

# CONTACTUM



## Defender 1.0 Consumer Units - The Differences

### Have you been told your Consumer Unit needs to be updated to the 18th Edition to comply with The Electrical Safety Standards in the Private Rented Sector (England) Regulations 2020?



**Firstly, what is the 18th Edition?** 18th Edition is a common shorthand term used by industry professionals to refer to the most recent British Standards BS 7671:2018 Requirements for Electrical Installations, IET Wiring Regulations.

### So here we look at what your choices are, the differences between each type of Consumer Unit (Fuse Board) and the pros and cons of each

■ **Dual RCD Consumer Unit** – The configuration of these fuse boards has 2 groups of circuits being protected by an individual RCCBs to achieve additional protection and stop you getting an electric shock. In the event of a specific fault if the RCCB trips it will disconnect and turn off all the circuits protected in this group. This is your cheapest option... or is it?

A typical short-term thought is always to go with the cheapest option, after all if it complies with the electrical safety standards and does the job it is intended to do then why not right? At first this looks appealing because the quoted cost for the product is the least costly of your options but are there long-term costs for these types of consumer units?

**Pros** – Most cost-effective solution to comply with electrical safety standards

**Cons** – This configuration tends to have larger enclosure sizes due to the 2 individual RCCBs being present, sometimes space can be an issue where the old consumer unit is installed. A fault on a single circuit can disconnect all circuits grouped on one RCCB, typically half, leading to nuisance and inconvenience to the tenant, potential additional costs for electrician call out charges and very difficult to identify which circuit caused the RCCB to trip. Below we will look at some scenarios of this hidden cost.



■ **All RCBO Consumer Unit** - This option is the gold standard of consumer units, this fuse board is configured so that each outgoing circuit has its own built in RCD protection and in the event of a fault only the faulty circuit will disconnect, which in my opinion makes it the best long-term option a domestic property and in the long run it will actually save you money against the Dual RCD board. See below for examples of hidden costs.



**Pros** – Faults on a single circuit only disconnect the device protecting that circuit. Eliminates nuisance tripping caused by build up of earth leakage on multiple circuits (common in older properties that have not been rewired in the last 20 years). Smaller enclosure sizes so ideal for replacement of the smaller older type fuse board. Intermittent faults are easier and quicker to locate due to fact the culprit circuit is the only tripped device and so identified. Potentially more room for additional circuits should you require at a later date.

**Cons** – Cost, typically 3-5 times the price of a dual RCD consumer unit.

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■ **What about Surge Protection?** This is a subjective issue, and an assessment needs to be carried out to determine the advantages against cost. Surge protection is now a requirement in BS7671 18th edition but there is an exception for single dwellings (domestic property) and the decision to install these devices needs to be weighed up against the value of assets. Ultimately in a single dwelling it is the property owners choice whether or not to have one installed but it is important to know the benefits of having one installed.



The point of an SPD (Surge Protection Device) is to protect sensitive electrical equipment against surges of voltage in the system which can be caused by direct or indirect lightning strike and/or switching events. These events can damage electrical items in the home and we are not just talking about your £700 smartphone or £1000 Laptop, electrical surges can damage fridges, freezers, washing machines and tumble dryers, modems, tv's etc. the list goes on, if it is powered by electricity then a surge of electrical voltage has the potential to damage it, furthermore even your consumer unit can suffer serious damage from an electrical surge so this should be included in the calculation of potential cost of damage.

A lightning strike or switching surge can render electrical items useless and needing to be replaced and if you have contents insurance for your property your insurance policy may have a clause relating to surge protection, so if your property has long term electrical assets in then this is definitely a good option to protect them against potentially damaging surges. SPDs are a relatively inexpensive way of achieving this so the benefits are long term for your installation. SPDs can be installed within the consumer unit or in a separate enclosure so they can be retrofitted in existing properties even if you do not need a new consumer unit.

### So let's look at typical costs of the products excluding installation

**Dual RCD -£50-£90\* All RCBO - £120-£250\* SPD - Additional £40-£80\***

■ **Hidden Costs** - Weigh the differences up against other ongoing costs including call out charges for tenants without lights due to the RCCB tripping or the speed of fault finding locating faulty appliances your tenants may try to use and you will soon start to see the long-term cost savings for the more expensive initial cost. Here are some scenarios of hidden cost

**Scenario 1** – So, let us imagine your tenant flicks the light switch on and a bulb blows, this can be enough to trip an RCD and, in this scenario, you have a Dual RCD board controlling the property so you loose power to half the circuits in the property, upstairs lights, downstairs sockets, kitchen ring circuit, no fridge/freezer or oven etc. Your tenant knows nothing about electrics so calls you and saying all the power has gone. You are away and need to send out an electrician to check what the issue is. Luckily, it was just a blown bulb and the RCCB has been reset and all is well, apart from you are left with the call out charge. The first part of this scenario could still happen with an all RCBO board except on the upstairs lights would have lost power and would be easily identifiable over the phone with your tenant.

**Scenario 2** - Your tenant wakes up in the morning to find there is no power to half the installation, they call you and It is ok because now you understand how your consumer unit is controlled and you can advise the tenant to operate the RCD, hooray all power is back, and all is right in your world again. Then the following day again you receive the same call from your tenant they have already reset the RCD but are now worried something may be wrong. You must call out the electrician again and he cannot find anything wrong, but you are still left with the call out charge. Then the next day the same phone call from your tenant and you call another electrician who after hours of testing establishes there is a fault on the time clock the turns on the central heating every morning. It has taken him 4 hours to locate the fault and you now must pay him too. In this instance had there been an All RCBO board the first electrician may have located this fault within 10mins of attending the call out and hence saved you quite a bit of money, probably enough to have covered the cost of the All RCBO board.

There are many scenarios of instances like this and examples of one small problem could result in the potential difference in cost of the consumer being absorbed. I hope all the above is useful to you in your quest for a new consumer to keep your property safe. For additional guidance on electrical safety or if you want to know a bit more about Consumer Units (fuse boards) and what an RCD is visit our friends at [Electrical Safety First](http://www.electricalsafetyfirst.org.uk/guidance/safety-around-the-home/fuseboxes-explained/)

\*Prices shown are to be used as a guide and were average costs found using internet searches. All prices were exclusive of vat. Cost will also vary dependant on the size and complexity of the installation and consumer unit required.