Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.498.3364

MT-PML-R4-3P-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-M1

3.75 MVA Pad Mount Transformer - 480Y/277 Wye-N Primary, 4160Y/2400 Grounded Wye Secondary - KNAN/Bell Green

Product ID: 306480

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-R4-3P-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-M1
Pad Mount Transformer

Transformer Type: Pad Mounted, Compartmental-Type

Transformer Configuration: Liquid Filled Pad Mounted

Transformer Feed Type: Loop Feed

Phase: Three Phase
Capacity: 3.75 MVA (3750 kVA)
Primary Voltage: 480Y/277 Wye-N
Primary Voltage Class: 1.2 KV
Primary BIL: 30 kV
Secondary Voltage: 4160Y/2400
Secondary Voltage Class: 5 KV
Secondary BIL: 60 kV
Frequency: 60 Hz
Temperature Rise: 65°C
Metering Current Transformer (CT): Included, (1) Set, C200 MR
Forced Air (Fans): None

Provisions For Fans: Included

Radiator: Included, Removable, Galvanized Steel, Panel Type
Tap Changer: 5-Position De-Energized Tap Changer (DETC)
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.5%

Ratings

NRTL Listed for United States and Canada
Pad-lockable Doors
Sealed Tank Construction w/ Welded On Cover
Penta-head Bolt Entry Assembly
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 C62.11
Complies with ASTM D3487
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%

Tap Changer Switch Location: Secondary (Medium Voltage) Side
Impedance (Typical): 7.5% (±7.5%)

Primary Connection Type: Dead Front

Primary Termination Arrangement: V Terminal Arrangement
Primary Termination: Externally Clamped Integral Bushings w/ Removable Studs, 600A Dead Break Elbows, 6-Hole NEMA Spade Terminals
Primary Connection Qty: (4) Primary Connections for use w/ Elbow Connectors
Primary Parking Stand Qty: (4) Welded Brackets for Installing Accessory Parking Stand Bushings
Primary Bushing Rating: 1.2 kV Class, 30 kV BIL, 600A, Dead Break

Primary Neutral Connection: Included

Primary Surge Arrestors: N/A

Primary Surge Arrestor Voltage Rating: N/A
Primary Surge Arrestor MCOV Rating: N/A

Primary Over Current Protection (OCP): N/A

Primary Over Current Protection Method: N/A

Primary Over Current 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: Externally Clamped Integral Bushings w/ Removable Studs, 600A Dead Break Elbows, 4-Hole NEMA Spade Terminals
Secondary Connection Qty: (4) Secondary Connections for use w/ Elbow Connectors
Secondary Connection Supports: N/A
Secondary Neutral Connection: Secondary XO Neutral Internally Bonded to Tank
Secondary Surge Arrestors: (3) High Voltage Elbow Surge Arrestors, Included
Secondary Surge Arrestor Voltage Rating: 5 kV Class Elbow Arrestor
Secondary Surge Arrestor MCOV Rating: 3 kV rms
Secondary Over Current Protection (OCP): Bayonet Expulsion Fuses
Secondary Over Current Protection Method: Fused, Oil-Immersed
Secondary Over Current Protection Holder: Bayonet Fuse Holder w/ External Drip Shield
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: 4-Position Load Break Switch

Load Break Switch Qty: (1)

Load Break Switch Rating: 300-Amp, 5 kV

Load Break Switch Location: High Voltage (HV) Front Compartment

K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Pulse Drive Rating: N/A
Efficiency Standard(s): Meets DOE 2016 Standards, Meets ANSI/IEEE Standards
Insulation Fluid: FR-3 Cooling Fluid, Non-PCB
Fluid Capacity: 422 Gallons
Cooling Class: KNAN
Liquid Level Gauge: Analog, w/ alarm contacts
Temperature Gauge: Analog, w/ alarm contacts
Pressure/Vacuum Gauge: Analog

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

Load Losses Based on 85°C Reference Temp.
No Load Loss (in watts)): +/- 7,075W

Full Load Loss (in watts) at 100%: +/- 28,578W

Total Load Loss (in watts) at 100%: +/- 35,653W

Total Losses at 55°C LL Temp.& 20°C NL Temp.
Total Load Loss (in watts) at 50%: +/- 14,200W
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

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*

Fault Pressure Device: None
Pressure Relief Device: Included, w/ alarm contacts
Fill Valve: Included, 1" Upper Fill Valve
Drain Valve w/ Sampler Port: Included, 2" Drain Valve With Sampler port

Tank Manhole Cover: Included, (1) Over HV & (1) Over LV

Nitrogen Blanket: Included, w/ Purge Valve & Manual Isolation Valve

Tank Ground Pads: Included, Stainless Steel

Fork Pockets: Included

Rapid Rise Relay: None
Winding Material: Copper
Ambient Temperature Rating: 50oC
Sound Level: 64 db(A)

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: Compartmental Air-Filled Cabinet w/ Locking Doors, HV Compartment Left, LV Compartment Right, Steel Barrier Separation, HV Door Spring-Loaded Release Pin in LV Compartment
Cabinet Type: Tamperproof
Enclosure Rating: NEMA 3R Weatherproof
Paint Type: Munsell 7.0 GY 3.29/1.5 Bell Green
Mounting: Pad Mount
Conduit Opening: Bottom Feed

HV Compartment Base Wireway Dimensions*: 21"-W 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: 100"-W x 87"-D x 85"-H
Weight: +/- 14,330 lbs

Special Orders - Special Requirements
Contact us for special requirements
Toll Free: 1-800-369-6671
Intl: 1-903-270-1187
Fax: 1-903-498-3364
E-mail: sales@larsonelectronics.com

The MT-PML-R4-3P-YE-3.75MVA-GNF-LT-DF-A6-BFP-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. The MT-PML-R4-3P-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-M1 is designed to step up power fed to it from renewable energy sources and feed that current to the grid.

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

Transformer Features: With a transformer rating of 3.75 MVA (3750 kVA), the industrial transformer features a primary voltage of three-phase 480Y/277 Wye-N and a secondary voltage of three-phase 4160Y/2400 Grounded Wye. This transformer is designed for reverse feed applications, including stepping up low voltage output from solar inverters for feeding to the local utility grid. The MT-PML-R4-3P-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-M1 is ideal for use in renewable energy systems. It is designed to take power fed to it from customer provided solar inverters that are part of renewable energy systems, such as solar panel fields, step up that current, and feed it into the electrical grid.

The unit has a primary loop feed for single installations and dead-front primary connections. We also offer systems with loop feed and dead front primary connections. This transformer features a 5-position tap changer on the secondary side with two, +/- 2.5% taps above and two, +/- 2.5% taps below to allow small changes for voltage. There are no load break switches, rapid rise relays, or protection fuses present on the system.
Copper 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-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-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 3.75 MVA (3750 kVA). 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-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-M1 features FR-3 cooling fluid (ONAN) with a capacity of 422 gallons. We offer transformers with biodegradable 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.
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 secondary (medium voltage) 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-YE-3.75MVA-GNF-LT-DF-A6-BFP-CZ-2B4-M1 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.
Protection Fuses: This transformer contains 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-YE-3.75MVA-GNF-LT-DF-A6-BFP-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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