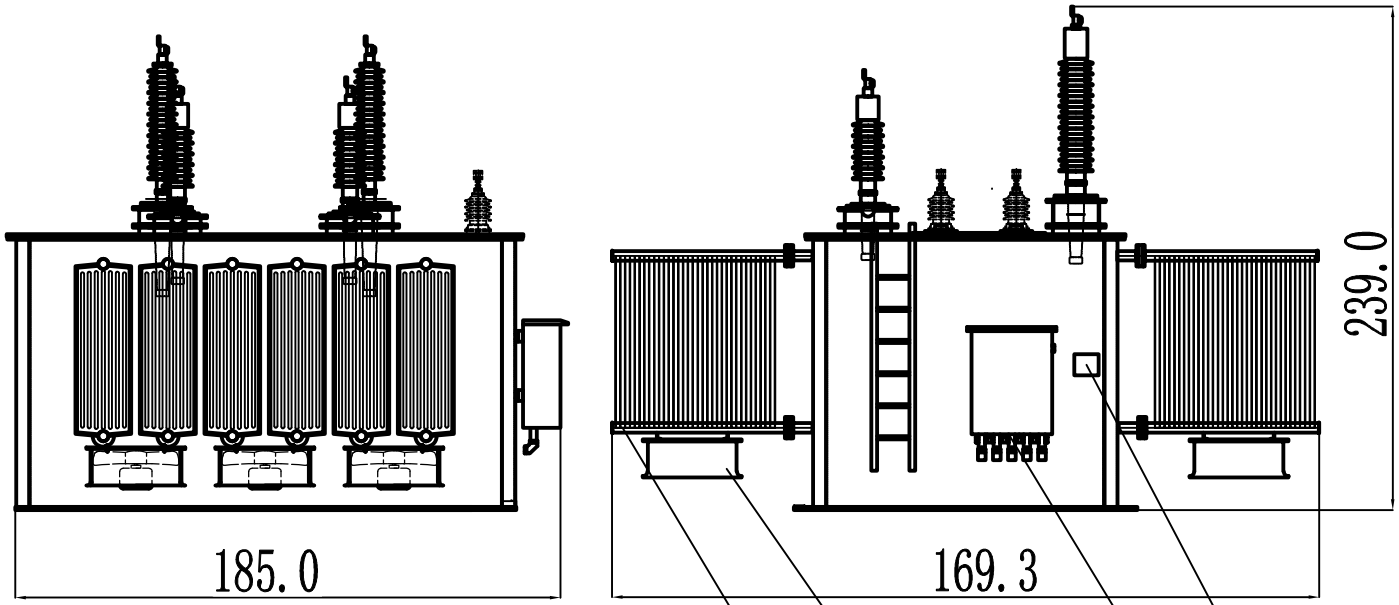
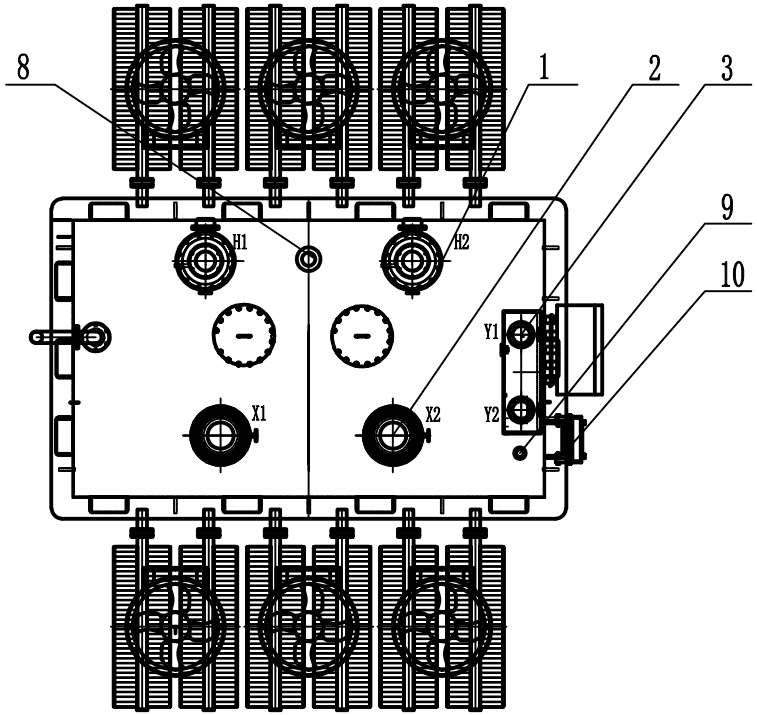
Item	Core&coil	Tank	Oil	Total	Shipping w/oil
Weight(lbs)	94666	42329	60848 (7925Gallons)	189600	167992





item	code	name	number	notes
11				
10		Ladder	1	
9		YV No-load tap chenger	1	
8		HV No-load tap chenger	1	
7		Fans control box	1	
6		Transformer nameplate	1	
5		Fan	6	
4		panel-type radiator	12	
3		Y.V Bushing	2	
2		X.V Bushing	2	
1		H.V Bushing	2	

mark	rev.	zone	revision	sign.	date
design	RR		Standard		
examined					
checked	RB				
efrated			Approved		

50-56/66.67-74.67/83.33-93.33 MVA Conservator Substation Transformer

Phase mark	Weight	scale
total page		

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

Transformer cooler control cabinet information

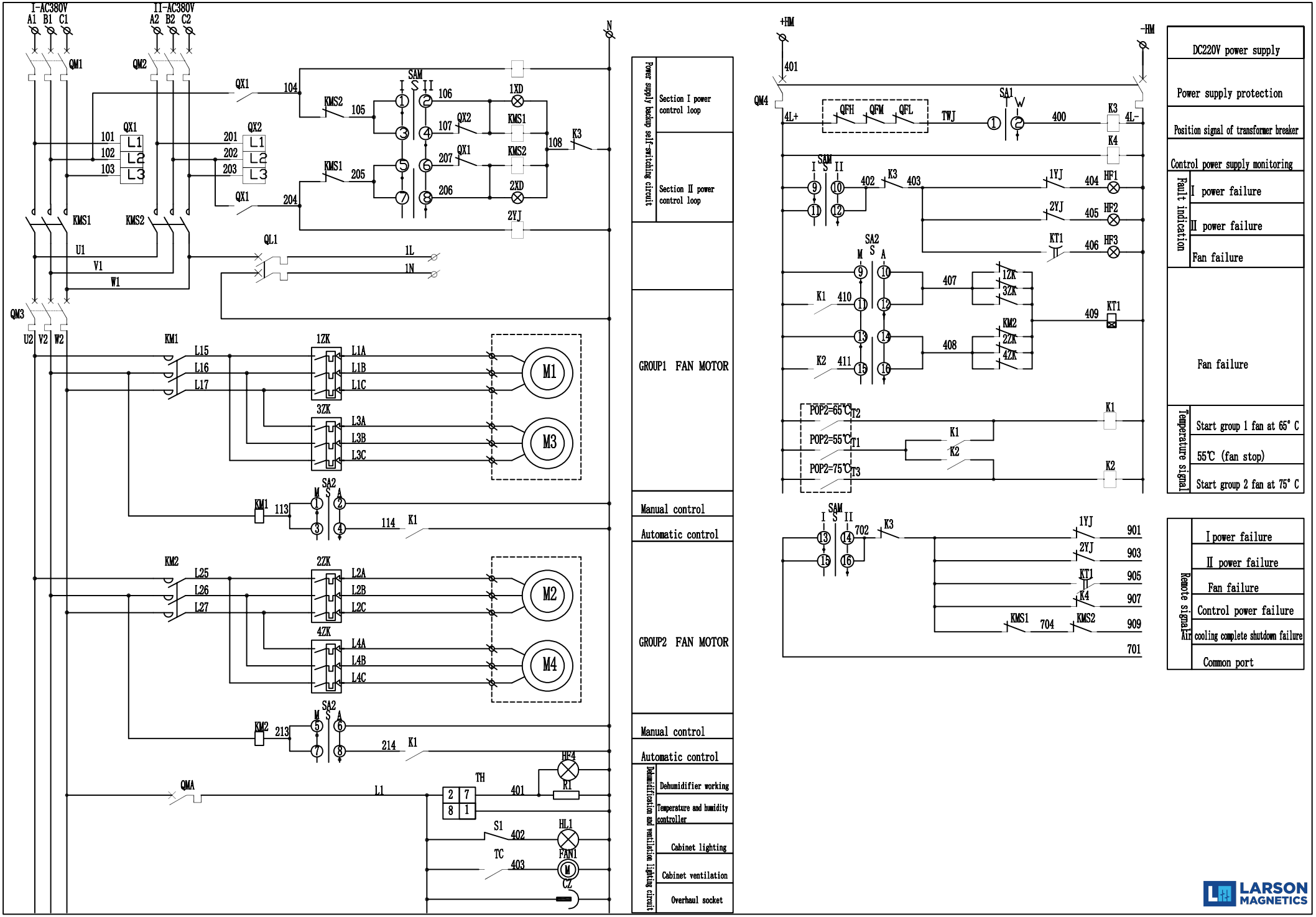
model:

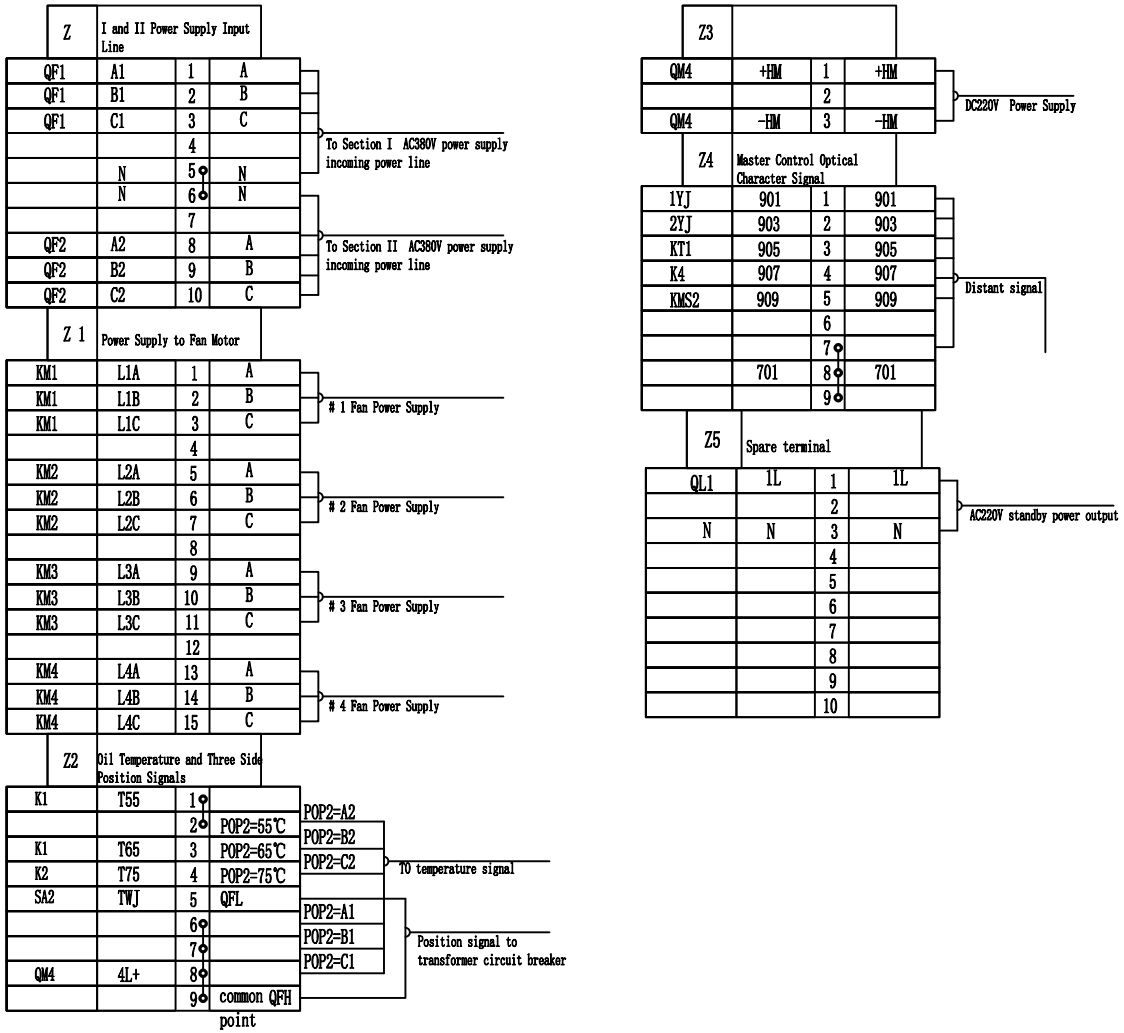
entry name:

Page number	Name	Remark
1	Contents	
2	Schematic diagram of transformer cooler control cabinet	
3	Terminal diagram of transformer cooler control cabinet	
4	Control principle diagram of transformer body	
5	Layout of transformer bushing current transformer	
6	Terminal diagram of transformer body	
7	Transformer cooler control cabinet cooler list	
8	Component layout of transformer cooler control cabinet	
9	Transformer cooler control cabinet outline dimension diagram	

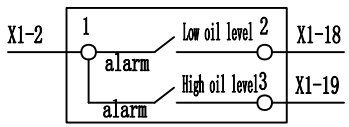
Note: 1. 4 fans, each with a power of 0.55kW
2. The risk control cabinet requires two power supply voltages, three-phase AC380V 50Hz
3. Install an on load switch controller on the background control screen with a 210 * 98 opening, Install two digital displays (one for oil level temperature controller and one for winding temperature controller) with holes of 152 * 76, Power supply L-N AC220V 50Hz

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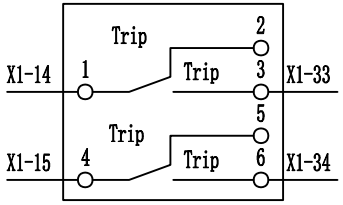

I-AC380V
A1 B1 C1
II-AC380V
A2 B2 C2
QM1
QM2
QX1
QX2
KMS1
KMS2
SAM
1XD
2XD
2YJ
K3
QL1
1L
1N
N
QM3
U2 V2 W2
KM1
1ZK
3ZK
M1
M3
SA2
K1
KM2
2ZK
4ZK
M2
M4
QMA
TH
HF4
R1
S1
HL1
FAN1
TC
CZ
Power supply backup self-switching circuit
Section I power control loop
Section II power control loop
GROUP1 FAN MOTOR
Manual control
Automatic control
GROUP2 FAN MOTOR
Manual control
Automatic control
Dehumidification and ventilation lighting circuit
Dehumidifier working
Temperature and humidity controller
Cabinet lighting
Cabinet ventilation
Overhaul socket
+HM
-HM
QM4
SA1
TWJ
QFH
QFM
QFL
1YJ
2YJ
KT1
HF1
HF2
HF3
POP2=65℃
POP2=55℃
POP2=75℃
DC220V power supply
Power supply protection
Position signal of transformer breaker
Control power supply monitoring
Fault indication
I power failure
II power failure
Fan failure
Fan failure
Temperature signal
Start group 1 fan at 65° C
55℃ (fan stop)
Start group 2 fan at 75° C
Remote signal
I power failure
II power failure
Fan failure
Control power failure
Air cooling complete shutdown failure
Common port


Z
I and II Power Supply Input Line
QF1 A1 1 A
QF1 B1 2 B
QF1 C1 3 C
4
N 5 N
N 6 N
7
QF2 A2 8 A
QF2 B2 9 B
QF2 C2 10 C
To Section I AC380V power supply incoming power line
To Section II AC380V power supply incoming power line
Z 1
Power Supply to Fan Motor
KM1 L1A 1 A
KM1 L1B 2 B
KM1 L1C 3 C
4
KM2 L2A 5 A
KM2 L2B 6 B
KM2 L2C 7 C
8
KM3 L3A 9 A
KM3 L3B 10 B
KM3 L3C 11 C
12
KM4 L4A 13 A
KM4 L4B 14 B
KM4 L4C 15 C
1 Fan Power Supply
2 Fan Power Supply
3 Fan Power Supply
4 Fan Power Supply
Z2
Oil Temperature and Three Side Position Signals
K1 T55 1
2 POP2=55℃
K1 T65 3 POP2=65℃
K2 T75 4 POP2=75℃
SA2 TWJ 5 QFL
6
7
QM4 4L+ 8
9 common QFH point
POP2=A2
POP2=B2
POP2=C2
TO temperature signal
POP2=A1
POP2=B1
POP2=C1
Position signal to transformer circuit breaker
Z3
QM4 +HM 1 +HM
2
QM4 -HM 3 -HM
DC220V Power Supply
Z4
Master Control Optical Character Signal
1YJ 901 1 901
2YJ 903 2 903
KT1 905 3 905
K4 907 4 907
KMS2 909 5 909
6
7
701 8 701
9
Distant signal
Z5
Spare terminal
QL1 1L 1 1L
2
N N 3 N
4
5
6
7
8
9
10
AC220V standby power output

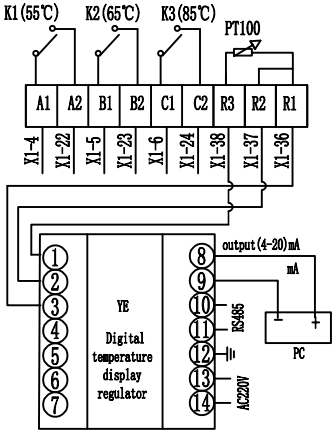
Tank oil level indicator POL1



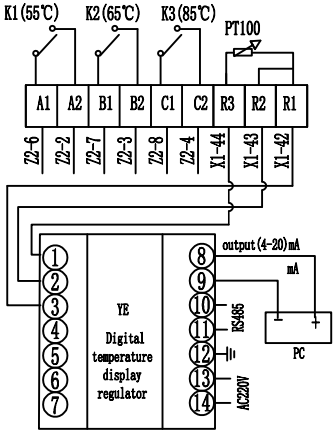
Pressure relief valve EPR1



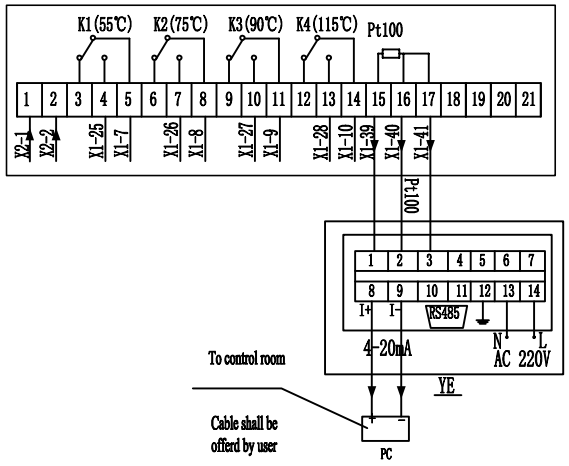
(Oil temperature controller)
Electrical wiring schematic diagram POP1

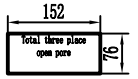


(Oil temperature controller)
Electrical wiring schematic diagram POP2

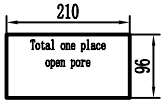


(winding thermometer)
Overall wiring diagram PW





YE The size of the opening pore on the screen of the main control room is as shown above (opening pore of temperature controller digital display)



On-load switch controllers are mounted on the screen of the main control room with openings pore as shown above.

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SAM conversion switch combination table

Printing	I Power	Stop	II Power
Code name	I	S	II
Contact No.	↖	↑	↗
1—2	✕		
3—4			✕
5—6	✕		
7—8			✕
9—10	✕		
11—12			✕
13—14	✕		
15—16			✕

SA2 conversion switch combination table

Printing	Manual	Stop	Automatic
Code name	M	S	A
contact No.	↖	↑	↗
1—2	✕		
3—4			✕
5—6	✕		
7—8			✕
9—10	✕		
11—12			✕
13—14	✕		
15—16			✕

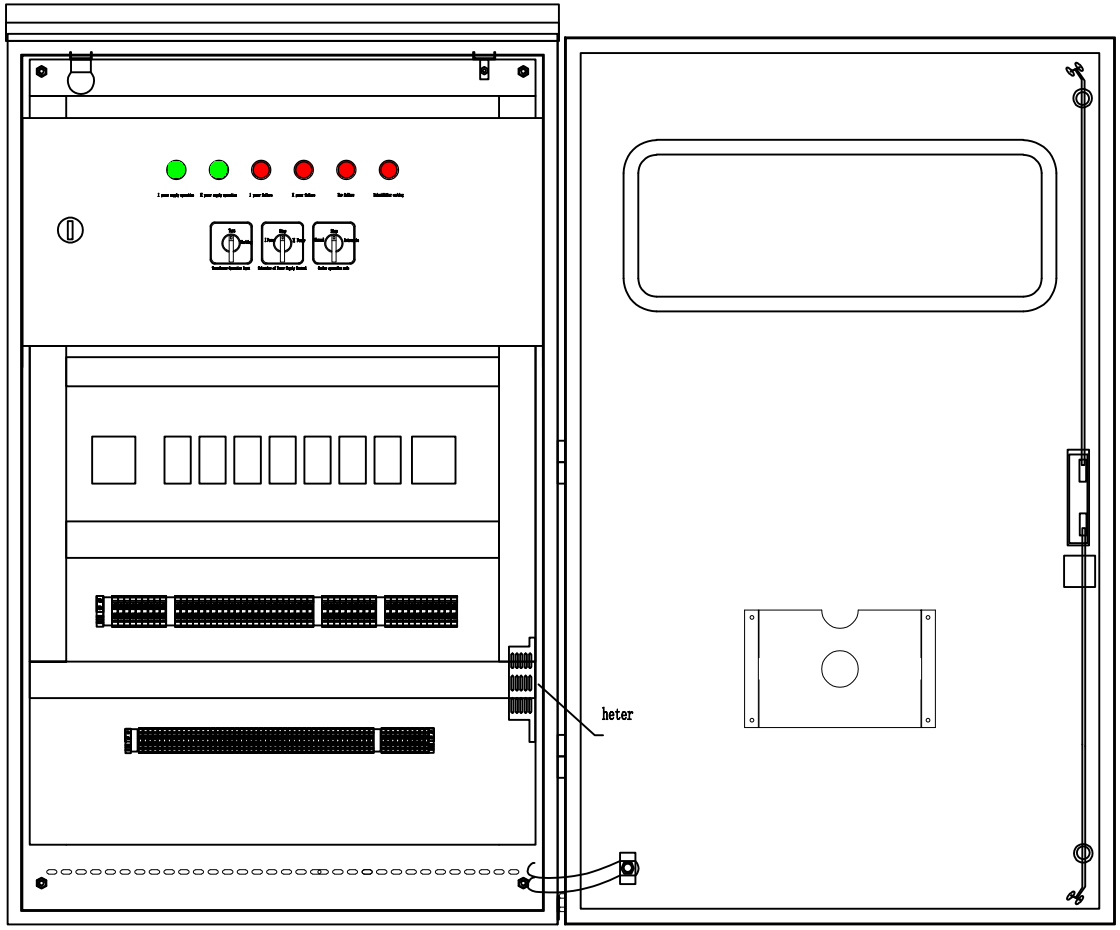
SA1 conversion switch combination table

Printing	Test	Working
Code name	T	W
Contact No.	↑	↗
1—2		✕
3—4		✕

NO.	Symbol	Name	Type		
1	KMS1 KMS2	AC contactor		2	
2	KM1-KMn	AC contactor		2	
3	QM1-QM3	Breaker		3	
4	QM4	Breaker		1	
5	QMA	Breaker		1	
6	QL1	Breaker		1	
7	1ZK-nZK	Motor protection circuit breaker		4	
8	1YJ、2YJ	Intermediate relay		2	
9	K1-K4	Intermediate relay		4	
10	QX1-QX2	Phase sequence relay		2	
11	KT1	Time relay		1	
12	SAM	Change-over switch		1	
13	SA1-SA2	Change-over switch		2	
14	SA3	Change-over switch		1	
15	1XD 2XD	Indicator light		2	
16	HF1-HF3	Indicator light		3	
17	HF4	Indicator light		1	
18		Terminal		10	
19		Terminal		201	
20		Terminal		80	
21		Terminal		10	
22		Marking terminal		9	
23	TH	Temperature and humidity controller		1	
24	R1	Heater		1	
25	S1	Limit switch		1	
26	TC	Temperature switch		1	
27	CZ	Socket		1	
28	HL1	Flashlight		1	
29	FAN1	Axial fan		1	
30					

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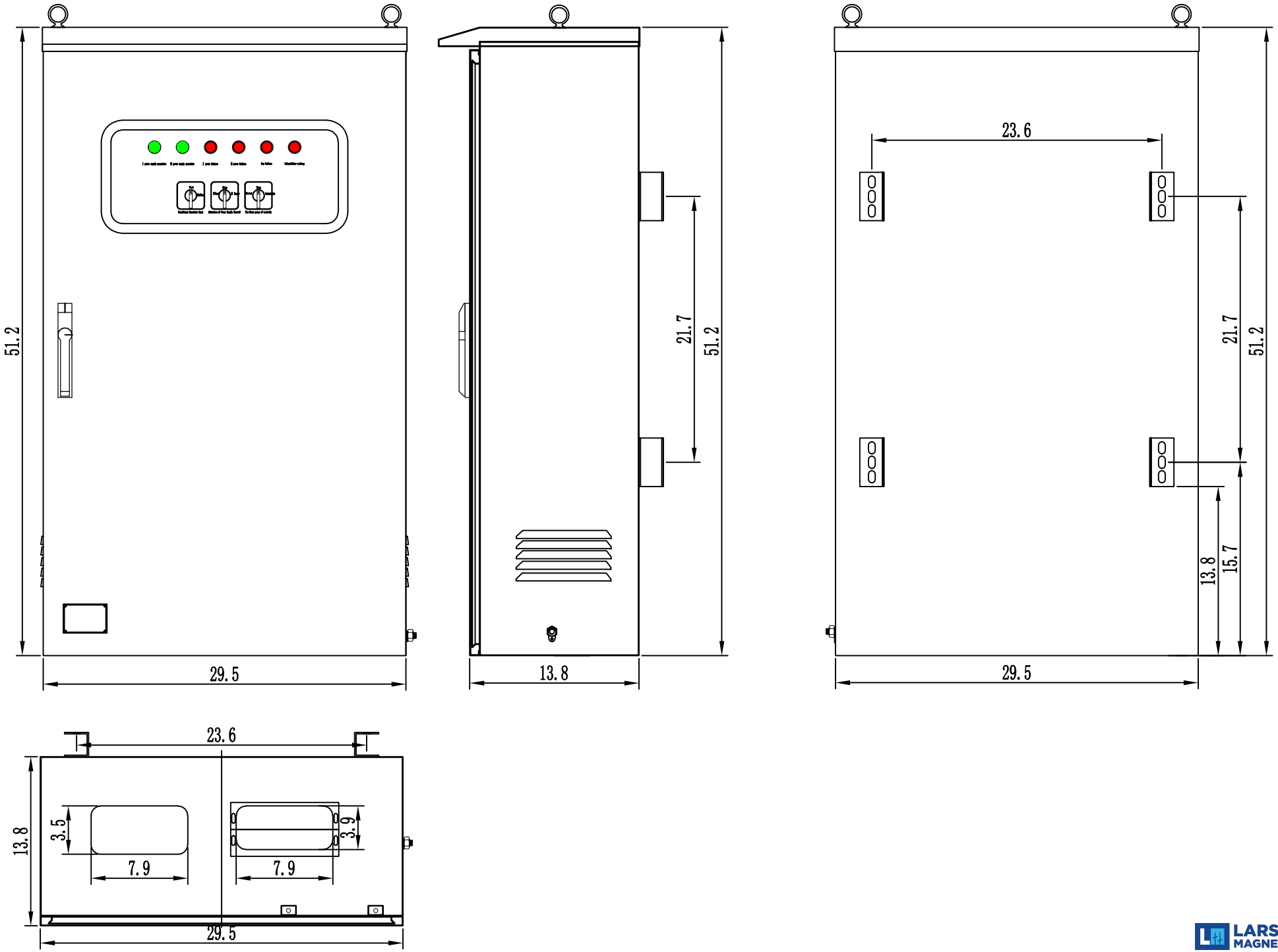
Drawing of cabinet layout



Note:

1. Hinge and lock are high-grade stainless steel produced by famous manufacturers.
2. There is a cable entry hole at the bottom of the box.
3. Front opening door.
4. Installation method: wall-mounted.
5. A guaze is attached to the blinds to avoid insects from entering.
6. There shall be no less than 100 square millimeters of grounded copper bars installed on both sides of the cabinet bottom.
7. A sealing strip is attached to the inside of the front door.
8. The transparent window in the front door is tempered glass and the frame is tightly wrapped with a sealing strip.
9. An incandesent light bulb is installed on the top.
10. The installed axial fan on the top completed cooling ventilation within the box
11. Cabinet material: SU304B
12. Cabinet size: 1300×750×350

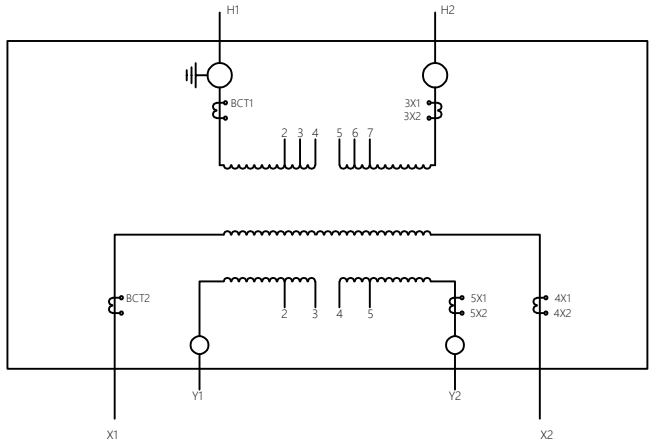
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51.2
29.5
21.7
51.2
13.8
23.6
21.7
51.2
13.8
15.7
29.5
23.6
13.8
3.5
7.9
3.9
7.9
29.5

SINGLE-PHASE AUTOTRANSFORMER

Type	
Serial Number	
Date of Assembly	
Operation Condition	Out door
Standard	IEEE C57.12.00
H.V BIL	750kV
X.V BIL	250kV
Y.V BIL	110kV
Operating Altitude	< 1000 msnm
Power ONAN/ONAF1/ONAF2	50/66.66 /83.33MVA
Rated Voltage	154/46/12.46 kV
Vector Group	i0i0
Frequency	60 Hz
Number of Phases	1
Cooling Method	ONAN/ONAF1/ONAF2
Impedance 154KV TO 46KV	% @50MVA
Impedance 154KV TO 13.2KV	% @17.5MVA
Impedance 46KV TO 13.2KV	% @17.5MVA
No-load Current (100%)	%
No-load losses (100%)	KW
Losses with ONAN load (75℃)	KW

H-VOLTAGE				X- VOLTAGE			X- VOLTAGE		
TAP POSN	VOLTS(V)	AMPS(A)		VOLTS(V)	AMPS(A)		VOLTS(V)	AMPS(A)	
		50 MVA	83.33MVA		50 MVA	83.33 MVA		17.5 MVA	29.16 MVA
1	169400	511	852	46000	1883	3138	13083	1338	2229
2	165550	523	872				12460	1404	2340
3	161700	536	893						
4	157850	549	914				11837	1478	2463
5	154000	562	937						



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Larson Magnetics LLC
Kemp, TX USA