

TECHNICAL SPECIFICATIONS OF POTENTIOMETER

ITEM NO.01

ANNEXURE -POT/SINGLE TURN/0.5K/3W/2022			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 0.5K OHM, SINGLE TURN, 3W, AS PER ANNEXURE -POT/SINGLE TURN/0.5K/3W/2022			
SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	0.5K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	3	
ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HEEP, BHEL HARIDWAR STORE.			

ITEM NO.02

ANNEXURE -POT/SINGLE TURN/1K/3W/2022			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 1K OHM, SINGLE TURN, 3W, AS PER ANNEXURE -POT/SINGLE TURN/1K/3W/2022			
SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	1K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	3	
ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	

S/S
28.02.2022
(Sabbir Singh)
Engineer (Inex /CNC-26)

IP RATING		IP65	
TERMINALS		SOLDER LUGS	
<u>DIMENSIONS</u>			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
<u>WARRANTY:</u>			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HECP, BHEL HARIDWAR STORE.			

ITEM NO.03

<u>ANNEXURE -POT/SINGLE</u>			
<u>TURN/2K/3W/2022</u>			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 2K OHM, SINGLE TURN, 3W, AS PER ANNEXURE -POT/SINGLE TURN/2K/3W/2022			
<u>SPECIFICATIONS</u>	<u>UNITS</u>	<u>Required values.</u>	<u>Vendor to confirm</u>
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	2K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	3	
ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
<u>CONSTRUCTION:-</u>			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
<u>DIMENSIONS</u>			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
<u>WARRANTY:</u>			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HECP, BHEL HARIDWAR STORE.			

ITEM NO.04

<u>ANNEXURE -POT/SINGLE</u>			
<u>TURN/5K/1W/2022</u>			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 5K OHM, SINGLE TURN, 1W, AS PER ANNEXURE -POT/SINGLE TURN/5K/1W/2022			
<u>SPECIFICATIONS</u>	<u>UNITS</u>	<u>Required values.</u>	<u>Vendor to confirm</u>

for Item No 04
 (Signature)
 15.11.2022
 (Satbir Singh)
 Engineer (WEX/CMC-Las)

Asha
 Arhatan Singh Jain
 Dy Manager WEX BLS/51648
 for Item No 4

for item 4 & 5
 Manoj
 TCEA WEX
 BLS/2911

RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	5K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	1	
ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HECP, BHEL HARIDWAR STORE.			


ITEM NO.05

ANNEXURE -POT/SINGLE

TURN/10K/1W/2022

WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 10K OHM, SINGLE TURN, 1W, AS PER ANNEXURE -POT/SINGLE TURN/10K/1W/2022

<u>SPECIFICATIONS</u>	<u>UNITS</u>	<u>Required values.</u>	<u>Vendor to confirm</u>
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	10K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	1	
ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	


 Rajesh
 28.02.2022
 (Satbir Singh)
 Engineer (In-charge / CNC-Lab)

for Item No 5
 Ashu
 Ashu Singh Jaiswal
 Dg. Manager W&E (B/S)

for item
 Manoj B A T
 (W&E)
 BL-1, 2022

PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HEEP, BHEL HARIDWAR STORE.			

ITEM NO.06

ANNEXURE -POT/SINGLE TURN/5K/3W/2022			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 5K OHM, SINGLE TURN, 3W, AS PER ANNEXURE -POT/SINGLE TURN/5K/3W/2022			
SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	5K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	3	
ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HEEP, BHEL HARIDWAR STORE.			

ITEM NO.07

ANNEXURE -POT/SINGLE TURN/10K/3W/2022			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 10K OHM, SINGLE TURN, 3W, AS PER ANNEXURE -POT/SINGLE TURN/10K/3W/2022			
SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	1(single)	
TOTAL RESISTANCE	Ohms	10K	
EFFECTIVE ELECTRICAL ANGLE	degrees	greater than or equal to 270	
POWER RATING	watts	3	

*Must for item 7
(59/10/22)
B-12/2022*

*Approved
E4/W5P/Com/9/1K2*

*20.02.2022
(Satbir Singh)
Engineer (In-charge Lab)*

*for Item No. 6 & 7
Asst
Ashish Singh Jain
Dy Manager E&E B-56/8*

*for item 7
Dy Asst. Manager
Bharat Singh
Sr Eng, W&E/EM*

ROTATIONAL LIFE	nos.	10,000 shaft revolutions or more	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	6.35 +/- 0.5MM	
SHAFT LENGTH	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HECP, BHEL HARIDWAR STORE.			

ITEM NO.08

ANNEXURE -

POT/10TURN/5K/2W/2022

WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 5K OHM, 10TURN, 2W, AS PER ANNEXURE- POT/10TURN/5K/2W/2022

SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
MAKE & MODEL NO.			
TYPE		LINEAR, PRECISION TYPE	
ELECTRICAL CHARACTERISTICS			
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	10	
TOTAL RESISTANCE	Ohms	5K	
EFFECTIVE ELECTRICAL ANGLE	degrees	3600	
POWER RATING	watts	2	
ROTATIONAL LIFE	nos.	10,00,000 shaft revolutions	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT DIAMETER	MM	6.35 +/- 0.5MM	
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HECP, BHEL HARIDWAR STORE.			

Sgk
28.02.2022
(Sabbir Singh)
Engineer (W&E/C&C-2)

Q
7/2/2022
E/W&E/EM/91K-2

ITEM NO.09

ANNEXURE - POT/10TURN/10K/2W/2022			
WIRE WOUND LINEAR PRECISION TYPE PANEL MOUNTING POTENTIOMETER 10K OHM, 10TURN, 2W, AS PER ANNEXURE- POT/10TURN/10K/2W/2022			
SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
MAKE & MODEL NO.			
TYPE		LINEAR, PRECISION TYPE	
ELECTRICAL CHARACTERISTICS			
RESISTANCE ELEMENT		WIRE WOUND	
NO. OF TURNS	Nos.	10	
TOTAL RESISTANCE	Ohms	10K	
EFFECTIVE ELECTRICAL ANGLE	degrees	3600	
POWER RATING	watts	2	
ROTATIONAL LIFE	nos.	10,00,000 shaft revolutions	
CONSTRUCTION:-			
SHAFT(ROUND NO FLATTENING)		METALLIC	
MOUNTING HARDWARE TO BE PROVIDED		YES	
IP RATING		IP65	
TERMINALS		SOLDER LUGS	
DIMENSIONS			
SHAFT DIAMETER	MM	6.35 +/- 0.5MM	
SHAFT LENGTH (includes the shaft length inside threaded bush)	MM	BETWEEN 19 TO 25	
PANEL MOUNTING		YES	
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HECP, BHEL HARIDWAR STORE.			

ITEM NO.10

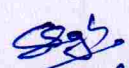
ANNEXURE -DIALS/10TURN/2022			
TURN COUNTING DIALS SUITABLE FOR PANEL MOUNTING POTENTIOMETER 10K OHM, 10TURN, SHAFT DIA = 6.35MM AS PER ANNEXURE- DIALS/10TURN/2022			
SPECIFICATIONS	UNITS	Required values.	Vendor to confirm
MAKE & MODEL NO.			
MAXIMUM NO. TURNS	Nos.	10 or more	
DIMENSIONS			
SHAFT DIAMETER OF POTENTIOMETER ON WHICH THE TURN COUNTING DIAL IS TO BE USED.	MM	6.35 +/- 0.5MM	

Manoj
for Item No-09 & 10
28.02.2022
(Sabbir Singh)
Engineer (WEX/CMC-LAB)

for Item-09, 10
Ashutosh Singh
DO Manager WEX B1-5, 6, 8

for item 9, 10
Prashant Sikkwal
So Eng., WEX/B2-3

VENDOR TO NOTE THAT APPROXIMATE SHEET WIDTH OF PANEL SHEET ON WHICH THE POTENTIOMETER IS TO BE MOUNTED.	MM	2MM	
SPECIAL CONDITION.			
THE TURN COUNTING DIAL SHOULD BE COMPATIBLE WITH THE PRODUCT OFFERED BY THE BIDDER AGAINST ITEM No. 9 OF THIS ENQUIRY.			
WARRANTY:			
VENDOR SHALL STAND WARRANTY FOR A PERIOD OF 1 YEAR FROM DATE OF MATERIAL RECEIPT AT HEEP, BHEL HARIDWAR STORE.			


 28.02.2022
 (Satbir Singh)
 Engineer (Tel. / Calc- Lab)

for item
 19810
 Money
 (EA, BL-1, 2, 3)
 (MANDI KR.)

GEM CATEGORY –POTENTIOMETER

BHEL MATCODE NO-HW8427240015

MOTORISED POTENTIOMETER WALL MOUNTING TYPE, 5K/2W, 10 TURN, FULL TRAVEL TIME 20-200SECONDS(VARIABLE), REMOTE UP/DOWN OPERATION, MANUAL CONTROL KNOB, SUPPLY VOLTAGE 220VAC/ 50HZ, MIN-MAX END POSITION LIMIT SWITCH WITH CHANGE OVER VOLT FREERELAY CONTACTS, ONE N/O CONTACT EACH FOR MIN-MAX INDICATION			
Serial No	Technical Description	BHEL Requirements	Vendor to confirm
1	Supply Voltage	230VAC, 50 Hz	
2	Potentiometer	5K Ohm, 2 Watt, 10 Turns, Shaft Dia 6 mm, Tolerance +/- 5%, Linearity +/- 0.25%	
3	Travel Time for 10 Turns	20-200 sec.	
4	Manual Operation	Manual control Knob on front panel with 10 turns dial indicator	
5	Additional contact switch terminal for external use	a-2A/230VAC Contact rating potential free change over contact for maximum & minimum position. b-Normally open (NO) contacts each for indication of "Minimum" & "Maximum" position.	
6	Mounting type	Wall mounting type with 4 screw mounting.	

Buchant Sikhuwal
Buchant Sikhuwal
Sr Engineer, WEX/EM-Turb