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**MT-PML-R117-3P-GMP-1MVA-YT-LT-DF-X6-BM-CZ-1CZ-M1**

# 1 MVA (1000) KVA Pad Mount Transformer - 13800Y/7970 Grounded Wye Primary, 208Y/120 Wye-N Secondary - Copper, ONAN/Bell Green, w/ Tap Chager, National Grid ID 9300615

**Product ID: 312588**



**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-R117-3P-GMP-1MVA-YT-LT-DF-X6-BM-CZ-1CZ-M1 3PH Pad Mount Transformer**

**Transformer Type:** Pad Mounted, Compartmental-Type
**Transformer Configuration:** Liquid Filled Pad Mounted
**Transformer Feed Type:** Loop Feed
**Phase:** Three Phase
**Capacity:** 1 MVA (1000 KVA)
**Vector Group: YNyn0**
**Primary Voltage:** 13800Y/7970
**Primary Voltage Switch:** N/A
**Primary Voltage Class:** 15 kV Class
**Primary Phasor:** Grounded Wye
**Primary BIL:** 95 KV
**Secondary Voltage:** 208Y/120
**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 Off-load Tap Changer
**Tap Qty:** (1) FCAN Above Taps, (3) FCBN Below Taps, 14100V/13800/13500/13200/12900
**Tap %:** 2.18%
**Tap Changer Switch Location:** H.V Side, Side Mounted
**Impedance (Typical):** 1.2-6.0% Typical
**Primary Connection Type:** Dead Front

**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
Penta-head Entry Assembly
High-Fire Point Natural Ester Insulating Fluid
Non-PCB Insulating Fluid
Tamper Proof Housing
Hinged Front Compartment Doors, Pad Lockable

**Efficiency %:** 99.00%
*Based on transformer operating at 50% of nameplate base kVA.*

**Load Losses Based on 85°C Reference Temp.**
**No Load Loss (in watts)):** +/- 500W
**Full Load Loss (in watts) at 100%:** +/- 3,000W
**Total Load Loss (in watts) at 100%:** +/- 3,500W

**Total Losses at 55°C LL Temp.& 20°C NL Temp.**
**Total Load Loss (in watts) at 50%:** +/- 1,164W

***Note: Losses offered are typical only, not guaranteed***

**Primary Termination Arrangement:** V Terminal Arrangement

**Primary Termination:** Externally Clamped Well Bushings w/ Removable Studs, 200A Load Break Elbows w/ Inserts (Cooper LBI 215)

**Primary Connection Qty:** (6) Primary Connections for use w/ Elbow Connectors

**Primary Parking Stand Qty:** (6) Welded Brackets for Installing Accessory Parking Stand Bushings

**Primary Bushing Rating:** 15 kV Class, 95 kV BIL, 200A, Load Break, IEEE 386 Color Red

**Primary Neutral Connection:** Primary HO Neutral Internally Bonded to Tank and tied to X0

**Primary Surge Arrestors:** N/A

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

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

**Primary Over Current Protection (OCP):** Bayonet Expulsion Fuse in series w/ Partial-Range Current-Limiting Fuse and w/ Expulsion Link (353C10)

**Primary Over Current Protection Method:** Fused, Oil-Immersed

**Primary Over Current Protection Holder:** Bayonet Fuse Holder w/ Drip Shield

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

**Primary Grounding Provisions:** (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in HV Cabinet

**Secondary Connection Type:** Live Font

**Secondary Termination Arrangement:** Staggered Terminal Arrangement, constructed to allow mounting of bushing type meter class current transformer

**Secondary Connections:** NEMA Spade Terminals, 4-Hole Spade, Externally Clamped, Accepts up to (4) Double Lug connections with (2) cables per side of Spade connector

**Secondary Connection Qty:** (4) Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs

**Secondary Connection Supports:** N/A

**Secondary Over Current Protection (OCP):** N/A

**Secondary Neutral Connection:** Fully Insulated Bushing with H0X0 Neutral brought out as Bushing in the Secondary Compartment, w/ Copper Ground Strap

**Secondary Grounding Provisions:** (1) Clamp Type 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:** N/A

**Load Break Switch Qty:** N/A

**Load Break Switch Location:** N/A

**Efficiency Standard(s):** Meets DOE 2016 Standards, Meets ANSI/IEEE Standards

**K-Factor Rating (Harmonic Mitigation):** K-1 (Standard)

**Pulse Drive Rating:** N/A

**Insulation Fluid:** Mineral Oil, Non-PCB Fluid

**Fluid Capacity:** 133 Gallons

**Liquid Level Indicator:** Analog Dial Gauge

**Temperature Indicator:** Analog Dial Gauge

**Pressure/Vacuum Indicator:** Analog Dial Gauge

**Pressure Relief Device:** Included, Automatic Action

**Fill Valve:** (2) 1" NPT Removable Bolts

**Fill Valve Location:** (1) Front Compartment, (1) Aux Control Panel

**Drain Valve:** (2) 1" NPT w/ 5/8" NPT Sampler Valve

**Drain Valve Location:** (1) Front Compartment, (1) Aux Control Panel

**Winding Material:** Copper

**Ambient Temperature Rating:** 40°C

**Sound Level:** 55 dBA

**Elevation Rating:** 10,50ft (3200 meters) Above Sea Level

**Core Material:** Grain Oriented Steel

**Tank Material:** Coated Steel

**Cabinet Material:** Coated Steel

**Base Platform Material:** Coated Steel

**Housing Type:** Compartmental Cabinet w/ Doors, HV Compartment Left, LV Compartment Right

**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

**Dimensions:** 41.5"-W x 54"-D x 69"-H

**Weight:** 3637 lbs

**Labeling:**

Externally Stencilled (Painted) KVA Rating

Externally Stencilled (Painted) Voltage Rating

External Non-PCB Label (placed near nameplate)

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

Turns Ratio Test

**Special Orders - Special Requirements**

Contact us for special requirements

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*Please note that numbers are approximate and subject to change

**The MT-PML-R117-3P-GMP-1MVA-YT-LT-DF-X6-BM-CZ-1CZ-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 1MVA (1000 KVA), the industrial transformer features a primary voltage of three-phase 13800Y/7970 Grounded Wye and a secondary voltage of three-phase 208Y/120 Wye-N. The unit has a primary loop feed for dual installations and dead-front primary connections. We also offer systems with loop feed and live front primary connections. The transformer features a 5-position off-load tap changer with 1, +/- 2.18% taps above and three, +/- 2.18% taps below to allow small changes for voltage. There is a rapid rise relay present on the system.

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-R117-3P-GMP-1MVA-YT-LT-DF-X6-BM-CZ-1CZ-M1 is air cooled and does not have fans or mounting provision for fans.

**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 1000 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:** This transformer features non-PCB mineral oil insulation fluid. We offer transformers with biodegradable cooling 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 does not come with high elbow surge arresters on the primary side.

**Load Breaker Switch:** The transformer is not equipped with a load break switch.

**Valves:** The MT-PML-R117-3P-GMP-1MVA-YT-LT-DF-X6-BM-CZ-1CZ-M1 is equipped with a pressure relief valve, fill valve and drain valve with sampler port.

**Protection Fuses:** This transformer contains bayonet protection fuses with expulsion link and current limiting fuse 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-R117-3P-GMP-1MVA-YT-LT-DF-X6-BM-CZ-1CZ-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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