

MT-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-M1

167 KVA CSP Overhead Distribution Transformer, Pole Mount, 12470V Delta Primary, 120V Secondary, FR-3/KNAN, Copper, Tap Changer, Light Grey

Product ID: 322739



Image: MT-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-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-UCSP-R7-1P-DMR-167KVA-SW-BZ-A6-BF-CZ-1PZ-M1 Pole Mount Overhead

Transformer

Transformer Type: Overhead Distribution Transformer, Completely Self Protected Type

Transformer Configuration: Liquid Filled Pole Mounted

Transformer Polarity Type: Subtractive

Phase: Single Phase

Capacity: 167 KVA

Primary Voltage: 12470V

Primary Voltage Switch: N/A

Primary Voltage Class: 15 kV Class

Primary Phasor: Delta

Primary BIL: 95 kV

Secondary Voltage: 120V (L-N)

Secondary Voltage Class: 1.2 kV Class

Secondary Phasor: Single Winding, Single Phase

Secondary BIL: 30 KV

Frequency: 60 Hz

Temperature Rise: 65°C

Insulation Rating: Class E Insulation - 120°C, 248°F

Forced Air (Fans): None

Cooling Class: KNAN; Self-Cooled

Tap Changer: 5-Position Tap Changer w/ External Operating Handle

Tap Qty: (2) FCAN Above, (2) FCBN Below

Tap %: 2.5%

Tap Changer Switch Location: Side of Tank Body

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings

Complies with ANSI / IEEE #C57.12.00

Complies with ANSI / IEEE #C57.12.20

Complies with ANSI / IEEE #C57.12.28

Complies with ANSI / IEEE #C57.12.31

Complies with ANSI / IEEE C57.12.70

Complies with ANSI / IEEE C57.12.80

Complies with ASTM D3487

Non-PCB Insulating Fluid

Lifting Lugs Included

Completely Self Protected (CSP) Unit

Primary Lightning Arrestors

Primary Current Limiting Fuses

Under Oil Interrupter Switch

Thermal Magnetic Interrupter

LV Circuit Breaker

Emergency Bypass Switch

Efficiency: 99.2%

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

Load Losses Based on 85°C Reference Temp.

No Load Loss (in watts): +/- 455W

Impedance: 1.0-4.5% Typical
Primary Connection Type: Live Bushing Lug
Primary Termination: Porcelain High Voltage Bushing
Primary Bushing Rating: 15 kV Class, 95 kV BIL, 250A, Porcelain Bushings
Primary Connection Qty: (2)
Primary Lightning Arrestors: N/A
Primary Lightning Mounting Provision: Mounting Provisions for Installing Lightning Arrestors on H1 and H2 Primary Terminals
Primary Lightning Arrestors Voltage Rating: N/A
Primary Lightning Arrestors MCOV Rating: N/A
Primary Overcurrent Protection (OCP): Weak Link Fuses, Interrupter Switch
Primary Overcurrent Protection Method: External Arrestors, Oil-Immersed Fuses, Oil Level Float, Thermal
Secondary Connection Type: Live Bushing Lug
Secondary Connections: Live Bushing Lugs
Secondary Connection Qty: (2)
Secondary Neutral Connection: Secondary X2 Neutral Grounded to Tank via 1/2"-13 UNC Tapped Hole, 7/16" Deep Bung & Copper Ground Strap
Secondary Overcurrent Protection (OCP): Magnetic Circuit Breaker w/ Thermal and Current Protection & Emergency Bypass Switch
Terminals: Tin Plated Primary and Secondary - Accepts Copper or Aluminum Connections
Grounding Provisions: (1) Lug w/ Grounding Strap, Tank Grounding Lug
Transformer Protection: Secondary Circuit Breaker w/ External Operating Handle
Load Break Switch: N/A
Efficiency Standard(s): Meets DOE 2016 Standards, Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: Enviro-temp FR-3 Insulating Fluid, Non-PCB Fluid
Fluid Capacity*: 33.73 Gallons
Fluid Weight*: 304.23 LBS
Liquid Level Indicator: Analog Dial Gauge
Temperature Indicator: Analog Dial Gauge
Pressure/Vacuum Indicator: Analog Dial Gauge
Pressure Relief Device: Automatic Action, Combination Fault Indicator & Pressure Relief Device, (comparable to IFD Corporation part number IFD-ORCA-10PSI-aA), Resettable, Installed on Tank Body
Fault Indicator: Combination Fault Indicator & Pressure Relief Device
Oil Level Marking: Internal
Fill Valve: N/A (Tank Filled via Removable Lid)
Drain Valve: 1/2" NPT Port w/ Removable Bolt
Bird Guard: Included
Winding Material: Copper
Ambient Temperature Rating: 40°C
Sound Level: 55 dBA
Elevation Level: 3,300ft Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: Coated Steel
Housing Material: Coated Steel w/ Corrosion Resistant Cover Band, Removable Top Cover
Hardware Material: Stainless Steel Hardware
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: Munsell™ 5BG 7.0/0.4 Light Grey (ANSI #70)
Mounting: Double Hanger Bracket
Mounting: Pole Mount via Hanger Brackets
Lifting Lugs: Included
Dimensions*: 43.31"-W x 35.04"-D x 51.18"-H
Tank Diameter*: 24" OD
Dry Weight*: 749.56 Lbs
Total Weight (Liquid Filled)*: 1542 lbs

*Please note that numbers are approximate and subject to change

Full Load Loss (in watts): +/- 1,833W
Total Load Loss (in watts): +/- 2,288W

Note: Losses offered are typical only, not guaranteed

Routine Tests

Polarity Test
Ratio Test
No-load losses (NLL) and excitation current Test
Load losses (LL) and impedance voltage Test
Dielectric Impulse Test
Applied voltage Test
Induced voltage Test
Leak Test

Special Orders - Special Requirements

Contact us for special requirements

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The MT-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-M1 Completely Self Protected (CSP) Overhead Distribution Pole Mounted Transformer from Larson Electronics offers powerful, reliable and efficient power distribution in outdoor and public locations. The low operating costs, low heat emissions and low cost of ownership make this transformer ideal for a wide range of applications and businesses. This power distribution system is designed for overhead, pole mount installations and use.

****PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS****

Transformer Features: With a transformer rating of 167 kVA, the industrial transformer features a primary voltage of 12470V Delta and a secondary voltage of single-phase 120V (L-N). This transformer connects to a three phase electrical grid system to provide single phase low voltage power for indoor distribution. This pole mount transformer features porcelain high-voltage, dual bushings on the primary side and two bushings on the secondary side. Equipped with copper windings and a grain oriented steel core, this overhead distribution transformer consists of one coil and two core loops. Tin plated terminals on the primary and secondary sides accept copper or aluminum connections.

Completely Self Protected Features: This CSP transformer provides protection from voltage spikes, over-current scenarios, low oil conditions, and overheating conditions. Before the primary bushings on the input voltage side, this transformer is equipped with surge arresters to prevent damage to the transformer from lightning strikes and over-voltage situations that could damage the internal components. On the inside of the tank before the transformer coil are oil-immersed current sensing weak link fuses to protect the transformer coil from an over-current situation from the primary side. Within the tank is an interrupter switch with an oil-level float to detect low oil situations, and automatically disconnects the transformer coil from the grid if the oil level is too low, which could result in overheating the transformer. On the secondary side, a magnetic temperature sensor monitors internal temperature and will disconnect the transformer from secondary loads when temperatures reach the overheating point. A low voltage circuit breaker is equipped on the secondary side to protect this transformer from an overload situation from the secondary output current. An emergency overload switch is provided for utilities to bypass the secondary protection in emergency situations. This CSP transformer is completely self-protected from all major points of external sources that could damage the transformer while under normal operation.

The MT-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-M1 is air cooled and does not have fans or mounting provisions for fans. This unit features a 65°C temperature rise for reduced heat waste, increased reliability and longer life. 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-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-M1 features FR-3 cooling fluid (KNAN). Internal marking is available for proper oil level monitoring. We offer transformers with biodegradable fluid, 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% load conditions, which helps preserve the transformer's lifespan and performance.

Gauges: There are liquid level, temperature and pressure/vacuum gauges on this transformer. Standard liquid level, temperature and pressure/vacuum gauges are analog, manual reading types.

Pressure Relief Device: An automatic pressure relief device is included with this transformer.

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 is not equipped with lightning arresters. Mounting provisions for installing customer provided lightning arrestor on the H1 and H2 primary terminals are included for installing arresters in-field.

Valves: The MT-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-M1 is not equipped with fill or drain valves. The transformer can be filled via removing the top lid. A drain port w/ bolt plug is equipped.

Protection Fuses: This transformer does not contain fuses or circuit breakers. 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: The heavy-duty enclosure makes the unit suitable for outdoor applications. Equipped with hanger brackets and lifting lugs, this overhead power distribution system can be mounted on poles.

Benefits: The MT-UCSP-R7-1P-DMR-167KVA-SW-BB-A6-BF-CZ-1PZ-M1 heavy-duty 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, public locations, manufacturing facilities, steel plants, offshore, commercial, military, processing plants, electric power distribution, utilities, public locations 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