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MT-PSTH-R7-3P-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-M1

1-1.12/1.15-1.288 MVA Hermetically Sealed Substation Transformer - 4160V Delta Primary, 480Y/277 Wye-N Secondary - KNAN/KNAF, 55-65 Deg., White

Product ID: 310570



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-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-M1 Hermetically Sealed Transformer	Ratings
Transformer Type: Substation Power Transformer, Hermetically Sealed	Meets/Exceeds DOE 2016 Efficiency Ratings
Transformer Configuration: Liquid Filled Pad Mounted	Meets/Exceeds CSA Efficiency Ratings
Transformer Feed Type: Radial Feed	Complies with ANSI / IEEE C57.12.00
Operation: Approved for Step-Up and Step-Down Operations	Complies with ANSI / IEEE C57 12.28
Phase: Three Phase	Complies with ANSI / IEEE C57 12.29
Capacity (w/o Fans 55-65^{O}C): 1000 kVA (1 MVA)-1120 kVA (1.12 MVA)	Complies with ANSI / IEEE C57 12.34
Capacity (w/ Fans 55-65oC): 1150 kVA (1.15 MVA)-1288 kVA (1.288 MVA)	
Vector Group: Dyn11	Complies with ANSI / IEEE C57 12.35
Primary Voltage: 4160V	Complies with ANSI / IEEE C57.12.70
Primary Voltage Switch: N/A	Complies with ANSI / IEEE C57.12.110
Primary Voltage Class: 5 kV Class	Complies with ANSI / IEEE C57.12.131
Primary Phasor: Delta	Complies with ANSI / IEEE C62.11
Primary BIL: 60 kV	Complies with ANSI / IEEE C62.22
Secondary Voltage: 480Y/277	Complies with ANSI / IEEE 386
Secondary Voltage Class: 1.2 kV Class	Complies with ANSI / IEEE C2
Secondary Phasor: Wye-N	Complies with ANSI / IEEE C37.47
Secondary BIL: 30 kV	Complies with ANSI Z535.4
Frequency: 60 Hz	Complies with ASTM D3487
Temperature Rise: 55°C-65°C	Complies with ASTM D6871
Insulation Rating: Class E Insulation - 120°C, 248°F	Complies with NEMA 260-1996
Cooling Class: KNAN/KNAF; Self-Cooled/Fan-Cooled	Complies with 10 CFR Part 431
Forced Air (Fans): Included, 120V, 1-Ph, 60 Hz, 4.7A, 1/4Hp, 24" Diameter	Complies with CSA C2.1-06
Tap Changer: 5-Position Off-Load Tap Changer, w/ 3/8" Diameter Hole For Padlocking	Complies with CSA C50
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps	Complies with CSA C88
Tap %: 2.5% Taps	Complies with CSA C88.1

Tap Changer Switch Rating: 5 kV, Off-Load Rated
Tap Changer Switch Location: High Voltage (HV) [Left Side]
Impedance (@ 75°C): 5.75%
Primary Connection Type: Live Front
Primary Termination Arrangement: In-Line, Side Mounted Terminals, w/ NEMA 2-Hole Pads Enclosed In a Cabinet
Primary Termination: Porcelain Bushings
Primary Connection Qty: (3) Primary Connections
Primary Bushing Rating: 15 kV Class, 60 kV BIL, 250 A
Primary Neutral Connection: N/A
Primary Surge Arrestors: N/A
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 Over Current Protection Holder: N/A
Primary Grounding Provisions: N/A
Secondary Connection Type: Live Front
Secondary Termination Arrangement: In-Line, Side Mounted Terminals, w/ NEMA 6-Hole Pads Enclosed In a Cabinet
Secondary Connections: Porcelain Bushings
Secondary Connection Qty: (4)
Secondary Connection Rating: 1.2 kV Class, 30 kV BIL, 4515 A
Secondary Connection Supports: N/A
Secondary Over Current Protection (OCP): N/A
Secondary Neutral Connection: N/A
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: Appropriate For Use With 6-Pulse Drive Equipment On Secondary Side
Insulation Fluid: FR-3 Fluid, Non-PCB
Fluid (Oil) Capacity*: 358 Gallons
Fluid (Oil) Weight*: 2755 lbs
Oil Level Indicator: Analog Dial Gauge, w/ Contacts
Oil Temperature Indicator: Analog Dial Gauge, w/ Contacts
Pressure/Vacuum Indicator: Analog Dial Gauge, ± 10 PSI
Pressure Relief Device: Included, Automatic Action, w/ Contacts
Fault Indicator: N/A
Gas Sampler Valve: N/A
Fill Valve: N/A
Fill Valve Location: N/A
Oil Drain Valve: 1" NPT Port w/ 3/8" NPT Sampler Valve
Drain Valve Location: Front Compartment
Purge Valve: Included
Pressure Relief Valve: Included
Winding Material: Aluminum
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -40°C to +40°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: (4) Lifting Lugs, (4) Lifting Eyes For Cover Lifting, 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: Yes
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating

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

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 3R 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): TBD
Full Load Loss (in watts) at 100%: TBD
Total Load Loss (in watts) at 100%: TBD

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

Total Load Loss (in watts) at 50%: TBD

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
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

Finish Color: White
Mounting: Skid Type Base w/ Lifting Lugs
Conduit Opening: Bottom entry
Tank Cover Access Handhole: N/A
Height OF LV/HV Bushings From Base: 55 inches
Horizontal Spacing Between HV Bushings: 8.75 inches
Horizontal Spacing Between LV Bushings: 6 inches
Dimensions*: 84.7"-W x 73.7"-D x 88.1"-H
Dry Weight (w/o Oil)*: 5510 lbs
Total Weight (Liquid Filled)*: 8265 lbs
*Please note that numbers are approximate and subject to change

Special Orders - Special Requirements
Contact us for special requirements
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The MT-PSTH-R7-3P-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-M1 Hermetically Sealed Substation 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 makes 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 4160V Delta and a secondary voltage of three-phase 480Y/277 Wye-N. This system carries the following ratings: 1000-1120 KVA (KNAN, 55-65°C)/1150-1288 KVA (KNAF, 55-65oC). 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 for voltage. There are no load break switches, rapid rise relays, or protection fuses present on the system.

The system features aluminum 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-PSTH-R7-3P-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-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 50°C ambient temperature rating and a 55-65°C temperature rise for reduced heat waste, increased reliability, and longer life. At 55°C temperature rise, the transformer offers 1000-1120 KVA KNAN. At 65°C temperature rise, the transformer offers 1150-1288 KVA KNAF. 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-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-M1 features FR-3 insulating fluid (KNAN/KNAF).

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 the unit. 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 surge arresters on the primary and secondary 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-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-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, up stream 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-DNF-1MVA-YE-HNS-LNS-A6-CFF-AZ-1ZZ-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.

Frequently Asked Questions (FAQ)