# Fortress Circuit Protection

## Metal Consumer Unit

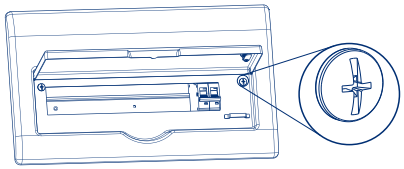
## Safety Warning

For your safety, this product must be installed in accordance with local Building Regulations. **This product MUST be installed by a competent person who is registered with an electrical self-certification scheme.** Further information is available online or from your Local Authority. Please read carefully and use in accordance with these safety wiring instructions. Before commencing any electrical work ensure the supply is disconnected, and securely locked off. Wiring should be in accordance with the latest edition of the IET regulations (BS 7671).

**Note**: - Most illustrations relate to a typical Dual RCD unit, exact configuration will depend on type, size and material of consumer unit purchased.
Ensure all screws are fully tightened before use. (Please refer to torque settings table)

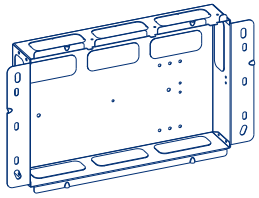
## Instructions

1. Remove front cover by opening visor and turning screws anti-clockwise, until retained screws dis-engage.



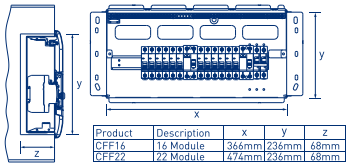
**Note**: - Screws are captive

2. Provide cable access via knockouts in the top, bottom,side or rear.



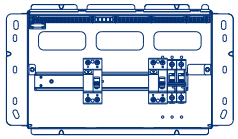
**Note**: - Use punch to remove metal knockouts. Remove any sharp edges, affix protective trim supplied to prevent damage to cables being pulled through.

3. Create an appropriate cavity in the wall where the consumer unit will be installed. When flush, the consumer unit has a 68mm intrusion into the wall cavity. Use the dimensions below as guidance.




| Product | Description | x | y | z |
|---|---|---|---|---|
| CFF16 | 16 Module | 366mm | 236mm | 68mm |
| CFF22 | 22 Module | 474mm | 236mm | 68mm |

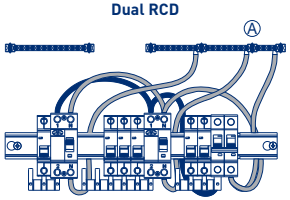
4. Secure to wall, use keyhole slots to hang in position, use fitted spirit level to ensure fitted level, and other fixing holes to firmly secure. For uneven walls use 3 point fixing. Please use appropriate wall fixings suitable for the mounting surface when installing this unit.



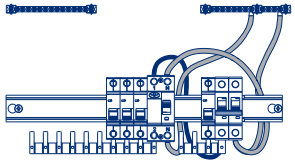
**Note**: - Wall fixings are not included

5. Locate and prepare main incoming cables.

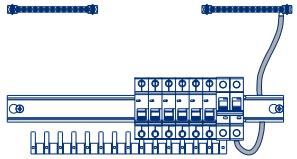
**Dual RCD**




**Split Load**



**Main Switch**



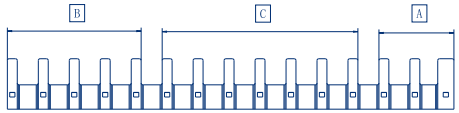
**Note**: - Terminal Bar 'A' is for optional high integrity, unprotected circuits.

6. Fit devices, ensure switch is aligned with notches on right hand side of the DIN rail. Fit required devices onto DIN rail, fit top of device onto rail first and then push down bottom of device. Devices can be removed by pulling out bottom device clip (use flat screwdriver) and remove by lifting bottom part of device first.

7. Configure by cutting the supplied busbar to desired length, depending on number of ways protected by RCD1 or RCD2 if Dual, or/and unprotected. Ensure one finger for incomer plus number of ways required, plus any spare ways which may need to be added later.

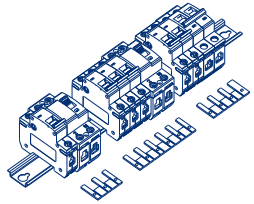
B and C: Length equal to number of ways protected by each RCD plus one finger for RCD.

A: Length equal to number of ways unprotected plus one finger for incomer.




**Note**: - Please cut busbar square to finger edge, and discard excess.

8. Fit busbars, and fit additional cable kits if required, e.g. for Split Load or Dual RCD.



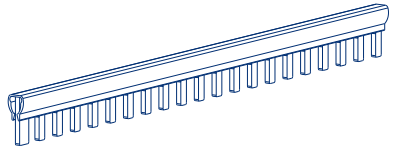
**Note**: - Please ensure the live cables to RCD1/RCD2 are fitted under the busbar in the main switch live terminal.

9. Locate, prepare and connect all incoming cables as required, suggest cable strip length of 14mm.

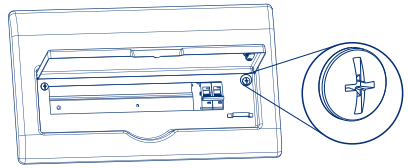
**Important - Ensure connections are secure and terminal screws fully tightened.**
**Recommended max torque for Terminal screws, MCBs and RCBOs is 2Nm,**
**Switch is 3.5Nm, RCD is 2.5Nm. (Please refer to torque settings table)**

10. Test in accordance with the current IET wiring regulations.

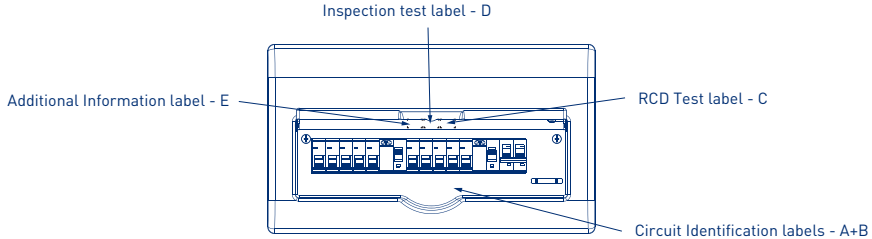
11. Ensure busbar shield and busbar are refitted.



12. Refit front cover, by opening visor and turning screws clockwise until cover is secured in position.



13. Apply labels – hold open hinged visor and apply warning and circuit identification labels as shown.




**Note**: - Fill any unused ways with cover blanks provided.

## Torque Settings

| Torque Settings | PZNo. | [mm] | Cable >1.5mm² Tightening torque (Nm) | Cable ≤1.5mm² Tightening torque (Nm) | Cable stripping (mm) |
|---|---|---|---|---|---|
| **Consumer Unit Terminals** | | | | | |
| Earth and Neutral Terminal Bars | M5 | 6.5 | 2 | 1.3 | 11 |
| **Isolation** | | | | | |
| Switch Disconnector | M7 | 9 | 3.5 | 2.3 | 14 |
| **Circuit Protection** | | | | | |
| MCB | M5 | 9 | 2 | 1.3 | 12 |
| RCBO | M5 | 9 | 2Nm L / in -<br>1.2Nm L / N out | 1.3 | 12 |
| RCD | M6 | 9.5 | 2.5 | 1.3 | 14 |
| SPD | M5 | 9 | 2Nm PE<br>1.2Nm L / N | 1.3 | 12 |

## Interface Characteristics

| | |
|---|---|
| Rated & Operational voltage (Un / Ue) | 230V A.C 50Hz |
| Rated & Insulation voltage (Ui) | 500V A.C 50Hz |
| Rated impulse withstand voltage (Uimp) | 4kV |
| Rated current of the Assembly (InA)<br><br>**Note**: dependant upon rating of main incoming device | 40A, 63A, 80A, 100A |
| Rated current of an outgoing circuit (Inc) | MCB 6A-50A (marked rating of current on device)<br>RCBO 6A-40A (marked rating of current on device) |
| Rated current of outgoing unit (Inc) | RCD 40A 63A 80A 100A (marked rated current on device) |
| Rated conditional short-circuit current of the assembly (Icc) | ICC=16KA |
| Protection against electric shock | Consumer unit shall be installed in an electrical system conforming to the current edition of IEC 60364 / BS7671 |
| Rated diversity factor (RDF) / Values of assumed loading<br>Number of outgoing circuits: Assumed Loading factor<br>2 and 3: 0,8<br>4 and 5: 0,7<br>6 to 9 inclusive: 0,6<br>10 and above: 0,5 | Note: RDF only applies to continuously and simultaneously loading circuits. In principle this means adjacent circuit breakers having a load 'on' time exceeding 30 minutes or where a load not exceeding 30 minutes has an 'off' timeless than the 'on' time will need to have the rating diversity factor applied as indicated Table and ratings based on a continuous rating of 90A |
| Rated Frequency (fn) | 50Hz |
| Pollution degree | 2 |
| Types of earthing system for which the assembly is designed | Indoor use only<br>Stationary Assembly |
| Degree of protection | IP2XC<br>Intended for use in domestic (residential) or similar premises |
| Electromagnetic compatibility (EMC) classification | A |
| External design | Wall-recessed, recessed type, enclosed assembly |
| Mechanical impact protection | IK05 |
| The type of construction | Fixed parts |
| Type A DBO | Distribution board for use by ordinary persons |

## General

Tools – Screwdriver PZ 2 or Flat screwdriver, knife and pliers.
Cleaning – use a soft damp cloth with luke warm water (only clean outside of unit).
Standards – All consumer units have been designed to comply with the requirements of BS EN 61439-3, BS 7671 and Part P document.

## Guarantee

BG Electrical Fortress Circuit Protection products are guaranteed against faulty materials and workmanship for a period of 10 years from date of delivery: products will be repaired or (at BG Electrical's discretion) replacements will be supplied or (at BG Electrical's discretion) a credit note will be issued. This guarantee is subject to BG Electrical's conditions of sale and in particular to the following conditions being met:

1. Notification of any defect is given to BG Electrical as soon as reasonably practicable after becoming apparent, and the products then returned to BG Electrical.
2. The products have only been operated under normal operating conditions and have only been subject to normal use.
3. No work (other than normal and proper maintenance) has been carried out to the products without BG Electrical's prior written consent.
4. The products have been assembled, or incorporated into other goods, by a qualified and recognised electrician and only in accordance with any instructions issued by BG Electrical.
5. The defect has not arisen from an item manufactured or supplied by a person other than BG Electrical.

This guarantee does not affect any consumer statutory rights.
All components used in a BG Electrical enclosure, must be supplied by BG Electrical. The use of any other components will negate compliance to BS EN 61439 and the BG Electrical Guarantee. Failure to fit the enclosure in accordance with these instructions will invalidate the guarantee.

## Batch Code Explanation

yyWxx: Manufacturing date code; year of manufacturing (yy) and week of manufacturing (Wxx)

## Address/Helpline


Luceco PLC
Stafford Park 1
Telford TF3 3BD
ENGLAND

(EU) Luceco SE
C/ Bobinadora 1-5
08302 Mataró
SPAIN


If you have further technical assistance you can get in touch with our
**Technical Helpline on:**
**+44 (0)3300 249 279**
**technical.support@bgelectrical.co.uk**

## Environmental Protection

This symbol is known as the "Crossed-out Wheelie Bin Symbol". When this symbol is marked on a product or battery. It means that it should not be disposed of with your general household waste. Some chemicals contained within electrical/electronic products or batteries can be harmful to health and the environment. Only dispose of electrical/electronic/battery items in separate collection schemes, which cater for the recovery and recycling of materials contained within. Your co-operation is vital to ensure the success of these schemes and for the protection of the environment.