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Product ID: 306743

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



Image:

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-DMP-21MVA-YNF-HS-LS-A6-BXF-CZ-2ZZ-M1 Conservator Transformer

Transformer Type: Substation Power Transformer, Conservator Type
Transformer Configuration: Liquid Filled Pad Mounted
Phase: Three Phase
Transformer Feed Type: Radial Feed
Capacity (w/o Fans): 21 MVA (21,000 KVA)
Capacity (w/ Fans): 37 MVA (37,000 KVA)
Primary Voltage: 13800V
Primary Voltage Class: 15 kV
Primary BIL: 110 kV
Primary Phasor: Delta
Secondary Voltage: 4160Y/2400
Secondary Voltage Class: 5 kV
Secondary BIL: 60 kV
Secondary Phasor: Wye-N
Vector Group: Dyn1
Frequency: 60 Hz
Temperature Rise: 65°C
Forced Air (Fans): Included, Weatherproof, enclosed type, equipped with hot-dipped galvanized guards, 480V, 3-phase, 60Hz Rating, auto controlled by both top oil temperature and winding hotspot temperature
Radiator: Included, galvanized steel, detachable from the transformer w/ butterfly valves,
Tap Changer: 5-Position De-Energized Tap Changer

Ratings

Listed for United States and Canada

Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.5% Taps
Impedance (Typical): 5.0-7.5% (Target 5.5%)
Primary Connection Type: Live Front
Primary Termination Arrangement: Side Mounted Porcelain Bushings
Primary Connection: NEMA 4-Hole Spade Terminals
Primary Connection Qty: (3) Primary Connections
Primary Bushing Rating: 15 kV Class, 95 kV BIL
Primary Neutral Connection: N/A
Primary Surge Arrestors: Included, gapless station class
Primary Surge Arrestor Voltage Rating: 15 kV
Primary Surge Arrestor MCOV Rating: 15 kV
Primary Over Current Protection (OCP): N/A
Primary Over Current Protection Method: N/A
Primary Over Current Protection Holder: N/A
Primary Current Transformer: Included, 2000:5 Ratio, C800 Accuracy Class For Each Phase
Primary Grounding Provisions: N/A
Secondary Connection Type: Live Front
Secondary Termination Arrangement: Side Mounted Porcelain Bushings
Secondary Connections: NEMA 4-Hole Spade Terminals
Secondary Connection Qty: (4)
Secondary Connection Supports: N/A
Secondary Over Current Protection (OCP): N/A
Secondary Neutral Connection: Included, 60 kV BIL
Secondary Surge Arrestors: Included, gapless station class
Secondary Surge Arrestor Voltage Rating: 5 kV
Secondary Surge Arrestor MCOV Rating: 3 kV
Secondary Current Transformer: Included, 2000:5 Ratio, C800 Accuracy Class For Each Phase
Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs
Insulation Fluid: ERGON HyVolt II NG Insulating Fluid, Non-PCB Fluid
Fluid Capacity: TBD
Cooling Class: ONAN/ONAF
Liquid Preservation System: Included, Sealed Tank Per IEEE C57.12.10
Hot Spot Monitoring System: Qualitrol® T/Guard 408
Dissolved Gas Analyzer: Serveron TM8 On-Line
Liquid Level Gauge: Included, Magnetic Type w/ (2) Contacts
Liquid Temperature Gauge: Included, Analog Type w/ (2) Contacts
Pressure/Vacuum Gauge: Included, Analog Type w/ (2) Contacts
Fault Pressure Device: None
Pressure Relief Valve: Included, w/ (2) Contacts
Fill Valve: Included
Drain Valve w/ Sampler Port: Included
Rapid Rise Relay: None
Load Break Switch: N/A
Winding Material: Copper
Tank Material: Coated Carbon Steel
Cabinet Material: Coated Carbon Steel
Base Platform Material: Coated Carbon Steel
Hardware Material: Stainless Steel
Enclosure Rating: NEMA 4X Weatherproof
Core Construction: IAW *9774 SPEC
No Load Loss: Complies with IEEE C57.120

Full Load Loss: Complies with IEEE C57.120
Ambient Temperature Range: -7.83°C to 39.83°C
Seismic Design: Included, Risk Category IIV, Sie Class D
Sound Level: TBD
Cabinet Type: No Doors
Paint Type: ANSI 61 Grey
Mounting: Pad Mounted
Conduit Opening: N/A
Dimensions: TBD
Weight: TBD

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-PSTC-R7-3P-DMP-21MVA-YNF-HS-LS-A6-BXF-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 makes this transformer ideal for a wide range of applications and businesses. This transformer ensures extra space for storing oil and is equipped with breathers to facilitate air flow. 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 13800V Delta and a secondary voltage of three-phase 4160Y/2400 Wye-N. This system is rated for 21 MVA (21,000 KVA) [Natural Cooled] / 37 MVA (37,000 KVA) [Fan Cooled]. We offer systems with loop or radial feed, as well as dead front or live 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 rapid rise relays and protection fuses present on the system.

The system features Copper 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-PSTC-R7-3P-DMP-21MVA-YNF-HS-LS-A6-BXF-CZ-2ZZ-M1 has fans for forced air cooling. This non-sealed system features breathers for cooling when operating temperatures increase.

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 21 MVA (21,000 KVA) [Natural Cooled] / 37 MVA (37,000 KVA) [Fan Cooled]. 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-PSTC-R7-3P-DMP-21MVA-YNF-HS-LS-A6-BXF-CZ-2ZZ-M1 features ERGON HYVolt II NG fluid (ONAN/ONAF). We offer transformers with biodegradable or FR-3 fluids, 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.

Fault Pressure Devices: There are no fault pressure devices 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 both primary and secondary sides. Surge arresters are 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 load breaker switches.

Valves: The MT-PSTC-R7-3P-DMP-21MVA-YNF-HS-LS-A6-BXF-CZ-2ZZ-M1 is equipped with a pressure relief valve, fill valve and drain valve with sampler port.

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.

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

Benefits: The MT-PSTC-R7-3P-DMP-21MVA-YNF-HS-LS-A6-BXF-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

Product ID: 306743

Warranty: 24 Months.

Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **Operations Manual**(https://www.larsonelectronics.com//images/product/Manual/306743.PDF)
- **HigResPic1**(https://www.larsonelectronics.com//images/product/HigResPic1/306743.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)
- **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)