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MT-PSTH-R7-3P-GMA-12MVA-DNF-HNS-LNS-X6-BMF-CZ-2ZZ-M1

12/16 MVA Hermetically Sealed Substation Transformer - 34500Y/19920 Grounded Wye Primary, 4160V Delta Secondary - ONAN/ONAF - Grey - NEMA 4X

Product ID: 309092



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-GMA-12MVA-DNF-HNS-LNS-X6-BMF-CZ-2ZZ-M1 Substation Transformer

Transformer Type: Substation Power Transformer, Hermetically Sealed Type
Transformer Configuration: Liquid Filled Pad Mounted
Phase: Three Phase
Transformer Feed Type: Radial Feed
Capacity (w/o Fans): 12 MVA (12,000 KVA)
Capacity (w/ Fans): 16 MVA (16,000 KVA)
Primary Voltage: 34500Y/19920
Primary Voltage Class: 35 kV
Primary BIL: 200 kV
Primary Phasor: Grounded Wye
Secondary Voltage: 4160V
Secondary Voltage Class: 5 kV
Secondary BIL: 60 kV
Secondary Phasor: Delta
Vector Group: Yd1
Frequency: 60 Hz
Temperature Rise: 65°C
Forced Air (Fans): Included, 480VAC, 3PH, 60Hz, w/ 208/120VAC, 60Hz Control Cabinet
Radiator: Included, Removable Cold Rolled Steel
HV Tap Changer: 5-Position De-Energized Tap Changer, Manual
HV Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
HV Tap %: 2.5% Taps
HV Rating: 35 kV

Ratings

Listed for United States and Canada
Outdoor

LV Tap Changer: 33-Position On Load Tap Changer (OLTC), Mfr: Reinhausen, Type: RMV-II,w/ Operation Counter

LV Tap Qty: (16) FCAN Above Taps, (16) FCBN Below Taps

LV Tap %: 5/8%

LV Rating: 5 kV

Impedance (Typical): 5.0-7.5%

Primary Connection Type: Live Front

Primary Termination Arrangement: Side Mounted Porcelain Bushings

Primary Connection: Overhead Conductor

Primary Connection Qty: (4) Primary Connections

Primary Size: ACSR #477 MCM (HAWK). NEMA 4-hole connectors to be supplied on bushings

Primary Entry: Primary Silicon Rubber Bushings

Primary Bushing Rating: 35 kV Class, 200 kV BIL

Primary Neutral Connection: Included

Primary Surge Arrestors: Included, (3) High Elbow Surge Arrestors

Primary Surge Arrestor Voltage Rating: 35 KV

Primary Surge Arrestor MCOV Rating: 29 KV rms

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, (2) Per Each Phase, C400 Accuracy Class, 300:5A MR

Primary Neutral Current Transformer: Included, (2) 2.5L100 Accuracy Class, 200:5A MR

Primary Grounding Provisions: Included

Secondary Connection Type: Live Front

Secondary Termination Arrangement: Side Mounted Porcelain Bushings

Secondary Connections: Cable Connection

Secondary Connection Qty: (3)

Secondary Size: 6-1#500 MCM TECK90 single conductors per phase

Secondary Entry: NEMA 4X Terminal Box (top & bottom entry) - Bushing with silicon rubber insulators

Secondary Connection Supports: N/A

Secondary Over Current Protection (OCP): N/A

Secondary Current Transformer: Included, (2) Per Each Phase, C400 Accuracy Class, 3000:5A MR

Secondary Neutral Connection: N/A

Secondary Surge Arrestors: Included, (3) High Elbow Surge Arrestors

Secondary Surge Arrestor Voltage Rating: 5 KV

Secondary Surge Arrestor MCOV Rating: 5 KV rms

Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs

Core Grounding Connection: In a weather proof box outside of tank (NEMA 4X)

Insulation Fluid: Mineral Oil Insulating Fluid - Non-PCB Fluid

Fluid Capacity: TBD

Cooling Class: ONAN/ONAF

Liquid Preservation System: Included, Sealed Tank Per IEEE C57.12.10

Liquid Level Gauge: Included, Magnetic Type, w/ Contacts

Liquid Temperature Gauge: Included, Analog Type, w/ Contacts

Winding Temperature Gauge: Included, Analog Type, w/ Contacts

Pressure/Vacuum Bleeder & Purge Valve: Included, Analog Type

Fault Pressure Device: N/A

Pressure Relief Valve: Included, w/ Contacts

Cut-Off Switch: Included

Fill Valve: Included

Drain Valve w/ Sampler Port: Included

Rapid Rise Relay: Included

Load Break Switch: N/A

Winding Material: Copper
No Load Loss: TBD
Full Load Loss: TBD

Service Location: Outdoor

Ambient Temperature Rating: 50°C
Sound Level: < 78 dBA

Environment: Trace amounts of H2S, SO2 and coke dust, corrosive environment

Cabinet Rating: NEMA 4X Weatherproof
Paint Type: Munsell™ 5BG 7.0/0.4 Light Grey (ANSI #70)
Mounting: Pad Mounted
Conduit Opening: TBD
Dimensions: 255"-W x 183.86"-D x 215.35"-H
Weight: 99,185.97 lbs

Special Orders - Special Requirements
Contact us for special requirements
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The MT-PSTH-R7-3P-GMA-12MVA-DNF-HNS-LNS-X6-BMF-CZ-2ZZ-M1 Hermetically Sealed 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 34500Y/19920 Grounded Wye and a secondary voltage of three-phase 4160V Delta. This system is rated for 12 MVA (12,000 KVA) [Natural Cooled] / 16 MVA (16,000 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.

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-PSTH-R7-3P-GMA-12MVA-DNF-HNS-LNS-X6-BMF-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 12 MVA (12,000 KVA) [Natural Cooled] / 16 MVA (16,000 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-PSTH-R7-3P-GMA-12MVA-DNF-HNS-LNS-X6-BMF-CZ-2ZZ-M1 features mineral oil 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 is a rapid rise relay 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-PSTH-R7-3P-GMA-12MVA-DNF-HNS-LNS-X6-BMF-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 substation transformer should be installed on supporting structures, such as the roof of the transformer main tank.
Benefits: The MT-PSTH-R7-3P-GMA-12MVA-DNF-HNS-LNS-X6-BMF-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.

Frequently Asked Questions (FAQ)