



Record of Continuity and Insulation Resistance Test

This **Record Of Continuity and Insulation Resistance Test** form shall be used for the reporting on the condition of **Final Circuit Wiring** for **New Installation** prior to the installation of switches, sockets, electrical accessories, fittings and DB.

A. PARTICULARS OF THE INSTALLATION <i>[Please tick (✓) the relevant boxes]</i>	
Project Name	
Drawing No./Installation Address	
Block No./Floor	
DB Designation	<input type="checkbox"/> Single phase, Phase <input type="checkbox"/> R <input type="checkbox"/> Y <input type="checkbox"/> B <input type="checkbox"/> Three phase
System of Wiring	<input type="checkbox"/> 'loop-in' system <input type="checkbox"/> 'tee' system

B. TEST INSTRUMENT USED				
Instrument	Brand	Model No.	Serial No.	Calibration Date
Insulation & Continuity Tester				
Insulation Tester				

C. TEST RESULTS <i>(Please X where not applicable. Please refer to Page 2 for notes and test procedures)</i>													
Circuit No.		1	2	3	4	5	6	7	8	9	10	11	12
Type of Wiring [see note 2]													
Circuit Reference [see note 3]													
Numbers of Points													
T Y P E O F C I R C U I T	RADIAL CIRCUITS	Phase (mm ²)											
		CPC (mm ²)											
		Neutral & CPC, or (ohms)											
			Phase & CPC (ohms)										
			(R1+R2)										
		Confirmation of CPC in a radial circuit is continuous (Mark Y for yes and N for no)											
	RING FINAL CIRCUITS	Phase (ohms)											
		Neutral (ohms)											
		CPC (ohms)											
	Confirmation of Ring final Circuit Is Wired In A Ring	Phase & Neutral (ohms)											
Phase & CPC (ohms)													
Mark Y for yes and N for no													
INSULATION RESISTANCE	Phase to Neutral (L - N) (Mohms)												
	Phase to CPC (L - E) (Mohms)												
	Neutral to CPC (N - E) (Mohms)												
	Phase & Neutral to G.I Conduit/Trunking (Mohms)												

D. INSULATION TEST VOLTAGE = Volts (d.c)	E. REMARKS (If Any)

F. PENGAKUAN ORANG KOMPETEN (BAGI PIHAK KONTRAKTOR ELEKTRIK)	G. PENGESAHAN JABATAN
Diuji Oleh: (Nama Pendawai) Tandatangan: No. Kekompetenan: Tarikh Ujian: Nama & Cop Kontraktor:	Disaksi Oleh: (Nama) Tandatangan: Jawatan: Tarikh:

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A. NOTES

- 1 FORM NO: JKR.C&I is for **single phase** points in a single phase DB or three phase DB
FORM NO: JKR.IR & C is for **three phase** points and **submain cables**

2	CODES FOR TYPE OF WIRING							
	A	B	C	D	E	F	G	H (Others - please state)
	PVC Cables in surface GI conduit	PVC Cables in surface UPVC conduit	PVC Cables in concealed GI conduit	PVC Cables in concealed UPVC conduit	PVC Cables in trunking	PVC/PVC Cables	Fire Resistance Cables	
3	CIRCUIT REFERENCE							
	L	S/Rg	S/Rd	A/C	W/H	K & E	S	Others - (Please state)
	Lighting	Socket - Ring Cct	Socket - Radial Cct	Air Cond.	Water Heater	Keluar Sign EL	Spare	

B. TEST PROCEDURES

It should be noted that the continuity and insulation resistance tests for lighting circuit describe below can only be applied to a 'loop-in' wiring system only

1.0 CONTINUITY OF CPC IN LIGHTING CIRCUIT

1.10 Test method 1 (CPC conductor terminated at the last point of the circuit and using the neutral conductor as a return lead)

- 1.11 Connect the neutral conductor to the CPC conductor at the last point of the circuit under test.
- 1.12 Test between neutral and earth of the circuit at the DB
- 1.13 Record the test result obtained.
- 1.14 The readings should be compared with the "Resistance of copper conductors" table for a particular length and size.
- 1.15 See **Fig. 1a** for Test method connections.

1.20 Test method 2 (CPC terminated at the switch panel and using the phase conductor as a return lead)

- 1.21 Connect the phase conductor (phase wire) to the CPC conductor at the switch panel
- 1.22 Test between the phase and earth of the circuit at the DB
- 1.23 Record the test result obtained.
- 1.24 The readings should be compared with the "Resistance of copper conductors" table for a particular length and size.
- 1.25 See **Fig. 1b** for Test method connections.

2.0 CONTINUITY OF RING FINAL CIRCUIT CONDUCTORS

- 2.10 The phase, neutral and CPC conductors are identified and the end-to-end resistance of each conductor is measured separately. Record the resistance readings.
- 2.20 A finite reading confirms that there is continuity on the ring conductors under test
- 2.30 See **Fig 2** for Test method connections

3.0 CONFIRMATION OF RING FINAL CIRCUIT IS WIRED IN A RING (4 ends joined method)

3.10 Phase and neutral conductors cross-connected

- 3.11 Connect the outgoing phase (P1) conductor to the returning neutral (N2) conductor. (P1 to N2)
- 3.12 Connect the returning phase (P2) conductor to the outgoing neutral (N1) conductor. (P2 to N1)
- 3.13 Measure the resistance across (P1 to N2) and (P2 to N1) and record the reading
- 3.14 Measure the resistance at each socket on the ring between phase & neutral
- 3.15 If the readings obtained from those Sockets wired into the ring are all the same and equal to the resistance across (P1 to N2) and (P2 to N1) then the ring final circuit is confirmed.
- 3.16 If the readings are different, this will indicate the presence of a bridge or maybe due to incorrect connections of the ends of the ring.
- 3.17 If they are connected P1 to N1 and P2 to N2 then the readings will increase or decrease as successive measurements round the ring are taken.
- 3.18 See **Fig 3a** for Test method connections

3.20 Phase and CPC conductors cross-connected.

- 3.20 The above step is then repeated but with the phase and CPC conductor cross-connected.
- 3.21 See **Fig 3b** for Test method connections

4.0 INSULATION RESISTANCE IN LIGHTING CIRCUIT

- 4.1 A d.c voltage not less than twice (2x) the nominal voltage of the circuit concerned (r.m.s value for an a.c supply) shall be applied for the measurement of insulation resistance, provided that the test voltage need not exceed 500 V d.c for installations rated up to 500V.
- 4.2 **Test method 1 (CPC conductor terminated at the last point of the circuit)**
 - 4.21 Test between the phase (join together all phase conductors at the switch panel) and the neutral at the DB
 - 4.22 Repeat the test for phase to CPC
 - 4.23 Test between the neutral and the CPC at the DB
 - 4.24 Resistance readings should be not less than 2MΩ (for circuits tested individually)
 - 4.25 See **Fig. 4a** for Test method connections
- 4.3 **Test method 2 (CPC terminated at the switch panel)**
 - 4.31 Repeat step 4.21 to 4.23
 - 4.32 See **Fig. 4b** for Test method connections