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-PDT-VPM-R7-DMW-2MVA-YE-A6-DZ-CZ-1Z-ZZ-Z-N3R-M1**

# 2 MVA Vacuum Pressure Impregnated Transformer, 23900V Delta Primary, 480Y/277 Wye-N Secondary, ANN, Class H, W/O Fans, VPI

**Product ID: 296999**



**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-PDT-VPM-R7-DMW-2MVA-YE-A6-DZ-CZ-1Z-ZZ-Z-N3R-M1 Vacuum Pressure Impregnated Transformer**

**Transformer Type:** Vacuum Pressure Impregnated (VPI) Transformer
**Transformer Configuration:** Dry Type, Ventilated
**Phase:** Three Phase
**Capacity:** 2 MVA (2000 KVA)
**Vector Group: DYN11**
**Primary Voltage:** 23900V AC
**Primary Voltage Class:** 25 kV Class
**Primary Phasor:** Delta
**Primary BIL:** 125 KV
**Secondary Voltage:** 480Y/277 AC
**Secondary Voltage Class:** 1.2 kV Class
**Secondary Phasor:** Wye-N
**Secondary BIL:** 30 KV

**Frequency:** 60 Hz

**Temperature Rise:** 80°C

**Cooling:** ANN

**Forced Air (Fans):** None

**Insulation Class:** Class H
**Tap Changer:** N/A
**Tap Qty:** (5) 2.5% Taps - (2) FCAN Above, (2) FCBN Below
**Tap %:** 2.5%

**Tap Changer Switch Location:** N/A

**Impedance (at 120°C):** 6%
**Primary Connection Type:** Terminal Lugs
**Primary Surge Arrestors:** N/A

**Ratings**

NRTL Listed for United States and Canada
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57.12.01
Complies with ANSI / IEEE C57 12.35
Complies with ANSI / IEEE C57.12.59
Complies with ANSI / IEEE C57.12.70
Meets/Exceeds DOE 2016 Efficiency Ratings
Meets/Exceeds CSA Efficiency Ratings
Meets or Exceeds NEMA ST-20 Standards
NEMA 3R Indoor/Outdoor Steel Enclosure
Seismic Qualified for Earthquake Loads
RoHS Certified
CE Certified

**Efficiency %:** 99.40%
*Based on transformer operating at 50% of nameplate base kVA.*

**Load Losses at 145°C Reference Temp.**
**No Load Loss (in watts):** +/- 3,320W
**Full Load Loss(in watts):** +/- 17,500W
**Total Load Loss (in watts):** +/- 20,820W

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

**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 Grounding Provisions:** N/A
**Secondary Connection Type:** Terminal Lugs
**Secondary Over Current Protection (OCP):** N/A
**Secondary Grounding Provisions: Lugs**
**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):** DOE 2016, IEEE, ANSI
**K-Factor Rating (Harmonic Mitigation):** K-1 (Standard)
**Temperature Sensors in Coil:** Included
**Temperature Gauge:** Included
**Seismic Bracing:** Included
**Weather Shield:** N/A
**Space Heaters:** N/A
**Winding Material: Copper**
**Ambient Temperature Rating:** 40°C
**Sound Level:** 61 dBA
**Elevation (Altitude) Rating:** 3300ft (1000 meters) Above Sea Level
**Enclosure Material:** Coated Steel
**Enclosure Rating:** NEMA 3R Weatherproof
**System Form Factor: N/A**
**Paint Type:** Epoxy Paint
**Finish: ANSI 61 Grey finish color**
**Mount: Pad Mount / Floor Mount**
**Dimensions:** 78.74"L x 59.05"W x 86.61"H
**Weight:** 9,038 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
**Fax:** 1-903-498-3364
**E-mail:** sales@larsonelectronics.com

**The MT-PDT-VPM-R7-DMW-2MVA-YE-A6-DZ-CZ-1Z-ZZ-Z-N3R-M1 Vacuum Pressure Impregnated Transformer from Larson Electronics converts three-phase 23900V Delta electrical current to three-phase 600V/347 Wye-N. This power distribution unit provides operators the ability to safely tap into and distribute 23900V AC power from a variety of sources, such as direct grid power. The entire system is secured to a skid mount platform.**

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

**Transformer Features:** With a transformer rating of 2000 KVA, the industrial dry type transformer features a primary voltage of three-phase 23900V AC Delta and a secondary voltage of three-phase 480Y/277 AC Wye-N. This transformer is equipped with a 2-position tap changer with five, +/- 2.5% taps (two FCAN above and two FCBN below) to allow small changes for voltage. The system has copper windings for high strength and electrical conductivity. This VPI transformer features minimized air gaps and voids in the insulation, leading to increased durability and thermal stability.

The MT-PDT-VPM-R7-DMW-2MVA-YE-A6-DZ-CZ-1Z-ZZ-Z-N3R-M1 does not have fans or mounting provision for fans.

**Transformer Efficiency:** The Class H transformer meets standard efficiency requirements. 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.

**Temperature Sensor:** The MT-PDT-VPM-R7-DMW-2MVA-YE-A6-DZ-CZ-1Z-ZZ-Z-N3R-M1 is equipped with temperature sensors inside the system for controls and monitoring. A monitoring service is not included with the transformer.

**Temperature Gauge:** This transformer comes with a temperature gauge.

**Load Break Switch:** This VPI transformer does not include a load break switch. We can add a load break switch at an additional cost.
**Surge Arresters:** This transformer does not include surge arresters. 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 surge arrestors that have mounting provisions for customer-provided surge arrestors.
**Control Transformer:** This VPI transformer does not include a control transformer. We can add a control transformer for operating equipment at an additional cost.
**Seismic Bracing:** This system does not include seismic bracing. We can add seismic bracing for added protection in areas prone to earthquakes at an additional cost.
**Weather Shield:** This transformer does not include a weather shield. We can add a weather shield for protection in outdoor areas, humid environments and rodents at an additional cost.
**Space Heaters:** This system does not include a space heater. We can add a space heater for preventing condensation during extended shutdown at an additional cost.
**Enclosure Design:** This VPI transformer is protected by a steel housing. The enclosure carries a NEMA 3R rating for protection from exposure to moisture, rain, dust and debris.
**Mount:** The power distribution unit is mounted atop a skid plate base that allows this transformer to easily be moved from one location to another using a forklift. The skid platform is designed for serious use and is ruggedly constructed to withstand demanding conditions and heavy duty industrial applications. The industrial grade skid platform can be modified to meet the needs of job-site requirements.
**Benefits:** The MT-PDT-VPM-R7-DMW-2MVA-YE-A6-DZ-CZ-1Z-ZZ-Z-N3R-M1 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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ELECTRONICS
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# Material Safety Data Sheet

To Whom It May Concern,

Larson Electronics LLC MT Series industrial line of transformers are considered "ARTICLES" under 29 CFR 1910-1200, the OSHA Hazard Communication Standard, and do not require a Material Safety Data Sheet (MSDS).

Articles are specifically exempt from the regulations of this standard. OSHA defines an article as follows:

1910-1200(c) – Article means a manufactured item other than a fluid or particle:

i. Which is formed to a specific shape or design during manufacture;
ii. Which has end use function(s) dependent in whole or in part upon its shape or design during end use; and
iii. Which under normal conditions does not release more than very small quantities.

Regards,

Ray Smith
Larson Electronics, LLC.



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# Certification

Manufacturer: Larson Electronics LLC
Address: 9419 US-HWY 175
Kemp, Texas 75143

**Declare the following equipment conforms to the standard(s) as listed:**

Model: MT Series
Description: Transformers

**Evaluated Listings:**

**CE:** DIRECTIVE 2014/35/EU - LOW VOLTAGE DIRECTIVE
**CE:** DIRECTIVE 2014/30/EU - EMC DIRECTIVE
**CE:** Regulation (EC) No 1907/2006 - REACH REGULATION
**CE:** DIRECTIVE 2015/863/EU - ROHS DIRECTIVE

The MT series complies with the essential protection requirements of the European Parliament of the Council Directive for Low Voltage Directive, EMC Directive, REACH Regulation, and RoHS Directive. This certification applies to all specimens manufactured in accordance to the manufacture's drawings.

Signed for and on behalf of: Larson Electronics, LLC
Place of issue: Kemp, TX

Signature: James Thomas

Name: James Thomas
Position: Operations Manager


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# Certification

Manufacturer: Larson Electronics LLC
Address: 9419 US-HWY 175
Kemp, Texas 75143

**Declare the following equipment conforms to the standard(s) as listed:**

Model: MT Series
Description: Transformers

**Evaluated Listings:**

**CE:** Regulation (EC) No 1907/2006 - REACH REGULATION
**CE:** DIRECTIVE 2015/863/EU - ROHS DIRECTIVE

This is to certify that products offered by Larson Electronics LLC comply with the Reduction of Hazardous Substances (RoHS) directives. Directive 2002/95/EC became effective on 1 July 2006. It restricts the use of six substances in the manufacture of electrical and electronic equipment. This directive was revised in June 2011 and is now referred to as directive 2011/65/EU. Directive 2015/863/EU amending Annex II to Directive 2011/65/EU announced plans to add four substances from 22 July 2019.

We hereby certify that the equipment specified above conforms to the Directive(s) by containing less of the restricted substances than the stated limits.

Signed for and on behalf of: Larson Electronics, LLC
Place of issue: Kemp, TX

Signature: James Thomas

Name: James Thomas
Position: Operations Manager



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# Certification

Manufacturer: Larson Electronics LLC
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**Declare the following equipment conforms to the standard(s) as listed:**

Model: MT Series
Description: Transformers

**Evaluated Listings:**

**CE:** Regulation (EC) No 1907/2006 - REACH REGULATION

This letter establishes the opinion of Larson Electronics LLC regarding the status, under the current European Union (“EU”) Regulations on Registration, Evaluation, Authorization, and Restriction of Chemical Substances (“REACH”).

REACH does not apply to manufactured products which are referred to as “completed articles”. Substances (chemicals) are subject to REACH registration, NOT products.

In addition, Articles are exempt from the REACH requirements if (a) the Article does not contain a substance of very high concern or candidate substance in an amount exceeding 0.1% weight by weight, and (b) if substances present in the Article in excess of 1 ton per year per importer are not expected nor intended to be released.

Based on communication with our raw material suppliers, we conclude that to the best of our knowledge our products requiring REACH compliance do not contain any of the currently listed SVHC in concentrations of 0.1% or above.

Accordingly, we foresee no registration or pre-registration requirement for the products we supply.

Signed for and on behalf of: Larson Electronics, LLC
Place of issue: Kemp, TX

Signature: James Thomas

Name: James Thomas
Position: Operations Manager



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# Certification

Manufacturer: Larson Electronics LLC
Address: 9419 US-HWY 175
Kemp, Texas 75143

**Declare the following equipment conforms to the standard(s) as listed:**

Model: MT Series
Description: Dry Type Transformers

**Evaluated Listings:**

**FCC:** Radio Frequency Emission & Authorization Status

The MT series of dry type DOE Efficiency, isolation, and control transformers complies with Federal Communications Commission requirements for Radio Frequency Emission & Authorization Status. This product is not capable of emitting rf energy and does not require FCC authorization. This certification applies to all specimens manufactured in accordance to the manufacture's drawings.

Signed for and on behalf of: Larson Electronics, LLC
Place of issue: Kemp, TX

Signature: James Thomas

Name: James Thomas
Position: Operations Manager


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# Frequently Asked Questions (FAQ)