FINDING REVERSE POLARITY ON A RING

WHICH STEP FINDS A REVERSED SOCKET?

The most useful thing here, because it explains **why there are three steps and not two**. First, the definition, stated plainly:

> `A line conductor in a neutral terminal is reverse polarity`

Now take one socket on the ring with its browns and blues swapped at its terminals — both blues in the line terminal, both browns in the neutral, the cpc correct — and run the tests:

TEST	WHAT HAPPENS	DETECTED?
Step 2 · line to neutral	That socket reads **the same as every other** — line and neutral are cross-connected together, so swapping them at the socket changes nothing	**No**
Step 3 · line to cpc	**Open circuit** at that socket — its line pin is sitting on the neutral, which is not connected in this test	**Yes**

Why step 3 catches it.

Your plug-in adapter puts one lead on the line pin and one on the cpc pin. At the reversed socket the line pin is connected to the neutral conductors, and in step 3 the neutral is not cross-connected to anything — so that one socket reads open circuit while the others read normally.

A whole cable swapped is different.

If one length of cable between two sockets has its brown and blue swapped, the line conductor is no longer continuous end to end — it shows up as an open circuit at step 1.

✋ **The one step 2 does catch.** If the **cpc** has been put into a line or neutral terminal, step 2 gives you **no reading** at that socket — because the cpc is blocking the loop you are trying to measure. It is only a straight brown-and-blue swap, with the cpc correctly in the middle, that step 2 misses.

When you find one.

A reverse polarity fault found while testing is **identified and recorded** — finding and recording it is the test's job.

Try it on a practice board.
Worth trying: wire three sockets on a ring, deliberately reverse the browns and blues at one socket, then run steps 1, 2 and 3 and watch what each one does.

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