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MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2

2.5 MVA Solar Step Up Pad Mount Transformer - 600Y/347 Wye-N Primary, 4160V Delta Secondary - KNAN/Bell Green

Product ID: 292967

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-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 Pad Mount Transformer	Ratings
Transformer Type: Pad Mounted, Compartmental-Type, 5-Legged Core	Meets/Exceeds DOE 2016 Efficiency Ratings
Transformer Configuration: Liquid Filled Pad Mounted, Solar Inverter Duty	Meets/Exceeds CSA Efficiency Ratings
Transformer Feed Type: Loop Feed	Complies with ANSI / IEEE C57.12.00
Operation: Step-Up Operation (Reverse Feed)	Complies with ANSI / IEEE C57 12.28
Phase: Three Phase	Complies with ANSI / IEEE C57 12.29
Capacity: 2.5 MVA (2500 KVA)	Complies with ANSI / IEEE C57 12.34
Vector Group: DYN1	Complies with ANSI / IEEE C57 12.35
Primary Voltage: 600Y/347	Complies with ANSI / IEEE C57.12.70
Primary Voltage Class: 1.2 kV Class	Complies with ANSI / IEEE C57.12.110
Primary Phasor: Wye-N	Complies with ANSI / IEEE C57.12.131
Primary BIL: 45 KV	Complies with ANSI / IEEE C57.18.10-2021
Secondary Voltage: 4160V	Complies with ANSI / IEEE C57.110-2018
Secondary Voltage Switch: N/A	Complies with ANSI / IEEE C57.159-2016
Secondary Voltage Class: 5 kV Class	Complies with ANSI / IEEE C62.11
Secondary Phasor: Delta	Complies with ANSI / IEEE C62.22
Secondary BIL: 60 KV	Complies with ANSI / IEEE 386
Frequency: 60 Hz +/- 5%	Complies with ANSI / IEEE C2
Temperature Rise: 65°C - 80°C Max Winding Core Hotpost	Complies with ANSI / IEEE C37.47
Insulation Rating: Class E Insulation - 120°C, 248°F	Complies with ANSI Z535.4
Cooling Class: KNAN; Self-Cooled	Complies with ASTM D3487
Forced Air (Fans): None	Complies with ASTM D6871
Tap Changer: 5-position Tap Changer	Complies with NEMA 260-1996
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps	Complies with 10 CFR Part 431
Tap %: 2.5%	Complies with CSA C2.1-06
Tap Changer Switch Rating: 600-Amp, 5 kV	Complies with CSA C50

Tap Changer Switch Location: High Voltage (HV) Front Compartment
Impedance (Typical): 5.0-7.5%
Primary Connection Type: Live Front w/ IR Window to View Connections
Primary Termination Arrangement: Staggered Terminal Arrangement
Primary Connections: NEMA Spade Terminals, 10-Hole Spade, Externally Clamped, Accepts Up to (10) Double Lug Connections with (5) Cables Per Side of Spade Connector
Primary Connection Qty: (4) Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs
Primary Connection Supports: Phenolic Spade End Supports
Primary Over Current Protection (OCP): N/A
Primary Side (Load) Winding: Withstands DC Current up to 0.5% of Rated Output Current, Withstands Spikes of 2,500 volts Between Phase and Ground, Withstands dV/dt of 500V/us Between Phase and Ground
Primary Neutral Connection: X0 Neutral Grounded to Tank via 1/2"-13 UNC Tapped Hole, 7/16" Deep Bung & Copper Ground Strap
Primary Grounding Provisions: (1) NEMA Ground Bar Attached to Tank via (2) Welded Ground Bungs in LV Cabinet
Secondary Connection Type: Dead Front w/ IR Window to View Connections
Secondary Termination Arrangement: V Terminal Arrangement
Secondary Termination: Externally Clamped Well Bushings w/ Removable Studs, 600A Load Break Elbows w/ Inserts
Secondary Connection Qty:(6) Primary Connections for Use w/ Elbow Connectors
Secondary Parking Stand Qty: (6) Welded Brackets for Installing Accessory Parking Stand Bushings
Secondary Bushing Rating: 5 kV Class, 125 kV BIL, 600A, Dead Break, IEEE 386 Color Red
Secondary Neutral Connection: N/A
Secondary Surge Arrestors: (3) High Voltage Elbow Surge Arrestors, Included
Secondary Surge Arrestor Voltage Rating: 6 kV Class Elbow Arrestor
Secondary Surge Arrestor MCOV Rating: 5.1 kVrms
Secondary Over Current Protection (OCP): Bayonet Expulsion Fuse in Series w/ Partial-Range Current-Limiting Fuse
Secondary Over Current Protection Method: Fused, Oil-Immersed
Secondary Over Current Protection Holder: Bayonet Fuse Holder w/ Flapper Valve and Drip Shield
Secondary Grounding Provisions: (1) NEMA Ground Bar Attached to Tank via (2) Welded Ground Bungs in HV Cabinet, MV Grounded to Inside of Transformer Core
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel : External NEMA 4 Control Panel for Gauges, Auxiliary Contacts & Fill Valve
Load Break Switch: 2-Position Load Break Switch
Load Break Switch Qty: (1)
Load Break Switch Rating: 600-Amp, 25 kV
Load Break Switch Location: High Voltage (HV) 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: Approved for Use w/ Inverters w/ Pulse Wave Outputs
Insulation Fluid: Biodegradable Natural Vegetable Oil Ester Insulating Fluid - Non-PCB Fluid
Fluid Capacity*: 310 Gallons
Fluid Weight*: 2,410 Lbs
Liquid Level Indicator: Analog Dial Gauge w/ (2) Dry Type Form C Auxiliary Contacts (1NO + 1NC) for Remote Alarm Trip for High & Low Levels
Temperature Indicator: Analog Dial Gauge w/ (2) Dry Type Form C Auxiliary Contacts (1NO + 1NC) for Remote Alarm Trip for High & Low Temps
Pressure/Vacuum Indicator: Analog Dial Gauge w/ (2) Dry Type Form C Auxiliary Contacts (1NO + 1NC) for Remote Alarm Trip
Pressure Relief Device: Included, Automatic Action
Fault Indicator: N/A
Gas Sampler Valve: Included, Schrader Valve
Fill Valve: 1" NPT Port w/ Removable Bolt Plug
Fill Valve Location: (1) In HV Cabinet; (1) Externally Mounted in Aux Cabinet
Drain Valve: 1" NPT Port w/ 5/8" NPT Sampler Valve
Drain Valve Location: (1) In HV Cabinet; (1) Externally Mounted on Right Side of Transformer Tank, w/ Pad Locking Hood
Winding Material: Copper
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -40°C to +40°C (-50°F to +104°F)
Electrostatic Shield (Including Core and Coils): Dielectric Barrier & Foil Type Shield,

Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C88-16
Complies with CSA C227.4
Complies with CSA C227.5
Complies with CSA C802-3
Complies with CSA C802.1

Features

Pentahead Bolt Entry Assembly
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 %: 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)): +/- 2,700W
Full Load Loss (in watts) at 100%: +/- 15,500W
Total Load Loss (in watts) at 100%: +/- 18,200W

Total Losses at 55°C LL Temp.& 20°C NL Temp.
Total Load Loss (in watts) at 50%: +/- 6,408W
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

Located Between Primary and Secondary Windings, Bonded Externally to Ground in LV Cabinet
Sound Level: 62 dBA
Elevation Rating: 3300ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel, 5-Legged Core, Inside Grounded
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
Enclosure Rating: NEMA 3R Weatherproof Wiring Cabinet, Sealed Tank
Seismic Rating: Yes
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 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: 10"-H x 16"-W Bolted Cover Tank Access Hole
Dimensions/: 75"-W x 75"-D x 73"-H
Dry Weight (w/o Oil)*: 4,918 Lbs
Total Weight (Liquid Filled)*: 11,534 Lbs
*Please note that numbers are approximate and subject to change

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

Special Orders - Special Requirements
Contact us for special requirements
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The MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 from Larson Electronics is a Solar Step Up Pad Mount Transformer that 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-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 is designed to step up power fed to it from renewable energy sources and feed that current to the grid. This unit is designed to be powered by pulse wave solar inverters.
PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS*
Transformer Features: With a dual transformer rating of 2500 KVA (2 MVA), the industrial transformer features a primary voltage of three-phase 600Y/347 Wye-N and a secondary voltage of three-phase 4160V Delta. 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-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 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. This solar transformer is designed to operate when being fed by pulse wave solar inverters.
The unit has a primary loop feed for single installations and live-front primary connections. This solar step up 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.
Copper transformer winding material helps improve performance, reduce weight, and lower cost. Compared to aluminum, copper 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). Made to reduce harmonics, a five-legged wound core design transformer is grounded to the MV ground bar in the HV cabinet.
The MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 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. The enclosure on this unit is equipped is equipped with a handhole tank access cover that provides access to the tank to check the transformer core and fuse connections without the need to cut open the entire tank to access those components.
IR Windows: The MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 is equipped with IR windows built into the cabinet doors for thermal review and arc safety. This feature allows for easier safety testing routines and maintenance procedures related to arc safety.
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 2500 KVA (2.5 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-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 features biodegradable cooling fluid (KNAN) with a capacity of 310 gallons. 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% 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. This unit's gauges are equipped with auxiliary contacts allowing for remote monitoring. The gauges and fill valves on this unit are located in a NEMA 4X rated auxiliary cabinet. There is an additional fill valve and drain valve in the HV cabinet.
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.
Electrostatic Shielding: The MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 features dielectric barrier and foil type shielding between the primary and

the secondary to reduce harmonics and provide isolation between the HV and LV windings.
Valves: The MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.
Load Break Switch: This transformer is equipped with three independently operated 2-position load break switches on the secondary (medium voltage) side. One is for the transformer, one is for the secondary A lines, and one is for the secondary B lines.
Protection Fuses: This transformer is equipped with bayonet fuses on the secondary (medium voltage) 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-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2 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: Solar step up power distribution, solar panels, electric power distribution, utilities, reverse feed solar, 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)

Q. Can this transformer be customized?

A. Yes, Larson Electronics allows for customization of all transformers. Please send customization requests to sales@larsonelectronics.com. If you have an engineered specification or engineered drawings, please provide those at the time of request.

Q. What is the warranty of this transformer?

A. 12 months from point of connecting electrical service to the transformer or 18 months from point of ordering, whichever comes first.

Q. Where is the detailed dimensional drawing for this unit?

A. We can provide a feature drawing that shows accessories and estimated form factor. Due to the variety of options and varying voltages, an exact dimensional drawing for the specific unit you have ordered is not available until after purchase and engineering has completed the drawing for your sales order. We do not offer completed detailed engineered drawings before purchase. The feature drawings are detailed enough for concrete pad designs and preliminary engineering site designs.

Q. Does my primary and secondary voltage matter for a transformer?

A. Yes, this matters greatly. For primary voltage, most transformers will be equipped with a tap changer for small primary voltage changes due to voltage drop for losses experienced in the transmission line. Some transformers will be equipped with dual voltage primaries with a voltage selector switch to choose which voltage to operate the transformer on. In both cases, these are designed to provide a steady output voltage. It is very important to confirm what voltage your primary voltage being delivered from the utility provider and what the required electrical voltage for the building or house is. You cannot only provide the KVA size, or the abbreviated primary voltage as there is not standardized voltage across the country and each region can be different. Once manufacturing has started, these cannot be changed.

Q. What is required for mounting this transformer?

A. For mounting requirements, please see the ASTM Certificate 2 link.

Q. What types of transformer protection are available?

A. For over-current protection, Larson Electronics offers Fuses, breakers and interrupters. For over-voltage protection, Larson Electronics offers arresters. Larson Electronics can provide both Primary and Secondary protection equipment.

Q. Do you have to ground this transformer?

A. In most cases the enclosure of the transformer is grounded for safety reasons. However, a transformer will function properly without being grounded. Be sure to research all grounding requirements for your specific application against the NETA and NEC as well as any local electrical codes.

Q. How many BTU's of heat does a transformer generate?

A. The heat a transformer generates is dependent upon the transformer losses. To determine air conditioning requirements multiply the sum of the full load losses (obtained from factory or test report) of all transformers in the room by 3.41 to obtain the BTUs/hour. For example: A transformer with losses of 2000 watts will generate 6820 BTUs/hour.

Q. What is the difference between copper and aluminum windings inside the transformer?

A. Transformers wound with aluminum or copper wire have similar losses and performance. The choice of using copper or aluminum windings depends upon the application and the individual preferences. The type of winding material does not affect the transformer's reliability. A transformer's life is defined by the life of its insulation system.

Q. What is the difference between Dead Front and Live Front?

A. Live-front: The voltage-carrying parts are exposed. Live-front terminations have high voltage connectors, arresters, or fuses are exposed to the operator after cabinet has been opened. Dead-front: Often referred to as dead-front bushings. Safety is enhanced as there are no current-carrying parts exposed to the operator. For overhead distribution transformers and underground submersible transformers, live front is common. For pad mount transformers, the primary is typically dead front and the secondary is live front. Protection barriers can be added to live front pad mounted transformers

Q. What is the difference between Loop Feed and Radial Feed?

A. Radial feed Transformers will have three high voltage bushings (H1, H2, and H3). There is one bushing for each phase to allow for the incoming high voltage cables. On Wye and Grounded Wye connected Transformers, there will also be an H0 bushing. Loop feed Transformers will have six high voltage bushings (H1A, H2A, H3A, H1B, H2B, and H3B). There are two bushings for each phase. This allows the customer to connect all of their Transformers in a loop configuration. It will also allow the customer to bring two feeds to the Transformer. A four position switch can be used to switch between the A feed and the B feed.

Q. What is the lifespan of a transformer?

A. The average lifespan of a liquid filled transformer is 25 years. Many transformers will survive past the 25 year mark and are still in service for up to 35 years.

Q. Is this transformer UL Listed? Is this transformer CSA Listed?

A. By default, no. The majority of medium voltage transformer installations do not require certification by a Nationally Recognized Testing Laboratory (NRTL) unless being installed inside a building. Medium voltage equipment is built to and complies to ANSI, ASTM, DOE, IEEE, and NETA standards. UL is one of multiple NRTLs per OSHA certification for testing facilities for USA standards. CSA is one of multiple NRTLs per Canada certification standards. For an additional fee, we can submit your order for NRTL testing after completion of build. This testing service is per order, requires payment of testing fees, and will increase lead time.

Q. What are the transformer ratings?

A. IEEE Std C57.12.20 (Overhead Type), IEEE Std C57.12.34 (Three-Phase Pad-Mounted Compartmental), IEEE Std C57.12.38 (Single-Phase Pad-Mounted), IEEE Std C57.12.36 (Distribution Substation Transformers). For more detailed list of standards, please see the ASTM Certificate 1 link.

Q. Do Larson Electronics transformers contain PCB?

A. All dry-type and liquid filled transformers manufactured by Larson Electronics are PCB (polychlorinated biphenyl) free at the time of shipment. Mixtures of polychlorinated biphenyls (PCB's) were banned commercially for use as transformers cooling fluids in 1977 due to being toxic, bio-accumulative, not at all biodegradable, and difficult to dispose of safely. None of Larson Electronics transformers contain PCB and only use PCB-free fluids.

Q. What is the difference between FR3 fluid and biodegradable fluid?

A. Envirotemp FR3 is a brand name of biodegradable ester oils made by Cargill. Cargill is not the only manufacturer of biodegradable ester fluids used for cooling liquid filled transformers. Larson Electronics stocks RAPO biodegradable fluid that exceeds testing for ASTM D6871. Cargill Envirotemp FR3 can be used in substitution of the standard biodegradable fluid. This substitution will increase cost and lead times.

Q. What is the difference between mineral oil (ONAN) and biodegradable fluid (KNAN)?

A. Mineral oil has a flash point of 147-165°C. Biodegradable insulation fluids have a higher flash point up to 350°C. Using biodegradable fluids reduce the risk of potential fire due to the transformer overheating. Utilizing biodegradable fluids extends the lifespan on the transformer due to better insulation, higher flash point, better moisture resistance, and higher maximum voltage breakdown points over mineral oils.

Q. What types of transformer liquids does Larson Electronics use?

A. Larson Electronics offered mineral oil fluid (ONAN) and biodegradable fluid (KNAN). On request we can provide brand name FR3 fluid or other brand name fluids for additional cost and lead time. All fluids offered by Larson Electronics are non-PCB containing fluids.

Q. What are the main benefits of a liquid filled transformer?

A. Liquid filled transformers have higher energy efficiency, durability, short circuit strength, low sound level, lower maintenance costs, and longer useful life expectancy compared to dry type transformers.

Q. What type of transformers does Larson Electronics offer?

A. Larson Electronics offered dry type transformers and liquid filled transformers. For liquid filled transformers, Larson Electronics' offers overhead distribution transformers (utility pole mount), pad mounted distribution transformers (mounts to a concrete pad), pad mounted power transformers, underground submersible distribution transformers, and substation transformers.

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MT-PML-R4-3P-DNF-2.5MVA-YC-LT-DF-A6-BB-CZ-2B6-M2
Product ID: 292967

Harmonized System (HS) Code: 85043300
Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **ANSI Certificate 1**
- **ANSI Certificate 2**
- **Catalog Page - Product Series**
- **FCC Certificate (Federal Communications Commission, USA)**
- **Internal Component Spec Sheet 3**
- **MSDS (Material Safety Data Sheet**
- **Operations Manual**
- **HigResPic1**
- **HigResPic2**
- **HigResPic3**
- **HigResPic4**
- **HigResPic5**
- **HigResPic6**
- **HigResPic7**
- **HigResPic8**
- **HigResPic9**
- **HigResPic10**
- **Video1**
- **Video2**
- **ISO 9001 Certification**
- **Business Certificate**
- **Shipping Time Map**