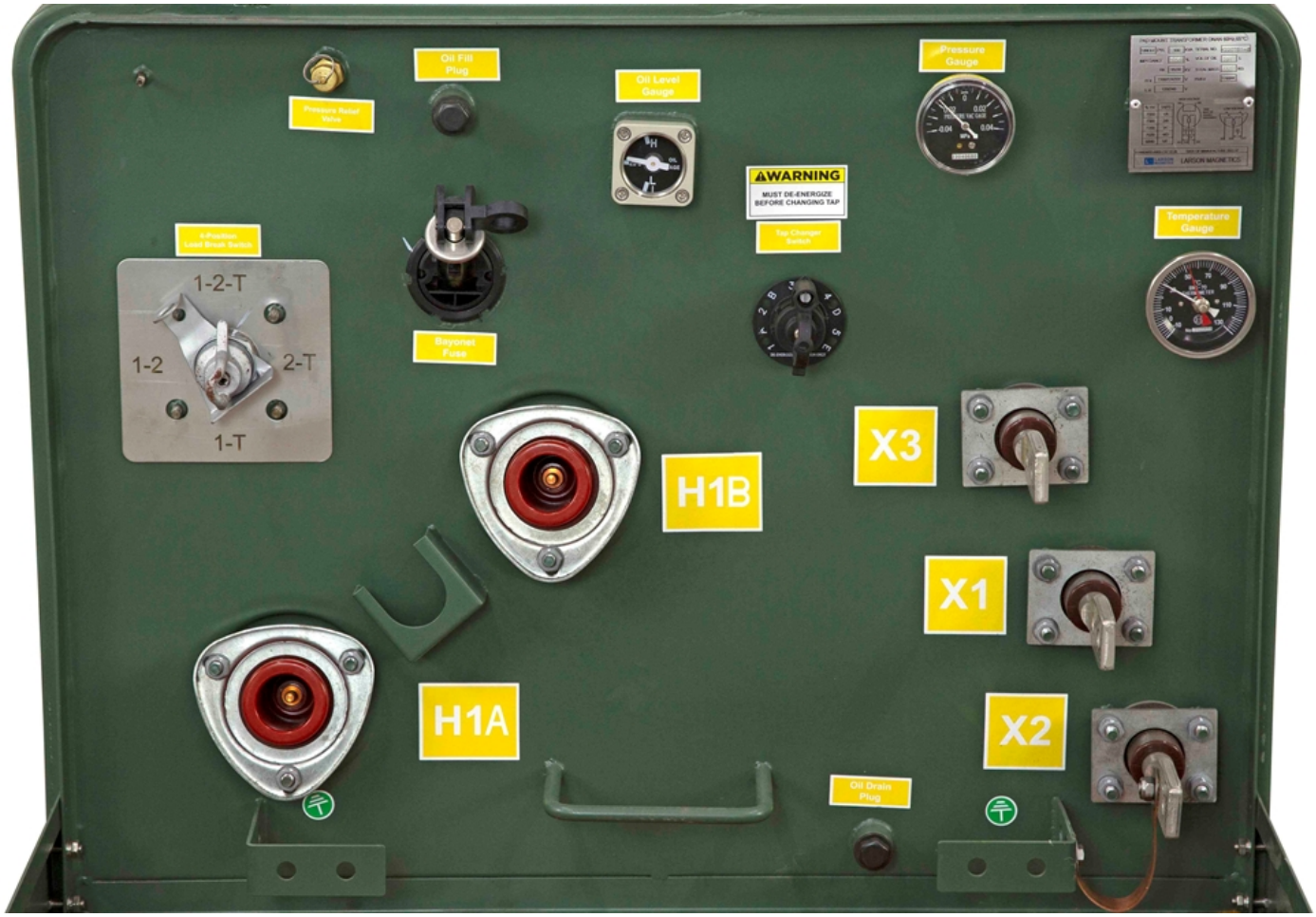
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