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**MT-PML-R7-1P-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-2B4-M1**

# 333 KVA Pad Mount Transformer - 12470Y/7200 Grounded Wye Primary, 240/480V Secondary - Mineral Oil Fluid / ONAN - Aluminum

**Product ID: 310686**



**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-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-2B4-M1 Pad Mount Transformer | Ratings |
|---|---|
| **Transformer Type: Pad Mounted, Compartmental-Type II** | Meets/Exceeds DOE 2016 Efficiency Ratings |
| **Transformer Configuration: Liquid Filled Pad Mounted** | Meets/Exceeds CSA Efficiency Ratings |
| **Transformer Feed Type: Loop Feed** | Complies with ANSI / IEEE C57.12.00 |
| **Polarity: Additive** | Complies with ANSI / IEEE C57.12.21 |
| **Phase: Single Phase (Connects to 3-Phase electrical grid)** | Complies with ANSI / IEEE C57.12.25 |
| **Capacity: 333 KVA** | Complies with ANSI / IEEE C57 12.28 |
| **Vector Group: II6** | Complies with ANSI / IEEE C57 12.29 |
| **Primary Voltage: 12470GrdY/7200** | Complies with ANSI / IEEE C57 12.35 |
| **Primary Voltage Switch: N/A** | Complies with ANSI / IEEE C57 12.38 |
| **Primary Voltage Class: 15 kV Class** | Complies with ANSI / IEEE C57.12.70 |
| **Primary Phasor: Grounded Wye** | Complies with ANSI / IEEE C57.12.110 |
| **Primary BIL: 95 KV** | Complies with ANSI / IEEE C57.12.131 |
| **Secondary Voltage: 240/480V (L-N-L)** | Complies with ANSI / IEEE C62.11 |
| **Secondary Voltage Class: 1.2 kV Class** | Complies with ANSI / IEEE C62.22 |
| **Secondary Phasor: Dual Winding Single Phase** | Complies with ANSI / IEEE 386 |
| **Secondary BIL: 30 KV** | Complies with ANSI / IEEE C2 |
| **Frequency: 60 Hz** | Complies with ANSI / IEEE C37.47 |
| **Temperature Rise: 65°C** | Complies with ANSI Z535.4 |
| **Insulation Rating: Class E Insulation - 120°C, 248°F** | Complies with ASTM D3487 |
| **Cooling Class: KNAN; Self-Cooled** | Complies with ASTM D6871 |
| **Forced Air (Fans): None** | Complies with NEMA 260-1996 |
| **Tap Changer: 5-Position Tap Changer, Hot Stick Operable** | Complies with 10 CFR Part 431 |
| **Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps** | Complies with CSA C2.1-06 |
| **Tap %: 2.50%** | Complies with CSA C50 |
| **Tap Changer Switch Rating: 200-Amp, 15 kV** | Complies with CSA C88 |
| **Tap Changer Switch Location: Front Compartment, High Voltage (HV) Left Side** | Complies with CSA C88.1 |
| **Impedance: 1.5-6.0% Typical** | Complies with CSA C88-16 |
| **Primary Connection Type: Dead Front** | Complies with CSA C227.3 |

**Primary Termination Arrangement: ANSI Type II Arrangement**
**Primary Termination: Externally Clamped Well Bushings w/ Removable Studs, 200A 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, 200A, Load Break, IEEE 386 Color Red**
**Primary Surge Arrestors: (1) High Voltage Elbow Surge Arrestors, Included**
**Primary Surge Arrestor Voltage Rating: 10 kV Class**
**Primary Surge Arrestor MCOV Rating: 8.4 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, 4-Hole Spade, Accepts up to (4) Single Lug connections with (1) cables per side of Spade connector**
**Secondary Over Current Protection (OCP): N/A**
**Secondary Connections: NEMA Spade Terminals, 4-Hole Spade, Externally Clamped, Accepts up to (4) Single Lug connections with (1) 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*: 124.67 Gallons**
**Fluid (Oil) Weight*: 1,124.34 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: Aluminum**

**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 or Below**
**Core Material: Grain Oriented Steel**
**Tank Material: Coated Steel**
**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**

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: 99.20%**

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

**Load Losses Based on 85°C Reference Temp.**

**No Load Loss (in watts)*: +/- 910W**

**Load Loss (in watts)*: +/- 3,656W**

**Total Load Loss (in watts)*: +/- 4,566W**

***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***

**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*: 55.12"-W x 55.91"-D x 33.46"-H**
**Dry Weight (w/o Oil)*: 2,292.77 Lbs**
**Total Weight (Liquid Filled)*: 3,637.57 Lbs**
*Please note that numbers are approximate and subject to change

**Special Orders - Requirements**
Contact us for special requirements
**Toll Free: 1-800-369-6671**
**Intl: 1-214-616-6180**
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**E-mail: sales@larsonelectronics.com**

**The MT-PML-R7-1P-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-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 333 kVA, the industrial transformer features a primary voltage of single-phase 12470Y/7200 Grounded Wye and a secondary voltage of single-phase 240/480V (L-N-L). The unit has a primary loop feed and dead-front primary connections. We also offer systems with radial 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-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-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-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-2B4-M1 features mineral oil cooling fluid (ONAN). We offer transformers with FR-3 oil fluid, if needed.

**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 Break Switch:** The MT-PML-R7-1P-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-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-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-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-GMR-333KVA-SLT-LT-DF-A6-BM-AZ-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.


Non PCB
MINERAL OIL
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# Frequently Asked Questions (FAQ)