

Cook top – what can be done to reduce the number of fires?



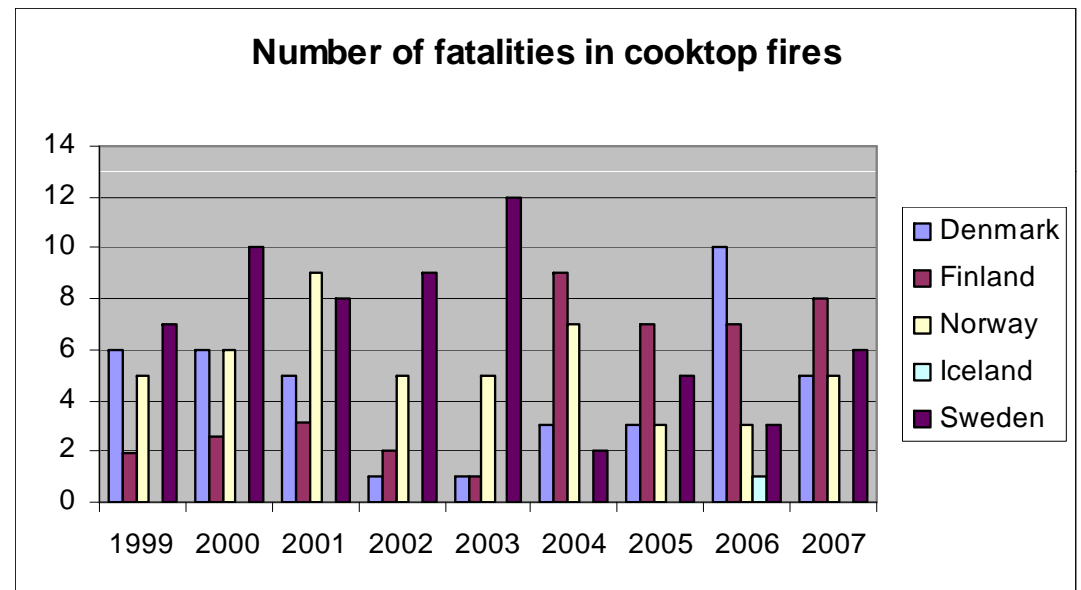
LVD-ADCO, Luxembourg
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on behalf of NSS
2009-03-11

Introduction

- *During a number of years the Nordic Authorities has raised the issue of fires starting from the use of cook tops.*
- *Sweden pushed to get a mandate, but we agreed to try to solve the problem within the standardisation committee.*
- *Unfortunately some industrial organisations – in particular CECED – has spend a lot of time and money to prove that it is not possible to do anything.*
- *In CENELEC/TC 61/WG 4 the situation is similar – no real progress.*
- *Therefore representatives from the Nordic Authorities met in Tønsberg, Norway last Friday to discuss the way forward*



Why care about cook top fires??

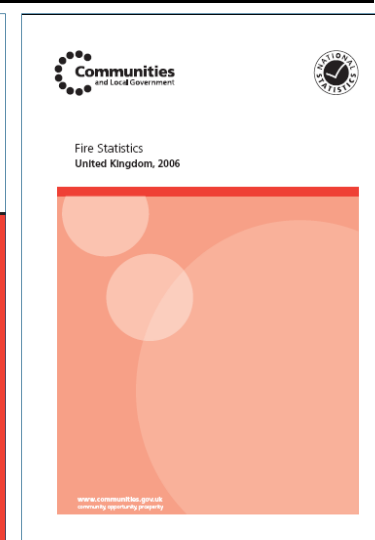
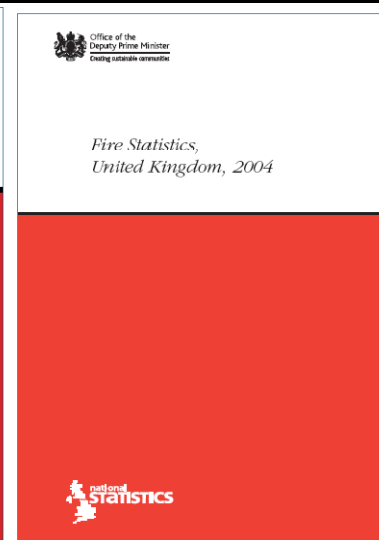
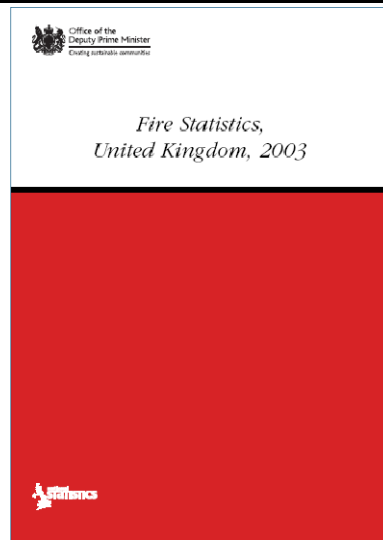


- Cook top fires are number one when it comes to domestic fires resulting in fatalities*

It is not only a Nordic problem..

UK Statistic: Accidental fires in Dwellings by source of ignition and cause

Year	Total dwelling fires	Electrical cookers	Gass cookers
2003	49.266	18.384	6.707
2004	47.769	17.748	6.424
2006	45.679	16.162	5.942



The way forward

- *We acknowledge the studies made by CECED, showing it is difficult to establish a total safe solution if you will continue to be able to cook!*
- *We do however NOT accept that nothing at all can be done to reduce the number of approx 1 person/mio is killed every year because of a cook top fire, and approx 1/3 of the domestic fires are caused by use of cook tops.*
- *We therefore have tried to find a solution that*
 - 1. Is flexible (allows a different safety level if needed)*
 - 2. Is cheap*
 - 3. Is independent of what type of cook top is used*

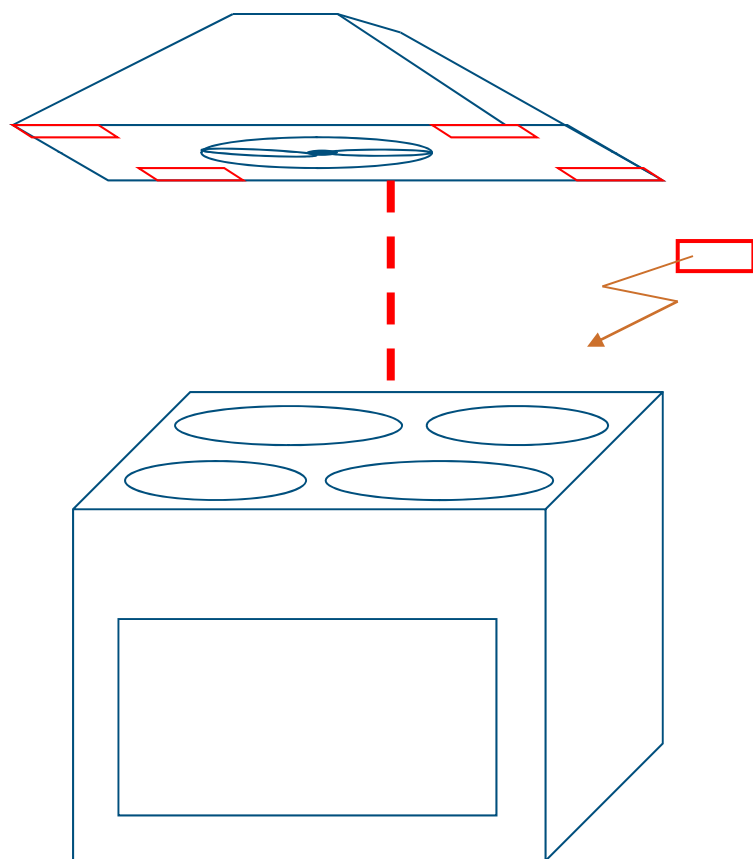


A modular approach

- *We look at the workspace around a cook top as a system*
- *Additional requirement for a cook top is that the power can be switched off by an external device!*
- *The external device can be a smoke detector or a heat detector in the form of a thermometer or Infra red detector or a combination of the two.*
- *The external devices can be separate for wall mounting (or similar) or they can be build-in in the range hood.*



The system...

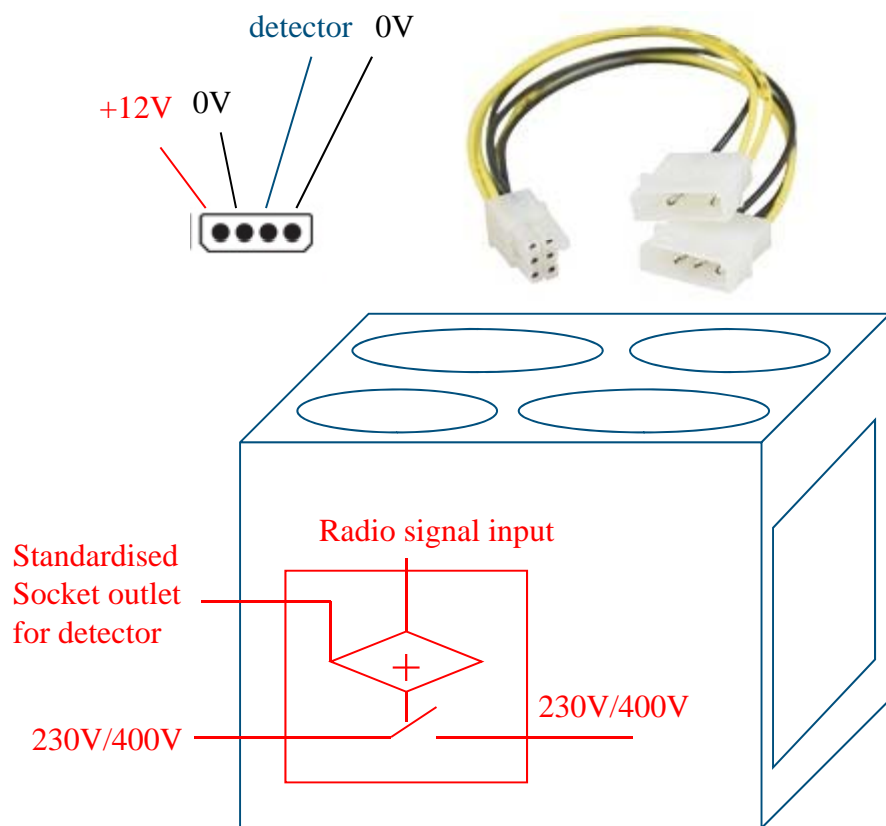


The eventually external alarm systems can either be connected via wire or use short range radio communication.

The designer of the external system is free to use (or not) the 12V supply from either the range hood or the cook top. He is also free to use the connector output or use short range radio communication only.



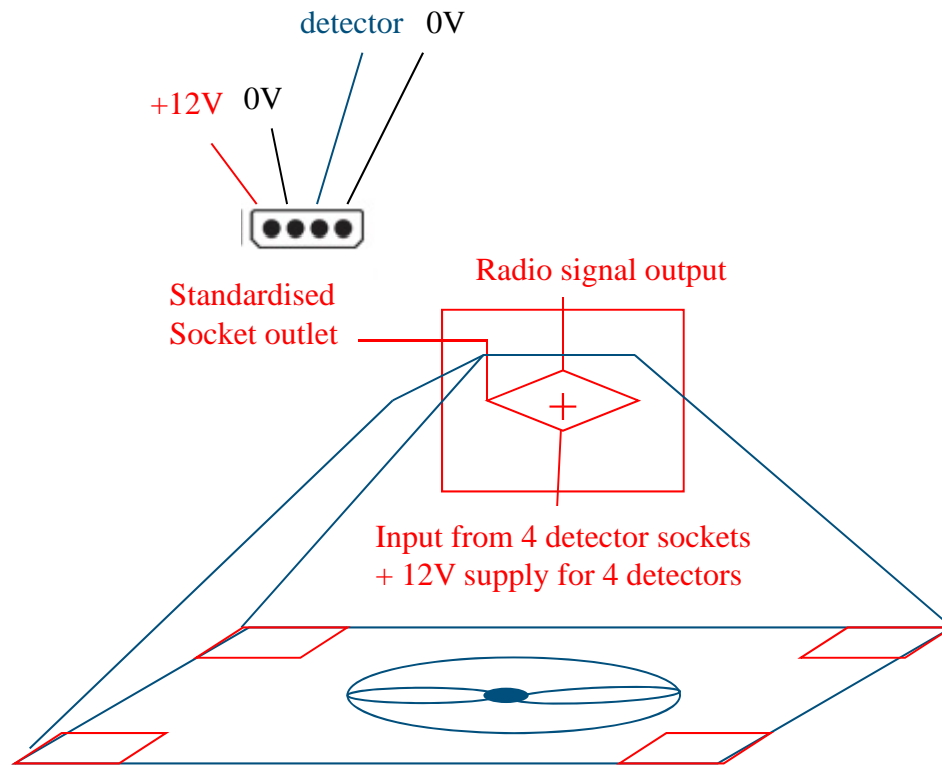
The cook top



The necessary add on is:

- 1) A standardised socket outlet for the detector, giving 12V power for use by the detector and a detector input, that turns the power off when short-circuited to 0V
- 2) A radio input, that can detect a signal from the detector
- 3) A small circuit that logically adds the radio signal and the "short circuit" of the detector socket
- 4) A relay that turns off the supply to the cook top

The range hood

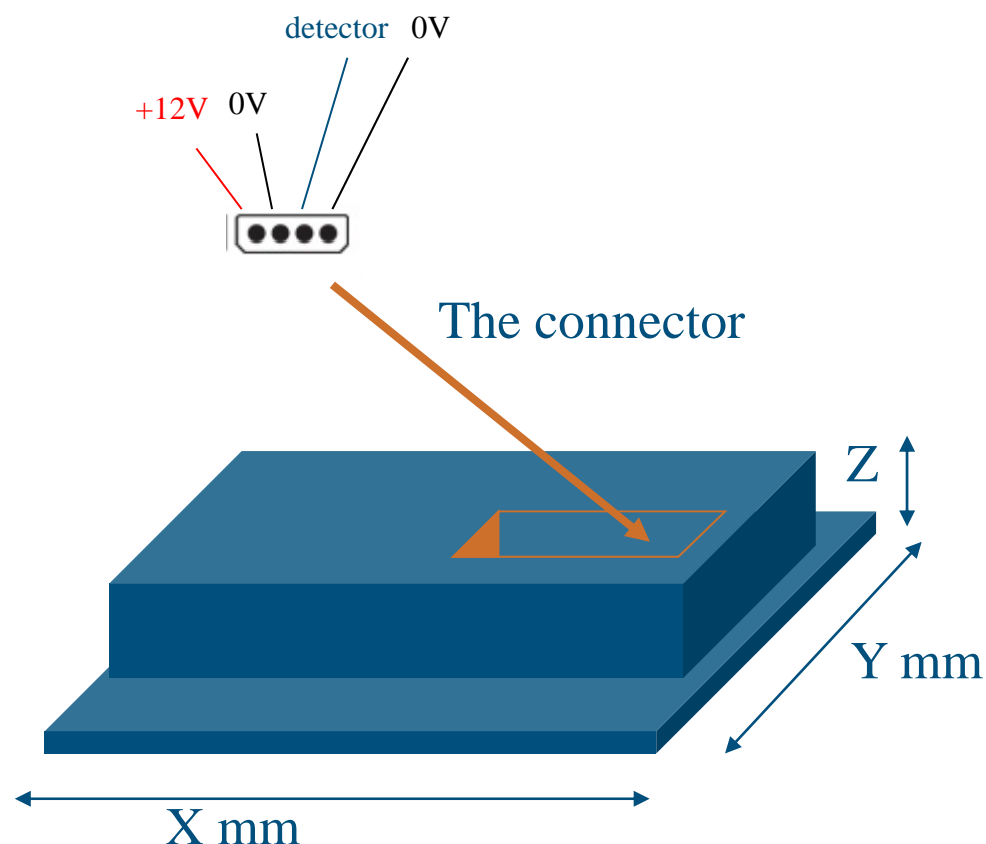


The necessary add on is:

- 1) 4 geometrical well defined holes X mm * Y mm * Z mm with a standardised electrical interface inside (detector socket outlet)
- 2) A small circuit that logically adds the signals from the 4 detector sockets
- 3) An output that creates a short-circuit on two pins of a connector AND creates an output radio (short range) signal



The detectors for build-in



- The detectors can either be smoke detectors, IR detectors or temperature detectors
- The detectors receive +12V from a socket outlet in the range hood
- It delivers a short-circuit between two connector pins and thereby intelligence to trigger a power shutdown
- It needs to respect the geometrical output
- It has to be easy to mount “do it yourself”



The stand alone external detector

- The detectors can either be smoke detectors, IR detectors or temperature detectors
- The detector is free to make use of +12V supply from a socket outlet in the range hood of the cook top
- It delivers a short-circuit between two connector pins and thereby intelligence to trigger a power shutdown OR it uses a short range radio transmitter
- No geometrical boundaries – it can be mounted on a wall or elsewhere in accordance with the instructions from the manufacturer



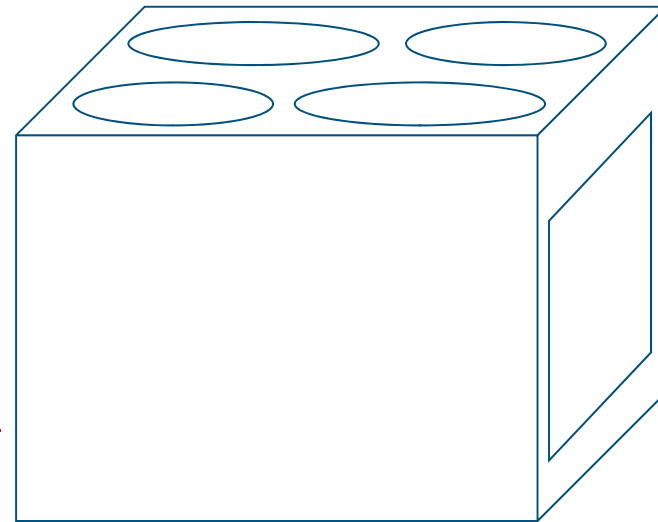
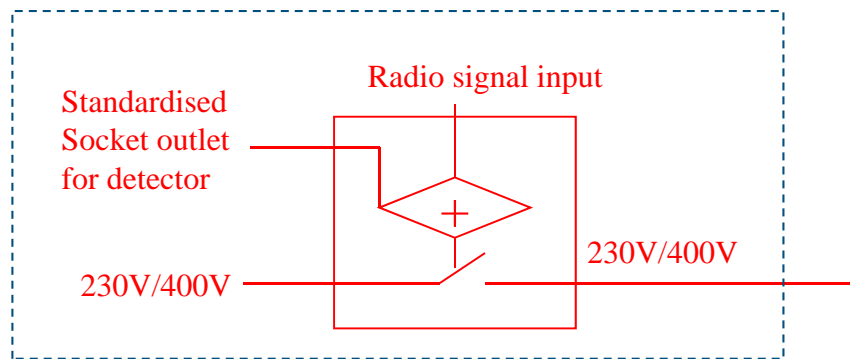


DANISH SAFETY TECHNOLOGY AUTHORITY

External box for existing cook tops

When a modular approach is chosen it allows for an external box "on the power cord" to existing cook tops

Can also be used by manufacturer who do not want to change their design

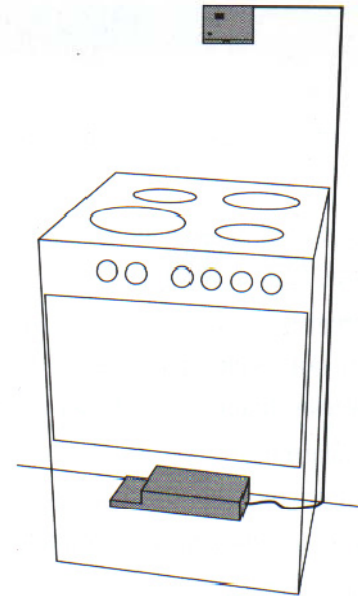


The advantages

- *Any detector that respect the geometrical outlines and the socket outlet configuration can be placed in any range hood (= > competition possible!)*
- *The detectors can be made cheap (no power supply, only one signal out)*
- *By requiring both socket outlets and radio communication, the solution is not dependent of signal cables in existing homes, and allows for planning with cables for new homes*
- *The alarm can be re-set via radio communication or by unplugging cable*
- *It is easy to make a safety upgrade of an existing system to cover for i.e. extra danger for certain group of users*
- *Any safety upgrade will never be wasted – new equipment will be compatible*
- *National authorities can easy demand the use of detectors without any problems for the manufacturer of either range hoods or cook tops.*



Some elements already exists..



What is needed is a standardised system approach!



What is requested from ADCO..

- *Your opinion – do you agree with the approach?*
- *We would like to present it to CENELEC/TC 61 at their plenary meeting in June 2009 – It will help if we can indicate the support from other authorities*
- *We would like to work out a proposal for a new standardisation mandate – for a safety system for the cooking place. Will ADCO members support?*
- *The Nordic authorities intend to come back again with a more detailed proposal for a mandate to CEN/CENELEC/ETSI in the October ADCO-meeting*

