



## Switching Module - FOG-901

The ABELtronics FOG-901 is designed to allow a momentary switch to act as a latching switch.

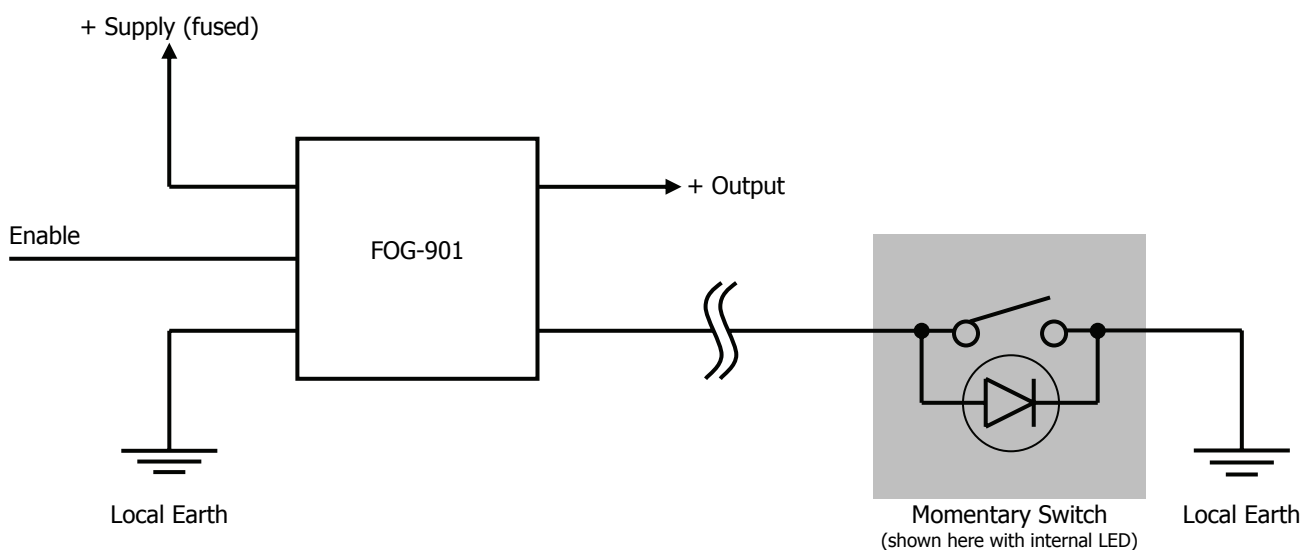
### Connections:

Thick Red:	Permanent +12V supply
Thin Red:	Enable
Thick Yellow:	+ Output (20A rated)
Thin Yellow:	To Switch
Black:	Earth

### Features:

- ONE wire to the switch (other side of switch is earthed locally)
- Switch lights up dimly when output is off – easy to spot it in the dark
- Switch lights up brightly when output is on
- Uses ANY momentary switch (illuminated or otherwise)
- Output upto 20A
- Self-cancelling (or optionally not)
- Hermetically sealed in epoxy resin – IP68 rated
- Small size enclosure (40 x 40 x 20mm)
- Extremely reliable
- 12V supply
- Easily expandable for multiple channels and DIN-mounting

The diagram below shows the idea. The Enable input is a low current input designed to be connected to an ignition switch or similar. This input has to be positive before the FOG-901 will function. Note there is only one wire going to the switch, the other end of the switch can be locally earthed. This saves a considerable amount of cable during installation, for the switching signal and the power to illuminate the LED is sent down the same wire. The switch wire can be extremely thin, only about 7mA travels down it.





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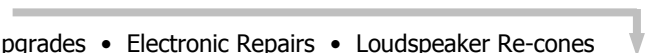
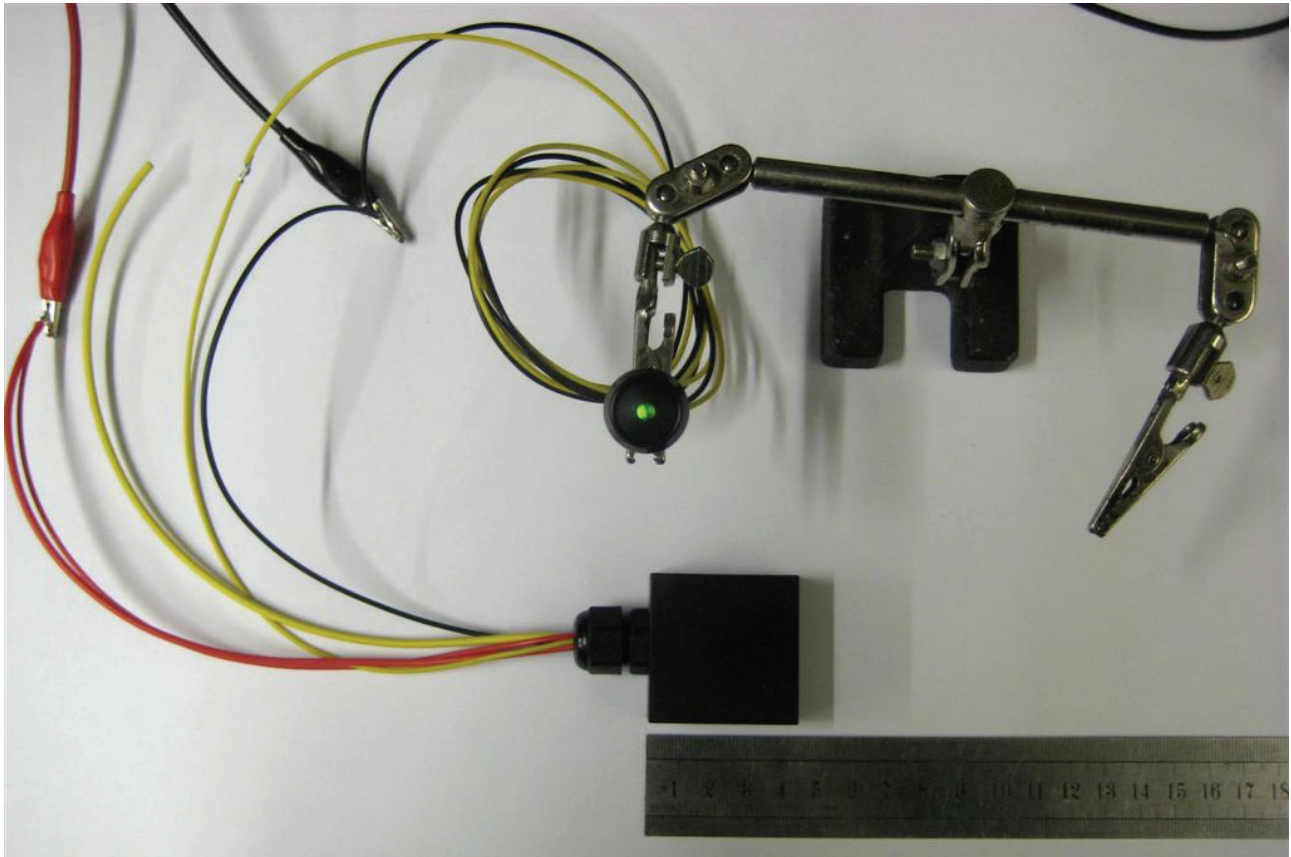
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The Switch lights up dimly when power is applied to the enable connection. Note there are only two wires leading to the switch, one of them is earth. The FOG-901 module is next to the ruler at the bottom of the image:





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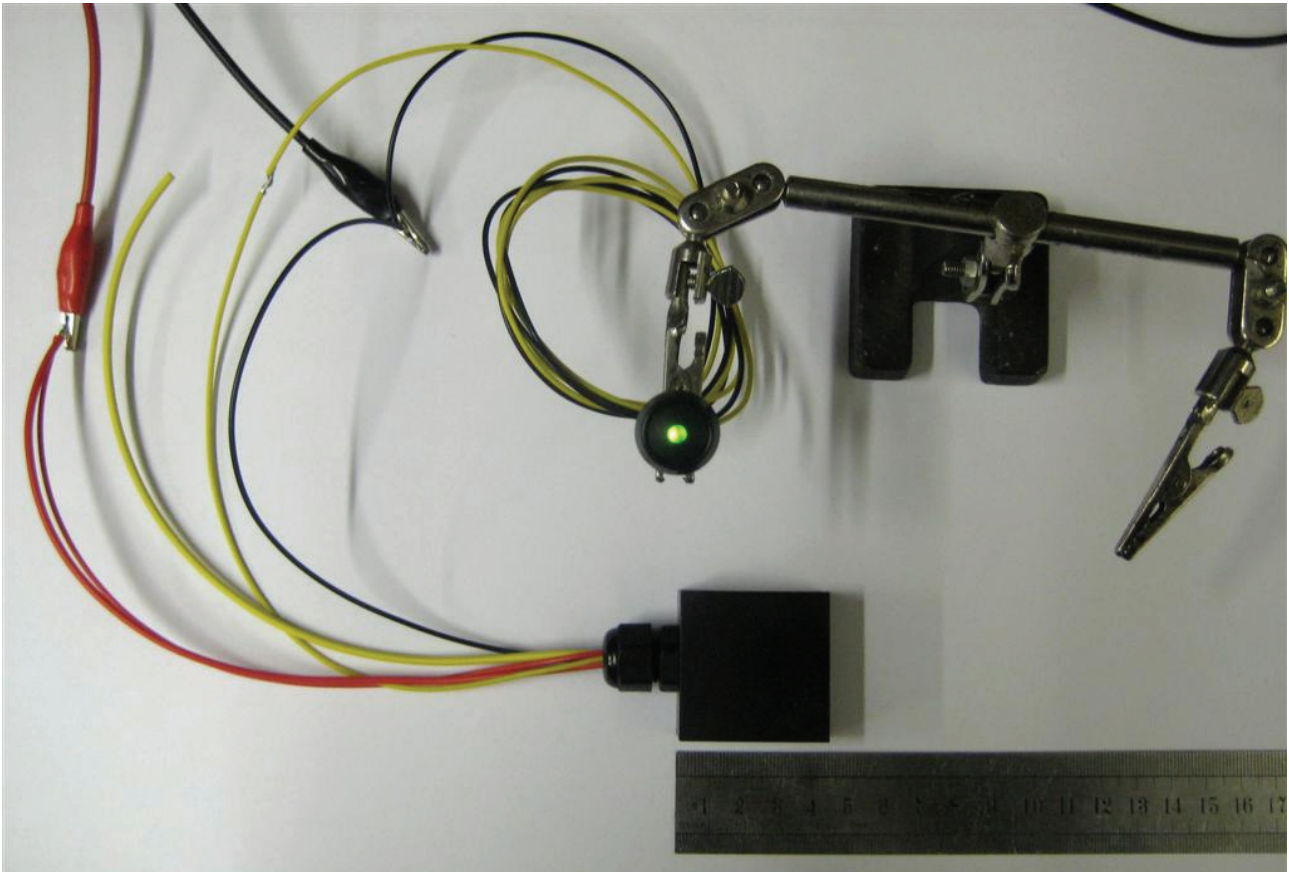
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The switch is pressed once, and the output switches on. The switch lights up brighter:





When the switch is pressed again, the output goes off and the switch returns to its dim setting, awaiting another press. It is this toggle action that allows the FOG-901 module to replace a latching switch in a huge variety of applications.

## Enable Input

The enable input is an additional low-current input to the module that also controls the output. When the enable input is NOT positive, ie off, the switch does not illuminate and the FOG-901 is inactive – it does not react to the switch being pressed.

When the enable input goes positive, the switch lights up dimly and the output defaults to off. Pressing the switch will now turn the output on. Pressing it again will turn the output off. And so on.

If the enable input goes off again, the output will go off and the FOG-901 will return to its inactive state.

Every time the enable input is brought positive, the output defaults to off, no matter what its previous state was. This is called self-cancelling, and prevents connected appliances being left on inadvertently. For example, the FOG-901 was originally designed to control fog lamps on import vehicles. The enable input would be connected to the vehicle's sidelights, and the switch would be located on the dashboard. If the driver forgets to turn off the fog lamps manually, the FOG-901 switches them off when the sidelights go off. The fog lamps then remain off, even if the sidelights are turned on, until the driver presses the switch again.

Note: The power that gets switched to the output comes from the + Supply connection. The Enable input is only a *control* terminal.

