

DISRUPTION AND CONVERGENCE IS THE CERTAINTY OF OUR AGE

No one can afford to stand still anymore as there is one certainty in commercial life something will come along and disrupt the status quo.

This could not be more true than in the technology that is being consumed in the home. When you built a home 15 or 20 years ago life was simple. The technology in the home was lights and power all running off 240 Volts AC. One or more telephone lines with one or more telephone points to which one connected an answering machine, fax and modem and behind the modem you might even have a computer. In some cases, the home would have a back to base security system for intrusion prevention. Add to this a television aerial and a few antenna outlets.

Today a home has:

- Communication which is high speed networking be it wireless or wired and in many cases both allowing access to telephony service as well as a plethora of internet services
- Entertainment which is distributed video, audio to many or all rooms

in the home where content can be viewed on televisions connected to free to air antenna, pay TV outlets and the internet or just streamed to a laptop, tablet or mobile phone

- Security and access control fire detection can be incorporated into a system which can be externally monitored
- Home automation where anything can be remotely controlled be it opening blinds, locking the front door, warming the spa - it just keeps on going.

So at this point you are no longer bringing the cable to the project yourself, you are getting delivered in truckloads. You are star wiring power points, light fittings, broadcast outlets, network outlets, wireless access points, smoke detectors, movement sensors and the list goes on.

In come solar power or other forms of local power generation and storage and this raises new questions, should the home be AC or DC, what voltage should the DC distribution system be? These types of questions also come from the end device side, the appliance, the consumer electronic device.

Most of the appliances and consumer electronic devices as well as LED lights

all work on DC and in most cases 24V DC. In fact, what we have are many AC to DC converters, see Figure 1. In addition, most of the local generation system generate DC and storage system are primarily DC. If you think this sounds a bit like deja vu it's because Nikola Tesla and Thomas Edison had this debate about two centuries ago, but in those days the technology was just lights with a small 's' and power. What is interesting is the telecommunications industry has been using DC in its installations since the beginning. In fact the system work on 48V DC and all equipment racks are supplied by DC from an uninterrupted power supply so all essential equipment continues to function during a mains power failure. Given that most of the equipment in a telephone exchange, or communications cabinet is essential for the communications and it only needs 48V dc it makes sense to use DC distribution.

In fact, these questions are already being investigated in significantly more details. What is being proposed is to change the power distribution in commercial and residential premises to a hybrid system of low voltage dc, 380V dc and 24V dc. This would cover the majority of the technologies in the home.

On top of all this add each device into the mix that is individually addressed so that there is no need to have all cabling in a star wired structure but we may be able to go back to a data bus. There are light globes in the market today that are individually addressed so you can control the light on or off and the light intensity, the colour and warmth. These globes are currently available for the traditional AC lighting circuits but it is not far before they are ELV and form part of a communications system.

So this disruption can be seen as a crisis or an opportunity. It may seem easier to install but the challenge will be managing the technology so the consumer gets what they want. So don't miss out on engaging in continuous professional development and take advantage of the technology.

Ian Millner

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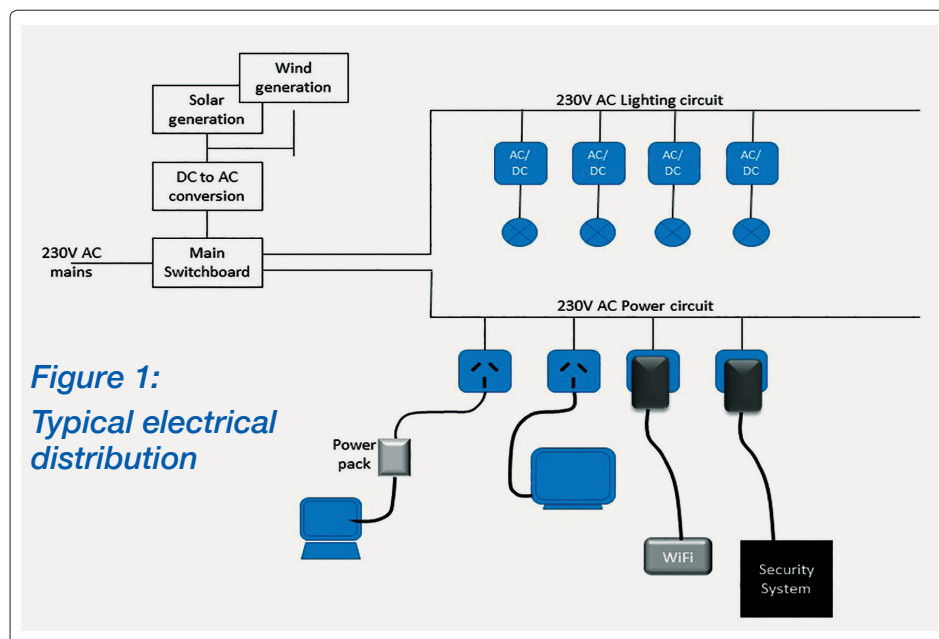


Figure 1:
Typical electrical distribution