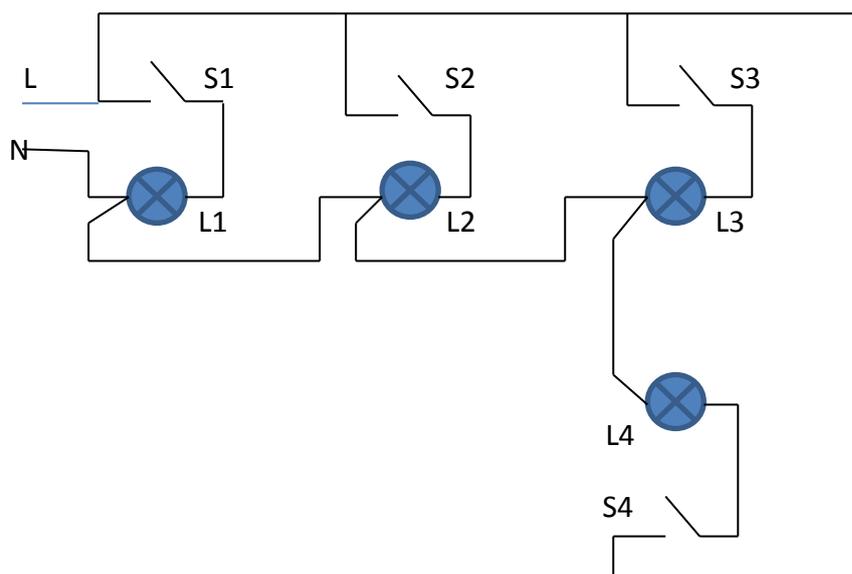


Fault Finding Domestic Installation

You would have noticed that up to this point we have focussed on Industrial Installation. This time I will change that a little and do a post on a domestic installation and typical faults you would come across. Even though you will no doubt be able to find the faults, let's have a look at some common issues.

We will start with a lighting circuit. The installation will be made up of two or more light circuits which means that for each circuit, we will loop from one lighting point to the next. In order to understand how this is done, we will look at a very basic sketch:



You have 4 lights on this circuit. The Active conductor loops from one switch to the next while the Neutral conductor loops from one light to the next. You get called to the installation and the fault you need to look at is Lights 3 & 4. They have changed the globes but the lights still does not work. Where do you start?

Rule of thumb for me, I will start at Light 2. You will most likely find that the Neutral conductor has been broken here and as such both Lights 3 and 4 has no Neutral to it, or you have lost the Active connection at the switch of S2.

After ensuring your circuit is locked and tagged, remove the light fitting at Light 2 and check all connections. Do the same with S2. Remember, this is the point at which we start and then work progressively to the end of the circuit. You could well have started from the first point of the circuit and worked your way through it but why start at the section that is still working?

Now on a point of safety. Please be very careful with the neutral conductor. You may have heard that people will tell you it is safe to touch the neutral even when power is on right? That may be true but this is where it can cause serious injury. Should you have two neutrals

joined through and you happen to break the joint, the whole scenario changes. If you happen to touch one at a time, nothing happens. Should you touch both at the same time, the neutral connection is completed through you with very serious results! PLEASE, be careful of the Neutral Conductor. Once that circuit is completed through you, you may not be able to let go of it. I simply can't stress this enough, we know not to work on a live circuit but people still go ahead and do it. The other point to bear in mind is that you may not have wired the circuit so you have no idea how the Neutral is looped. You may have turned the circuit breaker off on the circuit you are working on but can you be sure that the Neutral is connected only to that circuit? What if the person had looped the neutral onto another circuit that is still live?

Can you see what my concern is? If you take the joint apart, the Neutral becomes very dangerous if there is still load being drawn by something else on that line. So, how do we know what to do? **Never** Touch Both Conductors at the same time. I know I am hampering on about this but it is crucial for your safety when you are doing fault finding on any electrical circuit.

That brings us to the end of this post. We will look at some other circuits in the next one so till then, Think Safety First.....ALWAYS!