



PRODUCT STANDARD
SWITCHGEAR ENGINEERING DIVISION

SG 12643 REV.01

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SWITCHES

1. **SCOPE** : This product standard is issued as a guideline for stocking of various types of rotary switches used in switchgear panels.
2. **GENERAL TECHNICAL REQUIREMENT** :

	Confirmation by Vendors
2.1 All the switches shall be ROTARY TYPE with nylon material.	YES/NO
2.2 In case of lockable switches, key shall be removable in locked position only.	YES/NO
2.3 Switches shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES/NO
2.4 For all the switches, terminals and screws shall be accessible from back of panel with open terminals.	YES/NO
2.5 For all the switches, unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES/NO
2.6 All switches shall comply with relevant clauses of IS : 4064-1978 / IS:6875-1973 in all respect.	YES/NO
2.7 Suppliers to give their offers only in the format given herewith. i.e technical details of offered switches are to be indicated against respective parameters in the table given for each item. Offers in any other format shall not be evaluated.	YES/NO
2.8 All the items shall be of one make only. Order shall be placed on technically clear, package wise L1 vendor.	YES/NO
2.9 Successful bidder shall submit one sample of each variety of switches for BHEL's approval, before taking up bulk manufacturing.	YES/NO
3. **DOCUMENTS TO BE SUBMITTED ALONGWITH THE OFFER** :

3.1 Offer in the specified format.	ENCLOSED/NOT ENCLOSED
3.2 Terminal marking & drilling details for each item.	ENCLOSED/NOT ENCLOSED
3.3 Descriptive literature of the switches alongwith The switch code for each item.	ENCLOSED/NOT ENCLOSED
3.4 Type test reports as per relevant IS to be furnished on demand.	YES/NO
4. **ACCEPTANCE CRITERIA** :
 - 4.1 Matching of terminal marking, indicating plate engraving for main label positions as per specification.
 - 4.2 Visual checks for cracks & surface finish for any damage.
5. **TECHNICAL DETAILS** : AS INDICATED IN TABLES FOR EACH ITEM
6. Against item-8, 9, 13, 14, 15 & 16, suppliers to give offer for complete switches with engraved bakelite indicating plates. However, these items shall be supplied without bakelite indicating plates. Inscription details for these plates shall be furnished project wise, as and when required. Vendors to confirm that engraved bakelite indicating plates for these switches shall be furnished within 10 days after receipt of inscription details from BHEL. **YES/NO**
7. For identification of switches against item-8, 9, 13, 14, 15 & 16, (as the switches shall be supplied without indicating plates), suppliers to specifically confirm in their offer that 12 digit material code (BP no.) shall be engraved on the packing case as well as on the body of every individual switch. **YES/NO**

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REV.	01	PRINTS TO :-		APPROVED -		
ALTD.	MS	SCR- PROD	1	D.K.DIKSHIT		
APPD.	SC	SCR- MM	1			
DATE.	15.04.09	SWE-CONT	1	PREPARED	ISSUED	DATE
		SCR- PLG	1	MANISHA HADA	A.P.SINGH	10.03.2007
		SCR- QC	1			



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ITEM-001 : AMMETER SELECTOR SWITCH

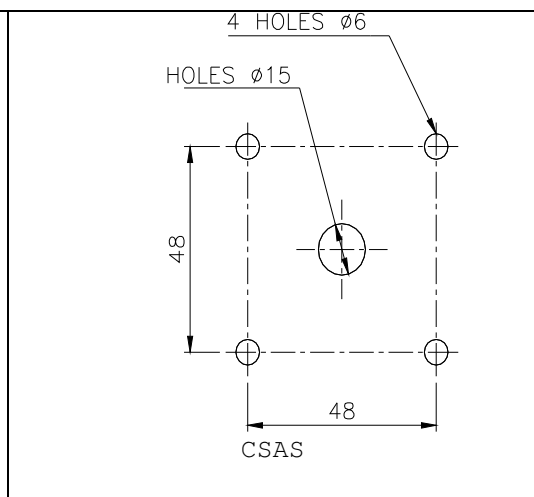
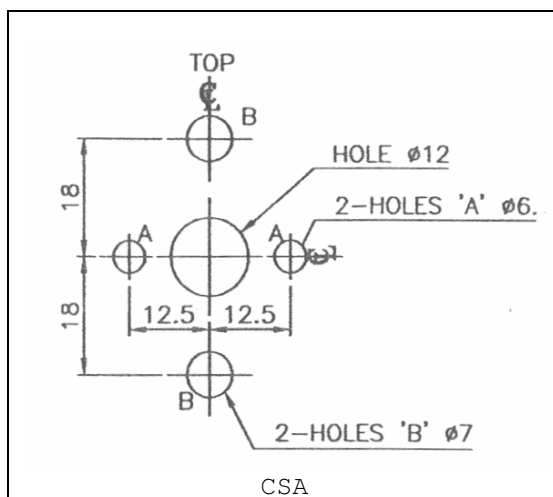
STOCK DETAILS :

- BP9049113214 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
- BP9049113460 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	10 A	YES / NO
3	WORKING VOLTAGE	440 VAC, 50Hz.	YES / NO
4	NO.OF POSITIONS	4	YES / NO
5	LOCKING	NOT REQUIRED	YES / NO
6	HANDLE	KNOB TYPE	YES / NO
7	DEGREE OF ROTATION	90 DEGREE	YES / NO
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____
10	TERMINAL MARKING	5 terminals - R, Y, B, A1, A2	YES / NO
11	MAIN LABEL	AMMETER SWITCH	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0 DEG. OFF	YES / NO
	POSITION-2	+90 Deg. R	YES / NO
	POSITION-3	180 Deg. Y	YES / NO
	POSITION-4	-90 Deg. B	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-002 : AMMETER SELECTOR SWITCH (THROUGH TYPE)

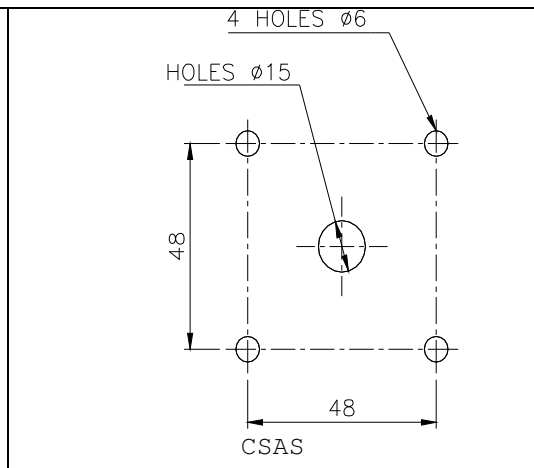
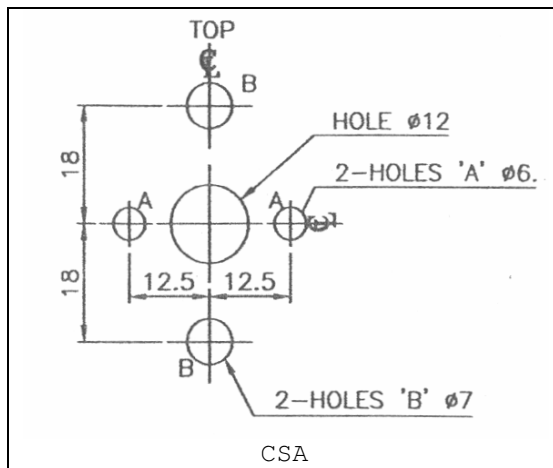
STOCK DETAILS :

- BP9049113222 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
BP9049113478 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	10 A	YES / NO
3	WORKING VOLTAGE	440 VAC, 50Hz.	YES / NO
4	NO.OF POSITIONS	4	YES / NO
5	LOCKING	NOT REQUIRED	YES / NO
6	HANDLE	KNOB TYPE	YES / NO
7	DEGREE OF ROTATION	90 DEGREE	YES / NO
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____
10	TERMINAL MARKING	8 terminals - R1, Y1, B1, R2, Y2, B2, A1, A2	YES / NO
11	MAIN LABEL	AMMETER SWITCH	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0 DEG. OFF	YES / NO
	POSITION-2	+90 Deg. R	YES / NO
	POSITION-3	180 Deg. Y	YES / NO
	POSITION-4	-90 Deg. B	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-003 : AMMETER SELECTOR SWITCH (LINE CURRENT)

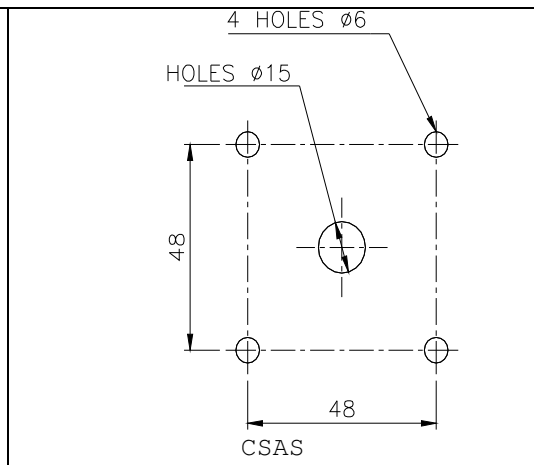
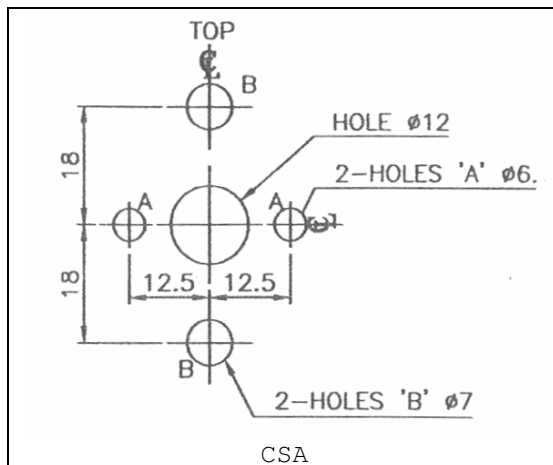
STOCK DETAILS :

BP9049113435 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
 BP9049113486 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	10 A	YES / NO
3	WORKING VOLTAGE	440 VAC, 50Hz.	YES / NO
4	NO.OF POSITIONS	6	YES / NO
5	LOCKING	NOT REQUIRED	YES / NO
6	HANDLE	KNOB TYPE	YES / NO
7	DEGREE OF ROTATION	60 DEGREE	YES / NO
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____
10	TERMINAL MARKING	6 terminals - R, Y, B, L, A1, A2	YES / NO
11	MAIN LABEL	AMMETER SWITCH	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0 DEG. OFF	YES / NO
	POSITION-2	+60 Deg. R	YES / NO
	POSITION-3	+120Deg. Y	YES / NO
	POSITION-4	180 Deg. OFF	YES / NO
	POSITION-5	-120Deg. B	YES / NO
	POSITION-6	-60 Deg. L	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-004 : VOLTMETER SELECTOR SWITCH (4 POSN.)

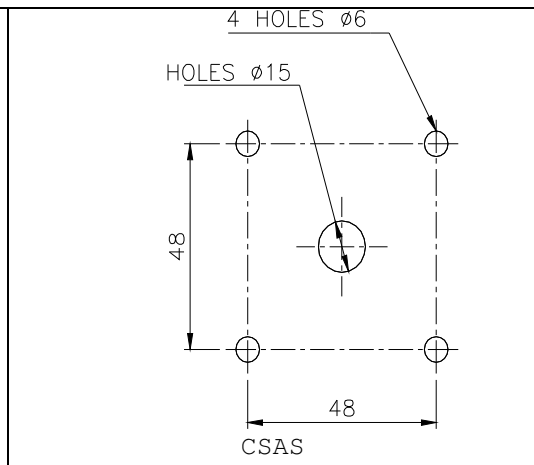
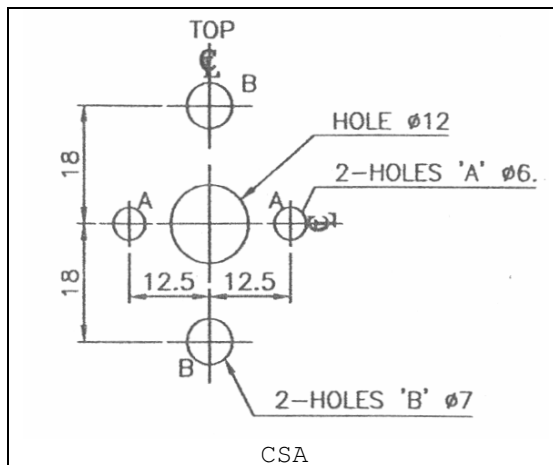
STOCK DETAILS :

BP9049113230 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
BP9049113494 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	10 A	YES / NO	
3	WORKING VOLTAGE	440 VAC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	4	YES / NO	
5	LOCKING	NOT REQUIRED	YES / NO	
6	HANDLE	KNOB TYPE	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____	
10	TERMINAL MARKING	5 terminals - R, Y, B, V1, V2	YES / NO	
11	MAIN LABEL	VOLTMETER SWITCH	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0 DEG.	OFF	YES / NO
	POSITION-2	+90 Deg.	RY	YES / NO
	POSITION-3	180 Deg.	YB	YES / NO
	POSITION-4	-90 Deg.	BR	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-005 : VOLTMETER SELECTOR SWITCH (6 POSN.)

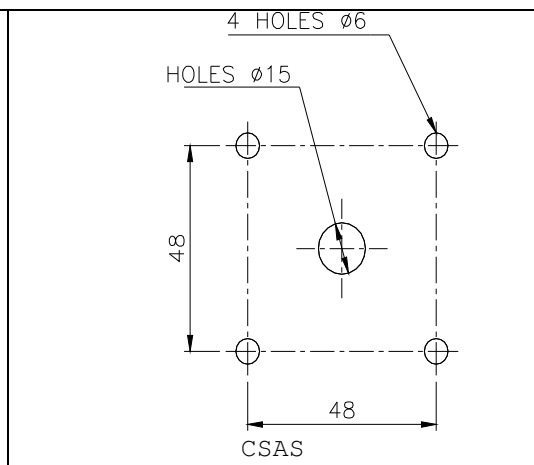
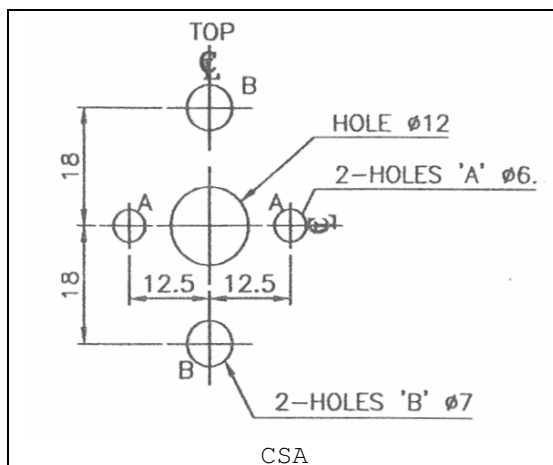
STOCK DETAILS :

- BP9049113249 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
- BP9049113508 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	10 A	YES / NO
3	WORKING VOLTAGE	440 VAC, 50Hz.	YES / NO
4	NO.OF POSITIONS	6	YES / NO
5	LOCKING	NOT REQUIRED	YES / NO
6	HANDLE	KNOB TYPE	YES / NO
7	DEGREE OF ROTATION	60 DEGREE	YES / NO
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____
10	TERMINAL MARKING	6 terminals - R, Y, B, N, V1, V2	YES / NO
11	MAIN LABEL	VOLTMETER SWITCH	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0 DEG. RN	YES / NO
	POSITION-2	+60 Deg. YN	YES / NO
	POSITION-3	+120Deg. BN	YES / NO
	POSITION-4	180 Deg. RY	YES / NO
	POSITION-5	-120Deg. YB	YES / NO
	POSITION-6	-60 Deg. BR	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-006 : BREAKER CONTROL SWITCH

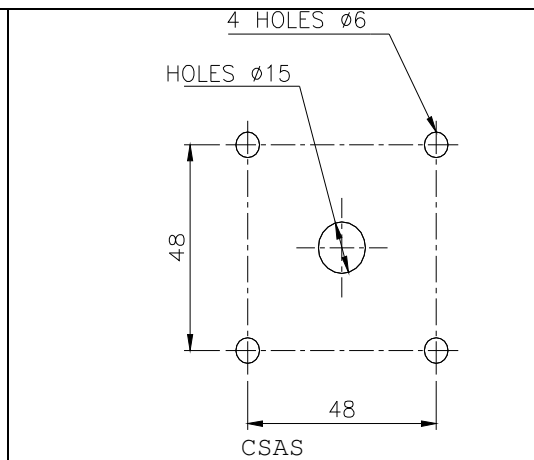
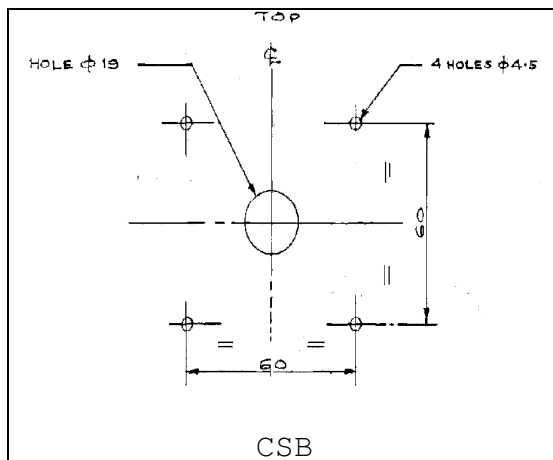
STOCK DETAILS :

BP9049113257 - FOR INDICATING PLATE - 72.5x72.5 & DRILLING PLAN DRG.CSB
BP9049113516 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	SPRING RETURN TO NEUTRAL	YES / NO	
2	CURRENT RATING	25 A	YES / NO	
3	WORKING VOLTAGE	660VAC/DC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	3	YES / NO	
5	LOCKING	NOT REQUIRED	YES / NO	
6	HANDLE	PISTOL GRIP TYPE	YES / NO	
7	DEGREE OF ROTATION	60 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	72.5x72.5 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSB or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	BREAKER CONTROL SWITCH	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG. NEUTRAL	-	YES / NO
	POSITION-2	+60Deg. CLOSE	2-B, 4-D, 6-F	YES / NO
	POSITION-3	-60Deg. TRIP	1-A, 3-C, 5-E	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-007 : LOCAL/REMOTE SELECTOR SWITCH (NON LOCKABLE)

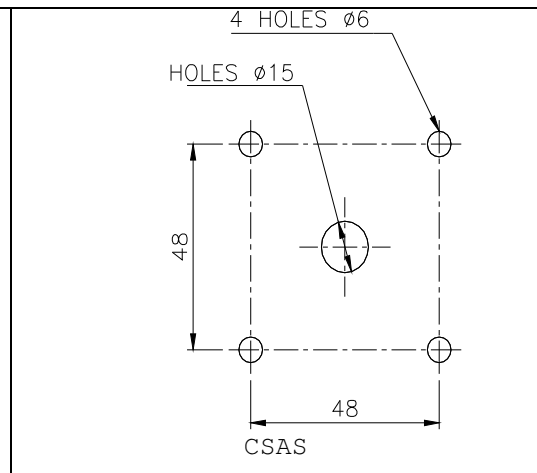
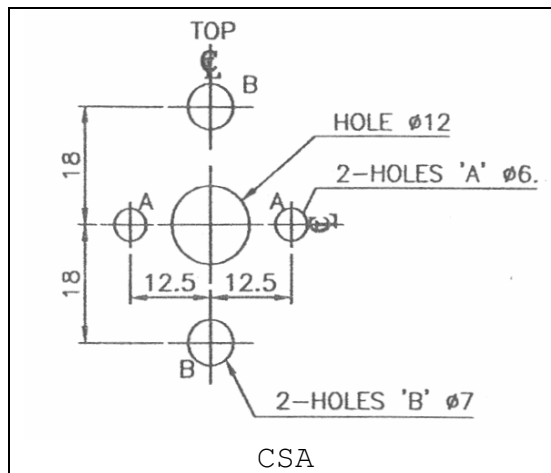
STOCK DETAILS :

- BP9049113427 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
- BP9049113524 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	25 A	YES / NO	
3	WORKING VOLTAGE	660VAC/DC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	2	YES / NO	
5	LOCKING	NOT REQUIRED	YES / NO	
6	HANDLE	KNOB TYPE	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	SELECTOR SWITCH	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG.	LOCAL 1-A, 3-C, 5-E, 7-G	YES / NO
	POSITION-2	+90Deg.	REMOTE 2-B, 4-D, 6-F, 8-H	YES / NO
	POSITION-3	180Deg.	BLOCKED -	YES / NO
	POSITION-4	-90Deg.	BLOCKED -	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-008 : LOCAL/REMOTE SELECTOR SWITCH (LOCKABLE)

STOCK DETAILS :

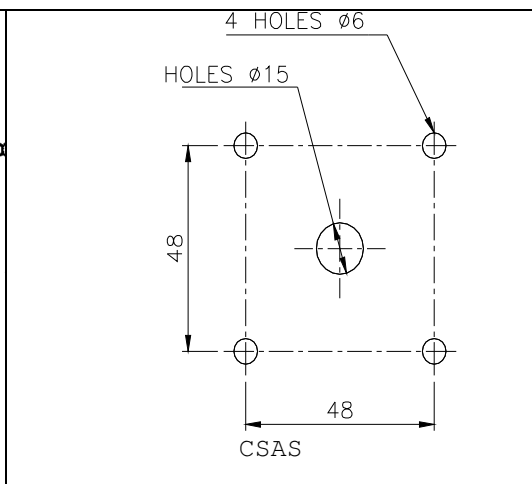
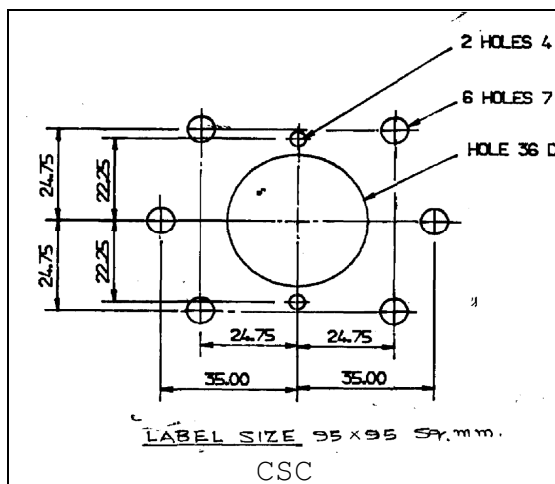
- BP9049113265 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
- BP9049113532 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	25 A	YES / NO
3	WORKING VOLTAGE	660VAC/DC, 50Hz.	YES / NO
4	NO.OF POSITIONS	2	YES / NO
5	LOCKING	REQUIRED IN BOTH POSITIONS	YES / NO
6	HANDLE	TEE TYPE WITH BARREL LOCKING	YES / NO
7	DEGREE OF ROTATION	90 DEGREE	YES / NO
8	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____
10	TERMINAL MARKING	AS BELOW	YES / NO
11	MAIN LABEL	*SELECTOR SWITCH	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0DEG. *LOCAL	1-A, 3-C, 5-E, 7-G YES / NO
	POSITION-2	+90Deg. *REMOTE	2-B, 4-D, 6-F, 8-H YES / NO
	POSITION-3	180Deg. BLOCKED	- YES / NO
	POSITION-4	-90Deg. BLOCKED	- YES / NO

For *, please refer notes-6 & 7 on sht.01.

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO
7.	Key shall be removable in locked position only.	YES / NO
8.	BP code shall be engraved on the switch & its packing case.	YES / NO



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ITEM-009 : LOCAL/REMOTE/SCADA SELECTOR SWITCH

STOCK DETAILS :

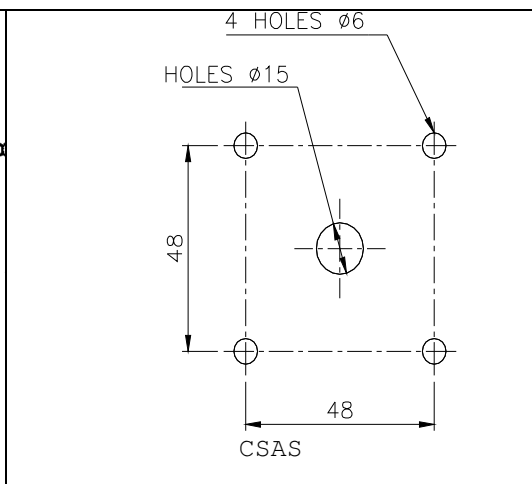
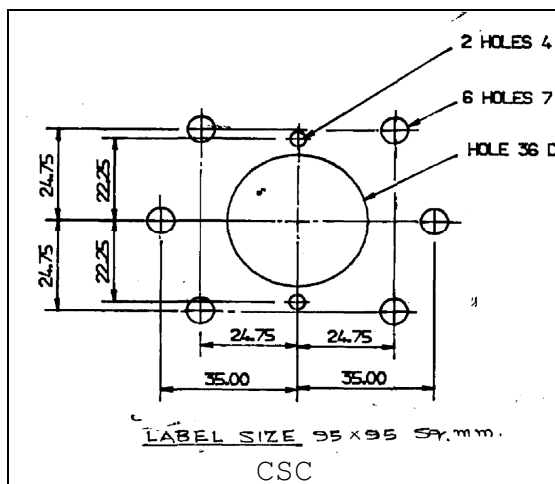
- BP9049113273 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
- BP9049113540 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	25 A	YES / NO	
3	WORKING VOLTAGE	660VAC/DC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	3	YES / NO	
5	LOCKING	REQUIRED IN BOTH POSITIONS	YES / NO	
6	HANDLE	TEE TYPE WITH BARREL LOCKING	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	*CONTROL SELECTOR	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG. *LOCAL	1-A, 4-D, 7-G, 10-J	YES / NO
	POSITION-2	+90Deg. *REMOTE	2-B, 5-E, 8-H, 11-K	YES / NO
	POSITION-3	180Deg. BLOCKED	-	YES / NO
	POSITION-4	-90Deg. *SCADA	3-C, 6-F, 9-I, 12-M	YES / NO

For *, please refer notes-6 & 7 on sht.01.

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO
7.	Key shall be removable in locked position only.	YES / NO
8.	BP code shall be engraved on the switch & its packing case.	YES / NO



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ITEM-010 : MOTOR HEATER SWITCH

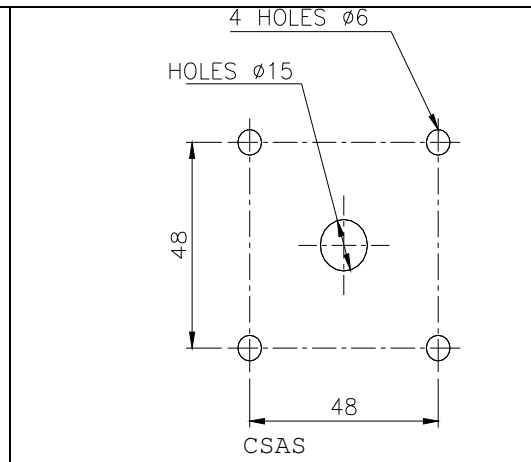
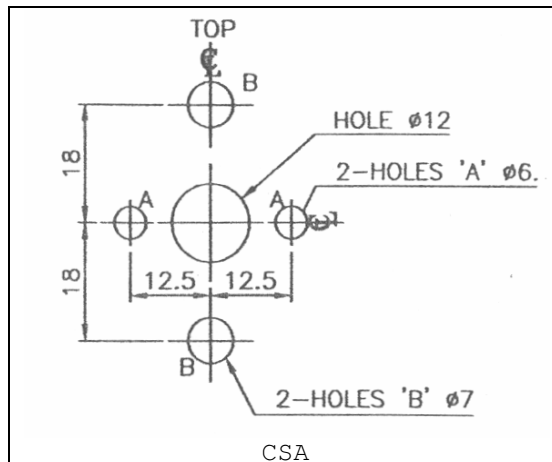
STOCK DETAILS :

BP9049113281- FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
BP9049113559- FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION		
1	TYPE	STAYPUT	YES / NO		
2	CURRENT RATING	16 A	YES / NO		
3	WORKING VOLTAGE	240 VAC, 50Hz.	YES / NO		
4	NO.OF POSITIONS	2	YES / NO		
5	LOCKING	NOT REQUIRED	YES / NO		
6	HANDLE	KNOB TYPE	YES / NO		
7	DEGREE OF ROTATION	90 DEGREE	YES / NO		
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____		
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____		
10	TERMINAL MARKING	AS BELOW	YES / NO		
11	MAIN LABEL	MOTOR HEATER SUPPLY - MHS	YES / NO		
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING				
	POSITION-1	0DEG.	OFF	-	YES / NO
	POSITION-2	+90Deg.	ON	1-A, 2-B, 3-C, 4-D	YES / NO
	POSITION-3	180Deg.	BLOCKED	-	YES / NO
	POSITION-4	-90Deg.	BLOCKED	-	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-011 : 240 VAC SUPPLY ON/OFF SWITCH

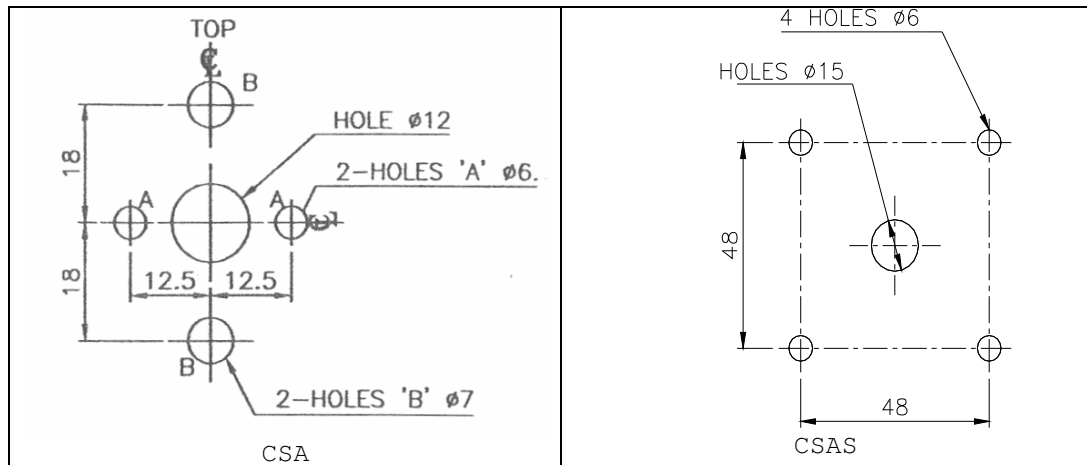
STOCK DETAILS :

BP9049113290- FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
BP9049113567- FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL' s REQUIREMENT	SUPPLIER' S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	16 A	YES / NO	
3	WORKING VOLTAGE	240 VAC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	2	YES / NO	
5	LOCKING	NOT REQUIRED	YES / NO	
6	HANDLE	KNOB TYPE	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	240 VAC SUPPLY	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG. OFF	-	YES / NO
	POSITION-2	+90Deg. ON	1-A, 2-B, 3-C, 4-D	YES / NO
	POSITION-3	180Deg. BLOCKED	-	YES / NO
	POSITION-4	-90Deg. BLOCKED	-	YES / NO

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-012 : 220 VDC SUPPLY ON/OFF SWITCH

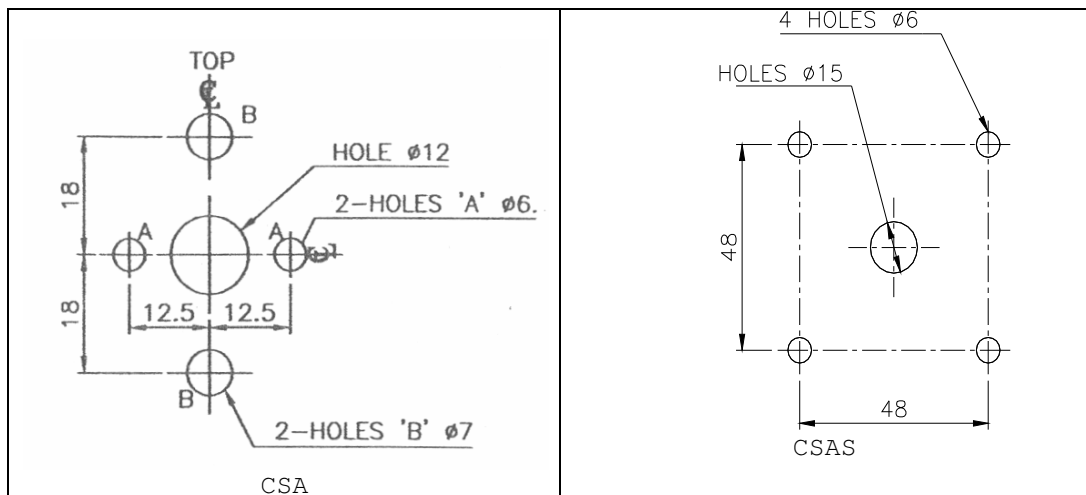
STOCK DETAILS :

BP9049113303- FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA
BP9049113575- FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL'S REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	16 A	YES / NO
3	WORKING VOLTAGE	250 VDC, 50Hz.	YES / NO
4	NO.OF POSITIONS	2	YES / NO
5	LOCKING	NOT REQUIRED	YES / NO
6	HANDLE	KNOB TYPE	YES / NO
7	DEGREE OF ROTATION	90 DEGREE	YES / NO
8	INDICATING PLATE SIZE	75x75 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSA or CSAS	DP Ref. _____
10	TERMINAL MARKING	AS BELOW	YES / NO
11	MAIN LABEL	220 VDC SUPPLY	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0DEG. OFF	-
	POSITION-2	+90Deg. ON	1-A, 2-B, 3-C, 4-D
	POSITION-3	180Deg. BLOCKED	-
	POSITION-4	-90Deg. BLOCKED	-

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO



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ITEM-013 : MAIN A.C. SUPPLY SOURCE SELECTOR SWITCH

STOCK DETAILS :

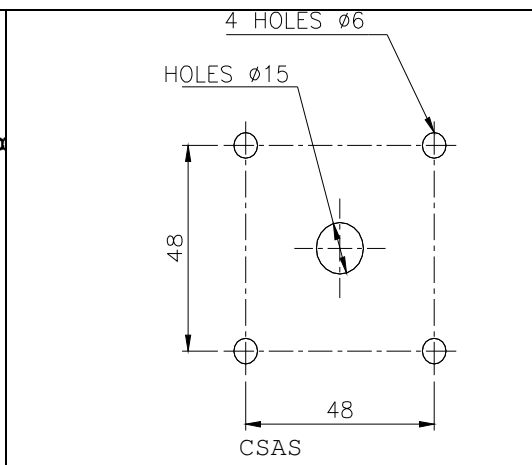
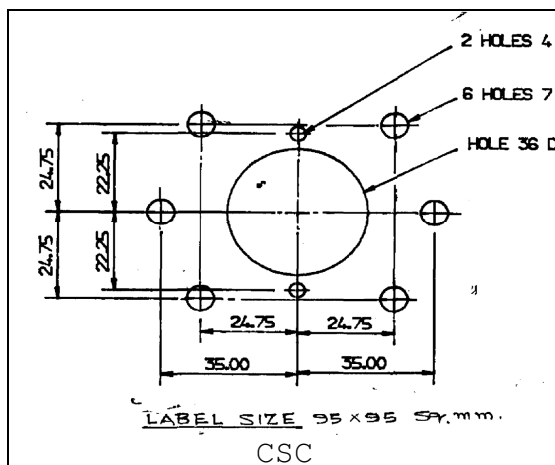
- BP9049113311 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
- BP9049113583 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	40 A	YES / NO	
3	WORKING VOLTAGE	240 VAC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	3	YES / NO	
5	LOCKING	REQUIRED IN BOTH POSITIONS	YES / NO	
6	HANDLE	TEE TYPE WITH BARREL LOCKING	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	*MAIN 240 VAC SUPPLY	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG. OFF	-	YES / NO
	POSITION-2	+90Deg. *SOURCE-1	1-A, 3-C, 5-E, 7-G	YES / NO
	POSITION-3	180Deg. BLOCKED	-	YES / NO
	POSITION-4	-90Deg. *SOURCE-2	2-B, 4-D, 6-F, 8-H	YES / NO

For *, please refer notes-6 & 7 on sht.01.

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO
7.	Key shall be removable in locked position only.	YES / NO
8.	BP code shall be engraved on the switch & its packing case.	YES / NO



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ITEM-014 : MAIN D.C. SUPPLY SOURCE SELECTOR SWITCH

STOCK DETAILS :

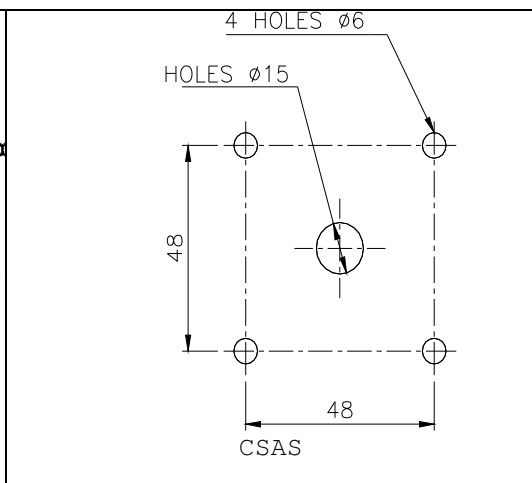
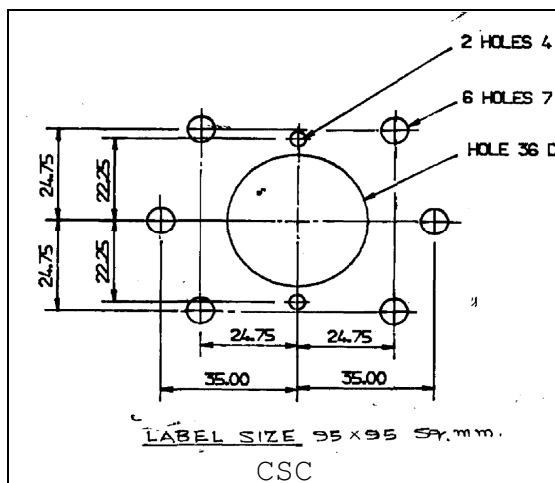
- BP9049113320 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
- BP9049113591 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	40 A	YES / NO	
3	WORKING VOLTAGE	250 VDC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	3	YES / NO	
5	LOCKING	REQUIRED IN BOTH POSITIONS	YES / NO	
6	HANDLE	TEE TYPE WITH BARREL LOCKING	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	*MAIN 220 VDC SUPPLY	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG. OFF	-	YES / NO
	POSITION-2	+90Deg. *SOURCE-1	1-A, 3-C, 5-E, 7-G	YES / NO
	POSITION-3	180Deg. BLOCKED	-	YES / NO
	POSITION-4	-90Deg. *SOURCE-2	2-B, 4-D, 6-F, 8-H	YES / NO

For *, please refer notes-6 & 7 on sht.01.

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO
7.	Key shall be removable in locked position only.	YES / NO
8.	BP code shall be engraved on the switch & its packing case.	YES / NO



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ITEM-015 : 220 VDC SUPPLY MAIN SOURCE ON/OFF SWITCH

STOCK DETAILS :

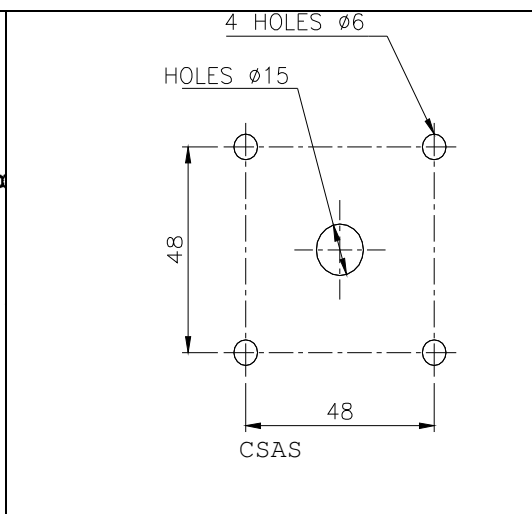
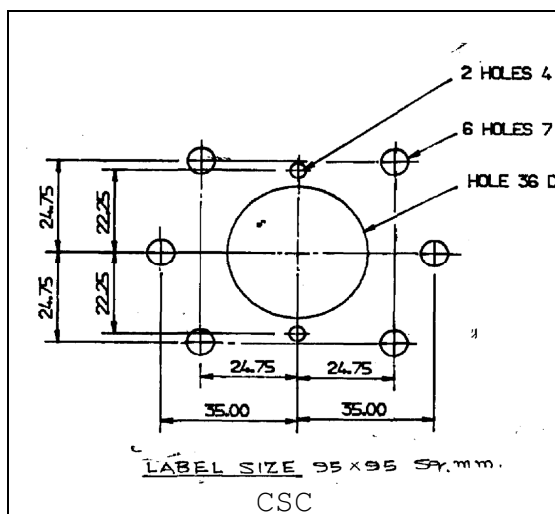
- BP9049113338 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
- BP9049113605 - FOR INDICATING PLATE - 64x80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL'S REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	TYPE	STAYPUT	YES / NO
2	CURRENT RATING	40 A	YES / NO
3	WORKING VOLTAGE	250VAC/DC, 50Hz.	YES / NO
4	NO.OF POSITIONS	2	YES / NO
5	LOCKING	REQUIRED IN BOTH POSITIONS	YES / NO
6	HANDLE	TEE TYPE WITH BARREL LOCKING	YES / NO
7	DEGREE OF ROTATION	90 DEGREE	YES / NO
8	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____
9	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____
10	TERMINAL MARKING	AS BELOW	YES / NO
11	MAIN LABEL	*MAIN 220 VDC SUPPLY	YES / NO
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING		
	POSITION-1	0DEG. *OFF	- YES / NO
	POSITION-2	+90Deg. *ON	1-A, 2-B, 3-C, 4-D YES / NO
	POSITION-3	180Deg. BLOCKED	- YES / NO
	POSITION-4	-90Deg. BLOCKED	- YES / NO

For *, please refer notes-6 & 7 on sht.01.

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO
7.	Key shall be removable in locked position only.	YES / NO
8.	BP code shall be engraved on the switch & its packing case.	YES / NO



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ITEM-016 : SYNCHRONISATION SELECTOR SWITCH

STOCK DETAILS :

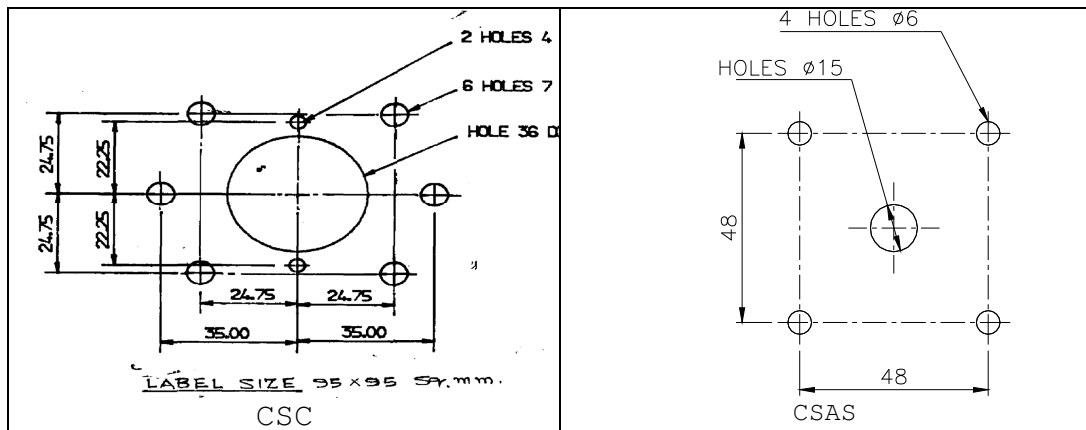
BP9049113346 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
BP9049113613 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION	
1	TYPE	STAYPUT	YES / NO	
2	CURRENT RATING	10 A	YES / NO	
3	WORKING VOLTAGE	240 VAC, 50Hz.	YES / NO	
4	NO.OF POSITIONS	4	YES / NO	
5	LOCKING	REQUIRED IN BOTH POSITIONS	YES / NO	
6	HANDLE	TEE TYPE WITH BARREL LOCKING	YES / NO	
7	DEGREE OF ROTATION	90 DEGREE	YES / NO	
8	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____	
9	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____	
10	TERMINAL MARKING	AS BELOW	YES / NO	
11	MAIN LABEL	*SYNCHRONISATION SELECTOR SWITCH	YES / NO	
12	SWITCHING SEQUENCE, LABEL & TERMINAL MARKING			
	POSITION-1	0DEG. *SYNC I/C-2	1-A, 4-D, 7-G, 10-J, 13-N	YES / NO
	POSITION-2	+90Deg. *SYNC I/C-1	2-B, 5-E, 8-H, 11-K, 14-O	YES / NO
	POSITION-3	180Deg. OFF	-	YES / NO
	POSITION-4	-90Deg. *SYNC BC	3-C, 6-F, 9-I, 12-M, 15-P	YES / NO

For *, please refer notes-6 & 7 on sht.01.

NOTES

1.	The switch shall be ROTARY TYPE with nylon material.	YES / NO
2.	Switch shall be suitable for mounting on 3.2 mm thick sheet steel panel.	YES / NO
3.	Terminals and screws shall be accessible from back of panel with open terminals.	YES / NO
4.	Switch shall comply with relevant clauses of IS:4064-1978 / IS:6875-1973 in all respect.	YES / NO
5.	Unless and otherwise specified, colour of handle and indicating plate shall be black and grey respectively.	YES / NO
6.	Type test reports as per relevant IS shall be furnished on demand.	YES / NO
7.	Key shall be removable in locked position only.	YES / NO
8.	BP code shall be engraved on the switch & its packing case.	YES / NO



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ITEM-017 : BAKELITE INDICATING PLATE WITH ENGRAVING

STOCK DETAILS :

- BP9049119077 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC
- BP9049119085 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

ENGRAVING DETAILS SHALL BE GIVEN IN THE FORMAT BELOW -

SL. NO.	PARAMETER	BHEL's REQUIREMENT	SUPPLIER'S COMPLIANCE/ CONFIRMATION
1	LOCKING	LOCKABLE	YES / NO
2	MAIN LABEL	As per Annexure (projectwise) Refer notes-6 & 7 on sht.01	YES / NO
3	INDICATING PLATE SIZE	95x95 or 64x80	Size-_____
4	DRILLING PLAN DRAWING	CSC or CSAS	DP Ref. _____
SWITCHING SEQUENCE, TERMINAL MARKING & LABEL			
	POSITION-1	0DEG. Refer notes-6&7 on sht.1	YES / NO
	POSITION-2	+90Deg. Refer notes-6&7 on sht.1	YES / NO
	POSITION-3	180Deg. Refer notes-6&7 on sht.1	YES / NO
	POSITION-4	-90Deg. Refer notes-6&7 on sht.1	YES / NO
NOTES			
1.	Suitable for lockable / non lockable switch		YES / NO
2.	Indicating plates are suitable for using alongwith switches supplied against items-8, 9, 13, 14, 15 & 16.		YES / NO
3.	Plates shall be supplied without engraving. However, vendor to take back the plates, whenever required, and supply engraved plates as per the details furnished alongwith the plates, within 15 days.		YES / NO

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