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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 2.2	All the switches shall be ROTARY TYPE with nylon material. In case of lockable switches, key shall be removable in locked position only.	YES/NO 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	YES/NO

DOCUMENTS TO BE SUBMITTED ALONGWITH THE OFFER :

variety of switches for BHEL's approval, before

3.1 Offer in the specified format.

taking up bulk manufacturing.

- ENCLOSED/NOT ENCLOSED Terminal marking & drilling details for each item. ENCLOSED/NOT ENCLOSED
- 3.2 Descriptive literature of the switches alongwith ENCLOSED/NOT ENCLOSED 3.3 The switch code for each item.
- 3.4 Type test reports as per relevant IS to be furnished on demand. YES/NO

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 YES/NO 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 $% \left(1\right) =\left(1\right) \left(1\right$ bakelite indicating plates for these switches shall be furnished within 10 days after receipt of inscription details from BHEL.
- 7 . For identification of switches against item-8, 9, 13, 14, 15 & 16, YES/NO (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.

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



SWITCHGEAR ENGINEERING DIVISION

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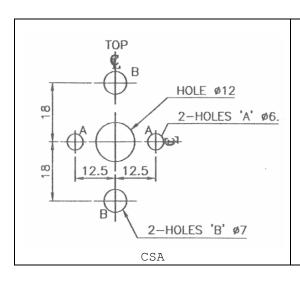
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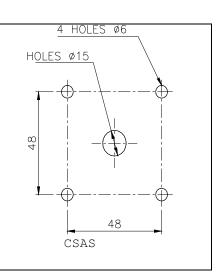
ITEM-001 : AMMETER SELECTOR SWITCH

STOCK DETAILS :

BP9049113214 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113460 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER			HEL's EQUIREMENT	SUPPLIER'S CONFIRMATION	=	
1	TYPE		S	TAYPUT	YES / NO		
2	CURRENT RAT	ING	1	0 A	YES / NO		
3	WORKING VOL	TAGE	4	40 VAC, 50Hz.	YES / NO		
4	NO.OF POSIT	IONS	4		YES / NO		
5	LOCKING		N	OT REQUIRED	YES / NO		
6	HANDLE		K	NOB TYPE	YES / NO		
7	DEGREE OF R	OTATION	9	0 DEGREE	YES / NO		
8	INDICATING SIZE	PLATE	7	5x75 or 64x80	Size		
9	DRILLING PL	AN	С	SA or CSAS	DP Ref.		
10	TERMINAL MA	RKING	5	terminals -	YES / NO		
			_	, Y, B, A1, A2			
11	MAIN LABEL			MMETER SWITCH	YES / NO		
12	SWITCHING S	EQUENCE	, 1	LABEL & TERMINA	L MARKING		
	POSITION-1	POSITION-1 0 DEG. OFF YES / NO					
	POSITION-2	+90 Deg	g.	R	YES / NO		
	POSITION-3	180 Dec	g.	Y	YES / NO		
	POSITION-4	-90 Deg	g.	В	YES / NO		
NOTE	_~						
1.				RY TYPE with nyl		YES / NO	
2.	Switch shall k sheet steel pa		ole	for mounting on	3.2 mm thick	YES / NO	
3.			sha	ll be accessible	from back of	YES / NO	
•	panel with ope				110 2001 01	120 / 110	
4.	Switch shall o	Switch shall comply with relevant clauses of IS:4064- YES / NO 1978 / IS:6875-1973 in all respect.					
5.	Unless and oth	nerwise s	spe	cified, colour o e black and grey		YES / NO	
6.		orts as p		relevant IS sha		YES / NO	







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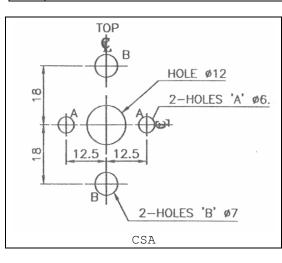
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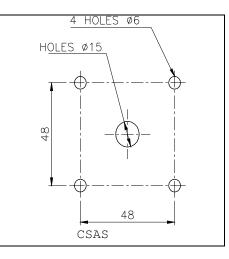
ITEM-002 : AMMETER SELECTOR SWITCH (THROUGH TYPE)

STOCK DETAILS :

BP9049113222 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113478 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL. NO.	PARAMETER			HEL's EQUIREMENT	SUPPLIER'S CONFIRMATION	· · · · · · · · · · · · · · · · · · ·	
1	TYPE		S	TAYPUT	YES / NO		
2	CURRENT RAT	ING	1	0 A	YES / NO		
3	WORKING VOL	TAGE	4	40 VAC, 50Hz.	YES / NO		
4	NO.OF POSIT	IONS	4		YES / NO		
5	LOCKING		No	OT REQUIRED	YES / NO		
6	HANDLE		Kl	NOB TYPE	YES / NO		
7	DEGREE OF R	OTATION	91	0 DEGREE	YES / NO		
8	INDICATING SIZE	PLATE	7.	5x75 or 64x80	Size		
9	DRILLING PL	AN	C	SA or CSAS	DP Ref.		
10	TERMINAL MA	RKING	8	terminals -	YES / NO		
		R1,Y1,B1,R2		1, Y1, B1, R2, Y2,			
			В	2,A1,A2			
11	MAIN LABEL			MMETER SWITCH			
12	SWITCHING S	EQUENCE	, I	LABEL & TERMINA			
	POSITION-1		G. OFF YES / NO				
	POSITION-2				YES / NO		
	POSITION-3	180 Deg	g.	Y	YES / NO		
	POSITION-4	-90 Deg	g.	В	YES / NO		
NOTE							
1.				RY TYPE with nyl		YES / NO	
2.			ole	for mounting on	3.2 mm thick	YES / NO	
3.	sheet steel pa		h a	ll he accessible	from back of	YES / NO	
J •	Terminals and screws shall be accessible from back of YES / NO panel with open terminals.						
4.	Switch shall o	comply wi	th	relevant clause	s of IS:4064-	YES / NO	
5.	1978 / IS:6875			II respect. cified, colour o	f handle and	YES / NO	
٥.	indicating pla	ate shall	. be	e black and grey	respectively.	IES / NO	
6.			er	relevant IS sha	ll be	YES / NO	
	furnished on o	demand.					







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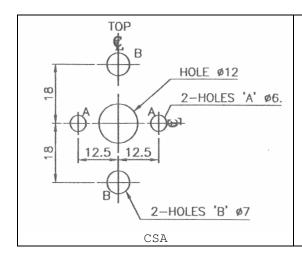
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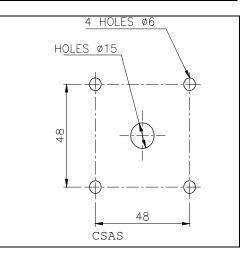
ITEM-003 : AMMETER SELECTOR SWITCH (LINE CURRENT)

STOCK DETAILS :

BP9049113435 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113486 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER			HEL's EQUIREMENT	SUPPLIER'S CONFIRMATION		
1	TYPE			TAYPUT	YES / NO		
2	CURRENT RAT	TNC	_	0 A	YES / NO		
3	WORKING VOL		_		YES / NO		
4	NO.OF POSIT		6	40 VAC, 50Hz.	YES / NO		
5	LOCKING	TONS	Ť		YES / NO		
6	HANDLE		-	OT REQUIRED	YES / NO		
7		OES ET 031		NOB TYPE	YES / NO		
	DEGREE OF R		_				
8	INDICATING	PLATE	/:	5x75 or 64x80	Size		
	SIZE						
9	DRILLING PL	AN	C	SA or CSAS	DP Ref		
	DRAWING		_				
10	TERMINAL MA	RKING	_	terminals -	YES / NO		
				,Y,B,L,A1,A2			
11	MAIN LABEL			MMETER SWITCH	YES / NO		
12				LABEL & TERMINA			
		POSITION-1 0 DEC		OFF	YES / NO		
	POSITION-2	-	_	R	YES / NO		
	POSITION-3		_	Y	YES / NO		
	POSITION-4		_	OFF	YES / NO		
	POSITION-5			В	YES / NO		
	POSITION-6	-60 Deg	g.	L	YES / NO		
NOTE							
1.				RY TYPE with nyl		YES / NO	
2.			ole	for mounting on	3.2 mm thick	YES / NO	
2	sheet steel pa		- 1 ₋ - '	11 ha anii 11 1	form head of	VEC / NO	
3.				ll be accessible	irom back of	YES / NO	
4.		panel with open terminals. Switch shall comply with relevant clauses of IS:4064- YES / NO					
4.	1978 / IS:6875				5 Of 15.4004-	1112 / 110	
5.	Unless and oth	nerwise s	spe	cified, colour o		YES / NO	
-				e black and grey		VEG / NO	
6.	Type test report furnished on o		er	relevant IS sha	II pe	YES / NO	







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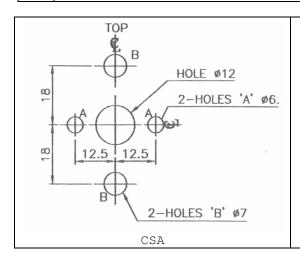
ITEM-004

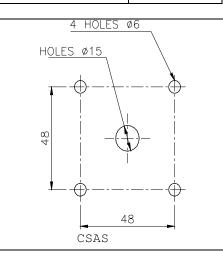
: VOLTMETER SELECTOR SWITCH (4 POSN.)

STOCK DETAILS :

BP9049113230 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113494 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER		Bl	HEL's	SUPPLIER'S COMPLIANCE/		
NO.			RI	EQUIREMENT	CONFIRMATION		
1	TYPE		Si	TAYPUT	YES / NO		
2	CURRENT RAT	ING	10	0 A	YES / NO		
3	WORKING VOL	WORKING VOLTAGE		40 VAC, 50Hz.	YES / NO		
4	NO.OF POSIT	IONS	4		YES / NO		
5	LOCKING		N	OT REQUIRED	YES / NO		
6	HANDLE		Kl	NOB TYPE	YES / NO		
7	DEGREE OF R	OTATION	91	0 DEGREE	YES / NO		
8	INDICATING	PLATE	7.	5x75 or 64x80	Size		
	SIZE						
9	DRILLING PL	AN	C:	SA or CSAS	DP Ref		
	DRAWING						
10	TERMINAL MA	RKING	5	terminals -	YES / NO		
			R	,Y,B,V1,V2			
11	MAIN LABEL		V	OLTMETER	YES / NO		
				WITCH			
12	SWITCHING S	EQUENCE,	, I	LABEL & TERMINA	L MARKING		
	POSITION-1			OFF	YES / NO		
	POSITION-2			RY	YES / NO		
	POSITION-3	180 Deg	J •	YB	YES / NO		
	POSITION-4	-90 Deg	J •	BR	YES / NO		
NOTE							
1.				RY TYPE with nyl		YES / NO	
2.			le	for mounting on	3.2 mm thick	YES / NO	
	sheet steel pa		1	11 1	C	VEG / NO	
3.	Terminals and panel with ope			ll be accessible	irom back of	YES / NO	
4.				relevant clause	s of TS:4064-	YES / NO	
1.	1978 / IS:6875				5 OF 10.4004	120 / 110	
5.				cified, colour o	f handle and	YES / NO	
	indicating pla	ate shall	be	e black and grey	respectively.		
6.			er	relevant IS sha	ll be	YES / NO	
	furnished on o	demand.					







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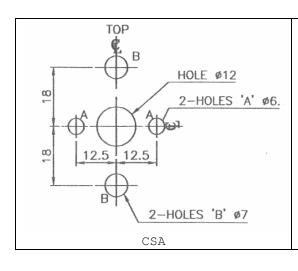
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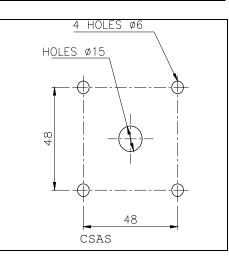
ITEM-005 : VOLTMETER SELECTOR SWITCH (6 POSN.)

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 REOUIREMENT	SUPPLIER'S C			
1	my DE		•	YES / NO			
	TYPE	TNG	STAYPUT	- ' '			
2	CURRENT RAT		10 A	YES / NO			
3	WORKING VOI		440 VAC, 50Hz.	YES / NO			
4	NO.OF POSIT	CIONS	6	YES / NO			
5	LOCKING		NOT REQUIRED	YES / NO			
6	HANDLE		KNOB TYPE	YES / NO			
7	DEGREE OF R	COTATION	60 DEGREE	YES / NO			
8	INDICATING SIZE	PLATE	75x75 or 64x80	Size			
9	DRILLING PI DRAWING	.AN	CSA or CSAS	DP Ref.			
10	TERMINAL MA	RKING	6 terminals -	YES / NO			
			R,Y,B,N,V1,V2				
11	11 MAIN LABEL		VOLTMETER	YES / NO			
			SWITCH				
12	SWITCHING S	EQUENCE	, LABEL & TERMIN	IAL MARKING			
	POSITION-1	0 DEC	G. RN YES / NO				
	POSITION-2	+60 Dec	. YN	YES / NO			
	POSITION-3	+120Dec	J. BN	YES / NO			
	POSITION-4	180 Dec	A. RY	YES / NO			
	POSITION-5		7. YB	YES / NO			
	POSITION-6	-60 Dec	. BR	YES / NO			
NOTE	S	-	·				
1.	The switch sha	all be RC	TARY TYPE with ny	lon material.	YES / NO		
2.	Switch shall b	oe suitab	le for mounting o	n 3.2 mm thick	YES / NO		
	sheet steel pa						
3.			hall be accessibl	e from back of	YES / NO		
	panel with open terminals. Switch shall comply with relevant clauses of IS:4064- YES / NO						
4.				YES / NO			
_	1978 / IS:687			WEG / NO			
5.			pecified, colour be black and gre	YES / NO			
6.			er relevant IS sh		YES / NO		
U •	TAbe rest rebo	demand.	er rerevalir to 211	011 NC	TEO / INO		







SWITCHGEAR ENGINEERING DIVISION

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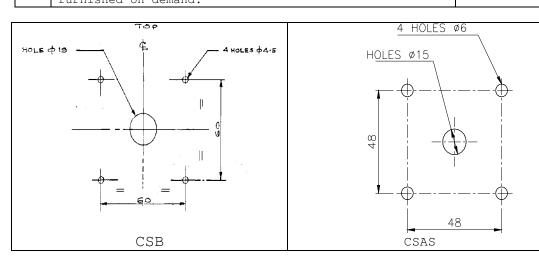
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ITEM-006 : BREAKER CONTROL SWITCH

STOCK DETAILS :

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

SL.	PARAMETER		BHEL's		SUPPLIE	SUPPLIER'S COMPLIANCE/		
NO.			REQUIRE	MENT	CONFIRM	MATION		
1	TYPE		SPRING I	RETURN	YES / NO)		
			TO NEUT	RAL				
2	CURRENT RAT	ING	25 A		YES / No)		
3	WORKING VOI	TAGE	660VAC/	OC,50Hz.	YES / NO)		
4	NO.OF POSIT	TIONS	3		YES / No)		
5	LOCKING		NOT REQ	JIRED	YES / NO)		
6	HANDLE		PISTOL (GRIP	YES / NO)		
			TYPE					
7	DEGREE OF R	ROTATION	60 DEGRI	ΞE	YES / No)		
8	INDICATING	PLATE	72.5x72	.5 or	Size			
	SIZE		64x80					
9	DRILLING PI	LAN	CSB or	CSAS	DP Ref.			
	DRAWING							
10	TERMINAL MA	ARKING	AS BELO	N	YES / NO			
11	MAIN LABEL		BREAKER	CONTROL	YES / NO)		
			SWITCH					
12	SWITCHING S	SEQUENCE	, LABEL &	TERMINA	L MARKII	1G		
	POSITION-1	ODEG.	NEUTRAL	-	YES / NO			
	POSITION-2	+60Deg.	CLOSE	2-B, 4-D	,6-F YES / NO		NO	
	POSITION-3	-60Deg.	TRIP	1-A,3-C	,5-E	YES /	NO	
NOTE	ES							
1.	The switch sha						YES / NO	
2.	Switch shall b		ole for mo	unting on	3.2 mm t	hick	YES / NO	
	sheet steel pa							
3.	Terminals and			ccessible	from bad	ck of	YES / NO	
4		panel with open terminals. Switch shall comply with relevant clauses of IS:4064- YES / NO					VEC / NO	
4.	1978 / IS:687				S OI 15: 4	1064-	YES / NO	
5.	Unless and oth				f handle	and	YES / NO	
•	indicating pla						120 / 110	
6.	Type test repo	orts as p				<u> </u>	YES / NO	





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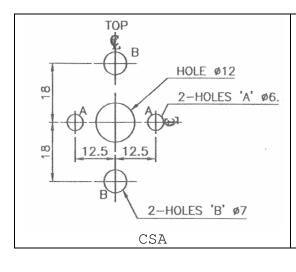
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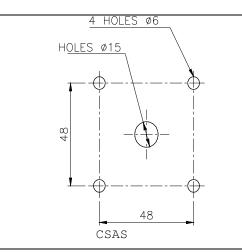
ITEM-007 : LOCAL/REMOTE SELECTOR SWITCH (NON LOCKABLE)

STOCK DETAILS :

BP9049113427 - FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113524 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER	BHEL's		SUPPLIE	R'S CC	OMPLIANCE/
NO.		REQUIREM	ENT	CONFIRM	ATION	
1	TYPE	STAYPUT		YES / NO		
2	CURRENT RATING	25 A		YES / NO		
3	WORKING VOLTAGE	660VAC/D	C,50Hz.	YES / NO		
4	NO.OF POSITIONS	2		YES / NO		
5	LOCKING	NOT REQU	IRED	YES / NO		
6	HANDLE	KNOB TYPI	Ε	YES / NO		
7	DEGREE OF ROTATION	90 DEGREI	Ε	YES / NO		
8	INDICATING PLATE	75x75 or	64x80	Size		
	SIZE					
9	DRILLING PLAN	CSA or C	SAS	DP Ref.		
	DRAWING					
10	TERMINAL MARKING	AS BELOW		YES / NO		
11	MAIN LABEL	SELECTOR	SWITCH	YES / NO		
12	SWITCHING SEQUENCE	, LABEL &	TERMINA	L MARKIN	G	
	POSITION-1 ODEG.	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
NOTE	S					
1.	The switch shall be RC					YES / NO
2.	Switch shall be suitab	ole for mou	nting on	3.2 mm th	nick	YES / NO
	sheet steel panel.					
3.	Terminals and screws s		cessible	from back	c of	YES / NO
4.	panel with open terminals. Switch shall comply with relevant clauses of IS:4064- YES / NO					
4.	1978 / IS:6875-1973 in	all respe	ct.	3 O1 15.4 (704	IES / NO
5.	Unless and otherwise specified, colour of handle and YES / NO					YES / NO
		1 be black and grey respectively.				
6.	Type test reports as p	er relevan	t IS sha	ll be		YES / NO
	furnished on demand.					





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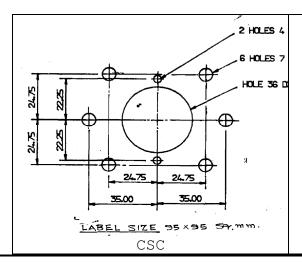
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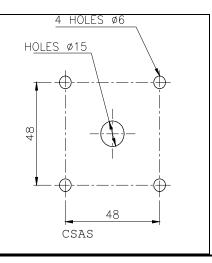
ITEM-008 : LOCAL/REMOTE SELECTOR SWITCH(LOCKABLE)

STOCK DETAILS :

BP9049113265 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC BP9049113532 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER		BHEL's		SUPPLIE	R'S CON	IPLIANCE	E/
NO.			REQUIRE	MENT	CONFIRM	ATION		
1	TYPE		STAYPUT		YES / NO			
2	CURRENT RATING		25 A		YES / NO			
3	WORKING VOLTAGE	:	660VAC/I	OC,50Hz.	YES / NO			
4	NO.OF POSITIONS	}	2		YES / NO			
5	LOCKING		REQUIRE	O IN	YES / NO			
			BOTH POS	SITIONS				
6	HANDLE		TEE TYPE	E WITH	YES / NO			
			BARREL I	LOCKING				
7	DEGREE OF ROTAT	'ION	90 DEGRI	EE.	YES / NO			
8	INDICATING PLAT	E.	95x95 oı	64x80	Size			
	SIZE							
9	DRILLING PLAN		CSC or (CSAS	DP Ref.			
	DRAWING							
10	TERMINAL MARKIN	īG	AS BELOV	V	YES / NO			
11	MAIN LABEL		*SELECTO	R SWITCH	YES / NO			
12	SWITCHING SEQUE	NCE,	LABEL &	TERMINA	L MARKIN	G		
	POSITION-1 OD	EG.	*LOCAL	1-A,3-C	,5-E,7-G	YES /	NO	
	POSITION-2 +90D	eg.	*REMOTE	2-B,4-D	,6-F,8-H YES / NO		NO	
	POSITION-3 180D	eg.	BLOCKED	_		YES /	NO	
	POSITION-4 -90D	eg.	BLOCKED	_		YES /	NO	
For	*, please refer r	otes	s-6 & 7 d	n sht.01	L.			
NOTI	ES							
1.	The switch shall b						YES / N	10
2.	Switch shall be su		le for mo	unting on	3.2 mm th	nick	YES / N	10
	sheet steel panel.							
3.	Terminals and scre			ccessible	from bacl	cof	YES / N	10
4.	panel with open te Switch shall compl			nt alauga	s of TC.//	164-	YES / N	JO.
4.	1978 / IS:6875-197				5 OI 13:40	704-	TEO / N	NO.
5.	Unless and otherwi				f handle a	and	YES / N	10
	indicating plate s	hall	be black	and grey	respectiv	zely.		
6.	Type test reports	as pe	er releva	nt IS sha	ll be fur	nished	YES / N	10
	on demand.							
7.	Key shall be remov						YES / N	
8.	BP code shall be en	grave	ed on the	switch & :	its packin	g case.	YES / N	10







SWITCHGEAR ENGINEERING DIVISION

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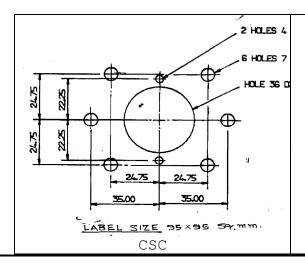
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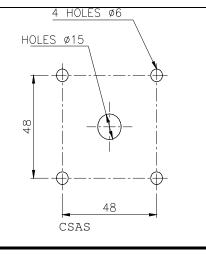
ITEM-009 : LOCAL/REMOTE/SCADA SELECTOR SWITCH

STOCK DETAILS :

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

SL.	PARAMETER		BHEL's		SUPPLIER'	s co	MPLIANCE/
NO.			REQUIRE	MENT	CONFIRMAT	ION	
1	TYPE		STAYPUT		YES / NO		
2	CURRENT RAT	ING	25 A		YES / NO		
3	WORKING VOL	TAGE	660VAC/	DC,50Hz.	YES / NO		
4	NO.OF POSIT	IONS	3		YES / NO		
5	LOCKING		REQUIRE	D IN	YES / NO		
			BOTH PO	SITIONS			
6	HANDLE		TEE TYP	E WITH	YES / NO		
			BARREL :	LOCKING			
7	DEGREE OF R	OTATION	90 DEGRI	EE	YES / NO		
8	INDICATING	PLATE	95x95 o	r 64x80	Size		
	SIZE						
9	DRILLING PL	AN	CSC or	CSAS	DP Ref		
	DRAWING						
10	TERMINAL MA	RKING	AS BELO	M	YES / NO		
11	MAIN LABEL		*CONTROL	SELECTOR	YES / NO		
12	SWITCHING S			TERMINA	L MARKING		
	POSITION-1			1-A, 4-D	,7-G,10-J	YES	/ NO
	POSITION-2			2-B,5-E	,8-Н,11-К	YES	/ NO
	POSITION-3			_		YES	/ NO
	POSITION-4				,9-I,12-M	YES	/ NO
For	*, please ref	er note	s-6 & 7 d	on sht.03	L.		
NOTE	ES						
1.	The switch sha						YES / NO
2.	Switch shall b		le for mo	unting on	3.2 mm thi	ck	YES / NO
	sheet steel pa						
3.	Terminals and			ccessible	irom back	oİ	YES / NO
4.	panel with ope			nt clauso	s of TS./OR	4_	YES / NO
4.	1978 / IS:6875				5 O1 15.400	-	1112 / 110
5.	Unless and otherwise specified, colour of handle and YES / NO					YES / NO	
			Il be black and grey respectively.				
6.			per relevant IS shall be YES / NO			YES / NO	
	furnished on d						
7.	Key shall be r						YES / NO
8.	BP code shall be	e engrave	d on the s	witch & i	ts packing c	ase.	YES / NO







SWITCHGEAR ENGINEERING DIVISION

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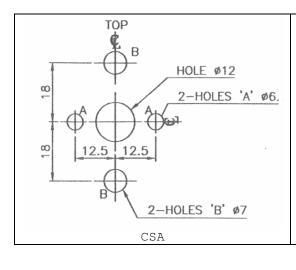
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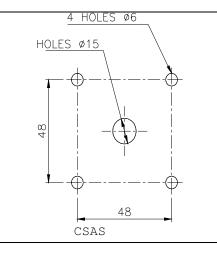
ITEM-010 : MOTOR HEATER SWITCH

STOCK DETAILS :

BP9049113281- FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113559- FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER	BHEL's	SUPPLIER'S COMPLIANCE/			
NO.		REQUIREMENT	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	75x75 or 64x80	Size			
	SIZE					
9	DRILLING PLAN	CSA or CSAS	DP Ref			
	DRAWING					
10	TERMINAL MARKING	AS BELOW	YES / NO			
11	MAIN LABEL	MOTOR HEATER	YES / NO			
		SUPPLY - MHS				
12	SWITCHING SEQUENCE		AL MARKING			
	POSITION-1 ODEG.	OFF -	YES / NO			
	POSITION-2 +90Deg.		,3-C,4-D YES / NO			
	POSITION-3 180Deg.		YES / NO			
	POSITION-4 -90Deg.	BLOCKED -	YES / NO			
NOTE						
1.	The switch shall be R					
2.	Switch shall be suital	ole for mounting on	3.2 mm thick YES / NO			
3.	sheet steel panel.		from book of VEC / NO			
3.	Terminals and screws a panel with open terminals		e from back of YES / NO			
4.	Switch shall comply w		es of IS:4064- YES / NO			
1	1978 / IS:6875-1973 in		115 / 10			
5.	Unless and otherwise specified, colour of handle and YES / NO					
	indicating plate shall	l be black and grey	respectively.			
6.	Type test reports as p	per relevant IS sha	ll be YES / NO			
	furnished on demand.					







SWITCHGEAR ENGINEERING DIVISION

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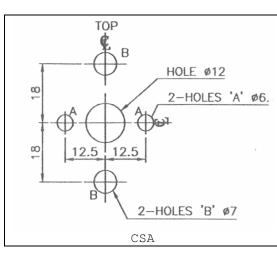
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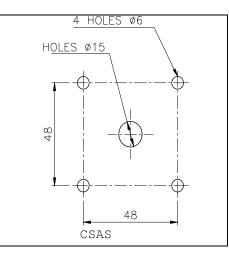
ITEM-011 : 240 VAC SUPPLY ON/OFF SWITCH

STOCK DETAILS :

BP9049113290- FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113567- FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER	BHEL's		SUPPLIER'	S CC	OMPLIANCE/
NO.		REQUIREM	ÆNT	CONFIRMAT	'ION	
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 REQU	JIRED	YES / NO		
6	HANDLE	KNOB TYP	PΕ	YES / NO		
7	DEGREE OF ROTATION	90 DEGRE	EΕ	YES / NO		
8	INDICATING PLATE	75x75 or	64x80	Size		
	SIZE					
9	DRILLING PLAN	CSA or C	CSAS	DP Ref		
	DRAWING					
10	TERMINAL MARKING	AS BELOW	AS BELOW YES / NO			
11	MAIN LABEL	240 VAC	240 VAC SUPPLY YES / NO			
12	SWITCHING SEQUENCE	, LABEL &	LABEL & TERMINAL MARKING			
	POSITION-1 ODEG.		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
NOTE						
1.	The switch shall be RO					YES / NO
2.	Switch shall be suitab	ole for mou	inting on	3.2 mm thic	ck	YES / NO
	sheet steel panel.	, , , ,				
3.		rminals and screws shall be accessible from back of YES / NO				
4.	panel with open termin	als. th relevant clauses of IS:4064- YES / NO				
4.	1978 / IS:6875-1973 ir					IES / NO
5.	Unless and otherwise s			f handle and	d	YES / NO
	indicating plate shall					
6.	Type test reports as p					YES / NO
	furnished on demand.					







SWITCHGEAR ENGINEERING DIVISION

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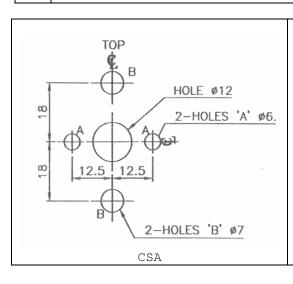
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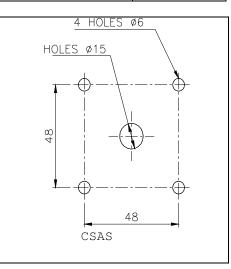
ITEM-012 : 220 VDC SUPPLY ON/OFF SWITCH

STOCK DETAILS :

BP9049113303- FOR INDICATING PLATE - 75x75 & DRILLING PLAN DRG.CSA BP9049113575- FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER	BHEL's	SUPPLIER	R'S CC	MPLIANCE/	
NO.		REQUIREMENT	CONFIRMA	ATION		
1	TYPE	STAYPUT	YES / NO			
2	CURRENT RATING	16 A	YES / NO	YES / NO		
3	WORKING VOLTAGE	250 VDC, 50	Hz. YES / NO			
4	NO.OF POSITIONS	2	YES / NO	YES / NO		
5	LOCKING	NOT REQUIRE	D YES / NO			
6	HANDLE	KNOB TYPE	YES / NO			
7	DEGREE OF ROTATION	90 DEGREE	YES / NO			
8	INDICATING PLATE	75x75 or 64	x80 Size			
	SIZE					
9	DRILLING PLAN	CSA or CSAS	DP Ref.			
	DRAWING					
10	TERMINAL MARKING	AS BELOW	AS BELOW YES / NO			
11	MAIN LABEL	220 VDC SUE	PLY YES / NO	Y YES / NO		
12	SWITCHING SEQUENCE	, LABEL & TE	RMINAL MARKING	MINAL MARKING		
	POSITION-1 ODEG.	OFF -		YES	/ NO	
	POSITION-2 +90Deg.		A, 2-B, 3-C, 4-D	YES	/ NO	
	POSITION-3 180Deg.	BLOCKED -		YES	/ NO	
	POSITION-4 -90Deg.	BLOCKED -		YES	/ NO	
NOTE	S					
1.	The switch shall be R				YES / NO	
2.	Switch shall be suita	ble for mounti	ng on 3.2 mm th	nick	YES / NO	
	sheet steel panel.					
3.		als and screws shall be accessible from back of YES / NO				
4.	panel with open termi. Switch shall comply w		lange of TC:40	164-	YES / NO	
4.	1978 / IS:6875-1973 is			,04	IES / NO	
5.	Unless and otherwise			ınd	YES / NO	
	indicating plate shal					
6.	Type test reports as	per relevant I	S shall be		YES / NO	
	furnished on demand.					







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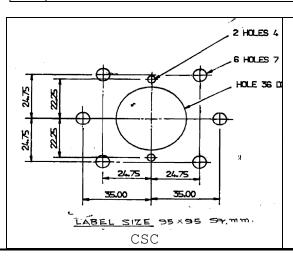
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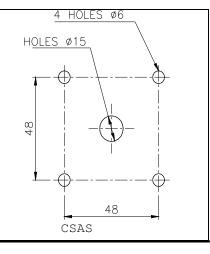
ITEM-013 : MAIN A.C. SUPPLY SOURCE SELECTOR SWITCH

STOCK DETAILS :

BP9049113311 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC BP9049113583 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER	BHEL's		SUPPLIER'S CO		MPLIANCE/
NO.		REQUIREM	ENT	CONFIRMA	TION	
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	YES / NO		
		BOTH POS	ITIONS			
6	HANDLE	TEE TYPE	WITH	YES / NO		
		BARREL L	OCKING			
7	DEGREE OF ROTATION	90 DEGRE	E	YES / NO		
8	INDICATING PLATE	95x95 or	64x80	Size		
	SIZE					
9	DRILLING PLAN	CSC or C	SAS	DP Ref.		
	DRAWING					
10	TERMINAL MARKING	AS BELOW		YES / NO		
11	MAIN LABEL	*MAIN 24	0 VAC	YES / NO		
		SUPPLY				
12	SWITCHING SEQUENCE		TERMINA	L MARKING	}	
	POSITION-1 ODEG.		-		YES /	NO
	POSITION-2 +90Deg.		1-A, 3-	C,5-E,7-G	YES /	NO
	POSITION-3 180Deg.		-		YES /	
	POSITION-4 -90Deg.			D,6-F,8-H	YES /	NO NO
For	*, please refer note	s-6 & 7 o	n sht.0	1.		
NOTE	S					
1.	The switch shall be RO					YES / NO
2.	Switch shall be suital	ole for mou	inting on	3.2 mm th	ick	YES / NO
	sheet steel panel.				_	
3.	Terminals and screws		ccessible	from back	of	YES / NO
4.	panel with open termin Switch shall comply wi		+ alamaa	a of TC.40	6.1	YES / NO
4.	1978 / IS:6875-1973 in			S OI 15:40	04-	IES / NO
5.	Unless and otherwise			f handle a	nd	YES / NO
-	indicating plate shall					<i>y</i> ,
6.	Type test reports as p					YES / NO
	furnished on demand.					
7.	Key shall be removable					YES / NO
8.	BP code shall be engrave	ed on the sv	vitch & i	ts packing	case.	YES / NO







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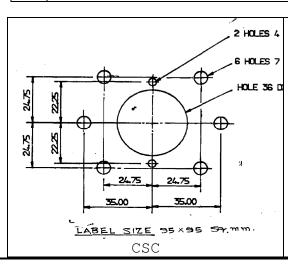
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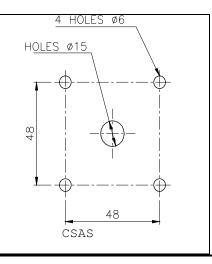
ITEM-014 : MAIN D.C. SUPPLY SOURCE SELECTOR SWITCH

STOCK DETAILS :

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

SL.	PARAMETER	BHEL's	's SUPPLIER'S CO		'S COM	PLIANCE/
NO.		REQUIREM	ENT	CONFIRMA	TION	
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	YES / NO		
		BOTH POS	ITIONS			
6	HANDLE	TEE TYPE	WITH	YES / NO		
		BARREL L	OCKING			
7	DEGREE OF ROTATION	90 DEGRE	E	YES / NO		
8	INDICATING PLATE	95x95 or	64x80	Size		
	SIZE					
9	DRILLING PLAN	CSC or C	SAS	DP Ref.		
	DRAWING					
10	TERMINAL MARKING	AS BELOW		YES / NO		
11	MAIN LABEL	*MAIN 22	0 VDC	YES / NO		
		SUPPLY				
12	SWITCHING SEQUENCE		TERMINA	L MARKING		
		OFF	-		YES /	NO
	POSITION-2 +90Deg		1-A, 3-0	C,5-E,7-G	YES /	NO
	POSITION-3 180Deg		-		YES /	NO
	POSITION-4 -90Deg	*SOURCE-2	2-B, 4-1	D,6-F,8-H	YES /	NO
For	*, please refer not	es-6 & 7 o	n sht.03	1.		
NOTE	S					
1.	The switch shall be F					ES / NO
2.	Switch shall be suita	ble for mou	inting on	3.2 mm th	ick Y	ES / NO
	sheet steel panel.					
3.	Terminals and screws		ccessible	from back	of Y	ES / NO
4.	panel with open termi Switch shall comply w		ot alauso	s of TS:40	61- V	ES / NO
4.	1978 / IS:6875-1973 i			5 OI 15.40	04- 1	ES / NO
5.	Unless and otherwise			f handle a	nd Y	ES / NO
	indicating plate shal					, -
6.	Type test reports as					ES / NO
	furnished on demand.					
7.	Key shall be removabl					TES / NO
8.	BP code shall be engrav	ed on the sv	vitch & i	ts packing	case. Y	ES / NO







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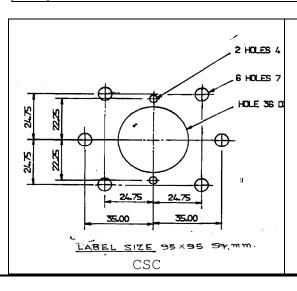
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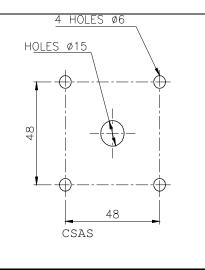
ITEM-015 : 220 VDC SUPPLY MAIN SOURCE ON/OFF SWITCH

STOCK DETAILS :

BP9049113338 - FOR INDICATING PLATE - 95x95 & DRILLING PLAN DRG.CSC BP9049113605 - FOR INDICATING PLATE - 64X80 & DRILLING PLAN DRG.CSAS

SL.	PARAMETER		BHEL's		SUPPLIER	SUPPLIER'S COMPI		NCE/
NO.			REQUIREM	ENT	CONFIRMA!	TION		
1	TYPE		STAYPUT		YES / NO			
2	CURRENT RAT	ING	40 A	40 A YES / NO				
3	WORKING VOI	TAGE	250VAC/D	250VAC/DC,50Hz. YES / NO				
4	NO.OF POSIT	CIONS	2		YES / NO			
5	LOCKING		REQUIRED IN YES / NO					
			BOTH POS	ITIONS				
6	HANDLE		TEE TYPE	WITH	YES / NO			
			BARREL L	OCKING				
7	DEGREE OF F	ROTATION	90 DEGRE	E	YES / NO			
8	INDICATING	PLATE	95x95 or	64x80	Size			_
	SIZE							
9	DRILLING PI	AN	CSC or C	SAS	DP Ref.			
	DRAWING							
10	TERMINAL MA	RKING	AS BELOW		YES / NO			
11	MAIN LABEL		*MAIN 22	0 VDC	YES / NO			
			SUPPLY					
12	SWITCHING S			TERMINA	AL MARKING			
	POSITION-1			_		YES /	/ NO	
	POSITION-2	+90Deg.	*ON	1-A, 2-1	B,3-C,4-D	YES /	/ NO	
	POSITION-3	180Deg.	BLOCKED	-		YES /	/ NO	
	POSITION-4	-90Deg.	BLOCKED	_		YES /	/ NO	
For	*, please ref	fer note	s-6 & 7 o	n sht.03	1.			
NOTE	ES							
1.	The switch sha						YES /	NO
2.	Switch shall		ole for mou	inting on	3.2 mm th	ick	YES /	NO
	sheet steel p							
3.	Terminals and			cessible	from back	of	YES /	NO
4.	panel with ope Switch shall			t alauso	s of TG:40	64-	YES /	NO
4.	1978 / IS:687				.5 OI 15.40	7-4	IES /	NO
5.	Unless and oth				of handle an	nd	YES /	NO
	indicating pla						- •	
6.	Type test rep					-	YES /	NO
	furnished on							
7.	Key shall be						YES /	NO
8.	BP code shall b	e engrave	d on the sw	itch & i	ts packing o	case.	YES /	NO







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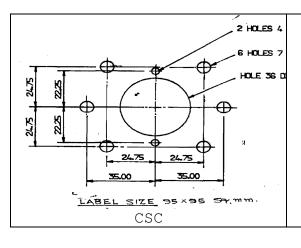
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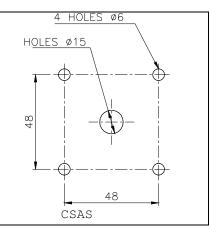
ITEM-016 : SYNCHRONISATION SELECTOR SWITCH

STOCK DETAILS :

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

SL.	PARAMETER	BHEL'S SUPPLIER'S CO		COMPLIANCE/	
NO.		REQUIREMENT	CONFIRMATION	1	
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	REQUIRED IN YES / NO		
		BOTH POSITIONS			
6	HANDLE	TEE TYPE WITH	YES / NO		
		BARREL LOCKING			
7	DEGREE OF ROTATION	90 DEGREE	YES / NO		
8	INDICATING PLATE	95x95 or 64x80	Size		
	SIZE				
9	DRILLING PLAN	CSC or CSAS	DP Ref.		
	DRAWING				
10	TERMINAL MARKING	AS BELOW	YES / NO		
11	MAIN LABEL	*SYNCHRONISATION	YES / NO		
		SELECTOR SWITCH			
12	SWITCHING SEQUENCE	, LABEL & TERMIN	AL MARKING		
	POSITION-1 ODEG.	*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 note	s-6 & 7 on sht.0	01.		
NOTE	ES				
1.	The switch shall be RC	TARY TYPE with ny	lon material.	YES / NO	
2.	Switch shall be suitab	ole for mounting o	n 3.2 mm thick	YES / NO	
	sheet steel panel.				
3.	Terminals and screws s		e from back of	YES / NO	
4	panel with open termin Switch shall comply wi		TC: 4064	VEG / NO	
4.			es or 15:4064-	YES / NO	
5.		1978 / IS:6875-1973 in all respect. Unless and otherwise specified, colour of handle and			
•	indicating plate shall			YES / NO	
6.	Type test reports as p			YES / NO	
	furnished on demand.				
7.	Key shall be removable	e in locked positi	on only.	YES / NO	
8.	BP code shall be engrave	d 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.	PARAMETER		BHEL's	SUPPLIER'S CO	OMPLIANCE/	
NO.			REQUIREMENT	CONFIRMATION		
1	LOCKING		LOCKABLE	YES / NO		
2	MAIN LABEL		As per Annexure	YES / NO		
			(projectwise)			
			Refer notes-6 &			
			7 on sht.01			
3	INDICATING	PLATE	95x95 or 64x80	Size		
	SIZE					
4	DRILLING PL	AN	CSC or CSAS	DP Ref		
	DRAWING					
	SWITCHING S	EQUENCE	, TERMINAL MARKIN	G & LABEL		
	POSITION-1	ODEG.	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	5					
1.	Suitable for l	Lockable	/ non lockable swi	tch	YES / NO	
1	Indicating plates are suitable for using alongwith YES / NO				YES / NO	
	switches supplied against items-8, 9, 13, 14, 15 & 16.					
I I	Plates shall be supplied without engraving. However, YES / NO vendor to take back the plates, whenever required, and					
1			-	- '		
		-	as per the detail	s furnished		
	arongwith the	praces,	within 15 days.			

