



Cambridge Instruments
& Engg. Co.

EST. 1963 · HOWRAH, INDIA

MAINTENANCE CHECKLIST

LV Panel Preventive Maintenance

Visual, mechanical, connections and switching devices · with the electrical tests recorded on page 2

01 Panel details

Customer / site		Date	Panel ID / location
Make and type		Rated voltage (V)	Busbar rating (A)
Fault level (kA)	Year of installation	Last maintenance date	Maintained by

02 Checklist

tick one box on every line. Use Action for anything left for a follow-up and say what in the notes column

Check	Status	Notes
A. Before work (panel isolated, proved dead, earthed, permit in place)		
Permit to work and isolation recorded; lock-off applied	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Panel drawings and last report to hand; previous findings reviewed	☐ OK ☐ Fixed ☐ Action ☐ N/A	
B. Visual and mechanical		
Enclosure, doors, gaskets and locks intact; no water, dust or pests	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Busbars, supports and insulators clean; no tracking, burns or discoloration	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Cable entries sealed; no loose or hanging cables	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Labels, single-line diagram and danger notices present and readable	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Indicating lamps and meters working	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Ventilation fans and filters clean and working	☐ OK ☐ Fixed ☐ Action ☐ N/A	
C. Connections		
Bolted busbar and cable lugs checked for tightness (torque per maker)	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Control wiring terminals tight, no overheating marks	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Earth bar bonded to the panel body and to the main earth	☐ OK ☐ Fixed ☐ Action ☐ N/A	
D. Switching devices		
Breaker and contactor operation: close, open, trip tested	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Contacts and arc chutes inspected; worn parts replaced	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Mechanism cleaned and lubricated as per the maker	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Overload and earth fault relays tested at the set values	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Interlocks and shutters checked	☐ OK ☐ Fixed ☐ Action ☐ N/A	
E. Tests recorded on page 2		
Insulation resistance of the busbar	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Contact resistance of main joints and breaker contacts	☐ OK ☐ Fixed ☐ Action ☐ N/A	
Earth continuity and earth pit resistance	☐ OK ☐ Fixed ☐ Action ☐ N/A	



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TEST RECORD

Panel electrical tests

Readings that go with the checklist · compare with the last maintenance report

01 Instruments used

Insulation tester, serial no.

Test voltage (V DC)

Calibration due

Micro-ohm meter, serial no.

Test current (A)

Calibration due

02 Insulation resistance

MΩ, busbars isolated from the incoming supply and from all connected equipment

Test	Reading MΩ	Previous MΩ	Minimum MΩ	Result
R to Y				☐ Pass ☐ Fail
Y to B				☐ Pass ☐ Fail
B to R				☐ Pass ☐ Fail
R to earth				☐ Pass ☐ Fail
Y to earth				☐ Pass ☐ Fail
B to earth				☐ Pass ☐ Fail
N to earth				☐ Pass ☐ Fail
R + Y + B to N				☐ Pass ☐ Fail

03 Contact and joint resistance

μΩ. Same current each time, and the same points as last time

Joint or contact	R phase	Y phase	B phase	Previous worst	Result
					☐ Pass ☐ Fail
					☐ Pass ☐ Fail
					☐ Pass ☐ Fail
					☐ Pass ☐ Fail
					☐ Pass ☐ Fail
					☐ Pass ☐ Fail

Compare phases against each other and against the last test. A joint that is more than about 1.5 to 2 times its neighbours, or that has risen since the last test, needs to be opened, cleaned and re-tightened. These multipliers are practical guides: use the maker's limit if one is given. Breaker main-contact tests normally need a test current of 100 A or more: a low-current meter suits lugs, joints and small contacts.

04 Earthing

Item	Reading Ω	Limit Ω	Result
Panel body to earth bar continuity			☐ Pass ☐ Fail
Earth pit resistance (pit no. _____)			☐ Pass ☐ Fail
Earth pit resistance (pit no. _____)			☐ Pass ☐ Fail

05 Result and sign-off

Panel returned to service

☐ Yes ☐ With actions ☐ No

Next maintenance due

Actions outstanding

Signature and date: engineer

Signature and date: customer / reviewer

CIE INSTRUMENTS FOR THIS TEST

DIT-2500

Digital insulation tester, 100 to 2500 V

MR-253A

Bench micro-ohm meter, low-current, for lugs and joints

DET-2000

Digital earth resistance tester for the earth pit



See the test instruments

Scan for CIE digital earth and micro-ohm instruments.
cieinstruments.in/products



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Page 2 of 2 · Calculation aid, not a substitute for the standard or your site procedure

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