


Document No: SWM/Indoor/PQR120961004

**‘Pre-Qualification requirements (including Additional Terms and Conditions for Bidders )’  
PQR for MCB (PI 120961004)**

S No.	BHEL's requirement	Bidder's acceptance
1	Technical requirement: 240VAC, 2 POLE MCB, 16A,9KA, 1NO+1NC / 2CO AS PER SG12918 REV 11 #003	Accepted as per NIT and there is no technical deviation
2	Technical requirement: 415VAC, 4 POLE MCB, 16A,9KA, 1NO+1NC / 2CO AS PER SG12918 REV 11 #004	Accepted as per NIT and there is no technical deviation
3	Technical requirement:220VDC, 2 POLE MCB, 32A, 2.5KA AS PER SG12918 REV 11 #012	Accepted as per NIT and there is no technical deviation
4	Technical requirement:220VDC, 2 POLE MCB, 16A, 2.5KA AS PER SG12918 REV 11 #005	Accepted as per NIT and there is no technical deviation
5	Technical requirement: 240VAC, 2 POLE MCB, 16A, 9KA AS PER SG12918 REV 11 #006	Accepted as per NIT and there is no technical deviation
6	Technical requirement: 220VDC, 2 POLE MCB, 6A, 2.5KA AS PER SG12918 REV 11 #007	Accepted as per NIT and there is no technical deviation
7	Technical requirement: 220VDC, 2 POLE MCB, 2A, 2.5KA SG12918 REV 11 #014	Accepted as per NIT and there is no technical deviation
9	Bidder to confirm whether OEM or trader If OEM-Please submit self certificate. If Trader/Reseller-Please submit valid OEM authorisation certificate.	OEM Certificate/ OEM authorised certificate
10	Filled Annexure-II of SG 12918 Pg 4 of 4.	
11	Bidder to furnish Valid certificate for CE/VDE/UL/CSA/BIS with CML No.	

Bidders authorized seal and sign for  
acceptance of above requirements

			<b>PRODUCT STANDARD</b> SWITCHGEAR ENGINEERING DIVISION		SG 12918 REV.11		
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<p align="center"><b><u>SPECIFICATION FOR MCBs</u></b></p>							
<b>COPYRIGHT AND CONFIDENTIAL</b>  The information on this document is the property of Bharat Heavy Electricals Limited It must not be used directly or indirectly in any way detrimental to interest of Co.		1) <b>SCOPE</b> : This standard covers the requirement of AC/DC MCBs used in medium voltage switchgears and control panels.					
		2) <b>APPLICATION</b> : These are current limiting MCBs with/without 1 NO + 1 NC or 2 CO self reset auxiliary contacts (1 CO contact not acceptable) having instantaneous trip for short circuits and inverse time delayed thermal trip. These are used in AC/DC supply auxiliary circuits, PT secondary circuits etc. in place of fuses.					
		3) <b>TECHNICAL DETAILS</b> : I. APPLICABLE STANDARD : IS:8828, IEC: 60898 II. RATED INSULATION VOLTAGE : 500 V III. IMPULSE WITHSTAND VOLTAGE: 3 kVp IV. OPERATIONAL TEMP.RANGE : AS PER IS/IEC V. RESETTING MODE : AUTO-RESET OF COIL i.e Unlatched VI. AUX. CONTACTS : 1NO+1NC or 2 C/O Self Reset (Required for items-001 to 004, 009 & 010 only) VII. TERMINAL MARKING : AS PER FIG.-1,2,3 BELOW VIII. MOUNTING : INDIVIDUAL AS WELL AS DIN RAIL IX. INSTALLATION POSITION : HORIZONTAL / VERTICAL X. ELECTRICAL ENDURANCE : AS PER IS/IEC. XI. MECHANICAL ENDURANCE : AS PER IS/IEC. XII. PROTECTION CLASS : IP:20 AS PER IEC:60947, VDE 0106 XIII. MAXIMUM CROSS SECTION OF CONDUCTOR : 16 MM <sup>2</sup> XIV. OPERATING TIME AT TWICE THE RATED CURRENT : < 15 SECS. XV. MCB'S MUST BE INCORPORATED WITH THERMAL OVERLOAD AND SHORT CIRCUIT PROTECTION. XVI. Material Composition : <u>Material of MCB shall be of virgin grade.</u>					
		4) <b>TESTING</b> : i. Offered MCBs must be successfully type tested as per relevant clauses of IS:8828/IEC:60898 and test reports shall be furnished on demand. ii. Suppliers to confirm in their offer that each MCBs shall be subjected to routine test as per relevant clauses of IS:8828/IEC:60898 and reports shall be furnished on demand.					
		REV.	11	REVISION	APPROVED –		
		ALTD.	AA	Sl No.-3, Row-XVI & Sl. No-06, Row IV and V in Annexure-II 13	D.K.DIKSHIT		
		APPD.	DP/MH		PREPARED	ISSUED	DATE
		DATE.	04.04.25		MANISHA HADA	A.P.SINGH	15.02.07



# PRODUCT STANDARD

## SWITCHGEAR ENGINEERING DIVISION

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TABLE - 1

ITEM NO.	STOCK CODE	OPERATIONAL VOLTAGE	NO. OF POLES	CURRENT RATING	S.C. BREAKING CAPACITY	AUX. CONTACT	TERMINAL MARKING
001	BP9049117317	220 VDC	2	16 A	2.5 kA	INO+INC / 2CO	FIG.1
002	BP9049113443	220 VDC	2	40 A	2.5 kA	INO+INC / 2CO	FIG.1
003	BP9049113451	240 VAC	2	16 A	9 kA	INO+INC / 2CO	FIG.1
004	BP9049113621	415 VAC	4	16 A	9 kA	INO+INC / 2CO	FIG.2
005	BP9049447694	220 VDC	2	16 A	2.5 kA	NIL	FIG.3
006	BP9049447708	240 VAC	2	16 A	9 kA	NIL	FIG.3
007	BP9048106664	220 VDC	2	6 A	2.5 kA	NIL	FIG.3
008	BP9049118488	240 VAC	2	6 A	9 kA	NIL	FIG 3
009	BP9049478484	220 VDC	2	10 A	2.5 kA	INO+INC / 2CO	FIG.1
010	BP9049478492	220 VDC	2	32 A	2.5 kA	INO+INC / 2CO	FIG.1
011	BP9049478506	220 VDC	2	10 A	2.5 kA	NIL	FIG.3
012	BP9049478514	220 VDC	2	32 A	2.5 kA	NIL	FIG.3
013	BP9908110012	220 VDC	2	6 A	2.5 kA	INO+INC / 2CO	FIG.1
014	BP9908110020	220 VDC	2	2 A	2.5 kA	NIL	FIG.3
015	BP9908110039	110 VAC	2	2 A	9 kA	NIL	FIG.3

APPROXIMATE ANNUAL REQUIREMENT & MINIMUM STOCK QUANTITY ARE TO BE DECIDED & REVIEWED YEARLY, JOINTLY BY PLANNING & ENGINEERING, ON THE BASIS OF CONSUMPTION PATTERN & DELIVERY CYCLE OF THE ITEM.

### 5) DOCUMENTS REQUIRED ALONGWITH THE OFFER:

- Technical offers to be submitted in the format given as Annexure-II only. Offers in any other format may not be evaluated.
- Time/Current characteristics for DC loading of bimetal relay.
- Descriptive leaflets covering wiring & mounting details.

### 6) ACCEPTANCE CRITERIA:

- 100% Visual Inspection for cracks & defect free surface.
- Matching for rating plate & terminal marking as per table-1 above.
- All items shall have mark of CE/VDE/UL/CSA/BIS with CML no.
- Bidder to submit valid certificate (CE/VDE/UL/CSA/BIS) of offered MCB.
- Bidder to submit 1 number sample of each offered item along with the offer for evaluation.

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		<div>7) <b>PERFORMANCE GUARANTEE :</b></div> <div>MCBs shall perform satisfactorily for a period of minimum 24 months after receipt at BHEL Bhopal.</div> <div><div><div><div><div>21</div><div>11</div><div>1</div><div>3</div></div><div><div>22</div><div>14</div><div>2</div><div>4</div></div></div><div>2 POLE MCB WITH AUX.CONTACT FIG.1</div></div><div><div><div>1</div><div>3</div></div><div><div>2</div><div>4</div></div></div><div>2 POLE MCB WITHOUT AUX.CONTACT FIG.3</div></div> <div><div><div><div><div>21</div><div>11</div><div>7</div><div>1</div><div>3</div><div>5</div></div><div><div>22</div><div>14</div><div>8</div><div>2</div><div>4</div><div>6</div></div></div><div>4 POLE MCB FIG.2</div></div></div>		



# PRODUCT STANDARD

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**FORMAT FOR TECHNICAL OFFER**

(OFFERS TO BE SUBMITTED BY SUPPLIERS IN THIS FORMAT ONLY)

**ANNEXURE-II**

Sl. No.	Parameter	BHEL's Requirement	Confirmation/ Compliance By Supplier
1.	TYPE	-	
2.	APPLICABLE STANDARD	IEC:60898-1&4/IS:8828	
3.	RATED INSULATION VOLTAGE	500 V	
4.	IMPULSE WITHSTAND VOLTAGE	3 kVp	
5.	OPERATIONAL TEMP.RANGE	AS PER IS/IEC	
6.	RESETTING MODE	AUTO-RESET OF COIL i.e UNLATCHED	
7.	AUX. CONTACTS	1NO+1NC / 2CO Self Reset	
8.	TERMINAL MARKING	AS PER TABLE-1	
9.	MOUNTING	INDIVIDUAL AS WELL AS DIN RAIL	
10.	INSTALLATION POSITION	HORIZONTAL / VERTICAL	
11.	ELECTRICAL ENDURANCE	AS PER IS/IEC	
12.	MECHANICAL ENDURANCE	AS PER IS/IEC	
13.	PROTECTION CLASS	IP:20 AS PER VDE:0106	
14.	MAXIMUM CROSS SECTION OF CONDUCTOR	16 MM <sup>2</sup>	
15.	OPERATING TIME AT TWICE THE RATED CURRENT	< 15 SECS	
16.	THERMAL OVERLOAD AND SHORT CIRCUIT PROTECTION PROVIDED	SUPPLIERS TO CONFORM COMPLIANCE	
17.	WHETHER THE OFFERED MCBs ARE SUCCESSFULLY TYPE TESTED AS PER RELEVANT IS	SUPPLIERS TO CONFORM COMPLIANCE AND FURNISH TYPE TEST REPORTS ON DEMAND.	
18.	WHETHER THE OFFERED MCBs SHALL BE SUBJECTED TO ROUTINE TESTS AS PER RELEVANT IS	SUPPLIERS TO CONFORM COMPLIANCE AND FURNISH ROUTINE TEST REPORTS ON DEMAND.	
19.	TIME / CURRENT CHARACTERISTICS FOR DC LOADING OF BIMETAL RELAY ENCLOSED WITH OFFER	SUPPLIERS TO CONFORM COMPLIANCE	
20.	DESCRIPTIVE LEAFLETS COVERING WIRING & MOUNTING DETAILS ENCLOSED WITH OFFER	SUPPLIERS TO CONFORM COMPLIANCE	
21.	PERFORMANCE GUARANTEE AS PER CL.8.0 ABOVE	SUPPLIERS TO CONFORM COMPLIANCE	
22.	CERTIFICATE / MARKING	CE/VDE/UL/CSA/BIS with CML no	

Sign & Seal / Date  
Name

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