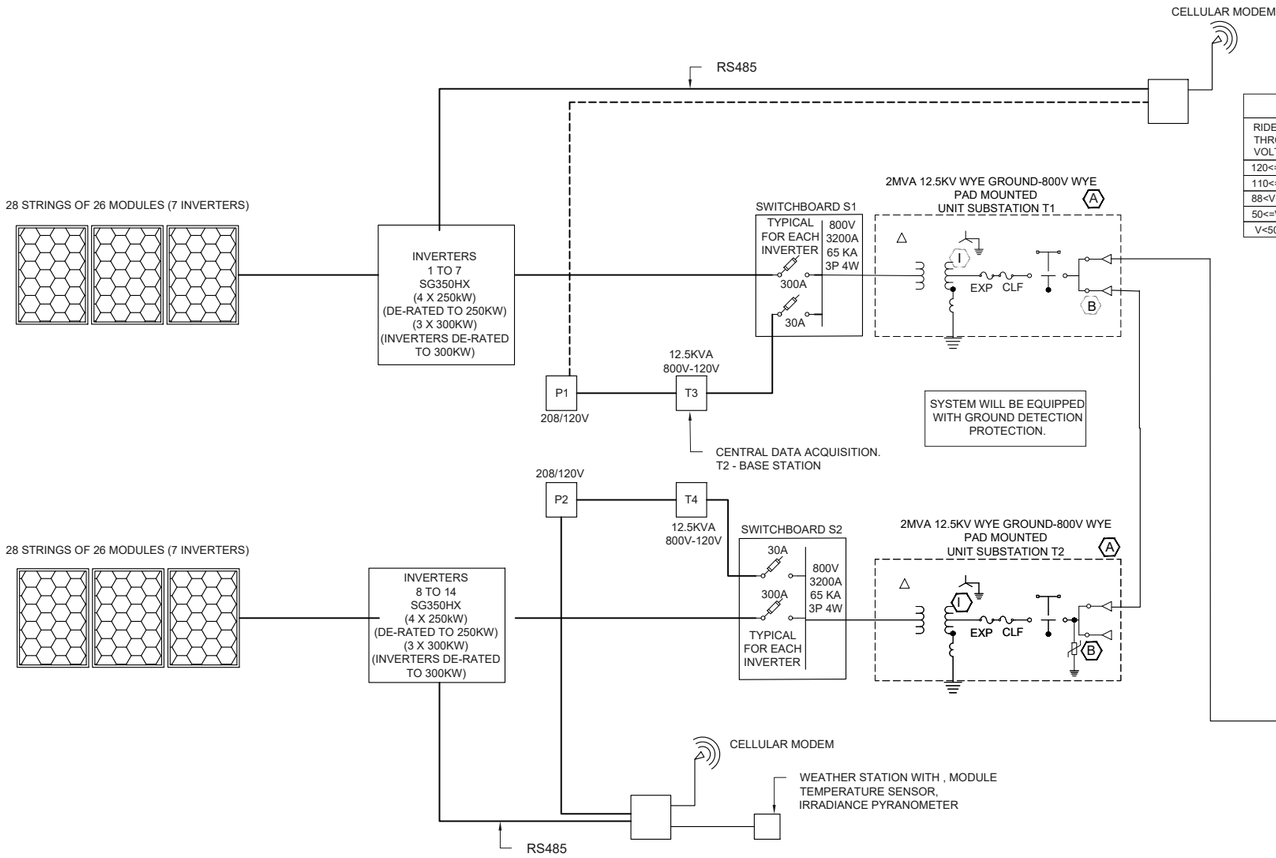
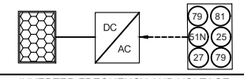


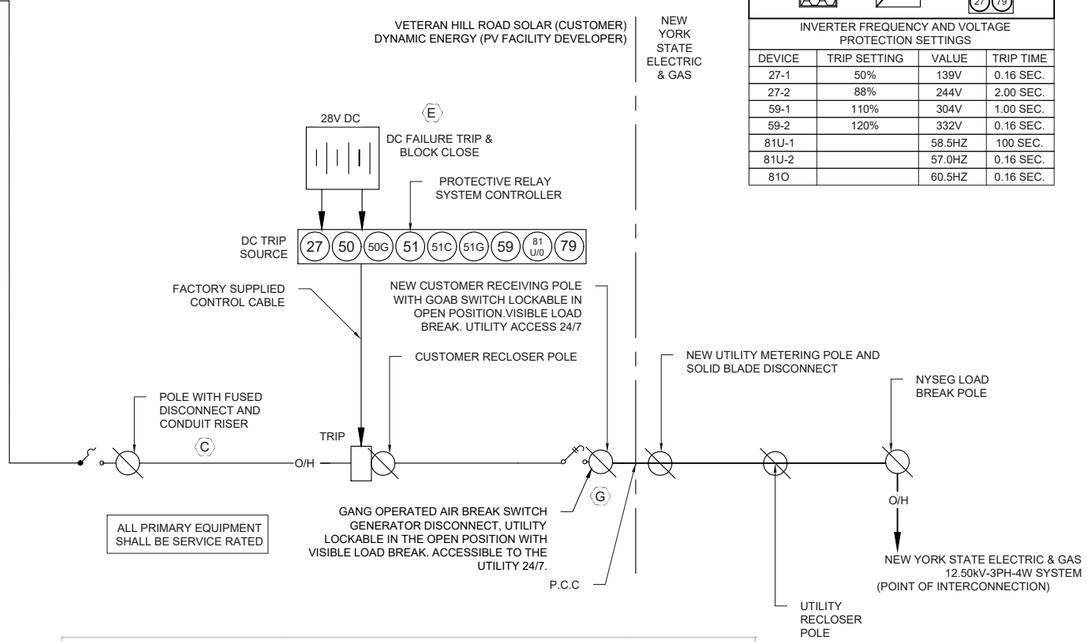
INVERTER'S VOLTAGE RIDE THROUGH SETTINGS		
RIDE-THROUGH VOLTAGE %	OPERATION MODE	RIDE-THROUGH TIME (SECONDS)
120<=V	N/A	NO RIDE THROUGH
110<=V<120	MANDATORY OPERATION	2
88<V<110	CONTINUOUS OPERATION	INFINITE
50<=V<=88	MANDATORY OPERATION	1.9
V<50	MOMENTARY CESSATION	1.0

INVERTER'S FREQUENCY RIDE THROUGH SETTINGS		
FREQUENCY RANGE (HZ)	OPERATION MODE	RIDE-THROUGH TIME (SECONDS)
f>62.0	N/A	N/A
60.6<=f<62.0	MANDATORY OPERATION A	299
58.5<f<60.6	CONTINUOUS OPERATION	INFINITE (C)
56.5<f<=58.5	MANDATORY OPERATION B	299
f<=56.5	N/A	1.0

TYPICAL INTEGRAL INVERTER RELAY CONFIGURATION



INVERTER FREQUENCY AND VOLTAGE PROTECTION SETTINGS			
DEVICE	TRIP SETTING	VALUE	TRIP TIME
27-1	50%	139V	0.16 SEC.
27-2	88%	244V	2.00 SEC.
59-1	110%	304V	1.00 SEC.
59-2	120%	332V	0.16 SEC.
81U-1		58.5HZ	100 SEC.
81U-2		57.0HZ	0.16 SEC.
81O		60.5HZ	0.16 SEC.



EQUIPMENT DESIGNATIONS-SPECS:

- (A.) STEP -UP TRANSFORMER
  12.5KV / 800V
  PRIMARY WYE-GROUND
  SECONDARY DELTA
  2MVA, 3-PHASE
  %Z = 5.4% MIN
  X/R = 4.21
  (4) 2 - 1/2 % TAPS
  KNAN
  65° C, 125KV BIL
- (B.) SURGE ARRESTERS ELBOW, MOV TYPE 10.2 kV MCOV 15 kV RATING HUBBELL 215-LA12 OR EQUAL.
- (C.) FUSE CUTOUT / SURGE ARRESTER RISER POLE
  15KV, 110KV BIL, 300A
  HUBBEL TYPE C POLYMER OR EQUAL
  10KV MOV ARRESTER
- (D.) NOT USED.
- (E.) RECLOSER:
  COOPER AC NOVA 15A11
  3PH, 15KV, 110KV BIL
  120V AC POWERED
  12.5KA INTERRUPT
  630A CONTINUOUS RATING
  (3) VOLTAGE SENSORS
  AUXILIARY TRANSFORMER
  LINE & LOAD SIDE OF RECLOSER
  TYPE 8400 / 14400 GY, 70:1
  COOPER FORM 6 CONTROLLER
  TYPE KME 6P2A
  PROTECTION FUNCTIONALITY:
  27 - UNDERVOLTAGE
  50 - OVER CURRENT
  50G - GROUND OVER CURRENT
  51 - TIME OVER CURRENT
  51G - GROUND TIME OVER CURRENT
  59 - OVER VOLTAGE
  81O - OVER FREQUENCY
  81U - UNDER FREQUENCY
  51-C - VOLTAGE CONTROLLED OVER CURRENT
- (F.) NOT APPLICABLE.
- (G.) GANG OPERATED AIR BREAK SWITCH (GOAB)
  15KV, 110KV BIL, 900A
  AB CHANCE AR111SF OR EQUAL
  35KV MOV ARRESTER
  SERVICE ENTRANCE RATED
- (H.) POLE MOUNTED SURGE ARRESTERS
  TYPE C POLYMER MOV
  MCOV = 8.4kV
  RATED = 10kV
- (I.) NEUTRAL GROUNDING REACTOR
  20 OHMS REACTANCE
  400A RATED NEUTRAL

NOT FOR CONSTRUCTION

COOPER FORM 6 RELAY SETTINGS

DEVICE	PICK-UP SECONDARY (L-N)	PICK-UP PRIMARY (L-N)	TD (set in relay)	CLEARING RECLOSER	TOTAL CLEARING TIME
27-1	50% (60V)	3.81kV	1.075 SEC	0.025 SEC	1.1 SEC
27-2	95% (114V)	7.24kV	1.975 SEC	0.025 SEC	2.0 SEC
59-1	105% (126V)	8.01kV	1.975 SEC	0.025 SEC	2.0 SEC
59-2	120% (144V)	9.15kV	0.135 SEC	0.025 SEC	0.16 SEC
81U-1	56.5 HZ	56.5Hz	0.135 SEC	0.025 SEC	0.16 SEC
81U-2	59.3 HZ	59.3Hz	100 SEC	0.025 SEC	100 SEC
81O-1	60.5 HZ	60.5Hz	100 SEC	0.025 SEC	100 SEC
81O-2	62 HZ	62Hz	0.135 SEC	0.025 SEC	0.16 SEC
51-C (PHASE)		65 AMP (@88% 6.71KV L-N)	TM=2.2 CURVE 161		
51-C (GND)		40 AMP (@88% 6.71KV L-N)	TM=0.2 CURVE 151		
79	5 MINUTE DELAY ON RECONNECTION AFTER UTILITY RESTORATION	RECLOSE ONLY ON 27, 59 & 81 FUNCTIONS. LOCK OUT ON 51 FUNCTIONS.			

GENERATION SUMMARY:

5.351MW DC / 3.800MVA AC
NUMBER OF MODULES - 525 WATTS (PER MODULE) - 10,192
NUMBER OF 525 WATTS MODULES IN SERIES PER STRING - 26
NUMBER OF STRINGS IN PARALLEL FOR 525 WATTS MODULES - 392
INVERTER RATING (kW) - 8 X 250KW (DE-RATED TO 250KW); 6 X 300KW (DE-RATED TO 300KW)

ONE-LINE DIAGRAM

Dynamic Energy™
PHONE: 877-809-8884
FAX: 610-276-5403
WWW.DYNAMICENERGYUSA.COM
1550 LIBERTY RIDGE DRIVE
SUITE 310
WAYNE, PA 19087

VETERAN HILL ROAD SOLAR

0 VETERAN HILL ROAD

VETERAN, NY 14845

STATE OF NEW YORK
BENJAMIN, KENNETH, WATKINS
102742-01
LICENSED PROFESSIONAL ENGINEER

10/16/2023

DRAWING ISSUE
- [x] INTERCONNECTION
- [ ] PERMITTING
- [ ] CONSTRUCTION

REV. #	DESCRIPTION:	DATE
A	SYSTEM HAS BEEN UPRATED TO 3.800 KW AC	9/26/23
B	SYSTEM HAS BEEN UPRATED TO 3.8 KW AC	10/09/23

PROJECT NUMBER:
DRAWN BY: EC
CHECKED BY: BW
DATE: 10-09-23

DRAWING NAME
ONE-LINE DIAGRAM
(DC & LV)

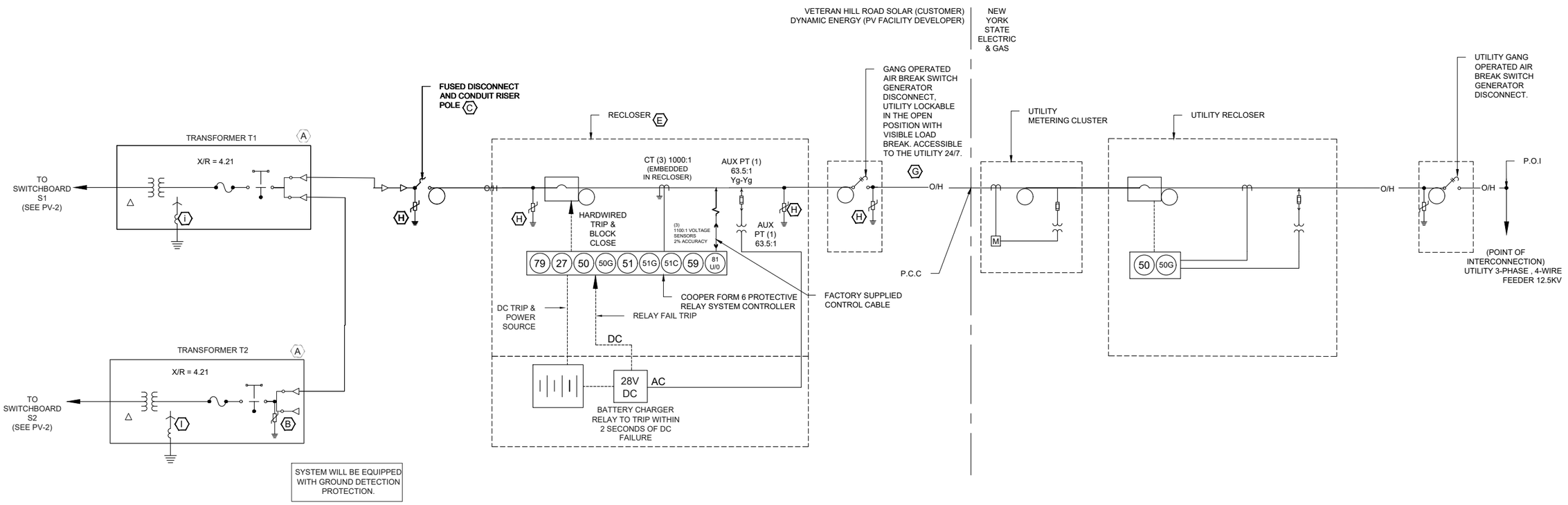
DRAWING NUMBER
PV-2

GENERATION SUMMARY:

5.351MW DC / 3.800MVA AC
NUMBER OF MODULES - 525 WATTS (PER MODULE) - 10,192
NUMBER OF 525 WATTS MODULES IN SERIES PER STRING - 26
NUMBER OF STRINGS IN PARALLEL FOR 525 WATTS MODULES - 392
INVERTER RATING (kW) - 8 X 250KW (DE-RATED TO 250KW); 6 X 300KW (DE-RATED TO 300KW)

INVERTER'S VOLTAGE RIDE THROUGH SETTINGS		
RIDE-THROUGH VOLTAGE %	OPERATION MODE	RIDE-THROUGH TIME (SECONDS)
120<=V	N/A	NO RIDE THROUGH
110<=V<120	MANDATORY OPERATION	2
88<V<110	CONTINUOUS OPERATION	INFINITE
50<=V<=88	MANDATORY OPERATION	1.9
V<50	MOMENTARY CESSATION	1.0

INVERTER'S FREQUENCY RIDE THROUGH SETTINGS		
FREQUENCY RANGE (HZ)	OPERATION MODE	RIDE-THROUGH TIME (SECONDS)
f>62.0	N/A	N/A
60.6<=f<62.0	MANDATORY OPERATION A	299
58.5<f<=60.6	CONTINUOUS OPERATION	INFINITE (C)
56.5<f<=58.5	MANDATORY OPERATION B	299
f<=56.5	N/A	1.0



EQUIPMENT DESIGNATIONS-SPECS:

A. STEP -UP TRANSFORMER
12.5KV / 800V
PRIMARY WYE-GROUND
SECONDARY DELTA
2MVA, 3-PHASE
%Z = 5.4% MIN
X/R = 4.21
(4) 2 - 1/2 % TAPS
KNAN
65° C, 125KV BIL

B. SURGE ARRESTERS ELBOW, MOV TYPE 10.2 kV MCOV 15 kV RATING HUBBELL 215-LA12 OR EQUAL.

C. FUSE CUTOUT / SURGE ARRESTER RISER POLE
15KV, 110KV BIL, 300A
HUBBEL TYPE C POLYMER OR EQUAL
10KV MOV ARRESTER

D. NOT USED.

E. RECLOSER:
COOPER AC NOVA 15A11
3PH, 15KV, 110KV BIL
120V AC POWERED
12.5KA INTERRUPT
630A CONTINUOUS RATING
(3) VOLTAGE SENSORS
AUXILIARY TRANSFORMER
LINE & LOAD SIDE OF RECLOSER
TYPE 8400 / 14400 GY, 70:1
COOPER FORM 6 CONTROLLER
TYPE KME 6P2A
PROTECTION FUNCTIONALITY:
27 - UNDERVOLTAGE
50 - OVER CURRENT
50G - GROUND OVER CURRENT
51 - TIME OVER CURRENT
51G - GROUND TIME OVER CURRENT
59 - OVER VOLTAGE
81O - OVER FREQUENCY
81U - UNDER FREQUENCY
51-C - VOLTAGE CONTROLLED OVER CURRENT

F. NOT APPLICABLE.

G. GANG OPERATED AIR BREAK SWITCH (GOAB)
15KV, 110KV BIL, 900A
AB CHANCE AR111SF OR EQUAL
35KV MOV ARRESTER
SERVICE ENTRANCE RATED

H. POLE MOUNTED SURGE ARRESTERS
TYPE C POLYMER MOV
MCOV = 8.4kV
RATED = 10kV

I. NEUTRAL GROUNDING REACTOR
20 OHMS REACTANCE
400A RATED NEUTRAL

NOT FOR CONSTRUCTION

COOPER FORM 6 RELAY SETTINGS

DEVICE	PICK-UP SECONDARY (L-N)	PICK-UP PRIMARY (L-N)	TD (set in relay)	CLEARING RECLOSER	TOTAL CLEARING TIME
27-1	50% (60V)	3.81kV	1.075 SEC	0.025 SEC	1.1 SEC
27-2	95% (114V)	7.24kV	1.975 SEC	0.025 SEC	2.0 SEC
59-1	105% (126V)	8.01kV	1.975 SEC	0.025 SEC	2.0 SEC
59-2	120% (144V)	9.15kV	0.135 SEC	0.025 SEC	0.16 SEC
81U-1	56.5 HZ	56.5Hz	0.135 SEC	0.025 SEC	0.16 SEC
81U-2	59.3 HZ	59.3Hz	100 SEC	0.025 SEC	100 SEC
81O-1	60.5 HZ	60.5Hz	100 SEC	0.025 SEC	100 SEC
81O-2	62 HZ	62Hz	0.135 SEC	0.025 SEC	0.16 SEC
51-C (PHASE)		65 AMP (@88% 6.71KV L-N)	TM=2.2 CURVE 161		
51-C (GND)		40 AMP (@88% 6.71KV L-N)	TM=0.2 CURVE 151		
79	5 MINUTE DELAY ON RECONNECTION AFTER UTILITY RESTORATION	RECLOSE ONLY ON 27, 59 & 81 FUNCTIONS. LOCK OUT ON 51 FUNCTIONS.			

ONE-LINE DIAGRAM

Dynamic Energy™
1550 LIBERTY RIDGE DRIVE
SUITE 310
WAYNE, PA 19087
PHONE: 877-809-8884
FAX: 610-276-5403
WWW.DYNAMICENERGYUSA.COM

VETERAN HILL ROAD SOLAR

0 VETERAN HILL ROAD

VETERAN, NY 14845

STATE OF NEW YORK · BENJAMIN KENNETH WATKINS · 102742-01 · LICENSED PROFESSIONAL ENGINEER

10/16/2023

DRAWING ISSUE
- [x] INTERCONNECTION
- [ ] PERMITTING
- [ ] CONSTRUCTION

REV #	DESCRIPTION	DATE
A	SYSTEM HAS BEEN UPGRADED TO 1.923MW AC	9/29/23
B	SYSTEM HAS BEEN UPGRADED TO 3.8 MW AC.	10/09/23

PROJECT NUMBER:
DRAWN BY: EC
CHECKED BY: BW
DATE: 10-09-23

DRAWING NAME
ONE-LINE DIAGRAM (SERVICE) (MV)

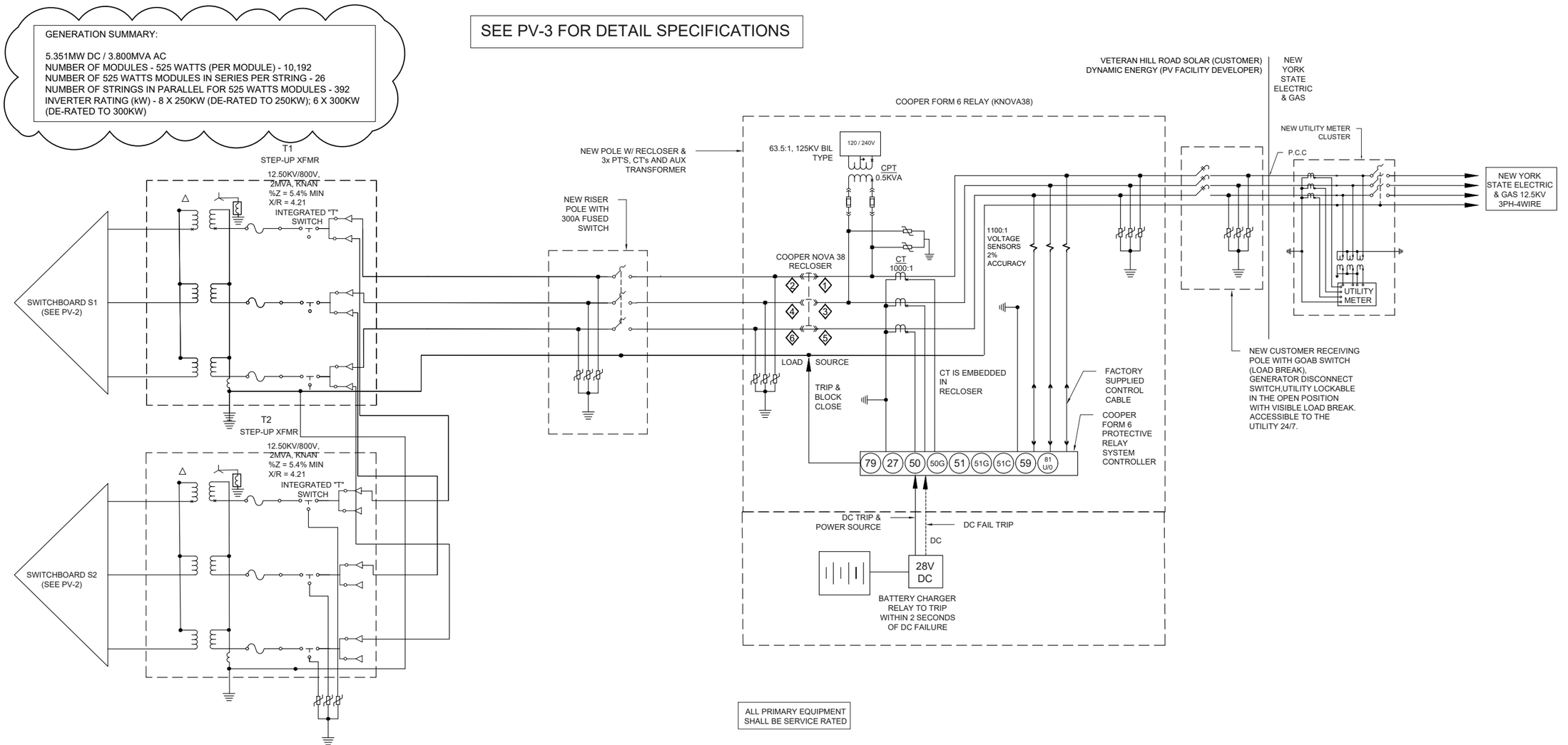
DRAWING NUMBER
PV-3

10/9/2023 5:05:35 PM

GENERATION SUMMARY:

5.351MW DC / 3.800MVA AC
NUMBER OF MODULES - 525 WATTS (PER MODULE) - 10,192
NUMBER OF 525 WATTS MODULES IN SERIES PER STRING - 26
NUMBER OF STRINGS IN PARALLEL FOR 525 WATTS MODULES - 392
INVERTER RATING (kW) - 8 X 250KW (DE-RATED TO 250KW); 6 X 300KW (DE-RATED TO 300KW)

SEE PV-3 FOR DETAIL SPECIFICATIONS



ALL PRIMARY EQUIPMENT SHALL BE SERVICE RATED

NOT FOR CONSTRUCTION

NOTES:

1. INVERTERS SHALL BE UL1741 LISTED.

COOPER FORM 6 RELAY SETTINGS

DEVICE	PICK-UP SECONDARY (L-N)	PICK-UP PRIMARY (L-N)	TD (set in relay)	CLEARING RECLOSER	TOTAL CLEARING TIME
27-1	50% (60V)	3.81kV	1.075 SEC	0.025 SEC	1.1 SEC
27-2	95% (114V)	7.24kV	1.975 SEC	0.025 SEC	2.0 SEC
59-1	105% (126V)	8.01kV	1.975 SEC	0.025 SEC	2.0 SEC
59-2	120% (144V)	9.15kV	0.135 SEC	0.025 SEC	0.16 SEC
81U-1	56.5 HZ	56.5Hz	0.135 SEC	0.025 SEC	0.16 SEC
81U-2	59.3 HZ	59.3Hz	100 SEC	0.025 SEC	100 SEC
81O-1	60.5 HZ	60.5Hz	100 SEC	0.025 SEC	100 SEC
81O-2	62 HZ	62Hz	0.135 SEC	0.025 SEC	0.16 SEC
51-C (PHASE)		65 AMP (@88% 6.71KV L-N)	TM=2.2 CURVE 161		
51-C (GND)		40 AMP (@88% 6.71KV L-N)	TM=0.2 CURVE 151		
79	5 MINUTE DELAY ON RECONNECTION AFTER UTILITY RESTORATION	RECLOSE ONLY ON 27, 59 & 81 FUNCTIONS. LOCK OUT ON 51 FUNCTIONS.			

ONE-LINE DIAGRAM

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VETERAN HILL ROAD SOLAR

0 VETERAN HILL ROAD

VETERAN, NY 14845

STATE OF NEW YORK · BENJAMIN KENNETH WATKINS · LICENSED PROFESSIONAL ENGINEER · 102742-01

10/16/2023

DRAWING ISSUE
- [x] INTERCONNECTION
- [ ] PERMITTING
- [ ] CONSTRUCTION

REV. #	DESCRIPTION:	DATE
A	SYSTEM HAS BEEN DOWNSIZED TO 3.420 MW AC	04/29/23
B	SYSTEM HAS BEEN UPSIZED TO 3.8 MW AC	10/09/23

PROJECT NUMBER:
DRAWN BY: EC
CHECKED BY: BW
DATE: 10-09-23

DRAWING NAME
THREE-LINE DIAGRAM

DRAWING NUMBER
PV-4

JA SOLAR | DEEP BLUE 4.0 Pro

Version No. : **Global-EN-20230811A**

615W LB Series

- Higher power generation better LCOE
- n-type with very Lower LID
- Better Temperature Coefficient
- Better low irradiance response

- 12-year product warranty
- 30-year linear power output warranty

n-type Bifacial Double Glass High Efficiency Mono Module JAM66D45 LB

590-615

Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing

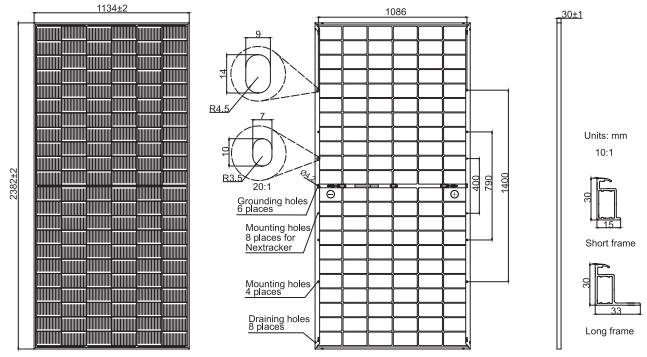
JA SOLAR | DEEP BLUE 4.0 Pro

www.jasolar.com
Specifications subject to technical changes and tests.
JA Solar reserves the right of final interpretation.

615W

590-615 LB Series

JAM66D45



Remark: customized frame color and cable length available upon request

Cell	Mono-16BB
Weight	33.1kg
Dimensions	2382±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm² (IEC), 12 AWG(UL)
No. of cells	132(6×22)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-351/ MC4-EVO2A
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); 800mm(+)/800mm(-)(Leapfrog) Landscape: 1500mm(+)/1500mm(-)
Front Glass/Back Glass	2.0mm/2.0mm
Packaging Configuration	36pcs/Pallet, 720pcs/40HQ Container

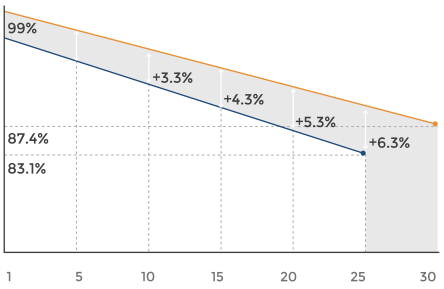
ELECTRICAL PARAMETERS AT STC

TYPE	JAM66D45 -590/LB	JAM66D45 -595/LB	JAM66D45 -600/LB	JAM66D45 -605/LB	JAM66D45 -610/LB	JAM66D45 -615/LB
Rated Maximum Power(Pmax) [W]	590	595	600	605	610	615
Open Circuit Voltage(Voc) [V]	47.30	47.50	47.70	47.90	48.10	48.30
Maximum Power Voltage(Vmp) [V]	39.09	39.27	39.44	39.60	39.77	39.96
Short Circuit Current(Isc) [A]	15.85	15.90	15.95	16.00	16.05	16.10
Maximum Power Current(Imp) [A]	15.09	15.15	15.21	15.28	15.34	15.39
Module Efficiency [%]	21.8	22.0	22.2	22.4	22.6	22.8
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(α_Isc)	+0.046%/℃					
Temperature Coefficient of Voc(β_Voc)	-0.260%/℃					
Temperature Coefficient of Pmax(γ_Pmp)	-0.300%/℃					
STC	Irradiance 1000W/m², cell temperature 25℃, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.

Superior Warranty

1% 1st-year Degradation
0.4% Annual Degradation Over 30 years



- n-type Bifacial Double Glass Module Linear Performance Warranty
- Standard Module Linear Performance Warranty

ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO

TYPE	JAM66D45 -590/LB	JAM66D45 -595/LB	JAM66D45 -600/LB	JAM66D45 -605/LB	JAM66D45 -610/LB	JAM66D45 -615/LB
Rated Max Power(Pmax) [W]	637	643	648	653	659	664
Open Circuit Voltage(Voc) [V]	47.30	47.50	47.70	47.90	48.10	48.30
Max Power Voltage(Vmp) [V]	39.09	39.27	39.44	39.60	39.77	39.96
Short Circuit Current(Isc) [A]	17.12	17.17	17.23	17.28	17.33	17.39
Max Power Current(Imp) [A]	16.30	16.36	16.43	16.50	16.56	16.62
Irradiation Ratio (rear/front)	10%					

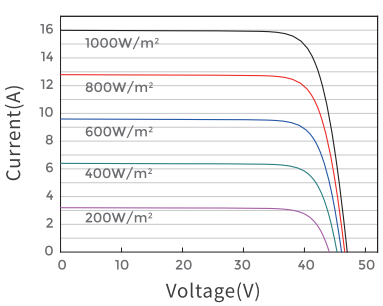
*For Nextracker installations, maximum static load please take compatibility approve letter between JA Solar and Nextracker for reference.
**Bifaciality=Pmax,rear/Rated Pmax,front

OPERATING CONDITIONS

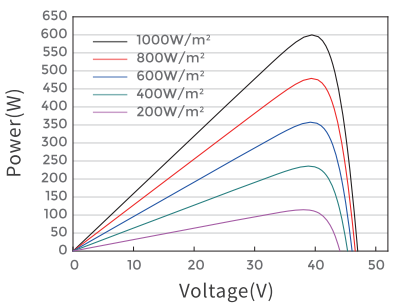
Maximum System Voltage	1500V DC
Operating Temperature	-40℃~+85℃
Maximum Series Fuse Rating	35A
Maximum Static Load,Front*	5400Pa(112 lb/ft²)
Maximum Static Load,Back*	2400Pa(50 lb/ft²)
NOCT	45±2℃
Bifaciality**	80%±10%
Fire Performance	UL Type 29

CHARACTERISTICS

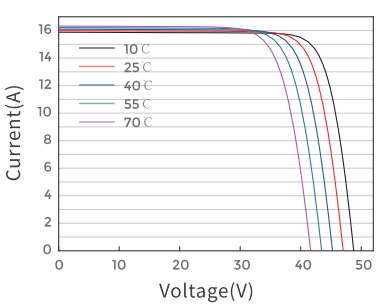
Current-Voltage Curve **JAM66D45-600/LB**



Power-Voltage Curve **JAM66D45-600/LB**



Current-Voltage Curve **JAM66D45-600/LB**



SOLECTRIA® XGI 1500-250 SERIES

PREMIUM 3-PHASE TRANSFORMERLESS UTILITY-SCALE INVERTERS

FEATURES

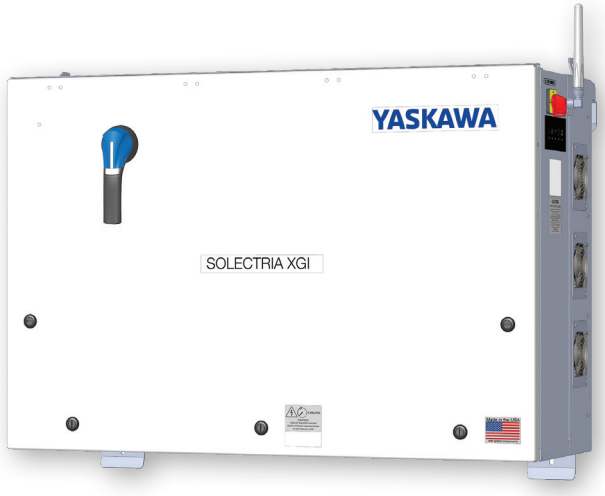
- NEW and MORE POWERFUL!
  - XGI 1500-250/250-600
  - XGI 1500-225-600 (Selectable: 225kW/225kVA or 225kW/250kVA)
  - XGI 1500-200/200-480
  - XGI 1500-175-480 (Selectable: 175kW/175kVA or 175kW/200kVA)
- Industry-leading maximum DC/AC Ratio of 2.0
- Accepts two input PV Output Circuits, with no overcurrent protection required
- Made in the USA with global components
- Buy American Act (BAA) compliant
- 99.0% peak efficiency
- Flexible solution for distributed and centralized system architecture
- Advanced grid-support functionality Rule 21/UL1741SB
- Robust, dependable and built to last
- Lowest O&M and installation costs
- Access all inverters on site via WiFi from one location
- Remote diagnostics and firmware upgrades
- SunSpec Modbus Certified
- Tested compatible with the TESLA PowerPack Microgrid System

OPTIONS

- PV Source Circuit Combiners
- Web-based monitoring
- Extended warranty

MADE IN THE USA
With U.S. and Global Components

Yaskawa Solectria Solar is pleased to introduce its most powerful XGI 1500 inverters, with the XGI 1500-250 models at 600 Vac, and the XGI 1500-200 models for 480 Vac service.



The XGI 1500-250 and XGI 1500-200 feature SiC technology, high power and high efficiency that places them at the top end of the utility-scale string inverters in the market.

Yaskawa Solectria Solar designs all XGI 1500 utility-scale string inverters for high reliability and builds them with the highest quality components -- selected, tested and proven to last beyond their warranty. The XGI 1500 inverters provide advanced grid-support functionality and meet the latest IEEE 1547 and UL 1741 standards for safety.

The XGI 1500 inverters provide ideal solutions for ground-mounted utility-scale PV systems, with models available for service connections at 600 Vac and 480 Vac. Designed and engineered in Lawrence, MA, the SOLECTRIA XGI inverters are assembled and tested at Yaskawa America's facilities in Buffalo Grove, IL. The XGI 1500 inverters are Made in the USA with global components, and are compliant with the Buy American Act.

YASKAWA
SOLECTRIA SOLAR

Yaskawa Solectria Solar 1-978-683-9700 | Email: sales@solectria.com | solectria.com
Document No. FL.XGI1500-04 | 10/04/2023

SPECIFICATIONS

PRODUCT SPECIFICATION		XGI 1500 INVERTER MODEL			
		XGI 1500 250/250-600	XGI 1500 225-600	XGI 1500 200/200-480	XGI 1500 175-480
DC Input	Absolute Maximum Input Voltage	1500 VDC			
	Maximum Power Voltage Range (MPPT)	860-1250 VDC		750-1250 VDC	
	Operating Voltage Range (MPPT)	860-1450 VDC		750-1450 VDC	
	Number of MPP Trackers	1 MPPT			
	Maximum Operating Input Current	296.7 A	267 A	237.3 A	207.6 A
	Maximum Operating PV Power	255 kW	230 kW	204 kW	179 kW
	Maximum DC/AC Ratio | Max Rated PV Power	2.0 | 500 kW	2.22 | 500 kW	2.5 | 500 kW	2.86 | 500 kW
	Max Rated PV Short-Circuit Current (∑Isc x 1.25)	800 A			
AC Output	Nominal Output Voltage	600 VAC, 3-Phase		480 VAC, 3-Phase	
	AC Voltage Range	-12% to +10%			
	Continuous Real Output Power	250 kW	225 kW	200 kW	175 kW
	Continuous Apparent Output Power (kVA)	250	250 225	200	200 175
	Maximum Output Current (A_{RMS})	240.6	XGI 1500-225/225: 216.5 225/250: 240.6	240.6	XGI 1500-175/175: 210.5 175/200: 240.6
	Fault Current Contribution (1 cycle RMS)	390 A	390 A 351 A	312 A	312 A 273 A
	Conductor Compatibility	600 kcmil max, Cu or Alum, 1 or 2 conductors with lugs			
	Nominal Output Frequency	60 Hz			
	Power Factor (Unity default)	+/- 0.80 Adjustable			
	Total Harmonic Distortion (THD) @ Rated Load	< 5%			
	Grid Connection Type	3-Ph + N/GND			
Efficiency	Peak Efficiency	99.0%			
	CEC Average Efficiency	98.5%			
	Tare Loss	<1 W			
Temperature	Ambient Temperature Range	-40°F to 140°F (-40°C to 60°C)			
	De-Rating Temperature	113°F (45°C)	127°F (53°C)	113°F (45°C)	131°F (55°C)
	Storage Temperature Range	-40°F to 167°F (-40°C to 75°C)			
	Relative Humidity (non-condensing)	0 - 95%			
	Operating Altitude	9,840 ft (3 km)			
Communications	Advanced Graphical User Interface	WiFi			
	Communication Interface	Ethernet			
	Third-Party Monitoring Protocol	SunSpec Modbus TCP/IP			
	Web-Based Monitoring	Optional			
	Firmware Updates	Remote and Local			
Testing & Certifications	Safety Listings & Certifications	UL 1741, IEEE 1547, UL 1998, UL 1699b Photovoltaic Arc-Fault Circuit Protection Certified			
	Advanced Grid Support Functionality	Rule 21, UL 1741SB			
	Testing Agency	ETL			
	FCC Compliance	FCC Part 15 (Subpart B, Class A)			
Warranty	Standard and Options	5 Years Standard; Option for 10 Years			
Enclosure	Acoustic Noise Rating	73 dBA @ 1 m ; 67dBA @ 3 m			
	DC Disconnect	Integrated 2-Pole 400 A DC Disconnect			
	Mounting Angle	Vertical only			
	Dimensions	Height: 29.5 in. (750 mm) | Width: 44.3 in. (1125 mm) | Depth: 15.4 in. (390 mm)			
	Weight	290 lbs (131.5 kg)			
	Enclosure Rating and Finish	NEMA 4X, IEC IP66, Type 3R, Polyester Powder-Coated Aluminum			

ETL LISTED

IT'S PERSONAL

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TerraTrak 1P

Expanded offering, proven reliability

TerraTrak 1P is designed for fewer foundations per MW and reliable performance. Our smart engineering allows for fewer parts and faster installation. The foundation agnostic design ensures reliable results in any terrain. With 80% of the parts shared with TerraTrak 2P, you're ensured proven quality and performance.

Reduced structure and foundation loads

- 30%-50% fewer foundations and materials required
- Reduced static and dynamic wind loads due to a new, innovative zero-degree stow strategy
- Over 500 hours of comprehensive wind tunnel testing with RWDI

Electrician's favorite tracker

- Easy wire management design for faster wire installation
- Designed to save on skilled labor
- Efficient wire layout requires less materials

Proven reliability from over 500 MWs of experience

- A-frame, legs, gear box, torque tube, controllers and more shared with TerraTrak 2P design
- Tested in the most challenging conditions and terrains

Faster installation at no additional cost

- 30% fewer parts
- Spherical bushings for quick and efficient torque tube alignment
- 73% reduction in bushing assembly parts

Best in class controls & software

Real-time data

down to row level so you always know how your tracker is performing

Minimize weather risks

with on-site weather stations and weather API that predicts bad weather and automatically stows when thresholds are crossed

Remote updates

allow your system to stay up to date with the latest software innovations without requiring a person on site

Machine learning

tells us when a row isn't tracking on its normal path and alerts you immediately, enabling you to fix issues before they affect site performance

Faster troubleshooting

without rolling a truck on site. The admin panel allows users to see inside the project site, view real-time data, and investigate historical data that often leads to identification of the issue

Zone controls

can rotate rows for easier and faster maintenance like mowing, washing, and electrical installation, saving our customer's money and time on O&M and installation

terrasmart™

Specifications

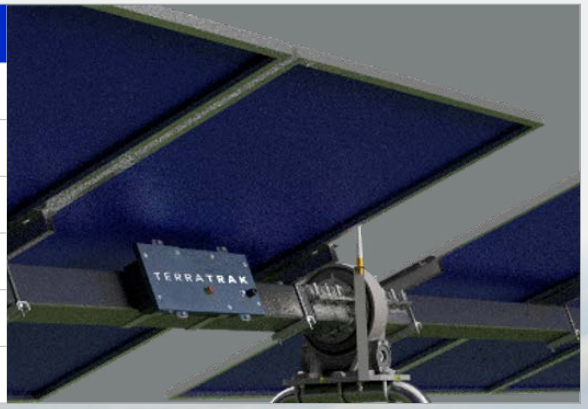
Module orientation	1 module in portrait
Tracker range of motion	100°
Torque tube slope	N/S: Up to 10%
Foundation	Driven pile and ground screw
Wind load	Up to 150 mph
Snow load	Up to 100 psf
Optimized* mechanical dimensions	18" ground clearance / 12" grade height variation
Foundations per row	≥7
Stow strategy	Reduced static and dynamic wind loads due to a new, innovative 0 degree stow strategy
Weather monitoring	Wind speed, snow depth, flood height, predictive analytics
Torque tube height	≥4 feet
Corrosion	ISO 9223 C2, C3

Drive system	Independent row design / 12 VDC motorized slew drive / zero grid power consumption
Bushings	Self-aligning spherical design / high impact polymer / lubricant-free, dry bushings
Fasteners	Standard sizes / self-locking / no special tools required
Material coating	HDG, inline, pre-galvanization, powder coating
Adjustable foundations	Flexible installation allows market leading adjustability
Electrical subsystem	Highly advanced BMS hardware & software
Modules	Compatible with large format modules
Certification	UL3703
Warranty	10 year structural, 5 year on drive and control system, 20 years on screw foundations, extended terms available

*Optimized means the design is most cost efficient in this configuration (60 modules, 2 string). Higher loads can be accommodated with an engineering review.

80% of the parts are proven on over 500 MWs of installed capacity with our TerraTrak 2P

The same quality and reliable parts:	
A-frame	Bracing
Legs	Network controller
Gear box	Row box
Torque tube	Weather station
Part of the module mounting assembly	Sensors
Self-locking hardware	TerraTrak cloud and dashboard



DWG. NO.

Order No. : 79853

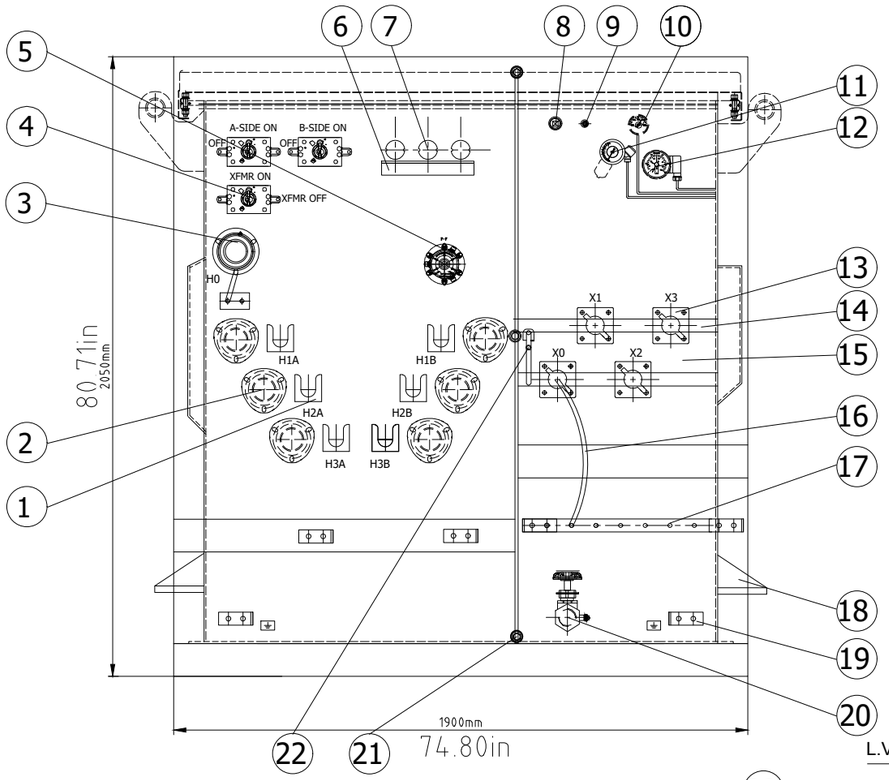
SHOP DRAWING / SUBMITTAL REVIEW

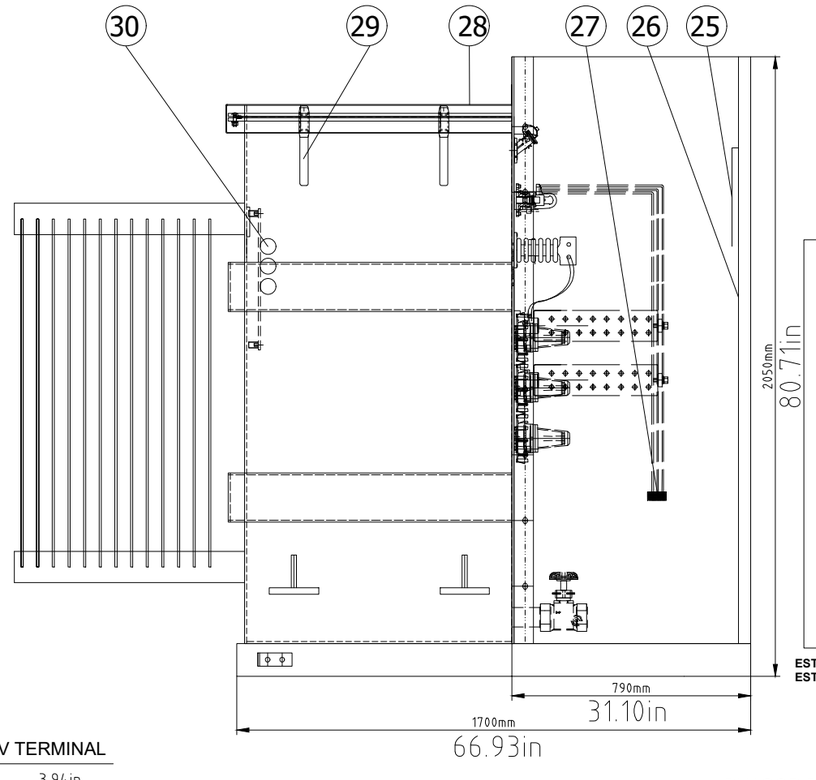
☐ APPROVED ☐ APPROVED AS NOTED

☐ REVISE AND RESUBMIT ☐ REJECTED

SUBMITTAL HAS BEEN REVIEWED FOR GENERAL CONFORMANCE WITH PLANS AND SPECIFICATIONS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT JOBSITE FOR TOLERANCE, CLEARANCE, QUANTITIES, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF WORK WITH OTHER TRADES AND FULL COMPLIANCE WITH CONTRACT DOCUMENTS.

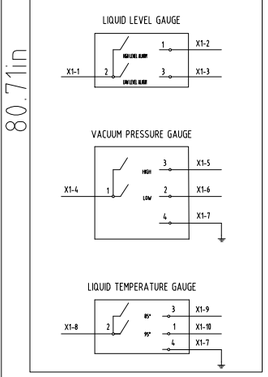
BY:_____ DATE:_____





REMARKS:
1. ELECTROSTATIC SHIELD BETWEEN HV AND LV WINDINGS, EXTERNALLY GROUNDED IN LV COMPARTMENT
2. GAUGE'S CONTACTS WIRED TO TERMINALS INSIDE LV COMPARTMENT.

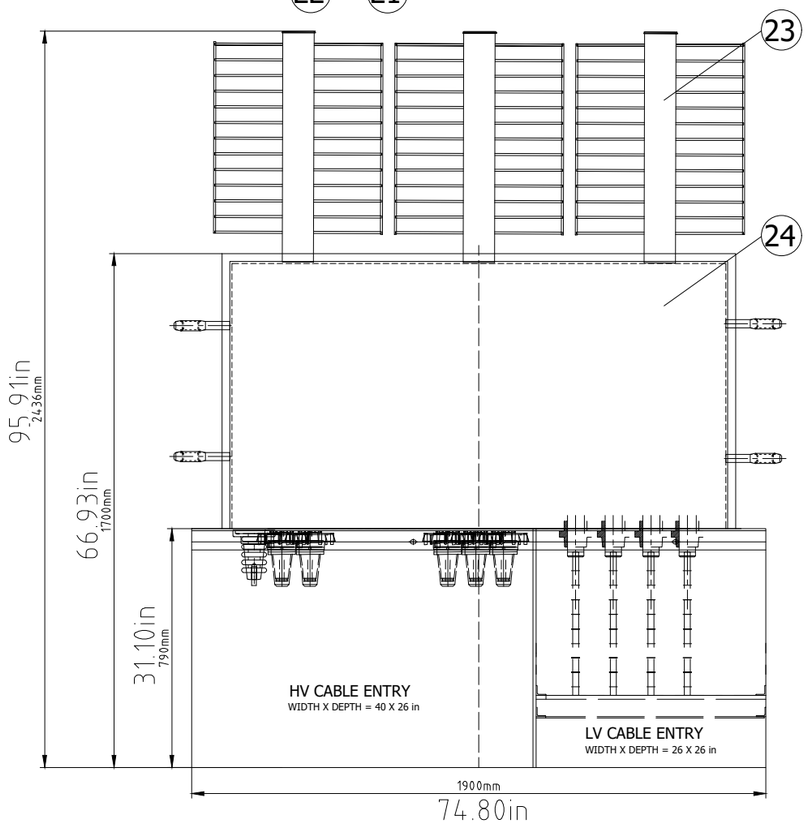
GAUGES WIRE DIAGRAM



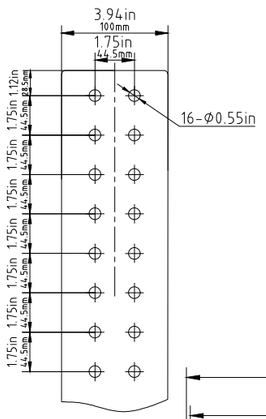
ESTIMATED OIL VOLUME: 645 gallons
ESTIMATED TOTAL WEIGHT: 13227 lbs

TECHNICAL DATA	
RATING	2000kVA
PRIMARY VOLTAGE(V)	24940/14400 GrdY
SECONDARY VOLTAGE(V)	600/346 GrdY
FREQUENCY	60Hz
VECTOR GROUP	YNyn0
PRIMARY BIL VOLTAGE	125 kV
SECONDARY BIL VOLTAGE	30 kV
WINDING MATERIAL	ALUMINUM
INSULATION OIL TYPE	ENVIROTEMP FR3
COOLING CLASS	KNAN
TEMPERATURE RISE	65°C
EFFICIENCY(100% LOAD)	99%
NOMINAL PRIMARY CURRENT	46.30A
NOMINAL SECONDARY CURRENT	1924.56A
NOMINAL IMPEDANCE	5.75%
X/R RATIO	6.69
ALTITUDE	≤1000m
No. OF TAP POSITION	5
FUNCTION	STEP-UP SOLAR
COLOR	MUNSELL GREEN
CORE FORM	THREE-PHASE FIVE COLUMN
ELECTROSTATIC SHIELD	INCLUDED
LOOP FEED CURRENT	600A

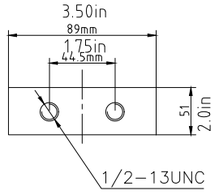
PARTS LIST		
ITEM	DESCRIPTION	QTY
1	PARKING STAND BRACKET	6
2	25kV 600A DEADBREAK ONE-PIECE HV BUSHING	6
3	H0 BUSHING WITH REMOVABLE GROUND STRAP	1
4	TWO POSITION (ON/OFF) LOADBREAK SWITCH(ROTARY SWITCH) 25kV, 3PHASE 630A,BIL 125kV, 206A, TYPE:SID-LS2P25-3	3
5	5 POSITION TAP CHANGER +/- 2x2.5% , 3-PHASE	1
6	DRIP TRAY	1
7	BAY-O-NET DUAL SENSING FUSE 65A, 25kV ,TYE:SID-PRNT4-25/65	3
8	1" UPPER FILL VALVE TYPE:SID-DT-1-11.5/T-1	1
9	PRESSURE RELIEF VALVE TYPE:SID-YLF-2545/T-0	1
10	VACCUM PRESSURE GAUGE WITH CONTACT FOR VACUUM TYPE:YXZC-100Z	1
11	LIQUID LEVEL GAUGE WITH CONTACTS TYPE: SID-UHZK-03-1	1
12	LIQUID TEMPERATURE GAUGE WITH CONTACTS TYPE:SID-BWPK-802-2	1
13	NEMA SPADE TYPE 10 HOLES LV BUSHING	4
14	LV BUSHING ADDITIONAL SUPPORT	2
15	750-4000 PADMOUNT LV PLATE, 304L S.S 3/16in	1
16	REMOVABLE GROUND LINK	1
17	GROUND BUS (6HOLES)	1
18	JACK	4
19	GROUND STEEL PADS	5
20	1" DRAIN VALVE WITH 3/8 SAMPLER	1
21	FIXED PROJECTING CUP	3
22	DOOR HANDLE	1
23	COOLING RADIATORS	3
24	NITROGEN BLANKET (FILLED IN THE FACTORY)	1
25	STANDARD NAMEPLATE (INSIDE LV COMPARTMENT DOOR)	1
26	HINGED DOOR	2
27	TERMINAL BLOCK	1
28	FLIP TOP COVER	1
29	LIFTING LUG	4
30	25kV 125A, CURRENT LIMITING FUSES, TYPE: SID-XRNT4-25/125	3

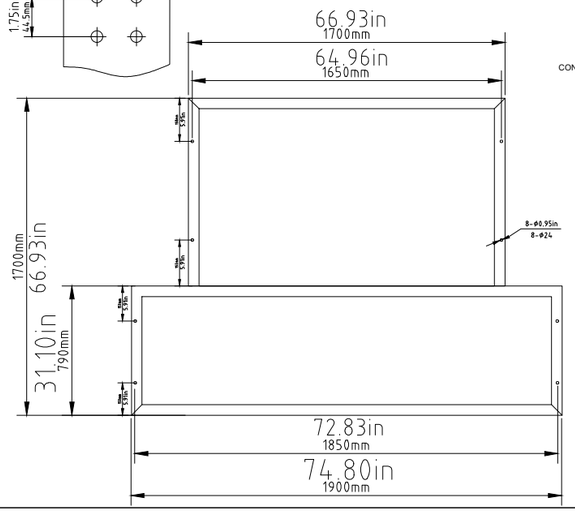


L.V TERMINAL

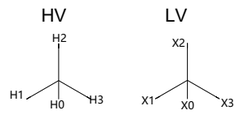


GROUND PAD
STAINLESS STEEL

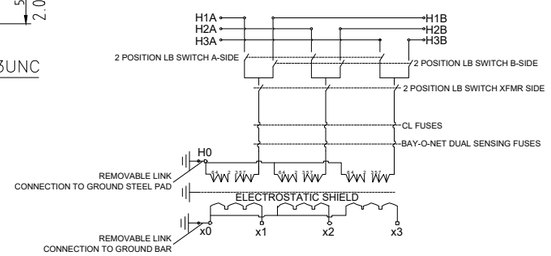




PHASOR DIAGRAM



CONNECTION DIAGRAM



REMARK:
- CUSTOMER NEED TO CONNECT GROUND WIRE TO THE TRANSFORMER.

TYPE	DWG. NAME
ZGS-H-2000/24.94/0.6	GENERAL ASSEMBLY DRAWING

REV	DATE	DRAWN	CHECKED	APPROVED	REVISION REMARKS
0	06.21.24	J.G.	A.U		
1	10.15.24	J.G.	A.M	A.M	ADDED THE X/R RATIO

FIRST ANGLE PROJECTION | SCALE 1

ISSUED FOR APPROVAL (IFA)

REV. NO. 1

DWG. NO.

Order No. : 79853

SHOP DRAWING / SUBMITTAL REVIEW

☐ APPROVED ☐ APPROVED AS NOTED

☐ REVISE AND RESUBMIT ☐ REJECTED

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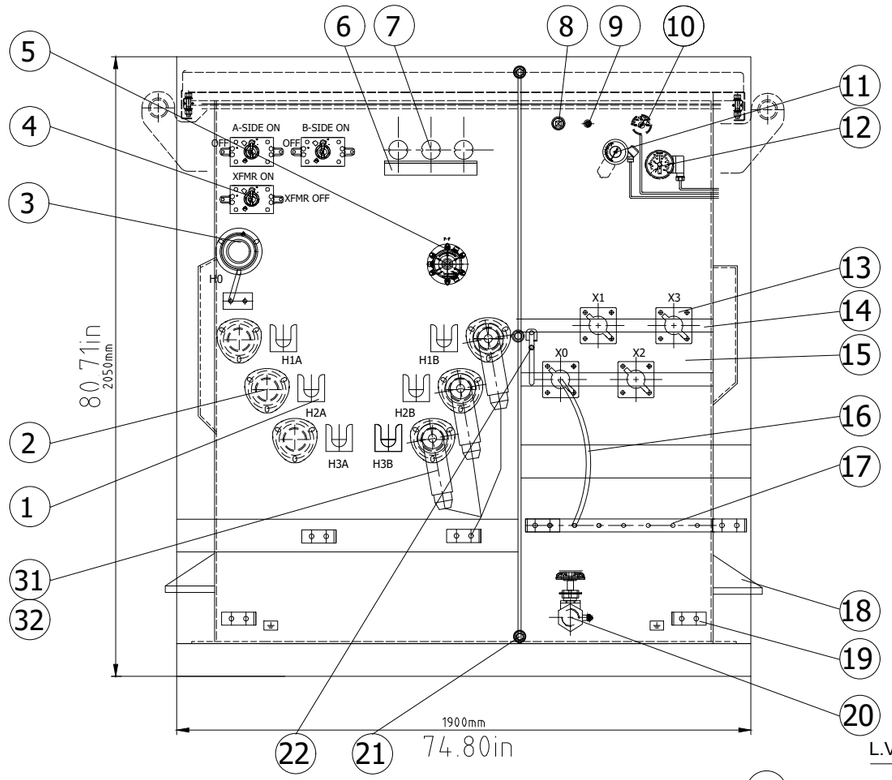
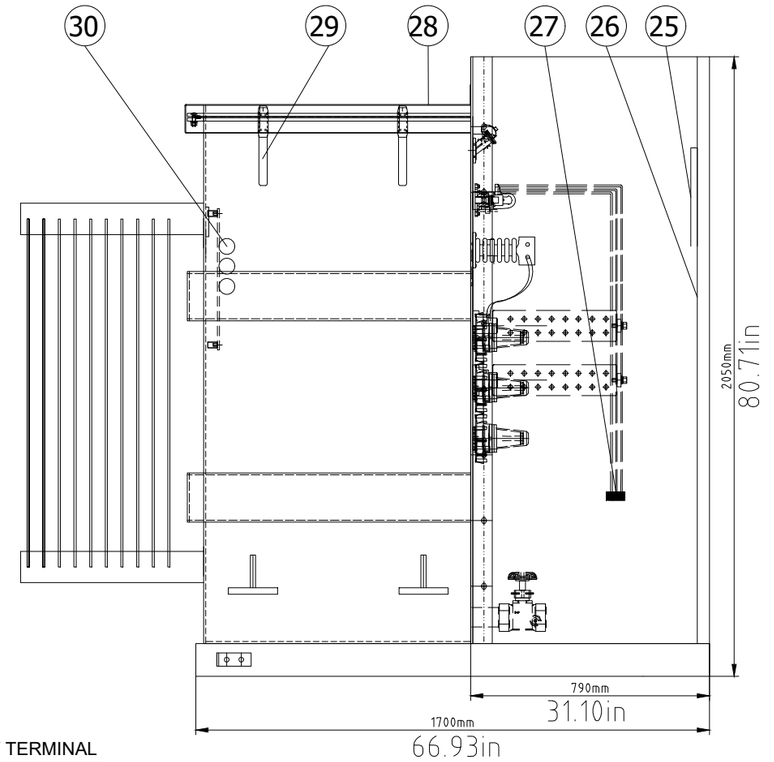
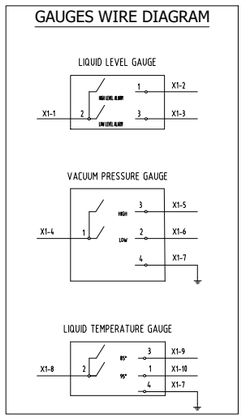
BY:_____ DATE:_____





REMARKS:
1. ELECTROSTATIC SHIELD BETWEEN HV AND LV WINDINGS, EXTERNALLY GROUNDED IN LV COMPARTMENT
2. GAUGE'S CONTACTS WIRED TO TERMINALS INSIDE LV COMPARTMENT.

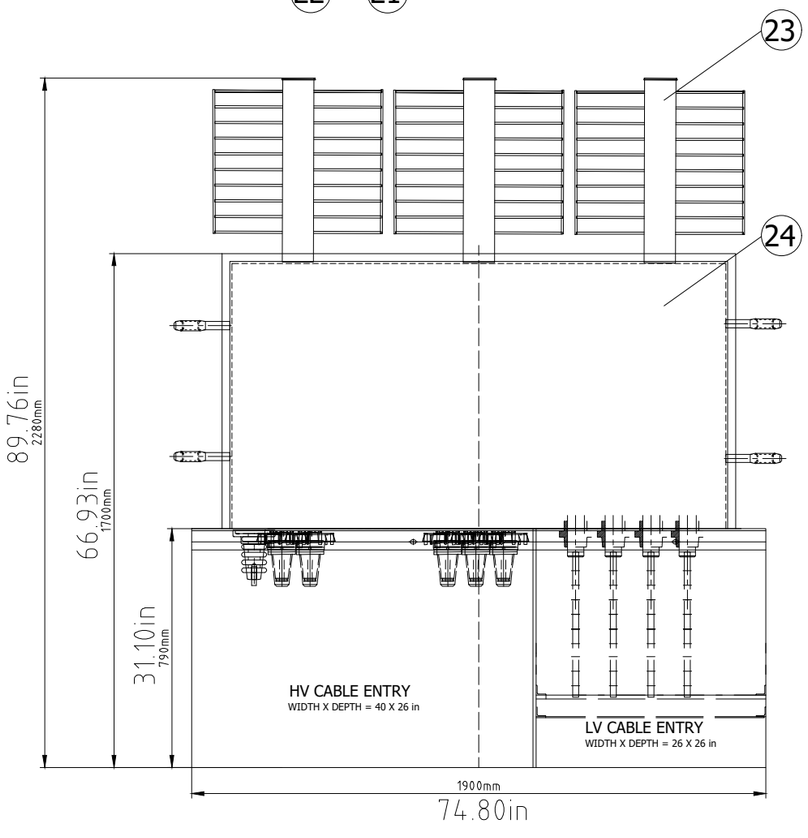
GAUGES WIRE DIAGRAM



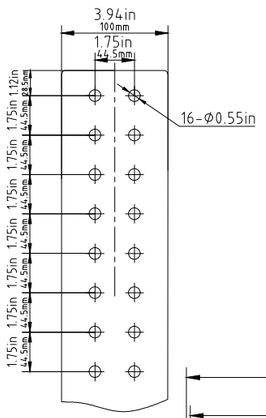
ESTIMATED OIL VOLUME: 609 gallons
ESTIMATED TOTAL WEIGHT: 12266 lbs

TECHNICAL DATA	
RATING	1500kVA
PRIMARY VOLTAGE(V)	24940/14400 GrdY
SECONDARY VOLTAGE(V)	600/346 GrdY
FREQUENCY	60Hz
VECTOR GROUP	YNyn0
PRIMARY BIL VOLTAGE	125 kV
SECONDARY BIL VOLTAGE	30 kV
WINDING MATERIAL	ALUMINUM
INSULATION OIL TYPE	ENVIROTEMP FR3
COOLING CLASS	KNAN
TEMPERATURE RISE	65°C
EFFICIENCY(100% LOAD)	99%
NOMINAL PRIMARY CURRENT	34.73A
NOMINAL SECONDARY CURRENT	1443.42A
NOMINAL IMPEDANCE	5.75%
X/R RATIO	6.5
ALTITUDE	≤1000m
No. OF TAP POSITION	5
FUNCTION	STEP-UP SOLAR
COLOR	MUNSELL GREEN
CORE FORM	THREE-PHASE FIVE COLUMN
ELECTROSTATIC SHIELD	INCLUDED
LOOP FEED CURRENT	200A

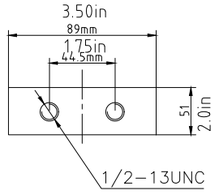
PARTS LIST		
ITEM	DESCRIPTION	QTY
1	PARKING STAND BRACKET	6
2	25kV 600A DEADBREAK ONE-PIECE HV BUSHING	6
3	H0 BUSHING WITH REMOVABLE GROUND STRAP	1
4	TWO POSITION (ON/OFF) LOADBREAK SWITCH(ROTARY SWITCH) 25kV, 3PHASE 630A,BIL 125kV, 20kA, TYPE:SID-LS2P25-3	3
5	5 POSITION TAP CHANGER +/- 2x2.5% , 3-PHASE	1
6	DRIP TRAY	1
7	BAY-O-NET DUAL SENSING FUSE 50A, 25kV ,TYE:SID-PRNT4-25/50	3
8	1" UPPER FILL VALVE TYPE:SID-DT-1-11.5/T-1	1
9	PRESSURE RELIEF VALVE TYPE:SID-YLF-2545/T-0	1
10	VACCUM PRESSURE GAUGE WITH CONTACT FOR VACUUM TYPE:YXZC-100Z	1
11	LIQUID LEVEL GAUGE WITH CONTACTS TYPE: SID-UHZK-03-1	1
12	LIQUID TEMPERATURE GAUGE WITH CONTACTS TYPE:SID-BWPK-802-2	1
13	NEMA SPADE TYPE 16 HOLES LV BUSHING	4
14	LV BUSHING ADDITIONAL SUPPORT	2
15	750-4000 PADMOUNT LV PLATE, 304L S.S 3/16in	1
16	REMOVABLE GROUND LINK	1
17	GROUND BUS (6HOLES)	1
18	JACK	4
19	GROUND STEEL PADS	5
20	1" DRAIN VALVE WITH 3/8 SAMPLER	1
21	FIXED PROJECTING CUP	3
22	DOOR HANDLE	1
23	COOLING RADIATORS	3
24	NITROGEN BLANKET (FILLED IN THE FACTORY)	1
25	STANDARD NAMEPLATE (INSIDE LV COMPARTMENT DOOR)	1
26	HINGED DOOR	2
27	TERMINAL BLOCK	1
28	FLIP TOP COVER	1
29	LIFTING LUG	4
30	25kV 100A, CURRENT LIMITING FUSES, TYPE: SID-XRNT4-25/100	3
31	25kV 600/200A BUSHING ADAPTER	3
32	15.3kV MCOV, 18kV DUTY CYCLE ELBOW TYPE SURGE ARRESTER	3

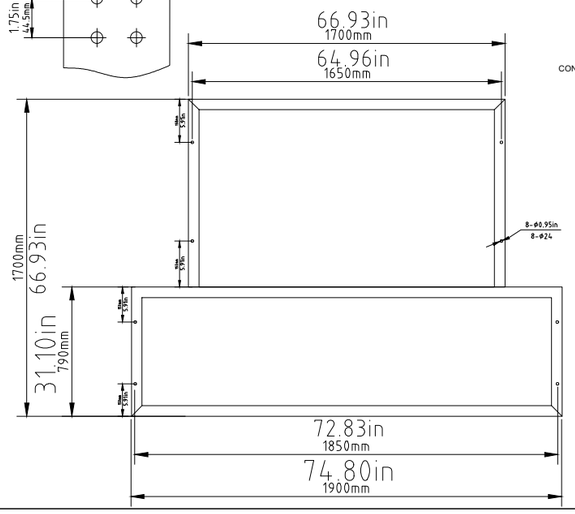


L.V TERMINAL

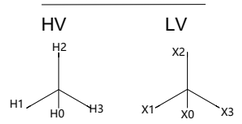


GROUND PAD
STAINLESS STEEL

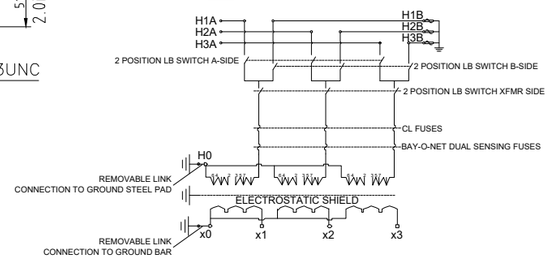




PHASOR DIAGRAM



CONNECTION DIAGRAM



REMARK:
- CUSTOMER NEED TO CONNECT GROUND WIRE TO THE TRANSFORMER.

TYPE	DWG. NAME
ZGS-H-1500/24.94/0.6	GENERAL ASSEMBLY DRAWING

REV	DATE	DRAWN	CHECKED	APPROVED	REVISION REMARKS
0	06.27.24	J.G.	A.U		
1	10.15.24	J.G.	A.M	A.M	ADDED THE X/R RATIO

FIRST ANGLE PROJECTION | SCALE 1

ISSUED FOR APPROVAL (IFA)

REV. NO. 1