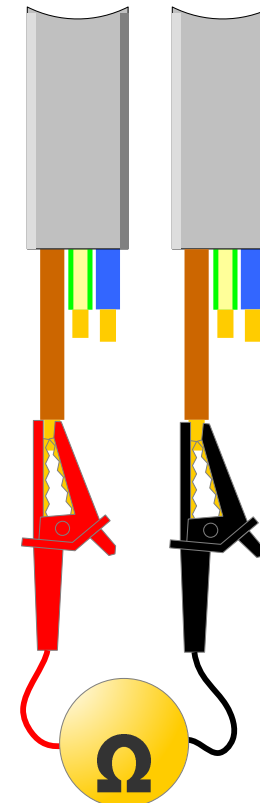


Continuity of Ring Final Circuit Conductors

www.electricalexams.co.uk

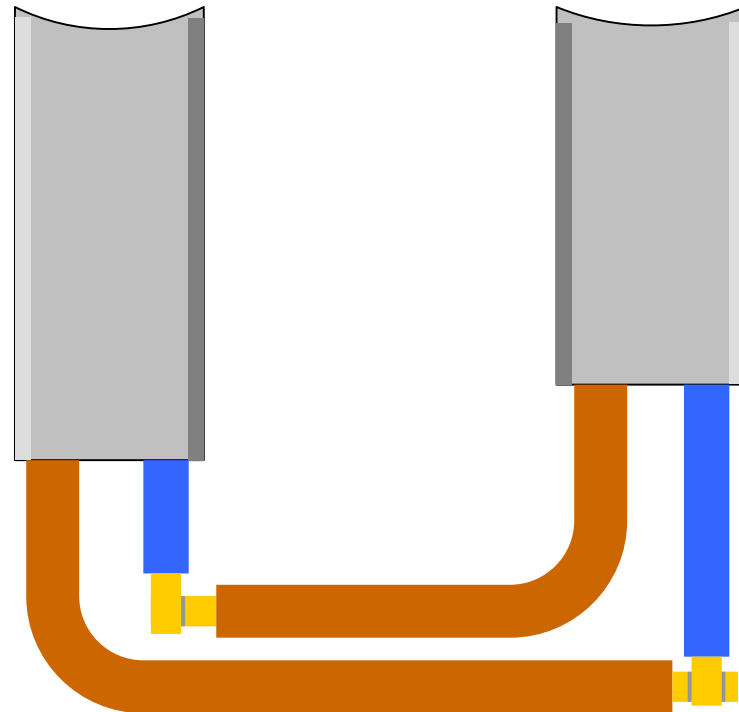
Step 1 - Initial Check for Continuity

- Check between each end in turn
 - L to L
 - N to N
 - CPC to CPC
- Note results as
 - r1 - Line
 - r2 - CPC
 - rn - Neutral



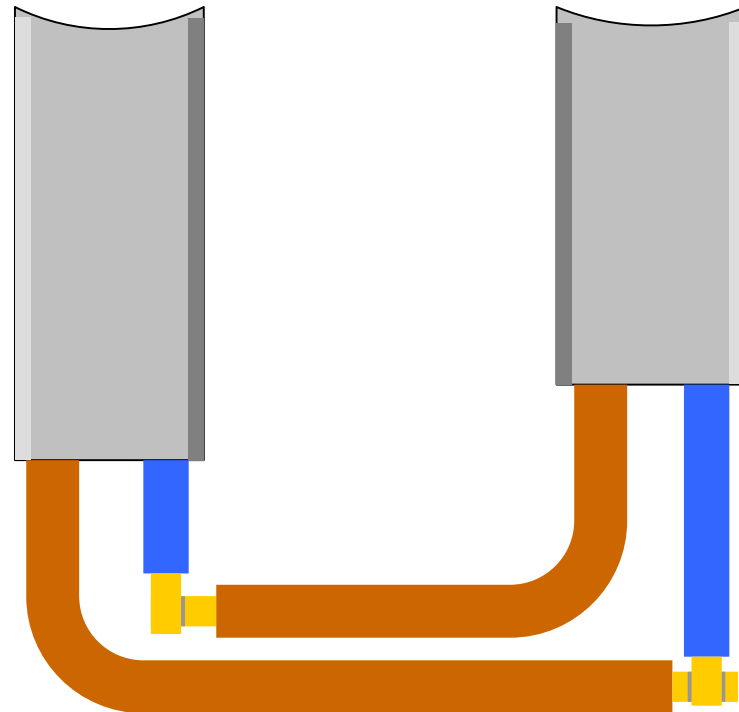
Step 2 - Cross Connect Line and Neutral

- In the consumer unit cross the outgoing L to the incoming N and vice versa
- Measure between **L** and **N** at each socket outlet



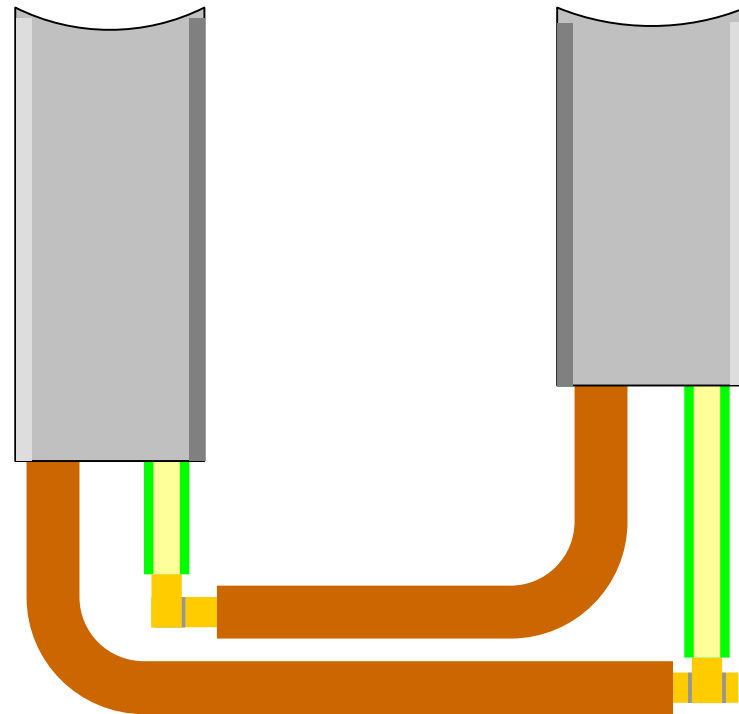
Step 3 - Cross Connect Line and Neutral

- Values should be the same at each socket
- Value should be $(r1+rn)/4$



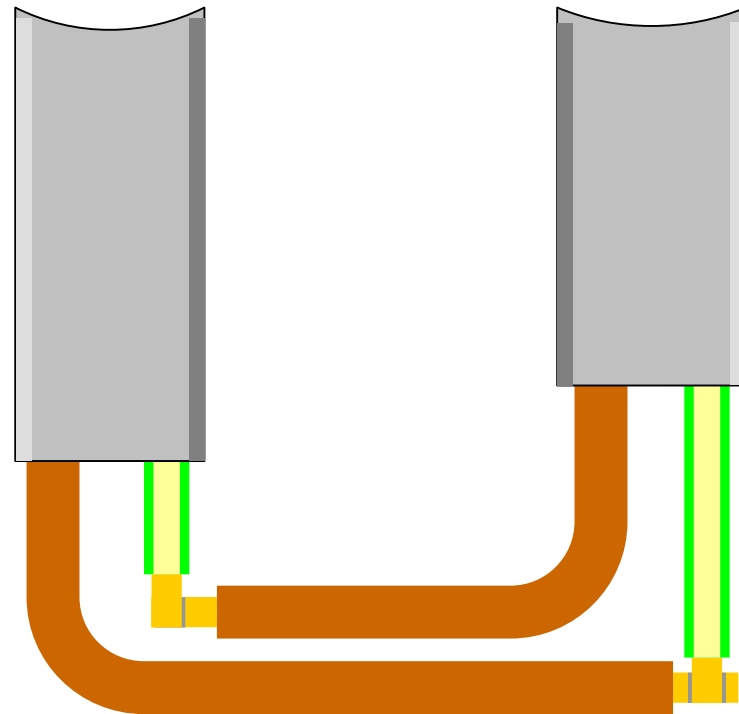
Cross Connect Line and CPC

- In the consumer unit cross the outgoing L to the incoming CPC and vice versa
- Measure between **L** and **CPC** at each socket outlet



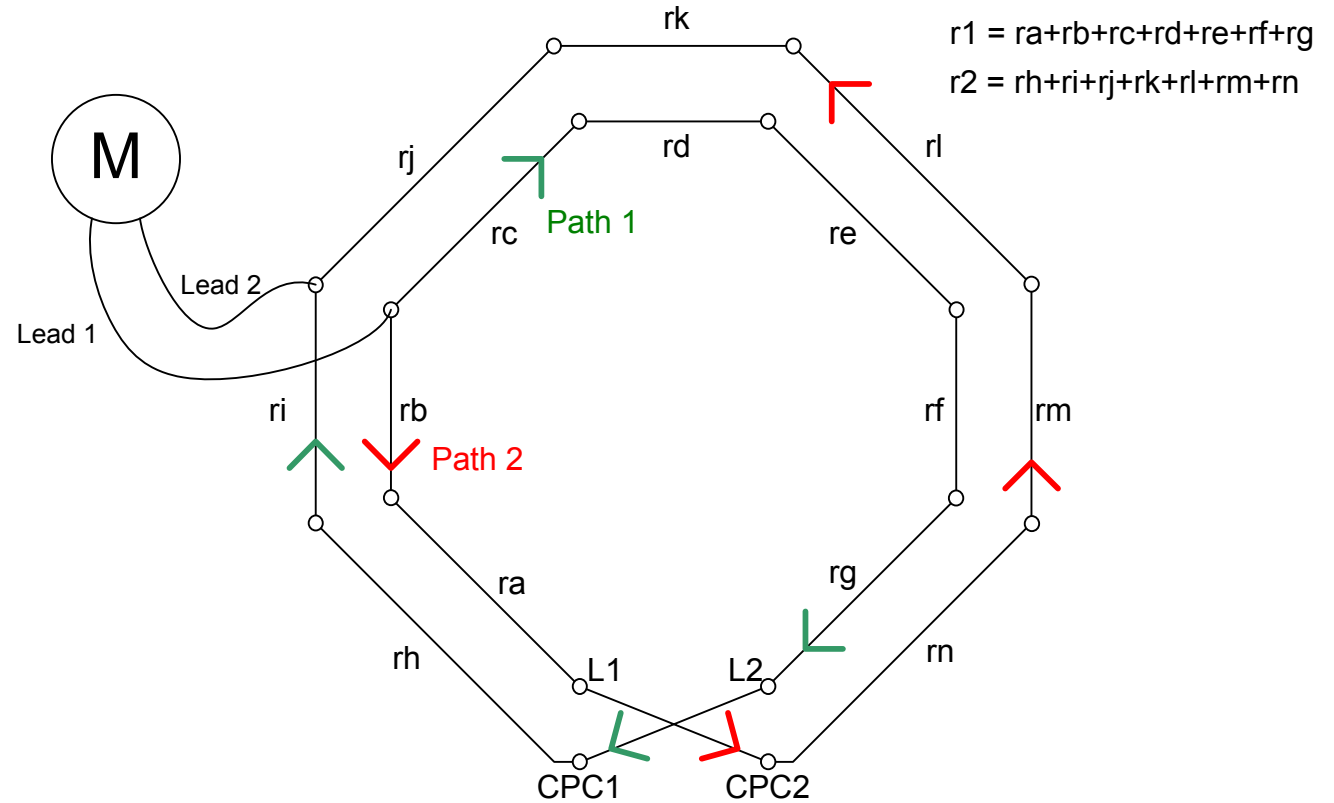
Cross Connect Line and CPC

- Values should be the same at each socket
- Value should be $(r1+r2)/4$
- Value is recorded as $R1+R2$ on the schedule of test results



Why is it $(r1+r2)/4$?

- Cross connecting the opposing Lines and CPCs creates a perfect resistive circle
- Follow the paths through yourself

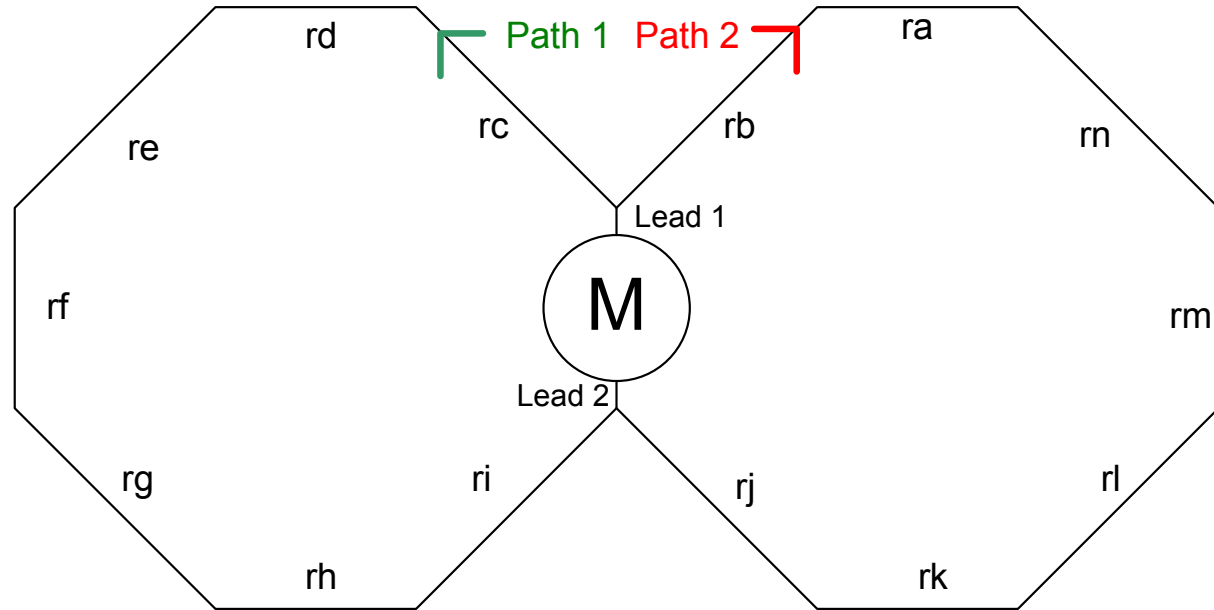


Lead 1 to lead 2 path 1 route = $r_c + r_d + r_e + r_f + r_g + r_h + r_i$

Lead 1 to lead 2 path 2 route = $r_b + r_a + r_n + r_m + r_l + r_k + r_j$

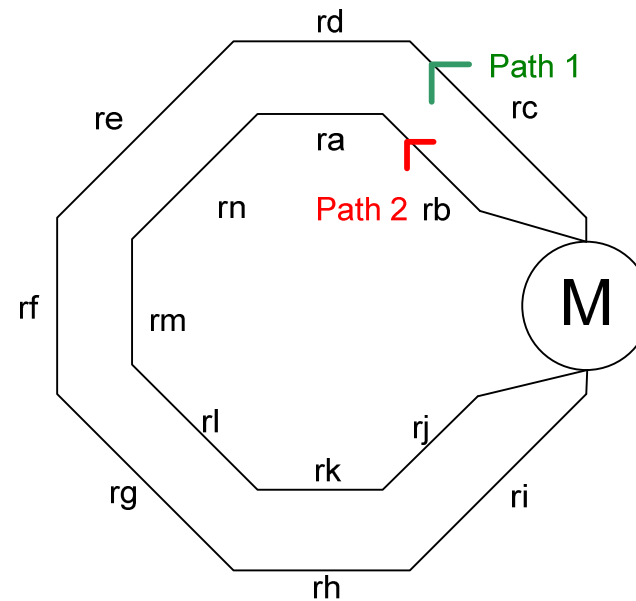
Why is it $(r1+r2)/4$?

- Flatten the previous diagram
- Placing the tester at any socket outlet (across L and CPC) in this circle forms a mid point of that circle



Why is it $(r1+r2)/4$?

- If we folded the previous drawing over we would get the drawing on the right



Why is it $(r_1+r_2)/4$?

- Which when drawn up as a circuit diagram shows that the 2 resistances are in parallel

