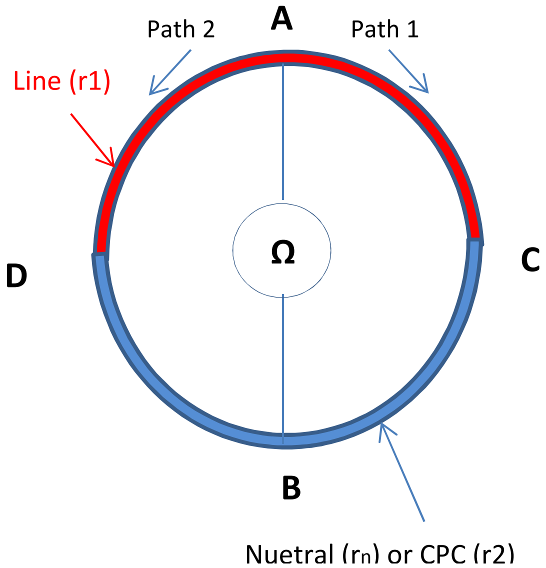

Assuming 2.5mm^2 and 1.5 mm^2 T & E

Measuring across AB

Path 1 = ACB = r1/2 + r2/2
Path 2 = ADB =r1/2 + r2/2

Parallel paths 1/R = 1/Path1 +1/Path 2
= 1/ (r1/2 + r2/2) + 1/ (r1/2 + r2/2)
simplifies to R = (r1+ r2)/4

<u>This formula only works when the Line and Neutral have the same CSA (as will be the case with T&E).</u>

An example for a 40m ring - if r1 = 0.296 Ω and rn= 0.296Ω then parallel paths - 1/R = 1/r1 + 1/ rn gives 0.148Ω and so does (r1+ r2)/4.

Turning to the CPC loop (again 40m) - if r1 = 0.296Ω we would expect r2 to be 0.494Ω (1.67 higher in T&E)

Parallel paths gives 1/R = 1/0.296 + 1/0.494, simplifies to R = 0.185Ω but (r1+ r2)/4 gives 0.198Ω and in the real world this would be an acceptable discrepancy.