Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664

## MT-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1

# 3.125 MVA Hermetically Sealed Substation Transformer - 13800Y/7968 Grounded Wye Primary, 550V Delta x 550Y/318 Wye-N Secondary - ONAN, Light Grey

**Product ID: 325116**

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



Image: MT-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1

**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-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1 Hermetically Sealed Transformer**

**Transformer Type:** Substation Power Transformer, Hermetically Sealed
**Transformer Configuration:** Liquid Filled Pad Mounted
**Transformer Feed Type:** Radial Feed
**Operation:** Approved for Step-Up and Step-Down Operations
**Phase:** Three Phase
**Capacity:** 3.125 MVA
**Vector Group:** YNynd5
**Primary Voltage:** 13800Y/7968
**Primary Voltage Switch:** N/A
**Primary Voltage Class:** 15 kV Class
**Primary Phasor:** Grounded Wye
**Primary BIL:** 95 kV
**Secondary Voltage:** 550V x 550Y/318
**Secondary Voltage Switch:** Included
**Secondary Voltage Class:** 1.2 kV Class
**Secondary Phasor:** Delta x Wye-N
**Secondary BIL:** 30 kV
**Frequency:** 60 Hz
**Temperature Rise:** 65°C

**Ratings**

Meets/Exceeds DOE 2016 Efficiency Ratings
Meets/Exceeds CSA Efficiency Ratings
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57 12.28
Complies with ANSI / IEEE C57 12.29
Complies with ANSI / IEEE C57 12.34
Complies with ANSI / IEEE C57 12.35
Complies with ANSI / IEEE C57.12.70
Complies with ANSI / IEEE C57.12.110
Complies with ANSI / IEEE C57.12.131
Complies with ANSI / IEEE C62.11
Complies with ANSI / IEEE C62.22
Complies with CSA C802.1
Complies with CSA C88-16
Complies with ANSI / IEEE C2
Complies with ANSI / IEEE C37.47
Complies with ANSI Z535.4
Complies with ASTM D3487
Complies with ASTM D6871

**Insulation Rating:** Class E Insulation - 120°C, 248°F
**Cooling Class:** ONAN; Self-Cooled
**Forced Air (Fans):** None
**Tap Changer:** 5-Position Off-Load Tap Changer
**Tap Qty:** (2) FCAN Above Taps, (2) FCBN Below Taps
**Tap %:** 2.5% Taps
**Tap Changer Switch Rating:** 15 kV, Off-Load Rated
**Tap Changer Switch Location:** High Voltage (HV) [Left Side]
**Impedance:** 5.75%
**Primary Connection Type:** Live Front
**Primary Termination Arrangement:** Side Mounted Terminals, Enclosed in NEMA 3 Terminal Box
**Primary Termination:** Porcelain Bushings
**Primary Connection Qty:** (3) Primary Connections
**Primary Bushing Rating:** 15 kV Class, 95 kV BIL
**Primary Neutral Connection:** Included
**Primary Surge Arrestors:** Included
**Primary Surge Arrestor Voltage Rating:** 15 kV
**Primary Surge Arrestor MCOV Rating:** 12.7 kV
**Primary Overcurrent Protection (OCP):** N/A
**Primary Overcurrent Protection Method:** N/A
**Primary Overcurrent Protection Holder:** N/A
**Primary Grounding Provisions:** (1) NEMA Ground Bar Attached to Tank via (2) Welded Ground Bungs
**Secondary Connection Type:** Live Front
**Secondary Termination Arrangement:** Side Mounted Terminals, Enclosed in NEMA 3 Terminal Box
**Secondary Connections:** Porcelain Bushings
**Secondary Connection Qty:** (4)
**Secondary Connection Supports:** N/A
**Secondary Over Current Protection (OCP):** N/A
**Secondary Neutral Connection:** Included
**Secondary Grounding Provisions:** (1) NEMA Ground Bar Attached to Tank via (2) Welded Ground Bungs
**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 Rating:** N/A
**Load Break Switch Location:** N/A
**Efficiency Standard(s):** Meets ANSI/IEEE Standards
**K-Factor Rating (Harmonic Mitigation):** K-1 (Standard)
**Pulse Drive Rating:** N/A
**Insulation Fluid:** Mineral Oil Insulating Fluid, Non-PCB Fluid
**Fluid (Oil) Capacity*:** -
**Fluid (Oil) Weight*:** -
**Oil Level Indicator:** Analog Dial Gauge, w/ Low Level Alarm Contacts
**Oil Temperature Indicator:** Analog Dial Gauge, w/ High Temp. Alarm Contacts
**Pressure/Vacuum Indicator:** Analog Dial Gauge, with Alarm and Trip Contacts
**Pressure Relief Device:** Included, Automatic Action, with Contacts
**Fault Indicator:** Included, Buchholz relay with Contacts
**Sudden Pressure Relay:** Included, with Contacts
**Gas Sampler Valve:** Included, Schrader Valve
**Fill Valve:** 1" NPT Port w/ Removable Bolt Plug, Globe Type
**Fill Valve Location:** -
**Oil Drain Valve:** 1" NPT Port w/ 5/8" NPT Sampler Valve
**Drain Valve Location:** Front Compartment
**Winding Material:** Copper

Complies with NEMA 260-1996
Complies with 10 CFR Part 431
Complies with CSA C2.1-06
Complies with CSA C50
Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C802-3
Complies with ANSI / IEEE 386
Complies with CSA C227.4 & C227.5

**Features**

Hot Stick Included, HV Door Mount
Penta-head Bolt Entry Assembly
High-Fire Point Insulating Fluid
Non-PCB Insulating Fluid
Tamper Proof Housing
Hinged Front Compartment Doors, Pad Lockable
NEMA 3 Wiring Compartment

**Efficiency %:** 98.00%
*Based on transformer operating at 50% of nameplate base kVA.*

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

**No Load Loss (in watts):** -
**Full Load Loss (in watts) at 100%:** -
**Total Load Loss (in watts) at 100%:** -

**Total Losses at 55°C LL Temp.& 20°C NL Temp.**

**Total Load Loss (in watts) at 50%:** -

***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

**Shipping:**

Shipped on pallet on open flatbed

**Ambient Temperature Rating:** 40°C
**Ambient Operating Temperature Range:** -30°C to +45°C (-50°F to +104°F)

**Sound Level:** 67 dBA

**Elevation (Altitude):** 3300ft (1000 meters) Above Sea Level
**Core Material:** Grain Oriented Steel
**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:** Metal Casing Liquid Filled Transformer
**Enclosure Rating:** NEMA 3R Weatherproof Wiring Cabinet, Sealed Tank
**Seismic Rating:** Category B
**Snow Load:** 45 psf

**Barometric Pressure Rating:** 12.3 PSIA
**Paint Type:** Weatherproof and UV Resistant Epoxy Coating and Undercoating
**Finish Color:** ANSI 61 Grey
**Mounting:** Skid Type Base w/ Lifting Lugs
**Conduit Opening:** Bottom Entry
**Tank Cover Access Handhole:** N/A
**Dimensions*:** -
**Dry Weight (w/o Oil)*:** -
**Total Weight (Liquid Filled)*:** -
*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
**Toll Free:** 1-800-369-6671
**Intl:** 1-903-270-1187
**Fax:** 1-903-765-7664
**E-mail:** sales@larsonelectronics.com

**The MT-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1 Hermetically Sealed Transformer from Larson Electronics offers powerful, reliable, and efficient power distribution in indoor or outdoor locations. The low operating costs, low heat emissions, and low cost of ownership make this transformer ideal for a wide range of applications and businesses. This air tight transformer does not have doors and must be installed in a contained or protected area away from public access.**

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

**Transformer Features:** The industrial transformer features a primary voltage of three-phase 13800Y/7968 Grounded Wye and a secondary voltage of three-phase 550V Delta x 550Y/318 Wye-N. This system carries the following rating: 3.125 MVA. The unit has a primary radial feed and live front primary connections. We also offer systems with loop feed and dead 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 in voltage.

The system features copper windings for high strength and thermal/electrical conductivity. This transformer consists of a rectangular coil and a 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-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1 is completely sealed and features air tight construction. Designed for long-term performance, the transformer is maintenance free.

**Temperature Rise:** This unit features a 40°C ambient temperature rating and a 65°C temperature rise for reduced heat waste, increased reliability, and longer life. At 65°C

temperature rise, the transformer offers 3.125 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-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1 features mineral oil (ONAN).

**Gauges:** The following gauges are included with the system: oil level indicator, oil thermometer, and pressure/vacuum gauge. Standard oil level indicator, oil thermometer, and pressure/vacuum gauges are analog, manual reading types.

**Fault Pressure Devices:** There is a fault pressure device on this unit. Fault pressure devices are used to detect high rates of pressure rise within the tank.

**Rapid Rise Relay:** There is a rapid rise relay on this 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 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 not equipped with a load breaker switch.

**Valves:** The MT-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-M1 is equipped with an oil drain valve, an oil sampling valve, and a pressure relief valve.

**Protection Fuses:** This transformer does not have bayonet protection fuses on the primary side. For units without protection fuses, upstream protection is provided. We recommend provisions for protection fuses when possible, as blown fuses may require more frequent oil changes.

**Terminal Connections:** The primary and secondary terminal connections are located on the side of the transformer. We can configure the location to be top located or top located for both the high voltage and low voltage sides.

**Mount:** This hermetically sealed transformer is equipped with a skid type base with lifting lugs.

**Benefits:** The MT-PSTH-R7-3P-GMP-3.125MVA-D.YRE-HNS-LNS-A6-BM-CZ-2ZZ-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, 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.

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664

# Frequently Asked Questions (FAQ)

There are no Faqs

**Export Control Classification Number (ECCN):** EAR99

Links (Click on the below items to view):

- **HigResPic1**( https://www.larsonelectronics.com/images/product/HigResPic1/325116.JPG )
- **Video1**( https://www.youtube.com/watch?v=4-JEyYeYcn8 )
- **ISO 9001 Certification**( http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF )
- **Business Certificate**( https://www.larsonelectronics.com/images/pdfdocs/w9.PDF )
- **Shipping Time Map**( https://www.larsonelectronics.com/images/product/ShippingTimeMap/ShippingTimeMap.pdf )