Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
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MT-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-M1

2.5/3.333 MVA Vacuum Pressure Impregnated Transformer, 6900V Delta Primary, 480Y/277 Wye-N Secondary, AA/FA, Class F, VPI

Product ID: 315961



Image: MT-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-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-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-M1 Vacuum Pressure Impregnated Transformer

Transformer Type: Vacuum Pressure Impregnated (VPI) Transformer
Transformer Configuration: Dry Type, Ventilated
Phase: Three Phase
Capacity (w/o Fans): 2.5 MVA (2500 KVA)
Capacity (w/ Fans): 3.333 MVA (3333 KVA)
Vector Group: Dyn1
Primary Voltage: 6900V AC
Primary Voltage Class: 8.7 kV Class
Primary Phasor: Delta
Primary BIL: 60 KV
Secondary Voltage: 480Y/277 AC
Secondary Voltage Class: 1.2 kV Class
Secondary Phasor: Wye-N
Secondary BIL: 30 KV
Frequency: 60 Hz
Temperature Rise: 115°C

Cooling Class: AA/FA

Forced Air (Fans): Included, Single Stage, Automatically Regulated by Sensors Located In LV Winding, 120/208V, 3 phase, w/ A Hand-Off-Auto (HOA) switch, w/ one spare (N+1)
Insulation Class: Class F, 155°C
Tap Changer: 5-Position De-energized Tap Changer, Manual Operated
Tap Qty: (2) FCAN Above, (2) FCBN Below
Tap %: 2.5%

Ratings

NRTL Listed for United States and Canada
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57.12.01
Complies with ANSI / IEEE C57 12.35
Complies with ANSI / IEEE C57.12.70
Complies with ANSI / IEEE C57.12.59
Meets or Exceeds NEMA ST-20 Standards
Meets or Exceeds NEMA TR1 Standards
Meets/Exceeds DOE 2016 Efficiency Ratings
Meets/Exceeds CSA Efficiency Ratings
Seismic Qualified for Earthquake Loads
NEMA 3R Indoor/Outdoor Steel Enclosure
CE Certified
RoHS Certified

Efficiency %: 99.40%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses at 145°C Reference Temp.
No Load Loss (in watts): +/- 4,000W
Full Load Loss(in watts): +/- 20,300W
Total Load Loss (in watts): +/- 24,300W

Tap Changer Switch Location: HV Side
Impedance (at 2.5 MVA): 7.75%
Primary Connection Type: Terminal Lugs, w/ 4-hole spade connectors
Primary Cable Size: 3-1/C 500 kcmil, 3-1/C 350 kcmil, 1-3/C 4/0 AWG
Primary Surge Arrestors: N/A
Primary Surge Arrestor Voltage Rating: N/A
Primary Surge Arrestor MCOV Rating: N/A
Primary Over Current Protection (OCP): N/A
Primary Over Current Protection Method: N/A
Primary Grounding Provisions: N/A
Secondary Connection Type: Terminal Lugs, Suitable for non-segregated bus duct connection
Secondary Cable Size: 6 - 1/C, 500kcmil
Secondary Over Current Protection (OCP): N/A
Secondary Grounding Provisions: Lugs
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel : N/A
Load Break Switch: N/A
Load Break Switch Qty: N/A
Load Break Switch Location: N/A
Ground Pads: Included, Copper Faced
Efficiency Standard(s): DOE 2016, IEEE, ANSI
K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Temperature Sensors in Coil: Included, In LV Winding
Temperature Gauge: Included, w/ Alarm and Trip Contacts For Fan Control
Electronic Digital Monitor: Included
Seismic Bracing: Included
Weather Shield: N/A
Space Heaters: Included, rated at 240VAC and operated at 120VAC
Winding Material: Copper
Ambient Temperature Rating: 40°C
Sound/Noise Level: 85 dBA at 3 ft
Elevation (Altitude) Rating: 3300ft (1000 meters) Above Sea Level
Enclosure Material: Coated Steel
Enclosure Rating: NEMA 3R Weatherproof
System Form Factor: N/A
Paint Type: Epoxy Paint
Finish: ANSI 61 Grey
Mount: Pad Mount / Floor Mount
Dimensions: 100.4"L x 79.5"W x 94.5"H
Weight: 12,786.6 lbs
*Please note that numbers are approximate and subject to change

Note: *Losses offered are typical only, not guaranteed*

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-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-M1 Vacuum Pressure Impregnated Transformer from Larson Electronics converts three-phase 6900V Delta to three-phase 480Y/277 Wye-N. This power distribution unit provides operators the ability to safely tap into and distribute 2500 KVA AC power from a variety of sources, such as direct grid power. The entire system is secured to a skid mount platform.

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

Transformer Features: With a transformer rating of 2500 KVA (Natural Cooled) / 3333 KVA (Fan Cooled), the industrial dry type transformer features a primary voltage of three-phase 6900V AC Delta and a secondary voltage of three-phase 480Y/277 AC Wye-N. This transformer is equipped with a 5-position tap changer with five, +/- 2.5% taps (two FCAN above and two FCBN below) to allow small changes for voltage. The system has copper

windings for high strength and electrical conductivity. This VPI transformer features minimized air gaps and voids in the insulation, leading to increased durability and thermal stability.

The MT-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-M1 has single stage fans for forced air cooling.

Transformer Efficiency: The Class F transformer meets standard efficiency requirements. 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.

Temperature Sensor: The MT-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-M1 is equipped with temperature sensors inside the system for controls and monitoring. A monitoring service is included with the transformer.

Temperature Gauge: This transformer comes with a temperature gauge.

Load Break Switch: This VPI transformer does not include a load break switch. We can add a load break switch at an additional cost.

Surge Arresters: This transformer does not include surge arresters. 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 surge arresters that have mounting provisions for customer-provided surge arresters.

Control Transformer: This VPI transformer does not include a control transformer. We can add a control transformer for operating equipment at an additional cost.

Seismic Bracing: This system does not include seismic bracing. We can add seismic bracing for added protection in areas prone to earthquakes at an additional cost.

Weather Shield: This transformer does not include a weather shield. We can add a weather shield for protection in outdoor areas, humid environments and rodents at an additional cost.

Space Heaters: This system does not include a space heater. We can add a space heater for preventing condensation during extended shutdown at an additional cost.

Enclosure Design: This VPI transformer is protected by a steel housing. The enclosure carries a NEMA 3R rating for protection from exposure to moisture, rain, dust and debris.

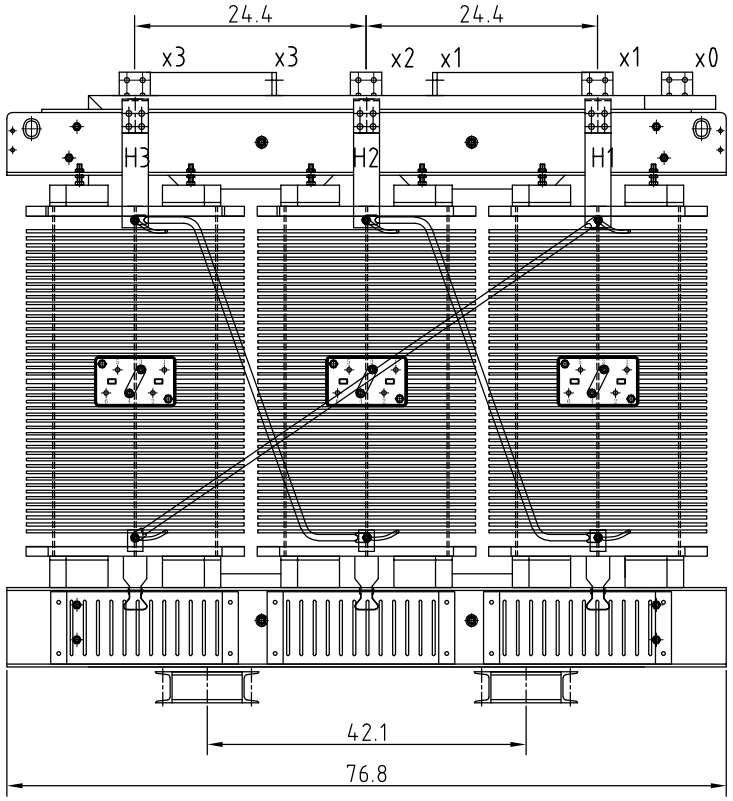
Mount: The power distribution unit is mounted atop a skid plate base that allows this transformer to easily be moved from one location to another using a forklift. The skid platform is designed for serious use and is ruggedly constructed to withstand demanding conditions and heavy duty industrial applications. The industrial grade skid platform can be modified to meet the needs of job-site requirements.

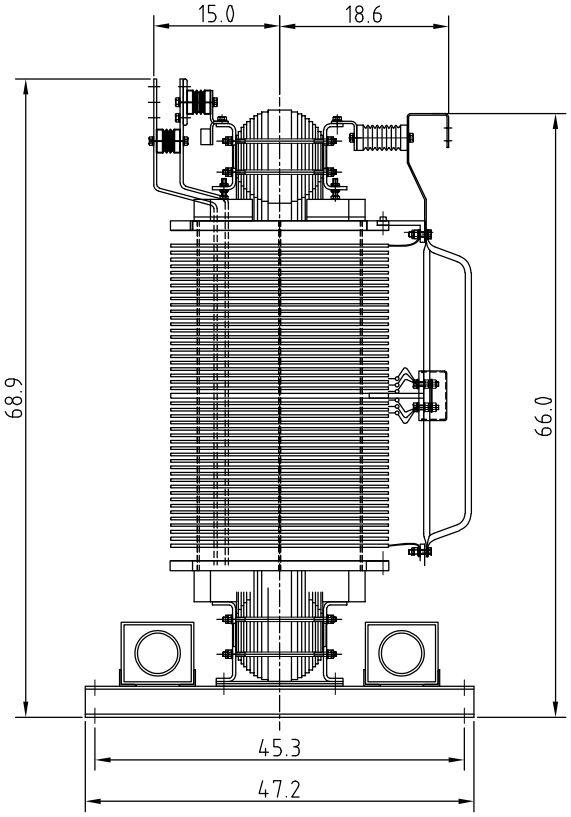
Benefits: The MT-PDT-VPM-R7-3P-DNZ-2.5MVA-YE-A6-FA-CZ-1Z-ZZ-Z-N3R-M1 transformer offers many benefits to consumers. This transformer provides owners with significant energy savings, as well as offering environmental benefits. Higher efficiency not only extends the life of the transformer, but also turns into cost savings for owners in the form

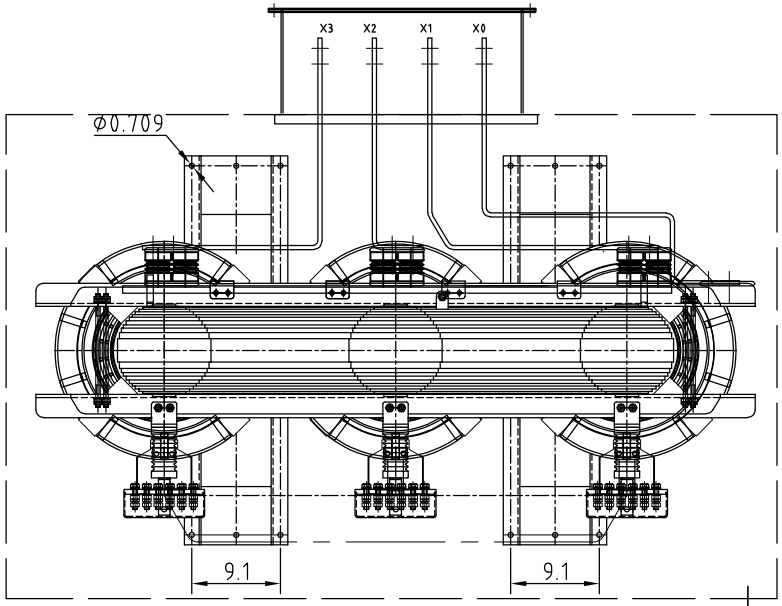
of lower energy bills and decreased cost of ownership.

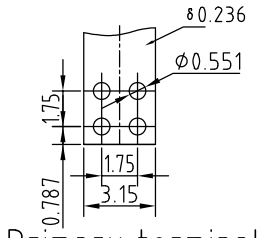
Applications: General purposes, industrial sites, electrical rooms, underground vaults, manufacturing facilities, steel plants, offshore, commercial, military, processing plants, electric power distribution, utilities, public locations and more.

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.

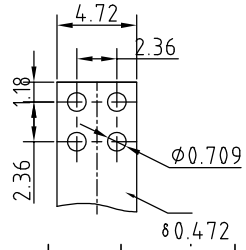








Primary terminal



Secondary terminal

designed	revise	zone	revision	sign	date

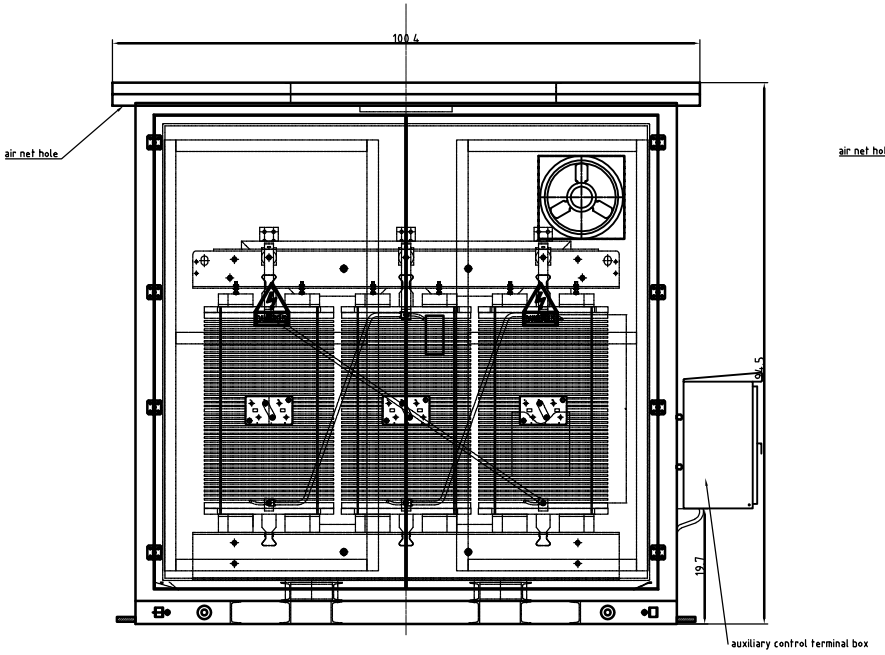
designed		standard	
checked		examined	
audited			
crafted		approved	

Dry-type TR

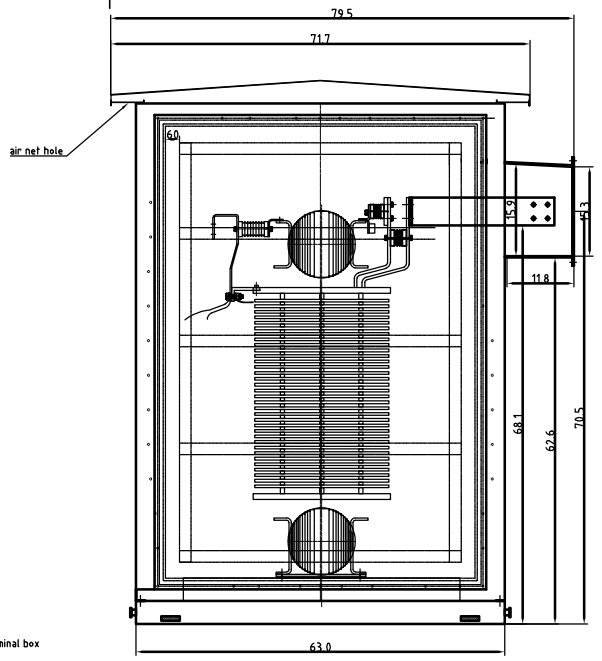
pattern mark	mass	scale
S		

page

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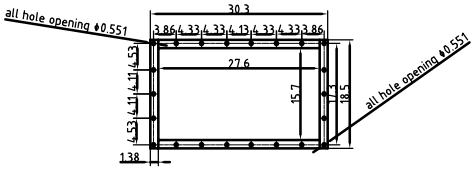


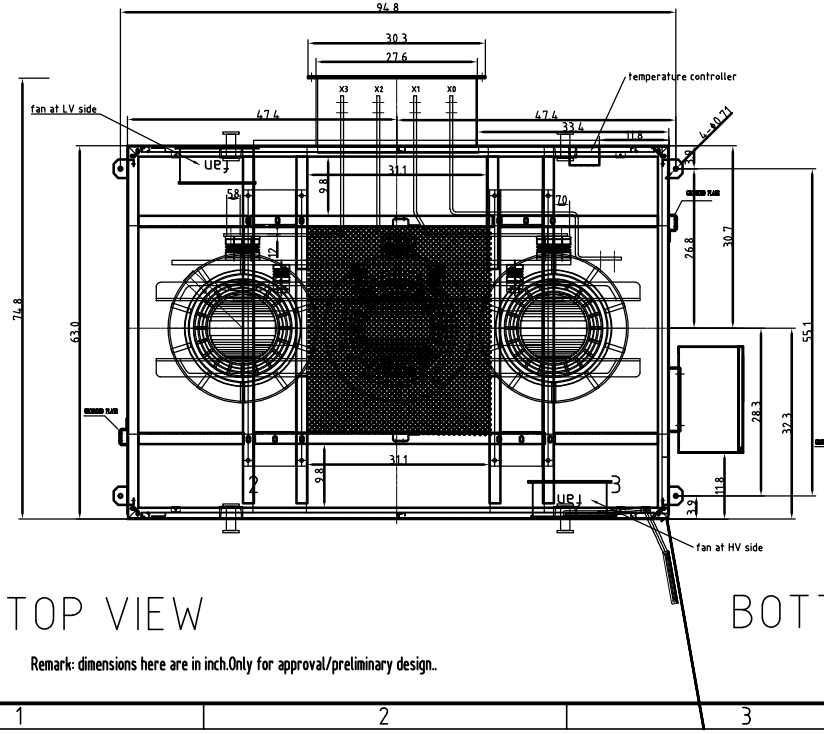
FRONT VIEW



SIDE VIEW

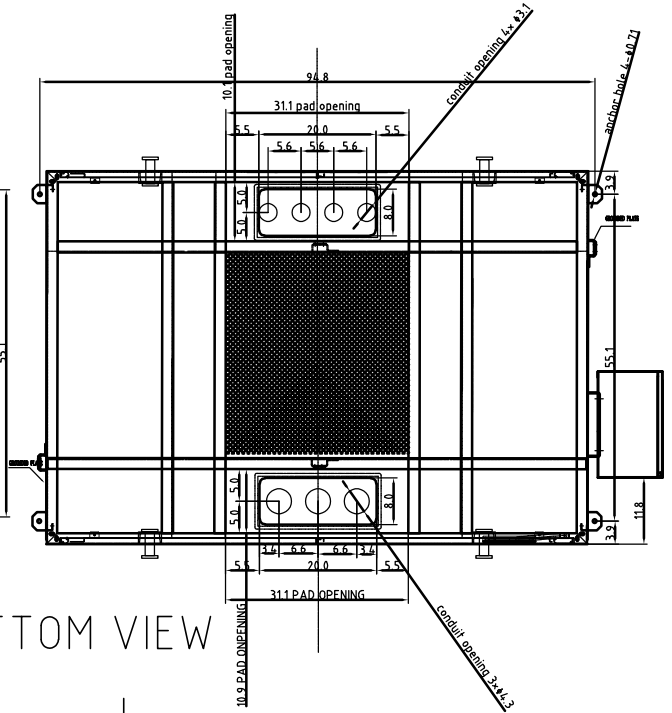
flange detail:





TOP VIEW

Remark: dimensions here are in inch.Only for approval/preliminary design..



BOTTOM VIEW

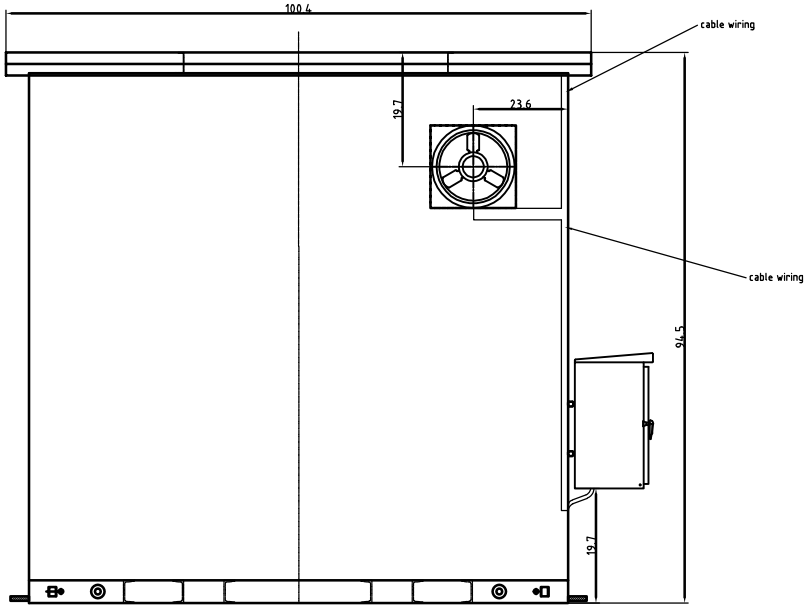
Remark:
1. Material: Coated steel;
2. Rating: NEMA 3R;
3. Painting: ANSI#61 grey;
4. Anchor bolts are 8.8 grade:

Dead load: 0.1kN/m^2,
Live load: 0.3kN/m^2,
Wind load: 1.3kN/m^2,
Seismic load: G factor=0.1g.

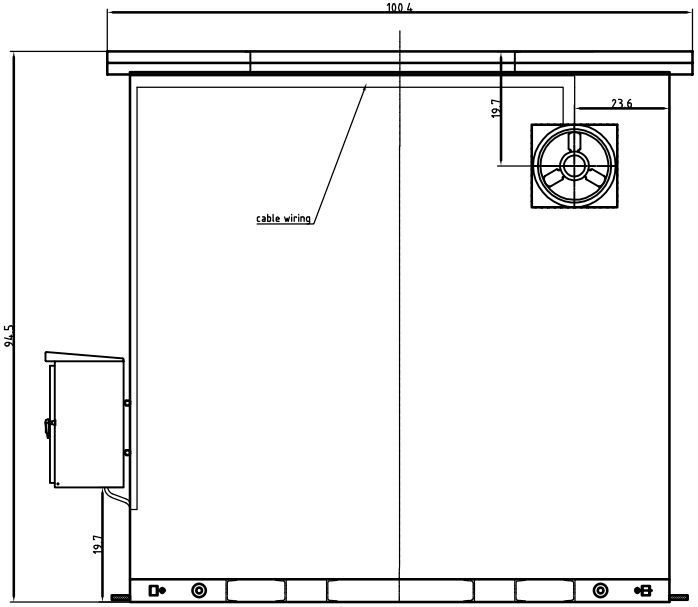
enclosure

S

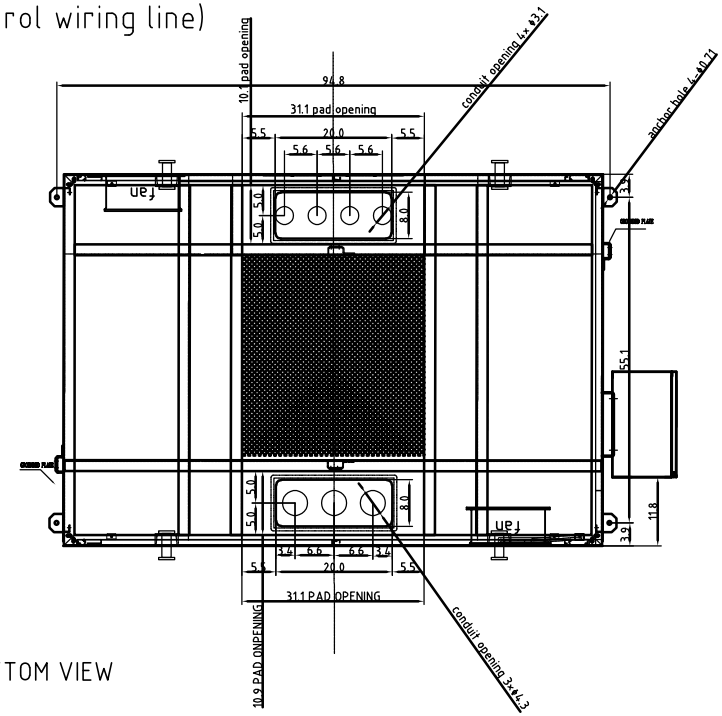
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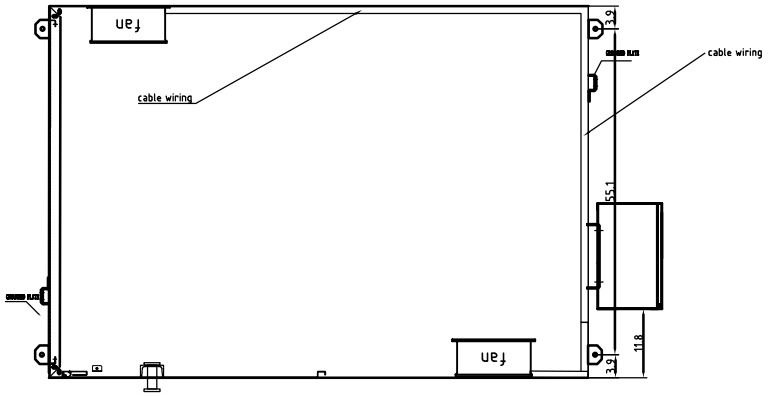
LV COMPARTMENT FRONT VIEW
(cntrol wiring line)



HV COMPARTMENT FRONT VIEW
(cntrol wiring line)



BOTTOM VIEW



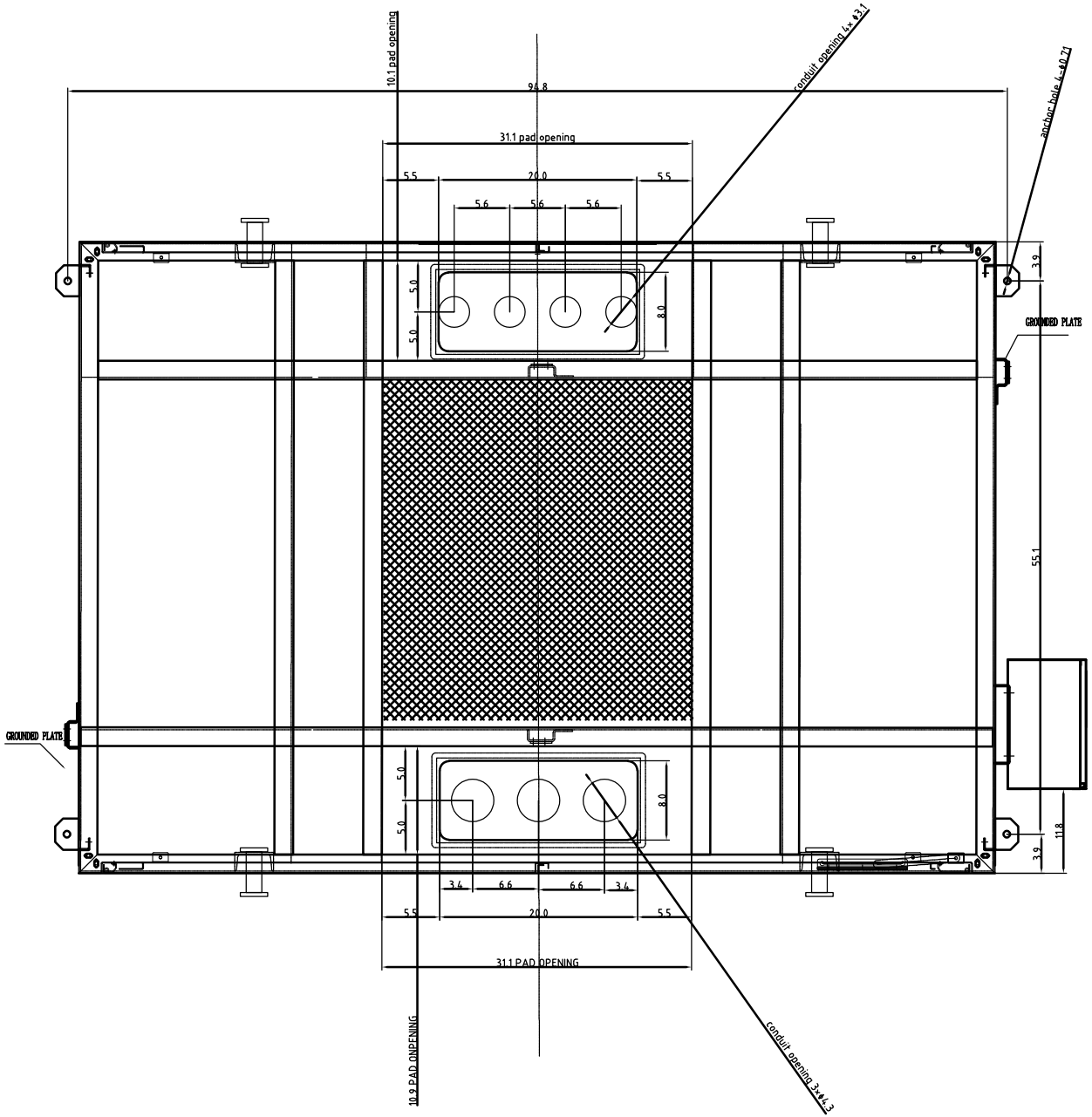
BOTTOM VIEW (cntrol wiring line)

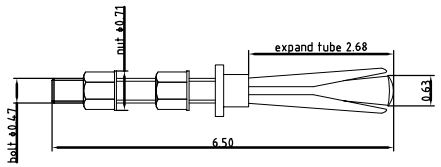
Remark: dimensions here are in inch.Only for approval/preliminary design..

enclosure

S

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anchor bolt details

Remark:

1. Anchor bolts are 8.8 grade:

Dead load: 0.1kN/m^2,

Live load: 0.3kN/m^2,

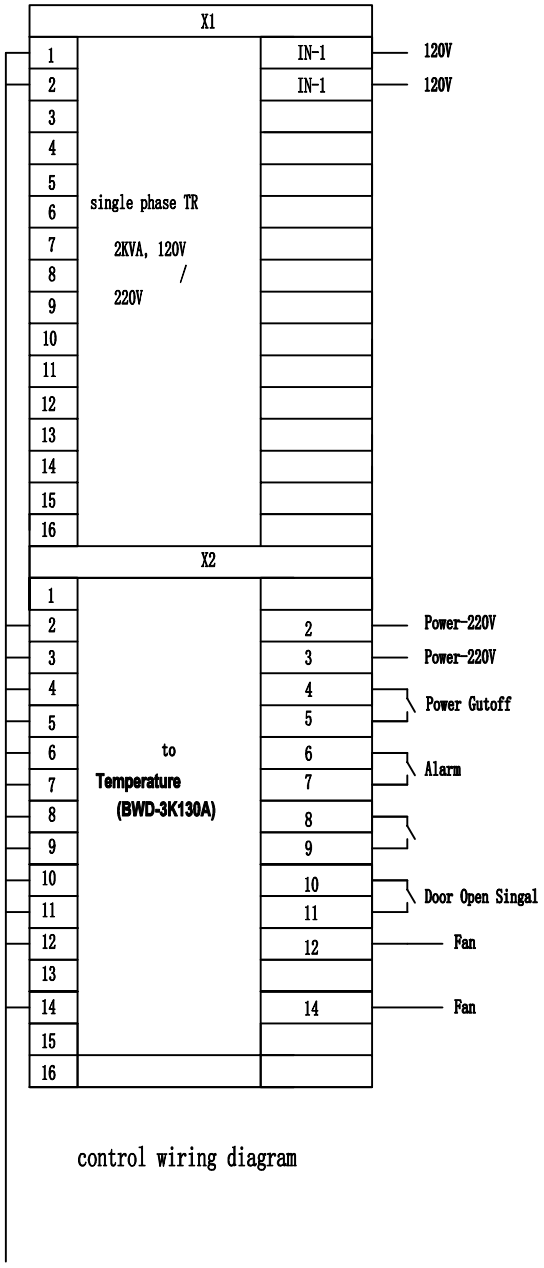
Wind load: 1.3kN/m^2,

Seismic load: G factor=0.1g.

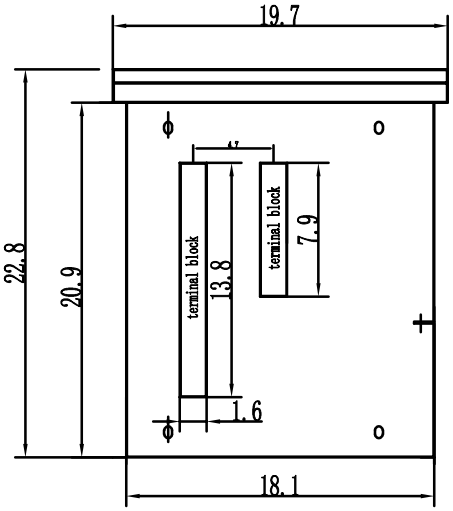
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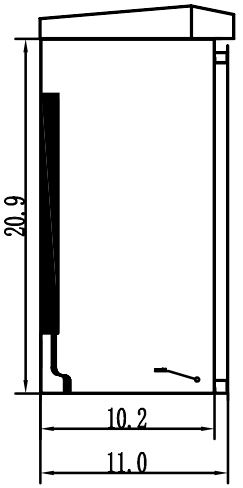
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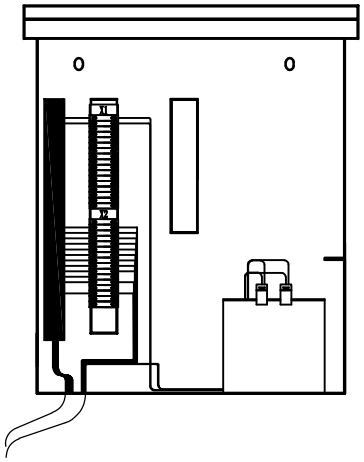
control wiring diagram



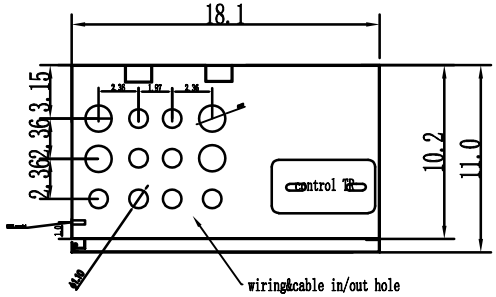
FRONT VIEW



SIDE VIEW



FRONT VIEW WITHOUT DOOR



TOP VIEW

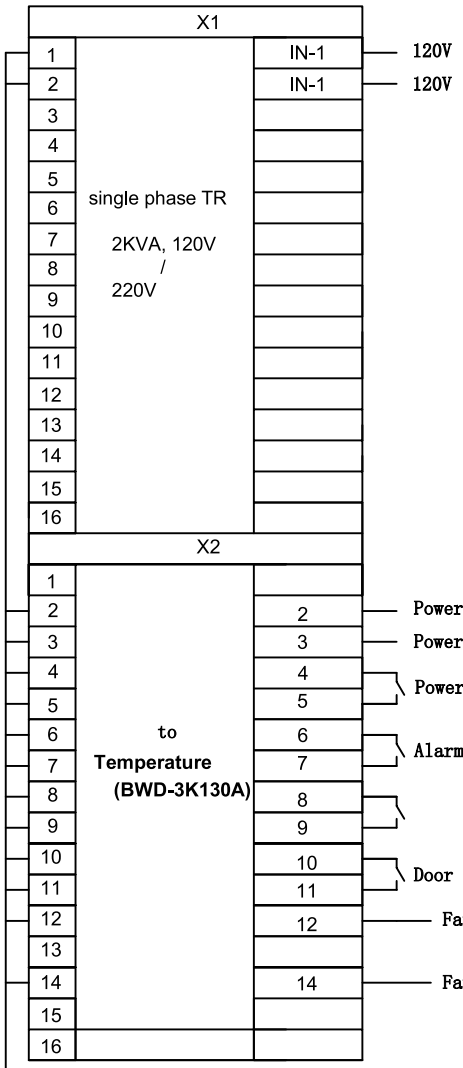
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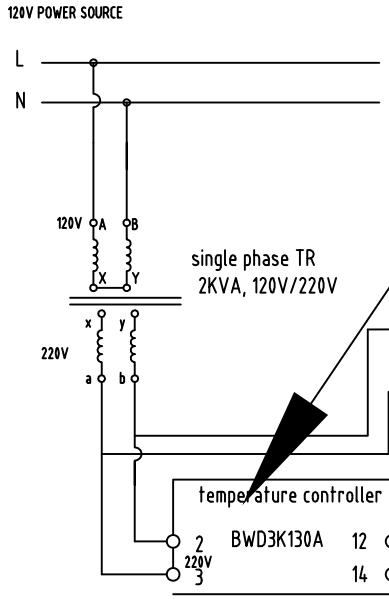
control box

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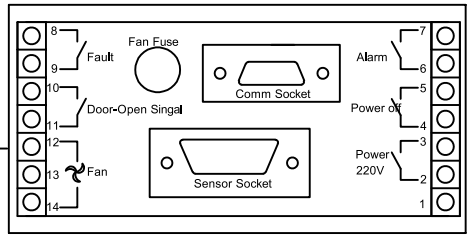
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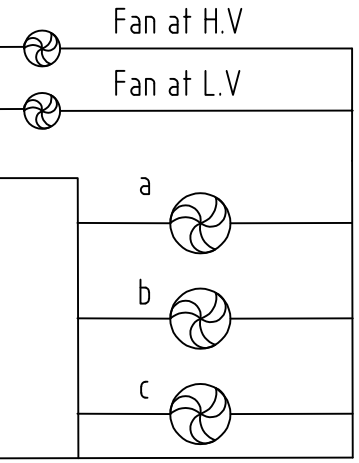
cooling fans control wiring





BWD-3K130A Temperature Controller Wiring





temperature controller setting:

Fan-off temp.: 70°C

Fan-on temp.: 80°C

Over temp.alarm : 100°C

Over temp.power off : 130°C

(above is common setting, could adjust if needed)

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Frequently Asked Questions (FAQ)

There are no Faqs