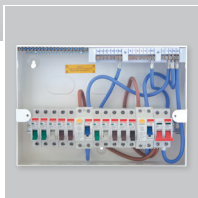


# CONTACTUM



Defender



Consumer Units  
Domestic Premises

# Defender

## Contactum Metal Consumer Units & Surge Protection

In January 2019 the IET published the 18th Edition of the Wiring Regulations - BS7671:2018

This introduced new requirements covering for the provision of over-voltage protection by the use of Surge Protection Devices designed to overcome the potential impact upon Installations and the equipment within them.

### Definition of a Surge

A surge is a fast short duration electrical transient in current or voltage within an electrical circuit.

Typically caused by an oversupply in voltage either from a switching event, or from an external source such as lightning.

### Mains sources of Surges

#### ■ Transient Voltages

These occur during switching events which release stored energy from established magnetic fields. External examples of these are power stations, distribution transformers and generators. Transient voltages can also occur locally within installations by the switching of appliances such as welders and air-con units. These by their nature will be smaller in magnitude

#### ■ Lightning Strikes

These can be extremely detrimental to electrical installations and attached equipment, as the current contained within a strike can be up to 200kA. Ground lightning strikes can cause surges within installations up to 2km away as this energy can find its way into buried electrical cables

### Benefits of Surge Protection

A correctly specified and installed surge protection device **will safely disperse over voltages to earth** – minimising damage to the installation wiring and any connected equipment.

### When do you need Surge Protection?

443.4 Over-voltage Control

Protection against over-voltages **shall be provided** where the consequence caused by



Type tested by reputed third party laboratory

over-voltage could result in:

- (i) Serious injury to, or loss of human life
- (ii) Interruption of public services and/or damage to cultural heritage
- (iii) Interruption of commercial or industrial activity
- (iv) A large number of co-located individuals being affected.

For all other cases, a risk assessment according to 443.5 **shall be performed** in order to determine if protection against over-voltages is required. **Except** for single dwelling units where the total value of the

installation and equipment therein does not justify such protection.

### Defender Consumer Units with Surge Protection Devices

Solution for all earthing systems

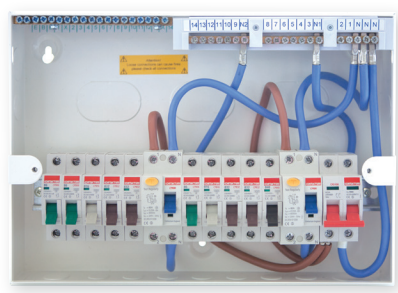
Available in:

- DD Range
- DDS Range
- Kits also available which include Surge Protection Devices, MCB and wires.

# Devices for Domestic Premises



## Features & Benefits



- A comprehensive range of single phase consumer units compliant with BS7671 18th Edition Wiring Regulations.
- A modern sleek design suitable for all installations.
- Comprehensive range comprising 10 different enclosure sizes.
- Up to 22 module board as standard; combine boards to increase number of outgoing ways.
- Maximum cable space and extensive number of cable entry points allowing easy installation.
- Comprehensive user instructions and high quality sub circuit identification labels.
- Degree of protection IP4X.
- Tested in accordance to BS EN 61439-3.
- Flexible board configuration to enable optimal combination of RCD, MCB and RCBO use.
- Pre-populated configurations available.
- Secure hinge design.
- Locking kits available.

## Do you need SURGE PROTECTION?

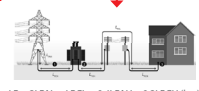


ONE OPTION  
SMART CHOICE

Risk Assessment Calculation  

$$CRL = f_{env} / (L_p \times N_g)$$

Environment	$f_{env}$
Rural and suburban environment	85
Urban environment	150



$LP = 2LPAL + LPCL + 0.4LPAH + 0.2LPCH$  (km)  
 LPAL is the length of LV overhead line  
 LPCL is the length of LV underground cable  
 LPAH is the length of HV overhead line  
 LPCH is the length of HV underground cable  
**IF CRL < 1000 then SP is needed**

Flash Density -  $N_g$   
 For London use 0.8 $N_g$

## Defender SPMS



# Defender Consumer Units

## Switch Disconnect Incomer Consumer Units Without & With Surge Protection



Without Surge	With Surge	Description
DD024MS	-	2 Way 40A Switch
DD026MS	-	2 Way 63A Switch
DD021MS	-	2 Way 100A Switch
DD044MS	-	4 Way 40A Switch
DD046MS	-	4 Way 63A Switch
DD041MS	DD041SPMS	4 Way 100A Switch
DD066MS	-	6 Way 63A Switch
DD061MS	-	6 Way 100A Switch
-	DD081SPMS	8 Way 100A Switch
DD106MS	-	10 Way 63A Switch
DD101MS	DD101SPMS	10 Way 100A Switch
DD121MS	DD121SPMS	12 Way 100A Switch
DD141MS	DD141SPMS	14 Way 100A Switch
DD161MS	DD161SPMS	16 Way 100A Switch
DD181MS	DD181SPMS	18 Way 100A Switch
DD201MS	-	20 Way 100A Switch
DD101MS-P01	DD101SPMS-P01	10 Way 100A Switch 1 x 40A, 2 x 32A 1 x 16A, 2 x 6A eRCBO + 4 Blanks

## RCD Incomer Consumer Units



Code	Description
DR024MS	2 Way 40A RCD Incomer
DR026MS	2 Way 63A RCD Incomer
DR044MS	4 Way 40A RCD Incomer
DR046MS	4 Way 63A RCD Incomer
DR048MS	4 Way 80A RCD Incomer
DR066MS	6 Way 63A RCD Incomer
DR068MS	6 Way 80A RCD Incomer
DR061MS	6 Way 100A RCD Incomer
DR106MS	10 Way 63A RCD Incomer
DR108MS	10 Way 80A RCD Incomer
DR101MS	10 Way 100A RCD Incomer
DR148MS	14 Way 80A RCD Incomer
DR141MS	14 Way 100A RCD Incomer
DR168MS	16 Way 80A RCD Incomer
DR161MS	16 Way 100A RCD Incomer
DR201MS	20 Way 100A RCD Incomer

## Split Load Consumer Units



Code	Description
DS0816MS	8 Way 100A Switch + 63A RCD
DS0818MS	8 Way 100A Switch + 80A RCD
DS1016MS	10 Way 100A Switch + 63A RCD
DS1018MS	10 Way 100A Switch + 80A RCD
DS1216MS	12 Way 100A Switch + 63A RCD
DS1218MS	12 Way 100A Switch + 80A RCD
DS1416MS	14 Way 100A Switch + 63A RCD
DS1418MS	14 Way 100A Switch + 80A RCD
DS1616MS	16 Way 100A Switch + 63A RCD
DS1618MS	16 Way 100A Switch + 80A RCD
DS1818MS	18 Way 100A Switch + 80A RCD

## Flexible High Integrity Split Load Dual RCD Consumer Units Without & With Surge Protection



Without Surge	With Surge	Description
DDS06166MS	DDS06166SPMS	6 Way 100A Switch + 2 x 63A RCD
DDS06188MS	DDS06188SPMS	6 Way 100A Switch + 2 x 80A RCD
DDS08166MS	DDS08166SPMS	8 Way 100A Switch + 2 x 63A RCD
DDS08188MS	DDS08188SPMS	8 Way 100A Switch + 2 x 80A RCD
DDS10166MS	DDS10166SPMS	10 Way 100A Switch + 2 x 63A RCD
DDS10188MS	DDS10188SPMS	10 Way 100A Switch + 2 x 80A RCD
DDS12166MS	DDS12166SPMS	12 Way 100A Switch + 2 x 63A RCD
DDS12188MS	DDS12188SPMS	12 Way 100A Switch + 2 x 80A RCD
DDS14166MS	DDS14166SPMS	14 Way 100A Switch + 2 x 63A RCD
DDS14188MS	DDS14188SPMS	14 Way 100A Switch + 2 x 80A RCD
DDS16166MS	-	16 Way 100A Switch + 2 x 63A RCD
DDS16188MS	-	16 Way 100A Switch + 2 x 80A RCD
DDS06166MS-P01	-	6 Way 100A Switch + 2 x 63A RCD c/w 1 x 40A, 2 x 32A, 1 x 16A, 2 x 6A MCBs
DDS06188MS-P01	-	6 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 2 x 32A, 1 x 16A, 2 x 6A MCBs
DDS08166MS-P01	-	8 Way 100A Switch + 2 x 63A RCD c/w 1 x 40A, 3 x 32A, 2 x 16A, 2 x 6A MCBs
DDS08188MS-P01	-	8 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 3 x 32A, 2x 16A, 2 x 6A MCBs
DDS10166MS-P01	-	10 Way 100A Switch + 2 x 63A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 3 x 6A MCBs
DDS10166MS-P02	-	10 Way 100A Switch + 2 x 63A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 2 x 6A MCBs + 1 x 6A eRCBO
DDS10188MS-P01	DDS10188SPMS-P01	10 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 3 x 6A MCBs
DDS10188MS-P02	-	10 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 2 x 6A MCBs + 1 x 6A eRCBO
DDS12188MS-P01	DDS12188SPMS-P01	12 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 3 x 6A MCBs
DDS14188MS-P01	DDS14188SPMS-P01	14 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 3 x 6A MCBs
DDS16188MS-P01	-	16 Way 100A Switch + 2 x 80A RCD c/w 1 x 40A, 4 x 32A, 2 x 16A, 3 x 6A MCBs

DDS also available with 100A RCD 30mA class A.  
Other populated configuration available upon request.

## Garage Unit, Shower Enclosures & Time Delay Enclosure



Code	Description
DR026MS-P01	Garage Unit 2 Way 63A RCD + 1 x 16A, 1 x 6A MCBs
DSPE1MS	40A RCD Shower Enclosure - No O/G Ways
DSPE2MS	63A RCD Shower Enclosure - 1 O/G 50A MCB
DSPE3MS	63A RCD Shower Enclosure + 2 x MCBs
DTDDR001MS	100A Time Delay RCD Incomer TT Enclosure

# Defender Devices

## Empty Enclosures



### Metal Enclosures Earth/Neutral

<b>DME02MS</b>	IP4X 2 Mod 114 x 260 x 130mm
<b>DME04MS</b>	IP4X 4 Mod 150 x 260 x 130mm
<b>DME06MS</b>	IP4X 6 Mod 186 x 260 x 130mm
<b>DME08MS</b>	IP4X 8 Mod 222 x 260 x 130mm
<b>DME012MS</b>	IP4X 12 Mod 294 x 260 x 130mm
<b>DME014MS</b>	IP4X 14 Mod 330 x 260 x 130mm
<b>DME016MS</b>	IP4X 16 Mod 366 x 260 x 130mm
<b>DME018MS</b>	IP4X 18 Mod 402 x 260 x 130mm
<b>DME020MS</b>	IP4X 20 Mod 438 x 260 x 130mm
<b>DME022MS</b>	IP4X 22 Mod 474 x 260 x 130mm

## Brackets



### Defender Brackets

<b>RCEB-TE-12MOD</b>	12 Mod
<b>RCEB-TE-14MOD</b>	14 Mod
<b>RCEB-TE-16MOD</b>	16 Mod
<b>RCEB-TE-18MOD</b>	18 Mod
<b>RCEB-TE-20MOD</b>	20 Mod
<b>RCEB-TE-22MOD</b>	22 Mod

## Isolators



### Double Pole Isolators

<b>CPD40</b>	40A Double Pole Isolator
<b>CPD63</b>	63A Double Pole Isolator
<b>CPD100</b>	100A Double Pole Isolator

## RCDs



### Double Pole RCD Devices

<b>CPR25</b>	25A 30mA DP Type AC RCD
<b>CPR40</b>	40A 30mA DP Type AC RCD
<b>CPR63</b>	63A 30mA DP Type AC RCD
<b>CPR80</b>	80A 30mA DP Type AC RCD
<b>CPR100</b>	100A 30mA DP Type AC RCD
<b>CPR100A</b>	100A 30mA DP Type A RCD

## RCBOs



### RCBO Devices

Type AC	Type A	
<b>CPBR0606B</b>	<b>CPBR0606AB</b>	6A 6kA B Curve SP RCBO
<b>CPBR0610B</b>	<b>CPBR0610AB</b>	10A 6kA B Curve SP RCBO
<b>CPBR0616B</b>	<b>CPBR0616AB</b>	16A 6kA B Curve SP RCBO
<b>CPBR0620B</b>	<b>CPBR0620AB</b>	20A 6kA B Curve SP RCBO
<b>CPBR0632B</b>	<b>CPBR0632AB</b>	32A 6kA B Curve SP RCBO
<b>CPBR0640B</b>	<b>CPBR0640AB</b>	40A 6kA B Curve SP RCBO
<b>CPBR0650B</b>	<b>CPBR0650AB</b>	50A 6kA B Curve SP RCBO

RCBO Devices C Curve also available

## MCBs



### MCB Devices B Curve

<b>CPB06</b>	6A 6kA B Curve SP MCB
<b>CPB10</b>	10A 6kA B Curve SP MCB
<b>CPB16</b>	16A 6kA B Curve SP MCB
<b>CPB20</b>	20A 6kA B Curve SP MCB
<b>CPB25</b>	25A 6kA B Curve SP MCB
<b>CPB32</b>	32A 6kA B Curve SP MCB
<b>CPB40</b>	40A 6kA B Curve SP MCB
<b>CPB50</b>	50A 4.5kA B Curve SP MCB
<b>CPB63</b>	63A 4.5kA B Curve SP MCB

## Contactors, Transformer & Sensor



### Installation Contactors

<b>COA20-20/230</b>	20A 230V 2N/O (1 Mod)
<b>COA25-40/230</b>	25A 230V 4N/O (2 Mods)
<b>COA40-20/230</b>	40A 230V 2N/O (3 Mods)
<b>COA40-40/230</b>	40A 230V 4N/O (3 Mods)
<b>COA63-20/230</b>	63A 230V 2N/O (3 Mods)
<b>COA63-40/230</b>	63A 230V 4N/O (3 Mods)

### Bell Transformer

**TSBT2** Bell Transformer 1A 8VA Output

## Time Switches



### Digital Timing Devices

<b>TSD1T</b>	7 Day 24 Hour 1 Channel 2 Module
<b>TSD2T</b>	7 Day 24 Hour 2 Channel 2 Module
<b>TSD3</b>	7 Day 24 Hour 1 Channel 1 Module

### Analogue Timing Devices

<b>TSAQ1</b>	24 Hour 1 Channel 3 Module
<b>TSAQ2</b>	7 Day 1 Channel 3 Module

### Staircase Timing Device

<b>TSSL1</b>	1 Channel 1 Module
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## Surge Kits



### Surge Kits

<b>T2C4011KIT</b>	Surge 40KA 1+1 Protection Retro Fit Kit
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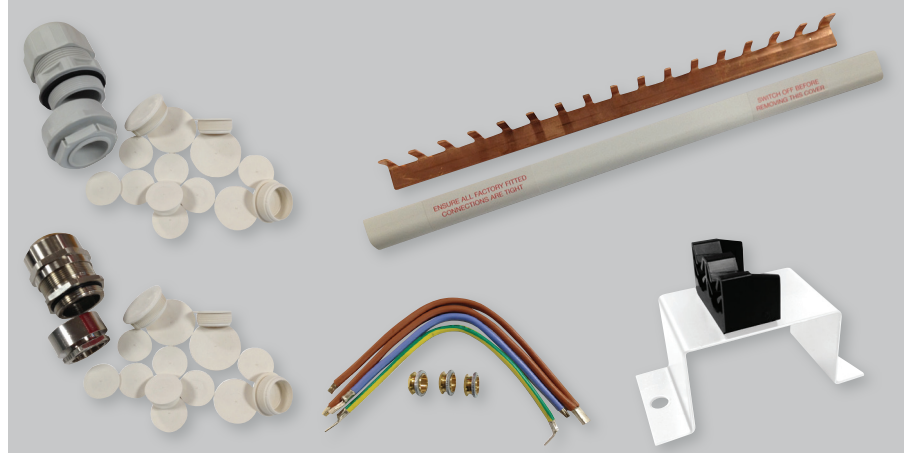
## MCB Accessories



### MCB Blank & Locking Device

<b>CPBBL</b>	MCB Blank
<b>CPA10</b>	MCB/RCBO Toggle Locking Device

## General Accessories



### Accessories

<b>DCA01</b>	1/4 Turn Camlock Accessory	<b>DCA24</b>	Defender C/U Stacking & Link (DDS) Kit
<b>DCA02</b>	Key Lock Camlock Accessory	<b>DCA25</b>	Defender C/U Stacking & Link (DD) Kit
<b>DCA20</b>	AMD3 Membrane Grommet Kit	<b>DCA30</b>	Defender 14 Mod Spare Busbar and Cover
<b>DCA21</b>	40/32mm Tails Red Kit Metal	<b>DCA31</b>	Defender 22 Mod Spare Busbar and Cover
<b>DCA22</b>	40/32mm Tails Red Kit Plastic		
<b>DCA23</b>	25mm Tail Retention Bracket		



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