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MT-PSTC-R7-3P-GXQ-50.4MVA-DMA-HT-LNT-X5-AMF-CZ-2ZZ-M1

50.4/63 MVA Substation Power Transformer, Conservator Type - 132000Y/76210 Grounded Wye Primary, 34500V Delta Secondary - ONAN/ONAF, Mineral Oil - Light Grey - NEMA 4X

Product ID: 311504



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-GXQ-50.4MVA-DMA-HT-LNT-X5-AMF-CZ-2ZZ-M1 Substation 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): 50.4 MVA (50,400 KVA)
Capacity (w/ Fans): 63 MVA (63,000 KVA)
Vector Group: YNd11
Primary Voltage: 132000Y/76210
Primary Voltage Switch: N/A
Primary Voltage Class: 145 kV Class
Primary Phasor: Grounded Wye
Primary BIL: 550 KV
Primary Power Frequency Withstand Voltage: 220 KV
Secondary Voltage(s): 34500V
Secondary Voltage Class: 35 kV Class
Secondary Phasor: Delta
Secondary BIL: 150 kV
Dual Secondary Winding Switch: N/A
Frequency: 50 Hz
Temperature Rise: 55°C
Insulation Rating: Class A Insulation
Cooling Class: ONAN/ONAF
Forced Air (Fans): Included, 120/240V-1Ph rating, totally Enclosed, Individually Protected Type, Fan Blades Of One-Piece Cast aluminum, Galvanized Fan Guards. Fan Motors Are Totally Enclosed And Furnished Without Centrifugal Switches.
Cooling Radiator: Included, Has Upper And Lower Drain Plugs, ANSI #70 Sky Grey,

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 Z535.4
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 C37.47
Complies with ANSI / IEEE 386
Complies with ANSI / IEEE C2
Complies With IEEE Std 693-2018
Complies with CSA C802-3
Complies with CSA C802.1
Complies with CSA C2.1-06
Complies with CSA C50
Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C88-16
Complies with CSA C227.4

Contains Individual Shut-Off Valves, Interchangeable
H.V Tap Changer: 5-Position No-Load Tap Changer (NLTC), all stationary and movable contacts are silver plated and non-coking
H.V Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
H.V Tap %: 2.5%
H.V Tap Changer Switch Rating: 145 KV
H.V Tap Changer Switch Location: H.V Side, on the tank wall lower than eye level
L.V Tap Changer: 17-Position On-Load Tap Changer (OLTC)
L.V Tap Qty: (8) FCAN Above Taps, (8) FCBN Below Taps
L.V Tap %: 1.25%
L.V Tap Changer Switch Rating: 35 KV
L.V Tap Changer Desiccant Venting System: Included, SPX Transformer Solutions Dual Column Breather (DCB) part number DCB-A00
L.V Tap Changer Oil Filtration System: Included, Equipped with motor 240 V operation
L.V Tap Changer Motor: Included, 240 V operation
L.V Tap Changer SCADA Monitoring: Included, An Incon Model 1250 LTC system is provided with a Model 1250 LTC-4-R-S-120 remote receiver for indication of the OLTC tap position
L.V Tap Changer Communication: One main microprocessor-based Beckwith M-2001C comprehensive OLTC voltage regulating relay with M-2067 adapter is provided and adapted to the owner's control requirements. The control includes RS-232 and RS-485 ports for remote communication.
L.V Tap Changer Switch Location: L.V Side
Impedance (@ 63 MVA, 75oC): 12.5%
Primary Connection Type: Live Front
Primary Termination Arrangement: Inline, Top Mounted
Primary Termination: NEMA 4-Hole Pad connectors, Hitachi ABB China OIP bushings
Primary Bushing Qty: (4)
Primary Bushing Rating: 145 KV Class, 650 KV BIL, 600 A, 275 KV Power Frequency Withstand Voltage, Porcelain, ANSI #70 light Grey, Includes Visible Oil Level Indicator "Sight Glass", Oil-Filled Condenser Type
Primary Neutral Connection: Included, 145 KV Class, 350 KV BIL, 140 KV Power Frequency Withstand Voltage
Primary Surge Arrestors: Included, (3) Metal Oxide Polymer Housed Station Class, ANSI #70 Sky Grey, Connected to stainless steel ground pad at the base of the transformer
Primary Surge Arrestor Voltage Rating: 108 KV
Primary Surge Arrestor MCOV Rating: 84 KV rms
Primary Over Current Protection (OCP): N/A
Primary Bushing CT: Included, (2) Per Each Phase (1200:5 MR, C800 Accuracy Class, 2.0 Rating Factor) & (1) Per Each Phase (250:5 SR, 0.3% Metering Accuracy Class, 2.0 Rating Factor)
Primary Over Current Protection Holder: N/A
Primary Grounding Provisions: N/A
Secondary Connection Type: Live Front
Secondary Termination Arrangement: Inline, Top Mounted in Air-Filled Cable Box
Secondary Termination: NEMA 4-Hole Pad connectors, Hitachi ABB China OIP bushings
Secondary Bushing Qty: (4)
Secondary Bushing Rating: 170 KV Class, 200 KV, 70 Power Frequency Withstand Voltage, 3000 A, Porcelain, ANSI #70 light Grey, Includes Visible Oil Level Indicator "Sight Glass", Oil-Filled Condenser Type
Secondary Neutral Connection: N/A
Secondary Over Current Protection (OCP): N/A
Secondary Bushing CT: Included, (2) Per Each Phase (2500:5 MR, C400 Accuracy Class, 2.0 Rating Factor) & (1) Per Each Phase (2500:5 SR, 0.3% Metering Accuracy Class, 2.0 Rating Factor)
Secondary Surge Arrestors: Included, (3) Metal Oxide Polymer Housed Station Class, ANSI #70 Sky Grey, Connected to stainless steel ground pad at the base of the transformer
Secondary Surge Arrestor Voltage Rating: 27 KV
Secondary Surge Arrestor MCOV Rating: 21.6 KV
Secondary Grounding Provisions: Included, (2) Grounding Pads Located On Diagonally Opposite Corners Of The Tank Base For Grounding Of The Transformer With Bolt Type Connectors For Connection To 2/0 to 500 KCMIL Stranded Copper conductor
Neutral Bushing CT: Included, (2) (1250:5 MR, C400 Relaying Accuracy Class, 2.0 Rating Factor))
Metering Current Transformer (CT): Included
Metering Panel: Included
Control Protection Voltage : Included, 110 V DC

Complies with CSA C227.5
Complies with NEMA 260-1996
Complies with ASTM D6871
Complies with 10 CFR Part 431
Complies with ASTM D3487

Features

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

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

Load Losses Based on 75°C Reference Temp. (@ 85oC)
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

Auxiliary Control Panel : Included, 400/220 V AC
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%
Insulation Fluid: Mineral Oil - Type II - Non-PCB Fluid
Fluid (Oil) Capacity*: TBD
Fluid (Oil) Weight*: TBD
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, (63) Qualitrol 910-013-03
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, and 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: A 2", NPT threaded IPS, gate type valve with malleable iron pipe plug are provided for the main tank, located just below the top. A 1.5", NPT threaded IPS, gate type valve, with malleable iron pipe plug, are provided for the OLTC compartment
Fill Valve Location: Away from the vacuum hose attachment points to prevent oil from entering the vacuum system
Drain Valve: One 2" and one 1.5", NPT threaded IPS, gate type drain valve with sampling device and malleable iron plug are provided for the main tank and for the OLTC compartment respectively
Drain Valve Location:
Winding Material: Copper
Ambient Temperature: 30°C
Ambient Operating Temperature Range: -20°C to +40°C
Sound Level: Complies to NEMA TR-1
Elevation (Altitude): 3300ft (1000 meters) Above Sea Level
Core Material: Silicon Steel, Grain Oriented
Tank Material: Coated Steel
Cabinet Material: Coated Steel
Base Platform Material: Coated 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 4X Weatherproof
Seismic Rating: Zone 1
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: ANSI #70 Light Grey
Mounting: Supporting Structures
Conduit Opening: N/A
Tank Cover Access Handhole: Included
Dimensions: TBD
Dry Weight (w/o Oil)*: TBD
Total Weight (Liquid Filled)*: TBD
*Please note that numbers are approximate and subject to change

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

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