



Linear Transformer Rectifier (T/R) Set Technical Specifications

Description

These specifications are for Linear T/R sets rated from 30 to 130 kVDC output.

Thermal Characteristics

Minimum Ambient Temperature	-30° C
Maximum Avg. Ambient Temperature (24 hr)	40° C (50° C optional)
Maximum Oil Temperature Rise	55° C (45° C optional)
Maximum Tank Surface Temperature	85° C
Maximum Relative Humidity	100%
Maximum Permissible Altitude	1000 m (3300 ft)
Maximum Allowable Internal HV Duct Temp	100° C

Electrical Ratings

Short Circuit Impedance	8-15%
Diode Bridge Assembly (PIV) rating	180 kPIV for outputs up to 100 kVpk 220 kPIV for 110 kVpk
Insulation Class	A
Winding Conductor Material (primary)	Aluminum sheet
Winding Conductor Material (secondary)	Copper wire
Design Form Factor	1.4 (1.2 optional)
Oil Level Switch Ratings	15A @ 120, 240 or 480 VAC
Temperature Switch Ratings	15A @ 120, 240 or 480 VAC
Minimum Ground Wire size	#2 AWG Cu. per NEC, section 250 (35 mm ² Cu)
Input Termination	5/8"-11 UNC(≤400 AAC) or 1"-8 UNC (≥ 400 AAC), Copper Stud
Output Termination	6061 Al corona ring, 4 ea. 1/4-20UNCF and 1 ea. 1/2" NPT hole, (7mm)
External Safety Ground Termination	304L SS ground pad, 1/2-13 UNC (7 mm) per ANSI C57.12.10.5.5
Low Voltage feed thru	#14 AWG stranded copper, Teflon insulation



Physical Specifications

Tank Material	10 GA (3.4 mm) 1018 hot rolled steel
Maximum operating internal tank pressure	4 psig (276 mbar)
Maximum internal tank design pressure	7 psig (483 mbar)
Pressure relief valve setting	4 psig (276 mbar)
Nameplate material	Aluminum .032" (1.3 mm) thick
Fill coupling	1" NPT, (25 mm)
Drain	1" NPT, (25 mm)
Lid	Removable, clamped, access to entire tank
Mounting	0.75" (18 mm) diam., 4 places
Liquid Level Gauge	Hi-Low @ 25° C (optional normally open/normally closed contacts)
Temperature Gauge	0-160° C, N/O, N/C contacts standard (optional dual contacts)
Pressure/Vacuum Gauge	Optional, ± 10 psig
Paint, Primer coat	High solid alkyd primer, VOC compliant, gray, 1-1.5 mils thick
Paint, Top coat	High build acrylic enamel, semi-gloss, 1-1.5 mils thick, ASA 61 Gray

Nameplate Information

NWL name	NWL address
Model number	Serial number
Date of manufacture	KVA rating
Input Voltage	Input Current
Output Voltage (kV peak, no load)	Output Current (mADC)
Current Form Factor	Input Frequency
Number of Phases	Maximum Ambient Temperature
Cooling Class (per ANSI C57)	Weight (lbs, kgs)
Maximum Oil Rise Temperature	Circuit breaker rating
Schematic diagram drawing number	Type of insulating oil
Volume of oil (gallons/liters)	Schematic Diagram