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MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-CZ-2ZZ-M1

25/33.3/41.7-46.7 MVA Substation Power Transformer, Conservator Type - 64000V Delta Primary, 13800Y/7967 Grounded Wye Secondary - ONAN/ONAF/ONAF, Mineral Oil, Light Grey, 55-65°C

Product ID: 336448

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



Image: MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-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-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-CZ-2ZZ-M1 Conservator Transformer

Transformer Type: Substation Power Transformer, Conservator Type
Transformer Configuration: Liquid Filled
Transformer Feed Type: N/A
Operation: Step-Down Operation (Not Approved for Step-Up)
Phase: Three Phase
Capacity (w/o Fans, @ 55) 25 MVA (25,000 kVA)
Capacity (w/ Fans, Stage 1, @ 55): 33.3 MVA (33,300 kVA)
Capacity (w/ Fans, Stage 2, @ 55/65°C): 41.7 MVA (41,700 kVA)/46.7 MVA (46,700 kVA)
Vector Group: Dyn1
Primary Voltage: 64000V
Primary Voltage Switch: N/A
Primary Voltage Class: 72 kV Class
Primary Phasor: Delta
Primary BIL: 350 KV
Secondary Voltage: 13800Y/7967
Secondary Voltage Class: 15 kV Class
Secondary Phasor: Grounded Wye
Secondary Line BIL: 110 KV
Secondary Neutral BIL: 110 KV

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 CSA C227.4
Complies with CSA C802.1
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 ANSI / IEEE 386
Complies with ANSI / IEEE C2
Complies with ANSI / IEEE C37.47
Complies with ANSI Z535.4

Frequency: 60 Hz
Fault Current: 20 kA
Temperature Rise: 55-65°C
Insulation Rating: Class A Insulation
Cooling Class: ONAN/ONAF/ONAF
Forced Air (Fans): Included, Two-Stage
Cooling Radiator: Included, detachable radiator banks with shut-off valves
H.V Tap Changer: 33-Position On-Load Tap Changer (OLTC)
H.V Tap Qty: (16) FCAN Above Taps, (16) FCBN Below Taps
H.V Tap %: 0.625%
H.V Tap Changer Switch Rating: 72 kV
H.V Tap Changer Switch Location: H.V Side, Top Mounted
L.V Tap Changer: 5-Position De-Energized Tap Changer (NLTC)
L.V Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
L.V Tap %: 2.5%
L.V Tap Changer Switch Rating: 15 kV
L.V Tap Changer Switch Location: L.V Side, Top Mounted
Impedance (@ 25 MVA, 64 kV): 10.25%
Primary Connection Type: Live Front
Primary Termination Arrangement: Inline, Top Mounted
Primary Termination: Porcelain Bushings
Primary Bushing Qty: (3)
Primary Bushing Rating: 350 kV BIL, 800 A, 72 kV class, Porcelain, ANSI #70 Light Grey, Oil-Filled Condenser Type
Primary Neutral Connection: N/A
Primary Surge Arrestors: Included, (3) Metal Oxide, Station Class
Primary Surge Arrestor Voltage Rating: 72 KV
Primary Surge Arrestor MCOV Rating: 57 KV rms
Primary Overcurrent Protection (OCP): N/A
Primary Overcurrent Protection Holder: N/A
Primary Bushing CT: Included, (1) for Each Bushing 600:5 Ratio, 10L200 Accuracy Class, 1.33 Cont. RF, (1) for Each Bushing 400:5 Ratio, 10L200 Accuracy Class, 1.33 Cont. RF
Primary Grounding Provisions: N/A
Secondary Connection Type: Live Front
Secondary Termination Arrangement: Inline, Top Mounted
Secondary Termination: Porcelain Bushings
Secondary Bushing Qty: (4)
Secondary Bushing Rating: 95 kV BIL, 3000 A, 110 kV class, Porcelain, ANSI #70 Light Grey
Secondary Neutral Connection: Included, NGR
Secondary Overcurrent Protection (OCP): N/A
Secondary Bushing CT: Included, (1) for Each Bushing 2000:5 Ratio, 10L400 Accuracy Class, 1.33 Cont. RF, (1) for X2 Bushing 25:5 Ratio, 10L50 Accuracy Class, 1.33 Cont. RF
Secondary Surge Arrestors: Included, (3) Metal Oxide, Station Class
Secondary Surge Arrestor Voltage Rating: 15 kV Class
Secondary Surge Arrestor MCOV Rating: 12.7 kV rms
Secondary Grounding Provisions: Included, (2) grounding pads on tank base
Secondary Neutral Bushing CT: N/A
Metering Current Transformer (CT): Included
Metering Panel: Included
Auxiliary Control Panel : Included, Contains Power Sources 125 Vdc, 120/240 Vac-1Ph
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)
Current Total Harmonic Distortion: 5.0%

Complies with ASTM D3487
Complies with CSA C227.5
Complies with ASTM D6871
Complies with NEMA 260-1996
Complies with 10 CFR Part 431
Complies with CSA C2.1-06
Complies with CSA C802-3
Complies with CSA C50
Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C88-16
Complies With IEEE Std 693-2018

Features

Penta-head Bolt Entry Assembly
Non-PCB Insulating Fluid
Tamper Proof Housing
Hinged Front Compartment Doors, Padlockable
NEMA 4 Wiring Compartment
Hot Stick Included, HV Door Mount

Efficiency %: N/A
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 75°C Reference Temp.

Off-Load Loss (in watts): TBD
On-Load Loss (in watts): 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 Stenciled (Painted) KVA Rating
Externally Stenciled (Painted) Voltage Rating
External Non-PCB Label
External Warning & Danger Label
External Barcode Label
Internal Busing & Accessory Labeling
Stainless Steel Riveted Nameplate

Insulation Fluid: Mineral Oil (Non-PCB)
Oil Volume: 18,000 Liters
Fluid (Oil) Weight*:
Silica Gel Breather: Included
Liquid Level Indicator: Included, Magnetic Type, With High and Low alarm contacts (form "C" alarm contacts). An additional form “C” contact for low level rated at 20 amps 125 VAC for sump basin water pump
Winding Temperature Indicator: Included Thermometer, Messko, Type: MT-ST/60 VMR/4C/4M
Liquid Temperature Indicator: Included, Three-Stage Type, with minor alarm and major alarm contacts, (form "C" alarm contacts)
Pressure/Vacuum Indicator: Included, With Scale Range Of Plus Or Minus 10 PSI
Rapid Rise Relay: Included, Qualitrol Type 63X
Pressure Relief Device: Included, (2) cover-mounted extra-large mechanical type, (Qualitrol XPRD), mounted on diagonally opposite ends of the transformer cover, With automatic resealing operation, With 2-form "C" and 2-form "A" alarm contacts. “A” contact to I/O module. Other form “C” to terminal board 3, Includes mechanical signal for indication of device operation, Includes directional discharge outlet and applicable piping to direct discharge to a location approximately 1-foot above base of transformer, Includes screen at pipe exit to prevent animal ingress.
Transformer Monitor And I/O Processor: Included, Schweitzer SEL-2414 Transformer Monitor (P/N: 241421ABA913A3A0131), An SEL-2725S Ethernet Switch installed to network the SEL-2411 I/O Controller, SEL-2414 Transformer Monitor, SEL-2411 Load Tap Changer Controller
Nitrogen Oil Preservation System: Included With A Nitrogen Tank And All Necessary Accessories
Pressure Reducer: Included, Three-Stage
Gas Relay: Included
Fault Indicator: Included, Buchholz Relay
Gas Sampler Valve: N/A
Fill Valve: Included
Fill Valve Location: Top Mounted
Drain Valve: Included, (1) 2" globe type drain valve with a 3/8" sampler and brass plug
Drain Valve Location: N/A
Filter Valve: Included, (1) 1" globe type, with brass plug
Winding Material: Copper
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -32°C to +40°C
Design Wind Speed: 110 mph Nominal , 142 mph Ultimate
Sound Level: Complies with NEMA TR1 standard
Elevation (Altitude): 5000ft Above Sea Level
Core Material: Silicon Steel, Grain Oriented
Tank Material: Steel
Cabinet Material: Steel
Base Platform Material: Steel
Hardware Material: Stainless 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 4 Weatherproof
Seismic Rating: Zone 1
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: Munsell™ 5BG 7.0/0.4 Light Grey (ANSI #70)
Mounting: Supporting Structures
Conduit Opening: Bottom
Tank Cover Access Handhole: Included
Dimensions: 311.02"-W, 220.47"-D, 240.16"-H
Dry Weight (w/o Oil)*: 214,950.7 Lbs
Total Weight (Liquid Filled)*: 274,475.52 Lbs

Factory Tests:
Winding Resistance Test
Insulation Resistance Test
Load Loss (Wattage) Test
Voltage Ratio Error Test
Separate Source Voltage Withstand Test
Short-circuit Impedance Test
Induced Voltage Withstand Test
No-load Loss (Wattage) 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*

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

The MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-CZ-2ZZ-M1 Conservator Substation Transformer from Larson Electronics offers powerful, reliable, and efficient power distribution in outdoor locations. The low operating costs, low heat emissions, and low cost of ownership make this transformer ideal for demanding industrial and substation applications. This transformer features a conservator tank for oil expansion and is equipped with breather systems to maintain oil quality and insulation integrity. The conservator transformer should be installed on supporting structures.

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 64000V Delta and a secondary voltage of three-phase 13800Y/7967 Grounded Wye. This system is rated for 25 MVA (25,000 kVA) natural cooled (ONAN), 33.3 MVA (33,300 kVA) first stage fan cooled (ONAF), and 41.7 MVA (41,700 kVA) second stage fan cooled (ONAF). The transformer utilizes a Delta-Delta (Dd0) configuration, making it suitable for industrial applications requiring isolation without a neutral reference.

The unit features a 5-position de-energized tap changer (NLTC) with two +2.5% taps above and two -2.5% taps below nominal voltage for manual voltage adjustment. A rapid pressure rise relay is included for fault detection and system protection.

Cooling System: The MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-CZ-2ZZ-M1 is equipped with a two-stage forced air cooling system (ONAN/ONAF/ONAF). Radiators with integrated cooling fans provide enhanced heat dissipation during higher load conditions. This conservator-type system allows for oil expansion and contraction, improving thermal management and extending transformer life.

Temperature Rise: This unit features a 55-65°C temperature rise, providing a balance between efficiency, thermal performance, and lifespan. The transformer meets standard efficiency expectations for substation-class equipment.

Insulation Fluid: The MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-CZ-2ZZ-M1 utilizes mineral oil (non-PCB) as the insulating and cooling medium. Alternative fluids such as natural ester (FR-3) or biodegradable oils are available upon request.

Protection Features:

- Rapid pressure rise relay
- Buchholz (gas) relay for internal fault detection
- Pressure relief device
- Surge arresters on both primary and secondary sides
-

Gauges: The following gauges are included with the system: liquid level indicator, Fluid temperature indicator, Winding Temperature Indicator, pressure/vacuum indicator. Standard liquid level, temperature and pressure/vacuum gauges are analog dial types.

Fault Pressure Devices: There is a Rapid Pressure Rise Relay and Seal-In Relay on this unit.

Gas Relay: A gas relay with indicators for light gas and heavy gas is included with the transformer. The relay includes two Dry Type Form C auxiliary contacts (1NO + 1NC) for remote alarm when pressure rises above in-field set pressure located in auxiliary control cabinet.

Protection Fuses: This transformer does not include internal protection fuses. Protection is provided by upstream relays and circuit breakers.

Load Break Switch: The transformer is not equipped with load break switches.

Valves: The MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-CZ-2ZZ-M1 includes drain, fill, and filter valves for maintenance and oil handling.

Protection Fuses: This transformer does not have bayonet protection fuses. 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.

Mount: This conservator substation transformer is installed on supporting structures, such as the roof of the transformer main tank.

Benefits: The MT-PSTC-R7-3P-DJV-25MVA-GMP-HT-LT-X6-CMFF-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.

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Frequently Asked Questions (FAQ)

There are no Faqs

Warranty: 24 Months.

Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **HigResPic1**(https://www.larsonelectronics.com/images/product/HigResPic1/336448.JPG)
- **Video1**(https://www.youtube.com/watch?v=4-JEyYeYcn8)
- **Video6**(https://www.youtube.com/watch?v=olihKUo24KU)
- **Video7**(https://www.youtube.com/watch?v=Yez7eCilgDE)
- **Video8**(https://www.youtube.com/watch?v=Ac5BDPSy964)
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