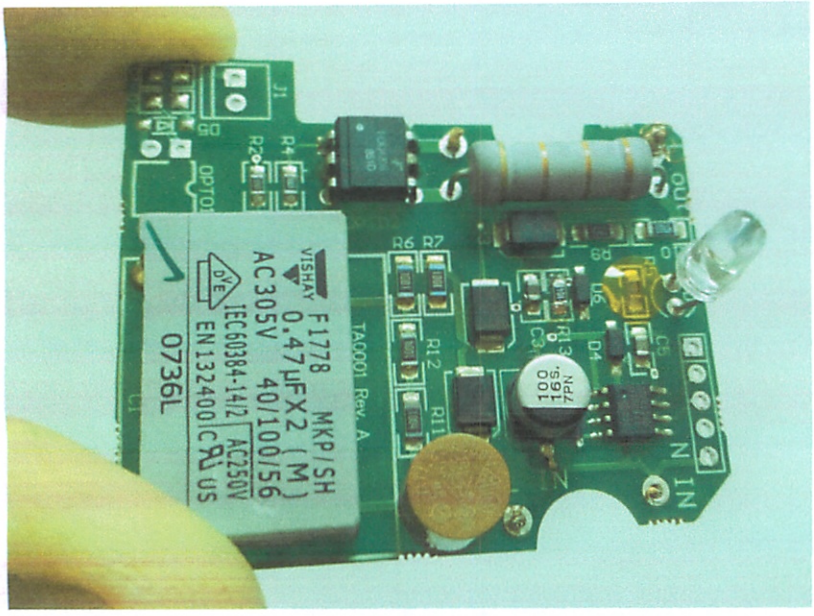
TRIP ADVISORS



Graham Chilvers, inventor of TripActivator, explains why tripping an RCD in the event of a potential fire could save thousands of lives in the future.

In the UK, the fire brigade attends approximately 1,000 domestic fires a week. There are also countless unreported fires. Approximately 50% of these fires are caused by cookers and an increasing 15% by appliances, such as driers, fridges, TVs and phone chargers. Exeter City had five fires in one day!

Over time it's clear that fires follow the same basic pattern. Usually an unattended appliance starts to overheat and generates fumes and smoke, which triggers the smoke alarms. Residents will panic and run out, before the fire brigade arrives 10-20 minutes later to put the fire out. In most cases the buildings and contents are significantly damaged and occupants distressed, but recent events have shown that fires can have far worse consequences.

Is there a solution?

In my opinion, there is a simple solution that could stop the story unfolding this way in the future: when the smoke alarm goes off, automatically turn the appliances off, ensuring a potentially dangerous situation never develops past the smoking stage. It's that simple!

To progress this idea further, we've designed a device called a 'TripActivator' (TA), whose function is simple: once the smoke alarm has been sounding continuously for 30 seconds, the TA creates an earth leakage across the RCD, causing it to trip out.

The 30 second delay is to give occupants the opportunity to cancel the smoke alarm, before the TA cuts the power.

Because the RCD is switching the load, the TA's electronics are inexpensive. The RCD/RCBOs are arranged in the consumer unit so the appliance circuits are tripped independently of the lighting circuits.

Patent progress

The TA's patents were completed at the time of the Lakanal Tower Block fire, which was caused by a TV catching fire, resulting in the death of six people. At the time we sent a DVD of the TA to Camberwell Council explaining how a low cost TA could have prevented that fire.

We were then invited to the Investigation Department of the London Fire Brigade to give them a demonstration. Our aim was to seek their support for the principle and we felt the presentation was well received by them. However, no support was offered and we couldn't get any further interest from Camberwell Council.

With cooker fires being such a huge worldwide problem and various large companies across the EU working on different devices, Cenelec – the EU organisation for Electrical Standards – decided there should be a standard for such devices. My company was put forward by Sir Eric Pickles MP as the UK Technical Representative and, at our first of many meetings in Milan, various devices were presented by some of the EU's biggest companies.

In my opinion, these were all too complicated and most were very expensive. We presented the TA with a circuit board costing under £4 and it proved to be the only device that would stop cooker fires and also ensure all electrical appliances don't catch fire.

In the meantime the University of Maryland, USA published its findings on the time delay between a smoke detector detecting an overheating cooker and the cooker self-combusting. This was proved to be around eight minutes and gives ample time to automatically turn the cooker off and prevent the fire.

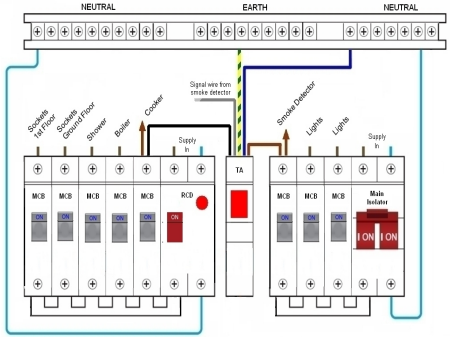
How will it work?

At best, and typically in a new build, the TA would cost around £30 each and would take the same time as a normal trip to install. At worst, an installation would require additional RCDs and radio-linked smoke alarms.

Grenfell Tower had an £8.7m refurbishment in 2016. Depending on the existing fire alarms and RCD layout, the whole of the building could've had TA protection for £10K to £30K with little disruption – a precaution that could have prevented the refrigerator fire that's reported to be the cause of the incident.

At the moment we seem to have a mind-set which is limited to sounding alarms and containing a fire. Our alarms get better, we have better ways to contain the fire, but are we ignoring the fact that it makes a huge amount of sense to cut a swath through the number of fires starting, by automatically stopping them at the smoking stage? The cost is so low that it seems like an almost inevitable product.

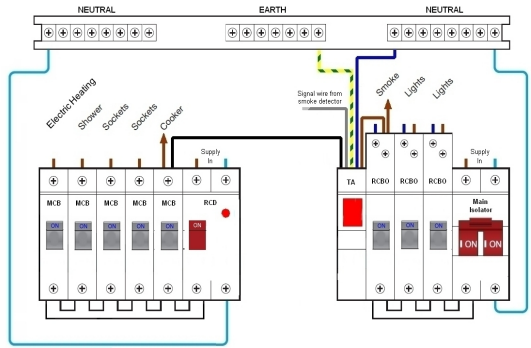
Tragedies do happen, but it has been proven that automatically turning the power OFF in the event of a potential fire would be a huge, cost-effective improvement in fire safety. I hope that the electrical and fire sectors embrace this concept further.



TripActivator Hardwired in for Reg 16 and earlier

The Smoke Alarm via the TripActivator will cut the all power except to the lights

(TripActivator.com For illustration purposes only. Generic Consumer Unit and Trips Shown)



TripActivator Hardwired in for Reg 17 Option 2

The Smoke Alarm via the TripActivator will cut the all power except to the lights

(TripActivator.com For illustration purposes only. Generic Consumer Unit and Trips Shown)

TripActivator is currently searching for partner companies. If you're interested in finding out more email: mail@TripActivator.com, visit: www.TripActivator.com or circle readerlink 222