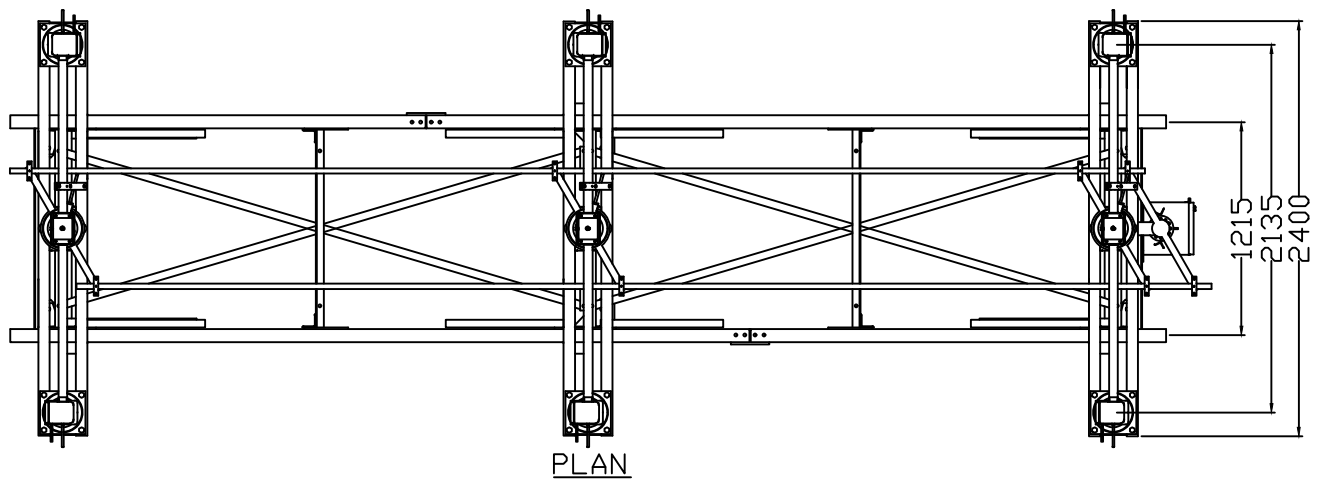
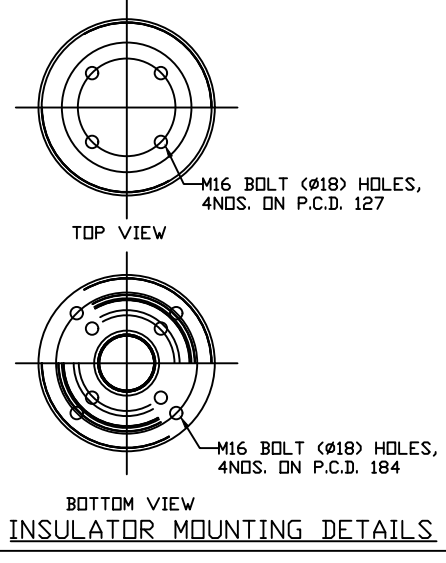


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NOTE:-1. Drawings approval subject to valid type test reports, to be checked during acceptance tests.
2. For EPC contractors only.



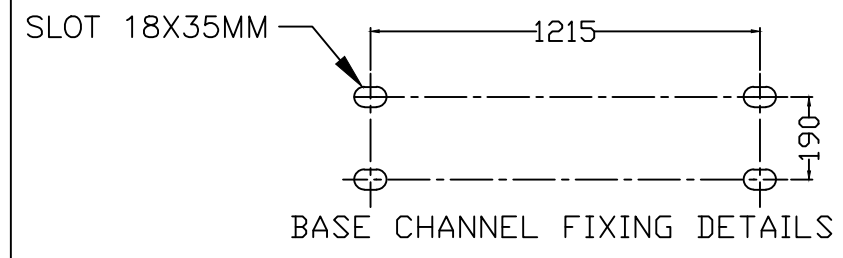
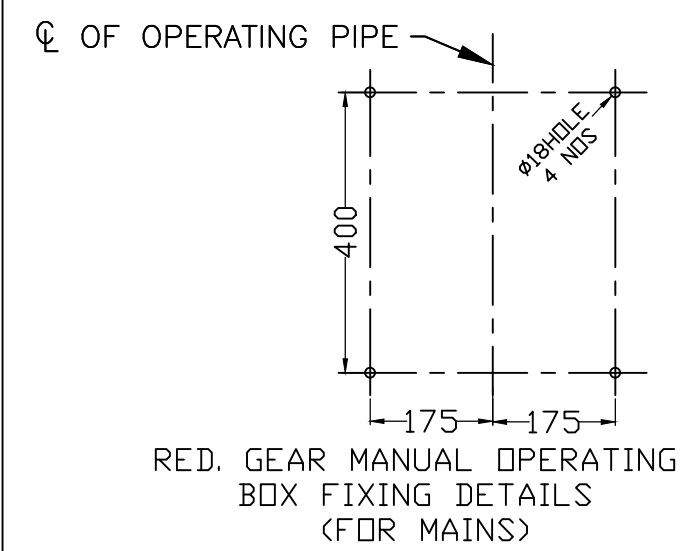
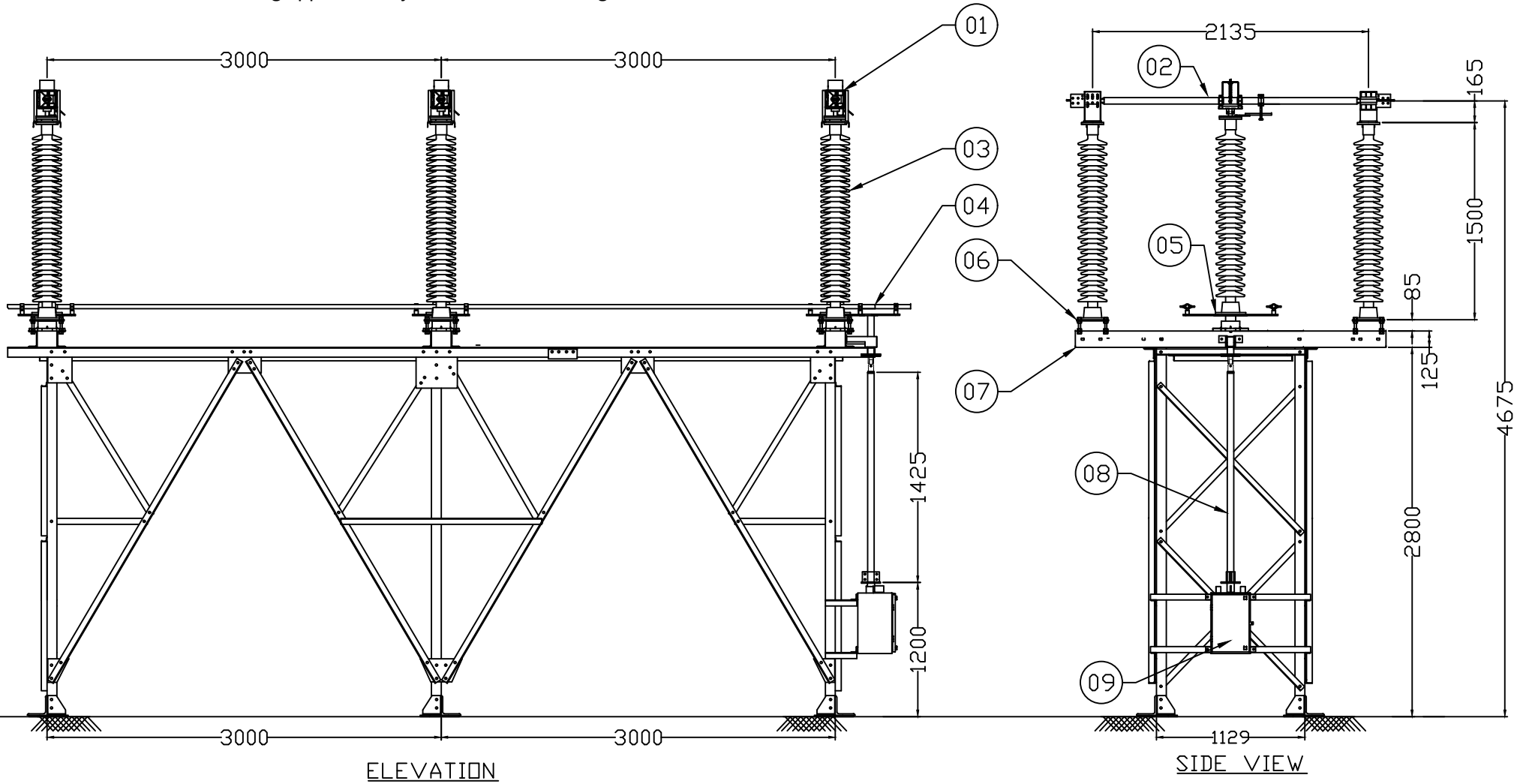
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SR.	PART LIST	MATERIAL	QTY/ISO
1	FIXED CONTACT ASSEMBLY	MS HDG	6 NOS.
2	MOVING CONTACT ASSEMBLY	MS HDG	3 NOS.
3	INSULATOR STACK (NOT IN TRITECH SCOPE)	PORCELAIN	9 NOS.
4	TANDEM PIPE (NB 32 G.I. PIPE) CL-B, 7 MTR	GI PIPE	2 NOS.
5	ROTATING STOOL POST	AL	3 NOS.
6	ELEVATOR PLATE-10MM THK	MS HDG	6 NOS.
7	BASE CHANNEL (125X65X5)	MS HDG	3 NOS.
8	OPERATING PIPE (NB 50 G.I. PIPE)	GI PIPE	1 NO.
9	MAIN OPERATING MECHANISM BOX (RED.GEAR)	AL	1 NO.

NOTE:

- ALL DIMENSIONS ARE IN MM.
- ALL FERROUS PARTS ARE HOT DIP GALVANIZED (87 MICRONS)
- ALL HDE COPPER CONTACT POINTS ARE SILVER PLATED (15 MICRONS.)
- THE MAIN ROTATING POST HAS TWO NOS OF BALL BEARING.
- ALL G.I. PIPES ARE OF 'B' CLASS
- MANUFACTURING TOLERANCES:
 - I) UPTO 50MM - ±3%
 - II) 51MM TO 100MM - ±2%
 - III) 101MM TO 300MM - ±1%
 - IV) ABOVE 300MM - ±0.5%



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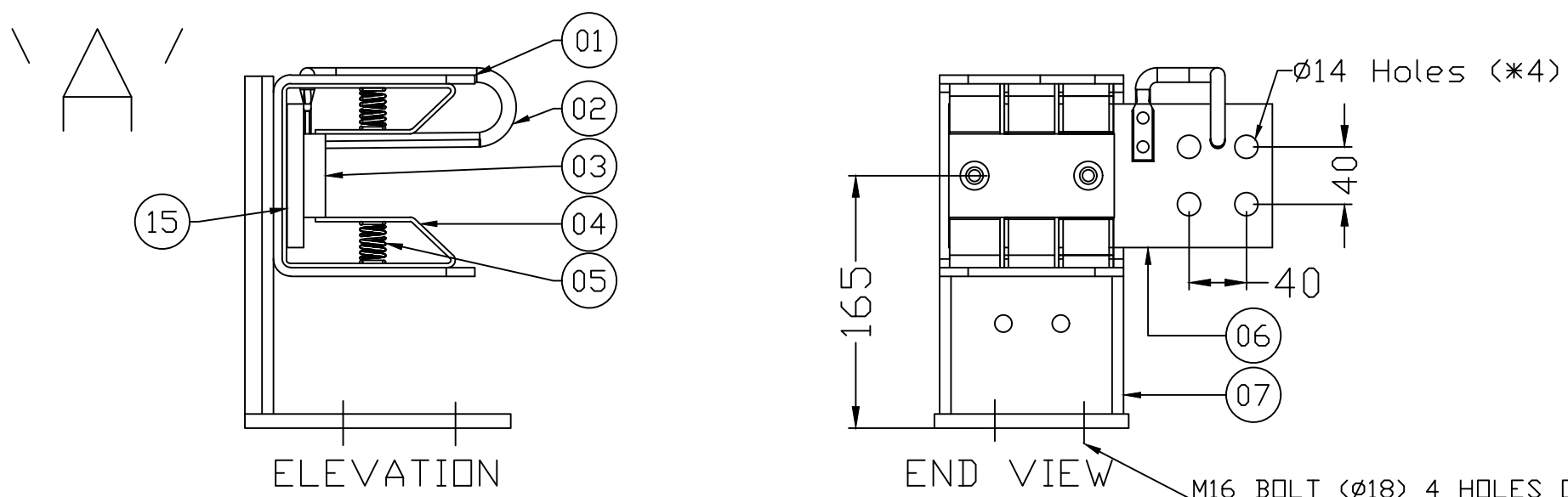
REV NO	DATE	DESCRIPTION	SIGN	REV. NO.	SIZE	SHEET	SCALE
				00	A4	1/1	1:1

TITLE: G.A. DRAWING OF 145KV 1600AMP H.D.B. ISOLATOR WITHOUT EARTH SWITCH (ON APTRANSCO STRUCTURE)

DWG. NO : I6164001AP



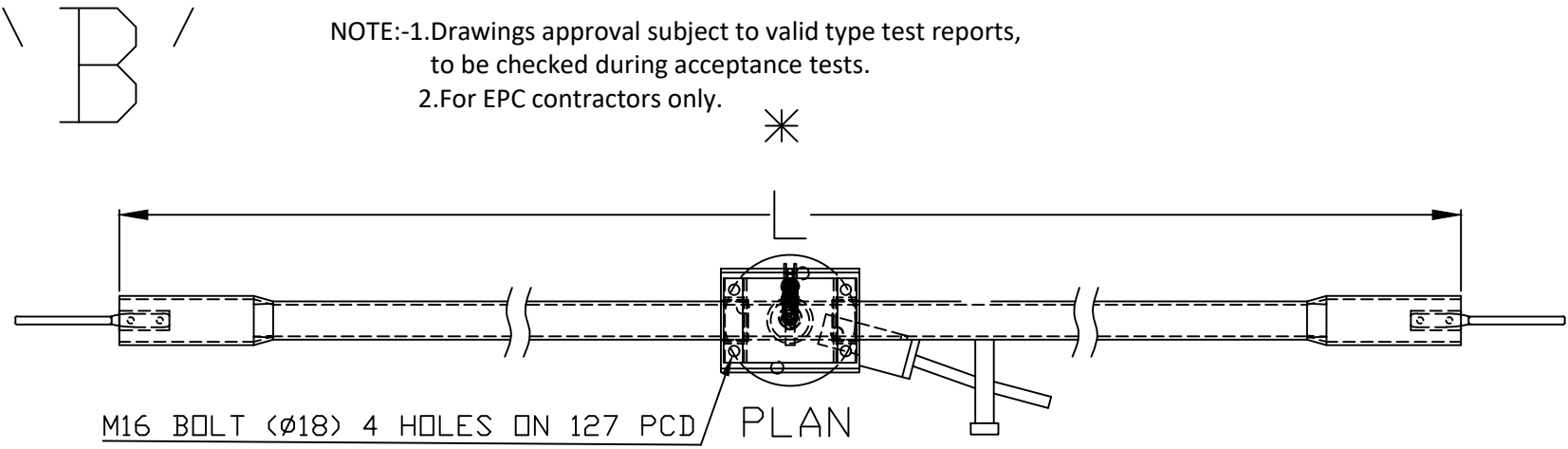
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DETAILS OF FIXED CONTACT

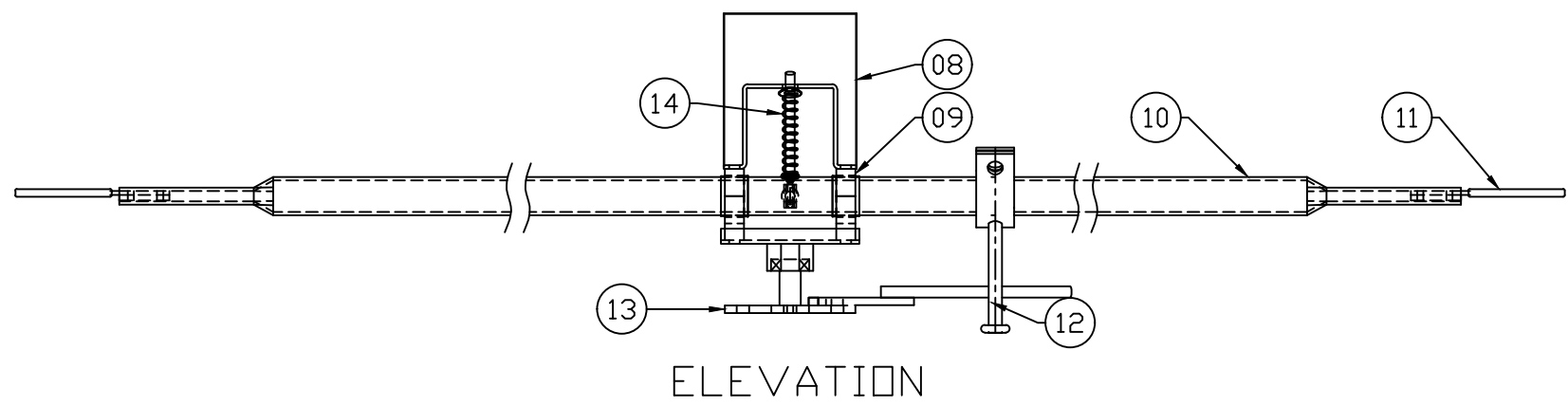
SR.	PART LIST	MATERIAL	QTY/ISO
1	FC C BRACKET / RAINHOOD-6MM THK	MS HDG	6 NOS
2	FC ARCING HORN-Ø10MM	MS HDG	6 NOS
3	SPACER-10MM THK	BACKELITE	3 NOS
4	FC M CONTACT (32X5.3)	CU	18 NOS
5	FC SPRINGS	SS	36 NOS
6	TERMINAL PAD (100X16)	AL	6 NOS
7	SUPPORTING CHANNEL-4MM THK	MS HDG	6 NOS
8	MC CANOPY (0.5MM THK.)	AL	6 NOS
9	MC SUPPORTING BLOCK	AL	6 NOS
10	MC COPPER TUBE HDEC(ØD-50 ID-38)	CU	3 NOS
11	MC ARCING HORN Ø10MM	MS HDG	6 NOS
12	CLAMP FOR TURN & TWIST-5MM THK	MS HDG	3 NOS
13	MC BASE PLATE FOR TURN & TWIST	MS HDG	3 NOS
14	MC SPRING (SS)	SS	3NOS
15	BI-METALLIC SHEET 2MM THK	AL+CU	6NOS

- NOTE:
- ALL DIMENSIONS ARE IN MM.
 - ALL FERROUS PARTS ARE HOT DIP GALVANIZED (87 MICRONS)
 - ALL HDE COPPER CONTACT POINTS ARE SILVER PLATED. (15 MICRONS)
 - TOLERANCE AS PER G.A. DRAWING.
 - FOR CONTACT DETAILS FIX CONTACT 'A' & MOVING CONTACT 'B' DETAILS REFER TABLE ANNEXURE 1
 - MOVING CONTACT LENGTH AND FIX CONTACT WILL VARY AS PER FIX CONTACT PAIRS REQUIRED AS PER ANNEXURE 1.



NOTE:-1. Drawings approval subject to valid type test reports, to be checked during acceptance tests.
2. For EPC contractors only.

CURRENT RATING	FIXED CONTACT (A) (CU)				MOVING CONTACT (B) (CU)				TERMINAL PAD	
	SIZE MMxMM	PAIRS NO	AREA SQMM	CURRENT DENSITY A/SQMM	OD MM	ID MM	* (L) LENGTH MM	AREA SQMM	CURRENT DENSITY A/SQMM	SIZE MMxMM
1600	32X5.3	3	1018	1.6000	50	38	2266	829	2.0000	100X16 AL.



DETAILS OF MOVING CONTACT

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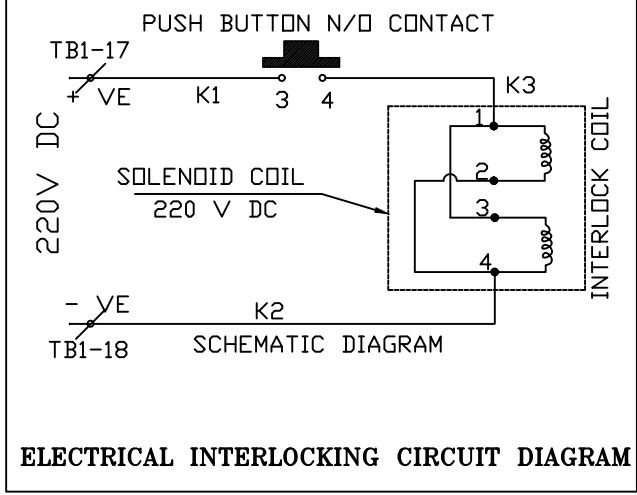
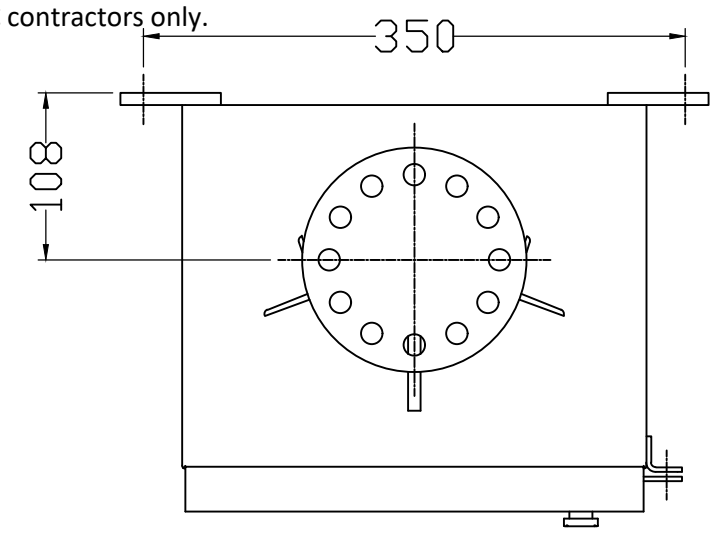
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NAME	SIGN	DATE	TITLE
DRWN SHARAD	SRD	06.04.23	MAIN CONTACTS DETAILS FOR 145KV 1600A ISOLATOR
CHKD P JADHAV	P.J	06.04.23	
APPD P JADHAV	P.J	06.04.23	

DRWG. NO : A616MC00AP

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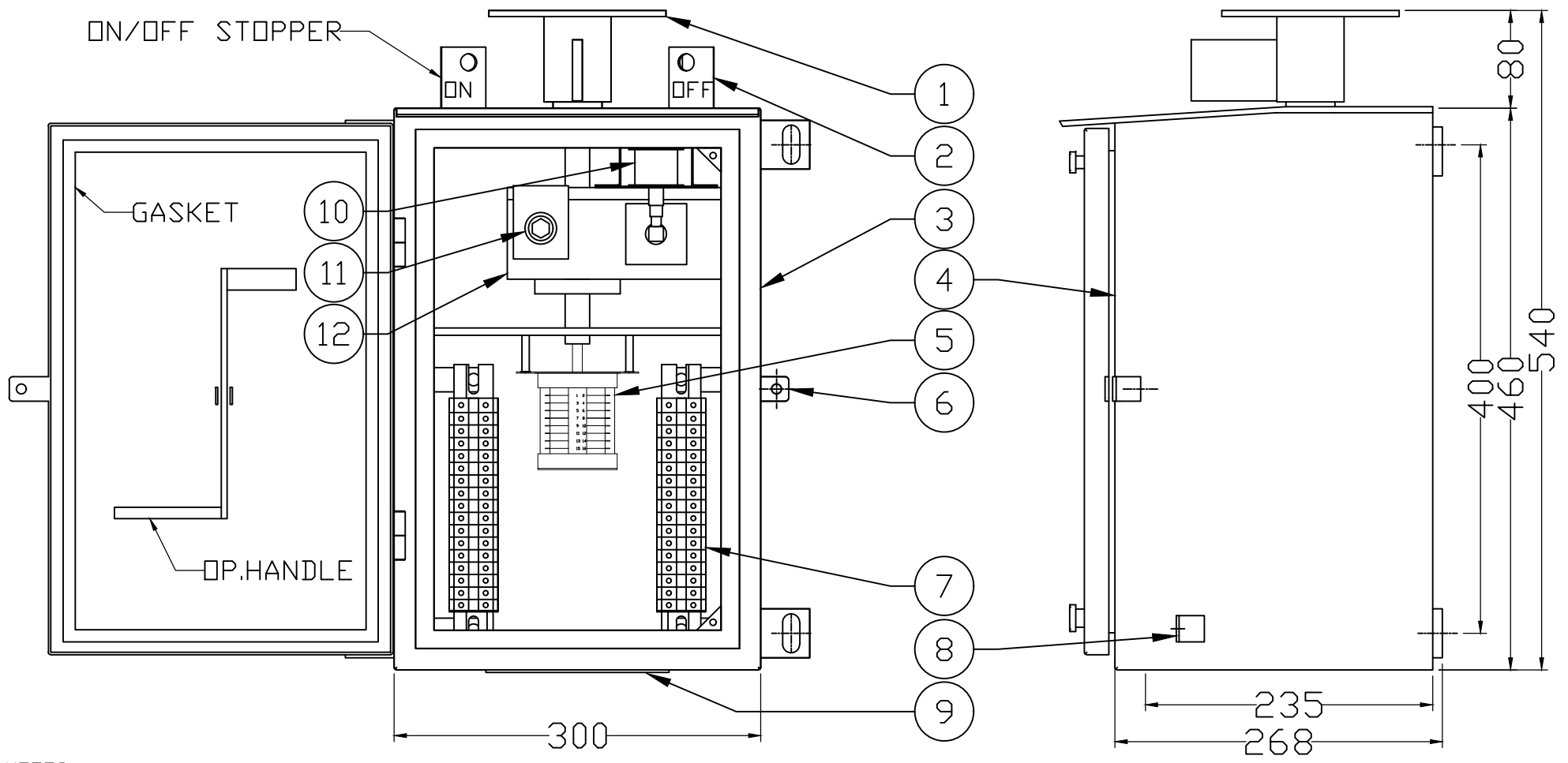
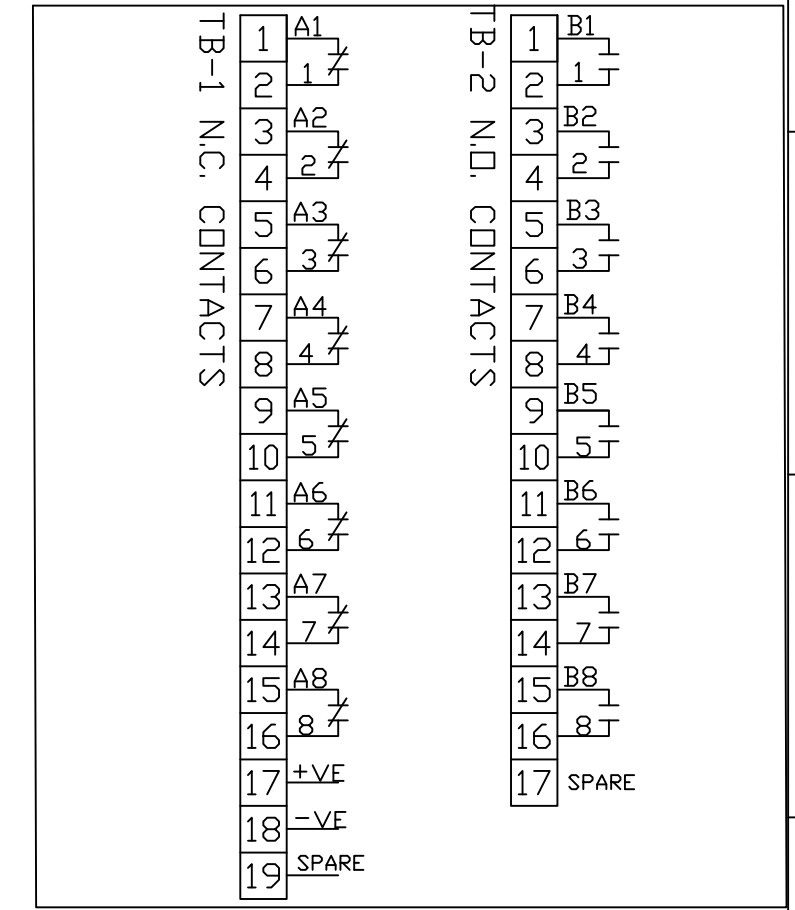
NOTE:-1. Drawings approval subject to valid type test reports, to be checked during acceptance tests.
2. For EPC contractors only.



MAKE OF OPERATING BOX - TRITECH DISCON.	
SR.	DESCRIPTION
1	TOP FLANGE-8MM THK
2	ON-OFF STOPPER
3	BOX (AL-3 MM THK.)
4	DOOR WITH GASKET NEOPRENE 3MM THK.
5	AUX SWITCH (8NO + 8NC)
6	PROVISION FOR PADLOCK (WITHOUT LOCK)
7	TERMINAL BLOCK 2.5SqMM STUD TYPE
8	EARTHING TERMINAL
9	REMOVABLE GLAND PLATE
10	SOLENOID COIL 220V DC
11	PUSH BUTTON
12	REDUCTION GEARBOX

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AUXILIARY CONTACTS (8NO+8NC)



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- NOTES:**
- ALL DIMENSIONS ARE IN MM.
 - DEGREE OF PROTECTION IP-55.
 - POWDER COATING SHADE OF BOX= LIGHT GRAY (LG 631) THK- 80 MICRONS
 - MANUFACTURING TOLERANCES: ±5%
 - TERMINAL SHALL BE STUD TYPE SUITABLE FOR RING TYPE LUG PROVIDED
 - 20% SPARE TERMINALS PROVIDED FOR CUSTOMER USE.
 - WIRING WILL BE DONE WITH 1100 V. GRADE WITH 2.5 SQ.MM CU. STRANDED P.V.C. INSULATED CONDUCTOR
 - MATERIAL- 3MM THK ALUMINIUM

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TRITECH DISCONNECTORS (INDIA) PVT. LTD.
DISCONNECTORS (INDIA) PVT.LTD
MANUFACTURER OF HV/ EHV ISOLATORS

REV NO	DATE	DESCRIPTION	SIGN	REV. NO.	SIZE	SHEET	SCALE	
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NAME	SIGN	DATE	TITLE
DRWN SHARAD	SRD	06.04.23	G.A. DRAWING OF REDUCTION GEAR MANUAL OPERATING BOX FOR MAINS
CHKD P JADHAV	P.J	06.04.23	
APPD P JADHAV	P.J	06.04.23	

REVISION

DWG. NO : BRD08RG0AP

	<p>TRANSMISSION CORPORATION OF ANDHRA PRADESH LTD . GUARANTEED TECHNICAL PARTICULARS GTPS FOR 145KV,1600AMPS WITHOUT EARTH ISOLATOR.</p>
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Sr. No.	Description	Particulars
1)	Type/Installation	DBCR, OUTDOOR TYPE
2)	Manufacturer's Name and Country of Manufacture	TRITECH DISCONNECTORS, INDIA
3)	Standards according to which the isolators are manufactured	IS 9921, IEC129
4)	Maximum design voltage at which the isolator can operate (kV)	145 KV
5)	Frequency (Hz)	50 HZ
6)	Rated Voltage (kV)	132 KV
7)	Maximum current that can be safely interrupted by the isolator	
a)	Inductive (A & % PF)	0.7 A @ 0.15 PF
b)	Capacitive (A & % PF)	0.7A @ 0.15PF
8)	Continuous current rating Nominal (Amps) Under site conditions (Amps)	1600 AMPS
9)	Rated short time current	MAIN EARTH
a)	For 3 seconds (kA rms)	31.5 KA 31.5
b)	For 1 second (kA rms) (As per Spec - 31.5)	-
c)	Rated peak short time current (kVp)	79 KAP 79
10)	Current density at the minimum cross-section of	<u>1600</u>
a)	Moving blade (Amps/Sq.mm)	2
b)	Terminal pad	AL 1.0
c)	Contacts	1.6
d)	Terminal Connector	1
11)	Maximum Temp. rise of current carrying parts when carrying rated current continuously (deg.c)	WITHIN LIMITS OF IS/IEC
12)	Derating factor for specified site conditions	UNITY
13)	Insulation Levels	
a)	Impulse withstand voltage (kV peak) Phase to Earth & Isolating Distance	650 KV/750 KVP
b)	Switching surge withstand voltage (kV peak) Phase to Earth & Isolating Distance	NOT APPLICABLE
c)	Power Frequency withstand voltage (kV rms) Phase to Earth & Across isolating Distance	275/315 KV RMS FOR 1MINUTE
14)	Minimum clearance in air:	

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a)	Between poles (mm)	2600MM FOR PHASE SPACING OF 3000 MM.	
b)	Between live parts and earth (mm)	1500MM	
c)	Between live parts when switch is open:		
	i) On the same pole (mm)	1900MM FOR POLE SPACING OF 2135MM.	
	ii) Between adjacent poles (mm)	2600MM	
15)	Rated mechanical terminal load		
	a) Load along the terminal connector side (kg.)	500N	
	b) Load across the terminal connector side (kg.)	170N	
16)	Torque required to operate the switch in Kgm (Not specified)	MAIN-35KGM,EARTH-35 KGM	
17)	Contact Zone		
a)	Horizontal deflection (mm)	NOT APPLICABLE FOR DOUBLE BREAK ISO.	
b)	Vertical deflection (mm)	-----D0-----	
c)	Total amplitude of longitudinal movement w.r.t. conductor supporting fixed contact (mm)	-----DO-----	
18)	Design and Construction		
a)	No. of insulators per pole	THREE STACKS/POLE	
b)	No. of breaks per pole	MAIN-2,ES-SINGLE	
c)	Type of closing /Opening mechanism (Horizontal/Vertical break straight etc.)	MAIN-HORIZONTAL,EARTH SW-VERTICAL BREAK	
d)	Contacts:	MAINS	E/S
	i) Material and grade	CU	NA
	ii) Cross-sectional area (Sq.mm)	1018	NA
e)	Moving Blades:	MAINS	NA
	i) Material and grade	CU	NA
	ii) Cross-sectional area (Sq.mm)	829	NA
f)	Contact Support:		
	i) Material and size of channel/block	MS HDG, 4MM	
	ii) Material and size of plate	MS HDG., 6MM	
g)	Rain hood - Material grade and size	MS HDG , 5MM	
h)	Turn and twist mechanism		
	i) Material and size of clamps	MS HDG, 6MM	
	ii) Material size of springs	SS, 2.6 MM DIA	
	iii) Whether springs are encased	YES	
i)	Nuts and Bolts:		
	i) Size, material and grade in live parts	LESS THAN 3/8" SS,ABOVE 5/8"HDG	
	ii) Size, material and grade in other parts	3/8" ABOVE HDG	
j)	Insulator base plate Material and size of plate below insulators	MS HDG-10MM	
k)	Bearings:		
	i) Material and size of housing	AL ALLOY,SUITABLE FOR 40 MM DIA SHAFT	
	ii) No. of bearings, location and size	2, BELOW ROTATING	

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		INSULATOR STACK.
l)	Tandem pipe:	
	i) Size, length, class and no. of pipes	NB-32,CL B,GI PIPE-7M
	ii) Size of shackle, screw	-
	iii) No. of bearings/bush and its material and size	BRASS BUSH.
m)	Type of interlock (Electromagnet)	ELECTRO MECHANICAL.
n)	Down pipe size, length and class	50 NB,CL B,GI PIPE
o)	Type of universal/swivel joint	
	i) Between bearing and down pipe	UNIVERSAL.
	ii) Between down pipe and operating mechanism	VERNIER TYPE
p)	Operating mechanism:	MAINS :REDUCTION GEAR.
	i) Control cabinet	
	Material and thickness	3 MM THK ALUMINIUM
	Degree of protection	IP 55
	Type size and No. of cable glands	CONTRACTORS SCOPE
	Whether removable gland plate provided	YES
q)	Base:	
	i) Size of steel sections used	125x65X5 MM FORMED
	ii) Overall size	125X65X5X2400 MM
	iii) Total weight	60 KG /POLE
r)	Aux switch	8NO / 8NC CONTACT FOR MAINS SWITCH 10A,DC breaking with 2A - 1 No.
s)	Terminal blocks	M3 Stud type TB
t)	Insulated Wires	1100 V grades, 2.5 Sq.mm PVC For Auxiliary Circuit and 2.5 Sq.mm for Power circuit

1. Minimum 300mm plinth shall be maintained for CT/PT/CVT/ Isolators/IVT in the substation during foundation works to ensure safe live to ground clearance as per IE rules.
2. Since the supply of terminal connectors is not in the scope of manufacturers as mentioned in the drawings. The EPC contractors shall be instructed to supply the same in line with CT/PT/CVT/Isolator /IVTs requirement and capability.

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