

## Consumer Units and Enclosures

### Standards and approvals

All Sentry consumer units are designed to fully comply with the requirements of BS EN 60439-3.

Weatherproof enclosures are designed to fully comply with the 17th Edition IEE Wiring Regulations (537.2.2.1 and 537.3.2.2).

#### Technical specification

##### Electrical

Maximum current rating:

All Sentry consumer units have a maximum rating of 100A except K5504s, K5604s, which are rated at 63A

Terminal capacity: 16mm<sup>2</sup> earth and neutral

Rated frequency: 50Hz

Rated operational voltage:

Consumer unit: 220-250V

2 module enclosure: 220-250V

4 module enclosure: 220-415V

Rated insulation voltage:

Consumer unit: 300V

2 module enclosure: 300V

4 module enclosure: 660V

Short circuit withstand:

16kA rms (based on the use of a BS 1361 Type 2 fuse of rating not exceeding 100A)

Earthing system:

Suitable for use with TN-S, TN-C-S and TT systems

##### Split load

Split load units are supplied with a pre-fitted switch, RCD and suitable cables.

The following versions are offered:

	Main Incomer	RCD
K5682s	100A Switch	63A
K5662s	100A Switch	80A
K5666s	100A Switch	63A
K5686s	100A Switch	80A
K5681s	100A Switch	80A
K5582s	100A Switch	63A
K5566s	100A Switch	63A
K5586s	100A Switch	80A
K5581s	100A Switch	80A



### Description

Specific consumer unit configurations have been designed to provide flexible solutions in meeting the requirements of the 17th Edition with regards to RCD protection for circuits, cables and socket outlets. MK Sentry Consumer Units, available in insulated and metal versions, allow for protected and unprotected ways with the circuits being split across up to 3 RCDs, whilst the labelling sheet allows for full identification of all circuits.

Sentry consumer units and enclosures are available in various surface metal, surface insulated and flush metal types, designed on a modular basis, with 2 to 21 module enclosures in the range, to accommodate a wide variety of MK modular protection and control products. In addition 24, 32, 42 module surface metal and insulated dual rail consumer units can be assembled using a suitable stacking kit.

Surface insulated units provide an all insulated housing. Metal units provide a housing with facility for earthing the metal box.

The enclosures are provided with ample wiring space and cable entry points. The lids can be locked with a barrel lock & key (accessory K5593s).

### Colours / finishes

All insulated and metal consumer units have a textured magnolia cover and lid. The surface metal consumer unit bases are in magnolia (powder coated paint). The flush bases are of galvanized steel. All 2 and 4 module and weatherproof enclosures are available in light grey.

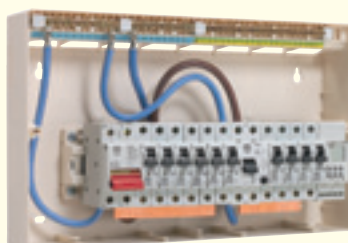
Certain models are provided with a pre-assembled split load arrangement with switch and up to 3 RCDs. The range is complemented by a versatile selection of small, two and four module enclosures suitable for housing RCDs or other combinations of Sentry products. A 2 module enclosure K5592s is suitable for housing the one module RCBO.

All Sentry Consumer Units have neutral and earth terminal bars with 16mm<sup>2</sup> capacity for solid stranded copper cables.

For enquiries where large number of similarly designed consumer units i.e. specified. MK can provide complete pre-assembled factory built units, subject to certain conditions. For further information please contact the MK Electric Technical Services Department (01268 563274).

### Features

- Attractive styling
- Modular design
- Suitable for most residential, commercial and light industrial applications
- Single, dual and triple RCD consumer units available for 17th Edition compliance
- Fully comply with British and European Harmonised Standards
- Available as an empty enclosure or pre-fitted with switch disconnecter and up to 3 RCDs
- Factory built options available



For a full range of corresponding products, see pages 271-291 in the product selector.

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circuit protection

## Technical specification

### Electrical (weatherproof enclosures only)

Maximum current rating:

5702s	2 pole devices	up to 100A
5704s	4 pole devices	up to 63A

Note:

5702s – Can accept up to 4 module ways with removal of moulded blanks.

5704s – Can accept up to 8 module ways with removal of moulded blanks.

Terminal capacity:

5702s: 4 x 6mm<sup>2</sup> earth and neutral

5704s: 2 x 6mm<sup>2</sup> and 6 x 4mm<sup>2</sup> earth and neutral.

Rated operational voltage: 220-415V

Rated insulation voltage: 660V

## Technical specification

### Physical

Ambient operating temperature:

–5°C to +40°C (not to exceed an average of more than +35°C in any 24 hour period)

IP ratings: (see also 'Service Conditions', below)

Consumer unit IP2XC

2 module enclosure 5502s: IP3X

2 module enclosure 5702s: IP65

2 module enclosure K5592s: IP30

4 module enclosure 5504s: IP3X

4 module enclosure 5604s: IP3X

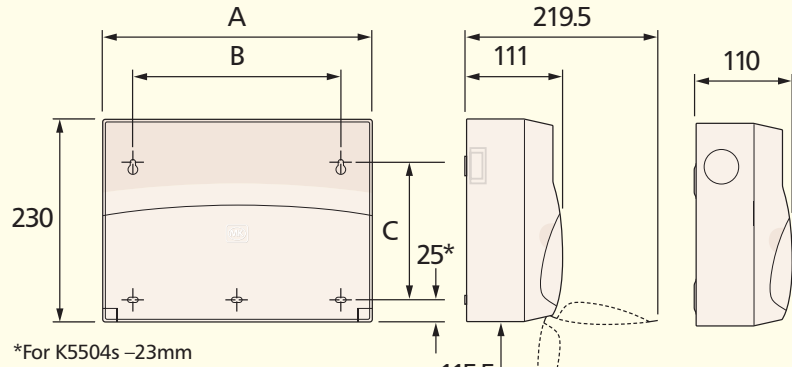
4 module enclosure 5704s: IP65

Max. installation altitude: 2000m

## Dimensions (mm)

Note: Knockout details on following page

### Consumer unit



Surface insulated  
K5604s to K5686s

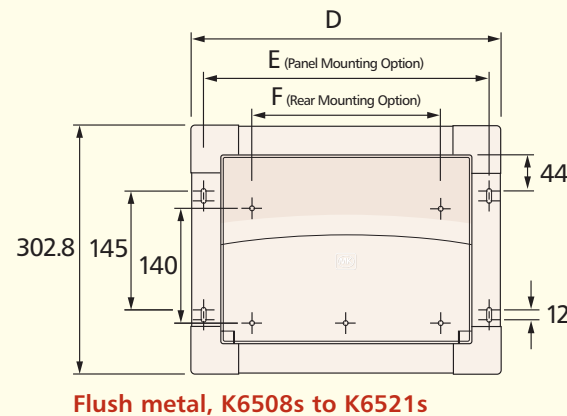
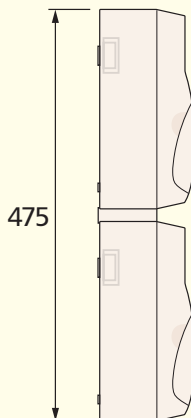
Unit	Modules	Dimensions		
		A	B	C
Surface Insulated	4	140	70	156
	8	234	164	156
	12	306	236	156
	16	378	308	156
Surface Metal	21	468	398	156
	4	140	75	151
	8	234	168	147
	12	306	240	147
	16	378	308	147
	21	468	400	147

Unit	Modules	Dimensions		
		E	F	D
Flush Metal	8	307	276	160
	12	379	348	230
	16	451	420	300
	21	541	510	390

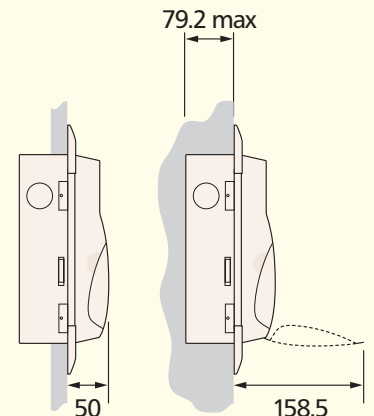
## Stacked assemblies K5504s to K5586s

Dual Rail  
(Insulated or Metal)  
using  
stacking kits  
K6061s,  
K6062s and  
K6063s.

See page 280  
for details.



Flush metal, K6508s to K6521s



Flush-mount cavity dimensions, K6508s to K6521s			
	Height	Width	Depth*
8 module	236-246	242-252	69-79
12 module	236-246	314-324	69-79
16 module	236-246	386-396	69-79
21 module	236-246	476-486	69-79

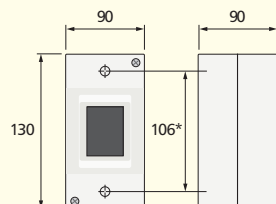
\*Depth does not apply if panel-mounted

Flush metal  
K6508s to  
K6521s  
Panel mounted

Flush metal  
K6508s to  
K6521s  
Rear mounted

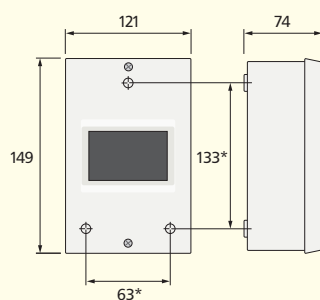
## Dimensions (mm)

## Two module enclosures



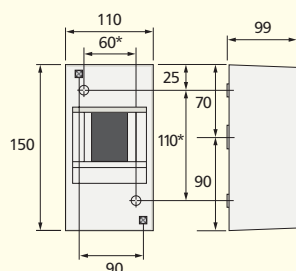
5502s

## Four module enclosures



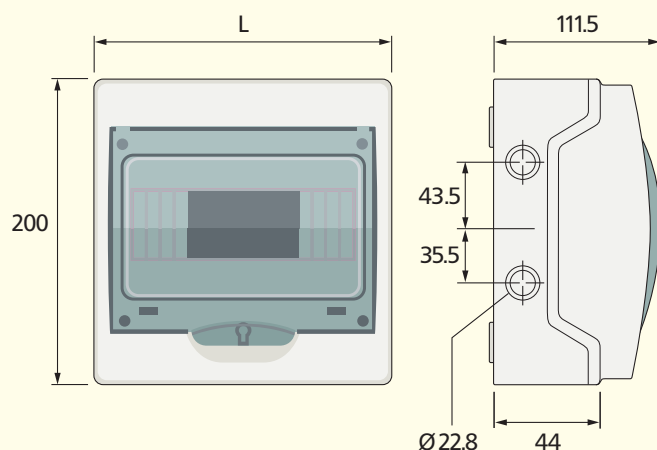
5504s

\*Fixing centre for mounting



5604s

## IP65 enclosures

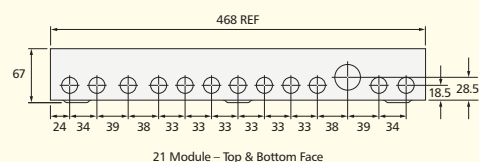
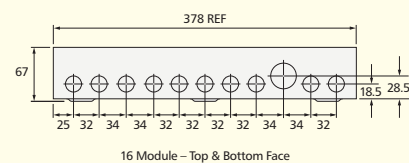
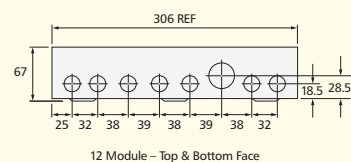
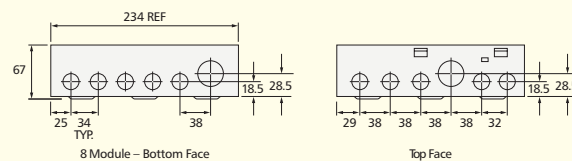
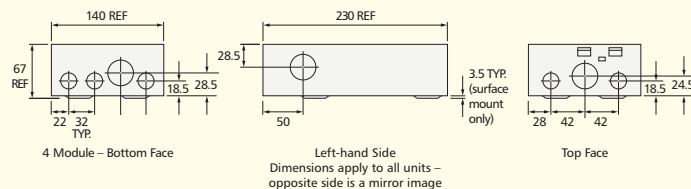


5702s L = 123

5704s L = 195

## Dimensions (mm)

## Knockout details for Surface and Flush-Mount Sentry Ranges



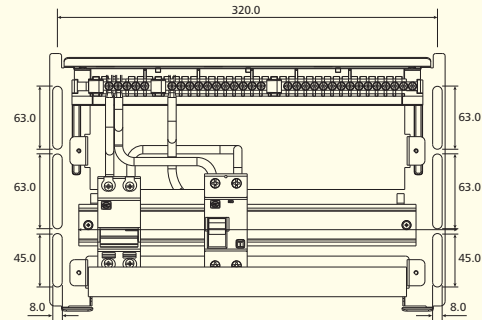
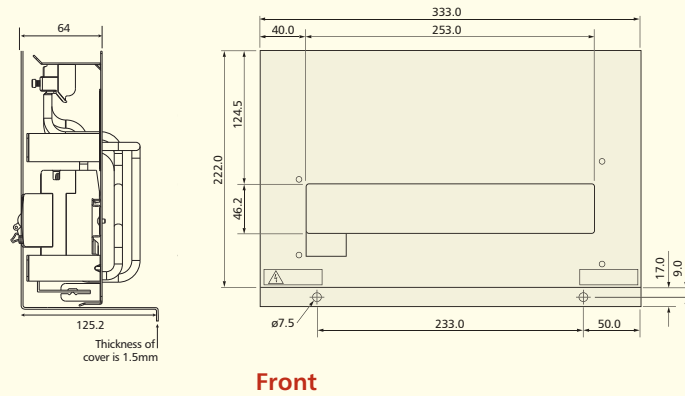
Unit	Top Face	Bottom Face	Sides
4 module	2 x 20mm 1 x 32mm	3 x 20mm 1 x 32mm	1 x 32mm per side
8 module	5 x 20mm 1 x 32mm	5 x 20mm 1 x 32mm	1 x 32mm per side
12 module	7 x 20mm 1 x 32mm	7 x 20mm 1 x 32mm	1 x 32mm per side
16 module	10 x 20mm 1 x 32mm	10 x 20mm 1 x 32mm	1 x 32mm per side
21 module	12 x 20mm 1 x 32mm	12 x 20mm 1 x 32mm	1 x 32mm per side

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circuit protection

## Dimensions (mm)

### Skeleton units



## Installation

### Consumer units

The Consumer units are provided with internal busbar shields or covers.

Front covers have lockable lid (using barrel lock & key accessory K5593s), which masks the front cover retaining screw. Removal of the front cover for internal access requires the use of tools.

Cover mounted blanks are provided with each Sentry Consumer unit to fill unused ways.

4,8 and 12 module – 1 off x 2

16 and 21 module – 2 off x 2

If additional unused ways are required, the DIN rail mounted blank 5544s or cover mounted blank K5544s must be used to complete the installation.

### Skeleton Units

The Skeleton unit is a spine backplate assembly designed to fit the majority of Mantel / Clifton enclosures, as used in Local Authority housing.

The Skeleton unit is provided with an internal busbar shield.

Removal of the front cover for internal access requires the use of tools.

If any unused ways are required the DIN rail mounted blank 5544s must be used to complete the installation.

### Two / four module enclosures

Front covers require tools to enable removal and gain internal access.

5604s has provision for tamper-proofing.

If there are any unused ways required the DIN rail mounted blank 5544s must be used to complete the installation. 5604s, 5702s, 5704s are provided with moulded blanks.

### Service conditions

Wiring of these products must comply with current IEE regulations.

Consumer units and two and four module enclosures are intended for indoor use in dry conditions and are not suitable for locations where high humidity and/or high temperatures may be experienced.

It is important that during installation of any Sentry enclosure, steps are taken to ensure that the IP rating is maintained, e.g. correct use of cable glands and knockouts / cutouts.

### Testing

Site assembled consumer units using MK components comply fully with BS EN 60439-3 so do not require further site testing other than normal routine installation tests.

### Split load and multi-incomer arrangements

Such assemblies must utilise the relevant Sentry kit in order to comply with BS EN 60439-3 and to avoid the need for additional testing.

### Stacking kits

Accessory kits (stacking frame, fittings and earth cable) can be used to produce stacked dual rail units in the insulated and surface metal ranges for the 12, 16 and 21 module units.

K6061s – for 12 module units to create 24 module dual rail consumer unit.

K6062s – for 16 module units to create 32 module dual rail consumer unit.

K6063s – for 21 module units to create 42 module dual rail consumer unit.

### Weatherproof enclosures

The weatherproof enclosures may be used for outdoor applications up to the level of the IP65 rating.

The cable entry position on the top and bottom of the enclosure is at the discretion of the installer and can be achieved with suitable tools. Knockouts/ cutouts are provided for side entry.

Precautions must be taken to maintain the IP rating, e.g. correct use of cable glands and knockouts. The caps provided must be used to cover the mounting screws.

Note: IP65 rating only achieved with lid in the closed position. These enclosures will not accept the one module RCBOS.