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Product ID: 304658

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



Image:

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-R78-3P-GMR-1MVA-YE-LT-DF-A6-BM-CZ-2B4-M1 3PH Pad Mount Transformer

Transformer Type: Pad Mounted, Compartmental-Type
Transformer Configuration: Liquid Filled Pad Mounted
Transformer Feed Type: Loop Feed (Thru Primary Bushings)
Phase: Three Phase
Capacity: 1000 KVA (1MVA)
Vector Group: YnYn0
Primary Voltage: 12470GrdY/7200
Primary Voltage Class: 15 kV Class
Primary Phasor: Grounded Wye
Primary BIL: 95 KV
Secondary Voltage: 480Y/277
Secondary Voltage Class: 1.2 kV Class
Secondary Phasor: Wye-N
Secondary BIL: 30 KV

Frequency: 60 Hz

Temperature Rise: 65°C
Cooling Class: ONAN; Self-Cooled
Forced Air (Fans): None
Tap Changer: 5-position Tap Changer, externally operated with hot sticj operable handle
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.5%

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57 12.28
Complies with ANSI / IEEE C57 12.34
Complies with ANSI / IEEE C57.12.70
Complies with ASTM D3487
Pentahead Entry Assembly
High-Fire Point Natural Ester Insulating Fluid
Non-PCB Insulating Fluid
Tamper Proof Housing
Hinged Front Compartment Doors, Pad Lockable
Hot Stick Included, HV Door Mount

Efficiency %: 99.16%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.
No Load Loss (in watts)): +/- 320W
Full Load Loss (in watts) at 100%: +/- 1,600W
Total Load Loss (in watts) at 100%: +/- 1,920W

Tap Changer Switch Location: High Voltage (HV) Front Compartment
Impedance: 1.5-5.0% Typical
Primary Connection Type: Dead Front
Primary Termination Arrangement: V Terminal Arrangement
Primary Termination: Externally Clamped, Bolted Construction Well Bushings, Externally Replaceable w/ Removable Studs, 200A Load Break Elbows w/ Inserts, Lowest HV connector is 27" above the base
Primary Connection Qty: (6) Primary Connections w/ (6) Standoff Brackets for Parked Elbows,
Primary Neutral Connection: Primary HO Neutral Internally Connected to Low Voltage Neutral and Brough Out in the Low Voltage Compartment through an Insulated Neutral Bushing
Primary Surge Arrestors: 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): 65A (C14) Bayonet Fuses, Partial-Range Current-Limiting Fuses
Primary Over Current Protection Method: Fused w/ Isolation Link
Primary Over Current Protection Holder: Bayonet Fuse Holder w/ Drip Shield
Primary Grounding Provisions: (1) Unpainted Stainless Steel Pad with 2" x 3 1/2" w/ two 1/2 - 13 UNC Tapped Holes, 1/2" Deep on 1 3/4" centers
Secondary Connection Type: Live Font
Secondary Termination Arrangement: Staggered Terminal Arrangement, Lowest LV connector is 46" above the base
Secondary Connections: NEMA Spade Terminals, 10-Hole Spade, Externally Clamped, Bolted Construction, Externally Replaceable, Accepts up to (10) Double Lug connections with (5) cables per side of Spade connector
Secondary Connection Qty: (4)
Secondary Over Current Protection (OCP): N/A
Secondary Neutral Connection: Insulated Neutral Bushing w/ Externally Removable Copper Ground Strap
Secondary Grounding Provisions: (1) Unpainted Stainless Steel Pad with 2" x 3 1/2" w/ two 1/2 - 13 UNC Tapped Holes, 1/2" Deep on 1 3/4" centers
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 Location: High Voltage (HV) Front Compartment
Efficiency Standard(s): Meets DOE 2016 Standards, Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-0 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: Mineral Oil Insulating Fluid - Non PCB Fluid
Fluid Capacity: 125 Gallons
Liquid Level Indicator: Analog Dial Gauge
Temperature Indicator: Analog Dial Gauge
Pressure/Vacuum Indicator: Analog Dial Gauge
Pressure Relief Device: Included, Automatic Action with Pull Ring for Hot Stick Operation
Fill Valve: Removable Bolt
Fill Valve Location: Front Compartment
Drain Valve: Included, w/ Sampler
Drain Valve Location: Front Compartment
Winding Material: Copper
Ambient Temperature Rating: 40°C
Sound Level: 55 dBA
Elevation Rating: 3300ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: Coated Steel

Total Losses at 55°C LL Temp.& 20°C NL Temp.
Total Load Loss (in watts) at 50%: +/- 696W

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

Cabinet Material: Coated Steel
Base Platform Material: Coated Steel
Enclosure Rating: NEMA 3R Weatherproof
Housing Type: Compartmental Air-Filled Cabinet w/ Locking Doors, HV Compartment Left, LV Compartment Right, Steel Barrier Separation
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: Munsell™ 7.0 GY 3.29/1.5 Bell Green
Mounting: Pad Mounted
Conduit Opening: Bottom Feed Underground Entry/Exit
HV Compartment Base Dimensions*: 32"W (minimum)
LV Compartment Base Dimensions*: 26"-W (minimum)
MV/LV Compartment Cabinet Depth*: 24"-D
Dimensions: 73"-W x 69"-D x 73"-H
Weight: 6,834 lb
*Please note that numbers are approximate and subject to change

Special Orders - Special Requirements
Contact us for special requirements
Toll Free: 1-800-369-6671
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The MT-PML-R78-3P-GMR-1MVA-YE-LT-DF-A6-BM-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 MVA, the industrial transformer features a primary voltage of three-phase 12470Y/7200 Grounded Wye and a secondary voltage of three-phase 480Y/277 Wye-N. The unit has a primary loop feed for single installations and dead-front primary connections. We also offer systems with loop feed and live 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.

The system features copper windings for high strength and thermal/electrical conductivity. 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-R78-3P-GMR-1MVA-YE-LT-DF-A6-BM-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 1 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-R78-3P-GMR-1MVA-YE-LT-DF-A6-BM-CZ-2B4-M1 features non-PCB mineral oil cooling fluid (ONAN) with a capacity of 125 gallons. We also offer upgraded biodegradable ester oil (vegetable oil) cooling fluid (KNAN) and name brand Cargil FR3 ester oil cooling fluid (KNAN) upon request.

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 transformer 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-R78-3P-GMR-1MVA-YE-LT-DF-A6-BM-CZ-2B4-M1 is equipped with a pressure relief valve, 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-R78-3P-GMR-1MVA-YE-LT-DF-A6-BM-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)

There are no Faqs

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Links (Click on the below items to view):

- **Operations Manual**(https://www.larsonelectronics.com//images/product/Manual/304658.PDF)
- **HigResPic1**(https://www.larsonelectronics.com//images/product/HigResPic1/304658.JPG)
- **HigResPic2**(https://www.larsonelectronics.com//images/product/HigResPic2/304658.JPG)
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- **Video1**(https://www.youtube.com/watch?v=uVj0nlDuea0)
- **Video2**(https://www.youtube.com/watch?v=KIzsyVtvSWM)
- **Video3**(https://www.youtube.com/watch?v=mN2qPmdLwW4)
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