

Sentry

Contactors and Accessories

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PRODUCT RANGE		
Type	Width	List No.
20A, double pole	1 module	6220s
20A, double pole, with manual override	1 module	6720s
20A, four pole	2 module	6420s
40A, double pole	2 module	7240s
63A, double pole	2 module	7263s
40A, four pole	3 module	7440s
63A, four pole	3 module	7463s
Auxiliary Contact	1 module (including ½ module blank)	7301s
Suppression block	1 module	7302s

Standards and approvals

All Sentry contactors in the range are designed to fully comply with BS EN 61095.

Description

Sentry contractors provide a method of remotely switching single and three phase loads. In this regard, they are particularly useful for switching heating, lighting and ventilation circuits, in particular when used in conjunction with REC supply off-peak tariffs.

The Auxiliary Contact is suitable for fitting to all Sentry Contactors and allows remote indication of contactor status, one normally open and one normally closed contact is provided. The Auxiliary Contact is a half module width, a half module blank is supplied to complete installation.

The suppression block is suitable where contractor controls are not bounce free and connects across the coil terminals. It can be used in conjunction with one or two contactors.

They are suitable for mounting on a standard DIN rail and are therefore fully compatible with all Sentry Consumer Units and small enclosures. (5504s, 5604s, 5704s, 5702s.)

Functions

CONTROL

Achieved by energising and de-energising the contactor coil, via an MK Time Switch or REC meter during 'off peak' hours as set by supply authorities. A coil status indicator is visible through the small window on the front of the contactor.

Features

- Compatible with all Sentry Consumer Units (single phase only) and the following Sentry enclosures: 5504s, 5604s, 5704s, 5702s (for single and three phase).

MANUAL OVERRIDE (6720s only)

An extra function is offered by the Sentry Contactor with manual override. This performs in the same way, but has a switch on the front face to give the following extra facilities:

1. AUTO START MODE

This gives the same performance as above.

2. 'STOP' (0)

In this position the user is able to switch the load off when required, eg during periods of absence. The load remains off until manually reset.

3. MANUAL START MODE (1)

A manual override which allows the load to be energised outside the normal timed period when required. When the contactor is used via an MK Time Switch or by an REC supply meter, the override switch can either be reset manually or allowed to return to the 'auto' position at the commencement of the next timed period. During the 'manual' period, electricity will be used at the standard rate.

4. 'PERMANENTLY ON' MODE

The manual override switch features a locking mechanism which allows the contactor to be fixed in a 'permanently on' state. Note: this will not now reset at the commencement of the next timed period.

- Suitable for heating, lighting and ventilation circuits
- Choice of functions
- Ideal for use with REC supply off-peak tariffs

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Installation

- a) When a contactor is mounted alongside an MCB of greater than 10 amp current rating, or two contactors are mounted alongside an MCB of any current rating, it is advisable to insert a module blank between them. (List No. 5544s.)
- b) When mounting more than two contactors side by side, it is necessary to insert a module blank between every two contactors, to give ventilation.
- c) When using dual rail consumer units, it is advisable to mount electronic products on the lower rail and contactors on the upper rail. If mounting in a single rail consumer unit, it is advisable to mount electronic products as far away as possible from contactors. As a minimum they should be spaced by a single module width blank.
- d) Ensure the load to be controlled is protected against short circuit and overload conditions by a suitable rated Sentry MCB.

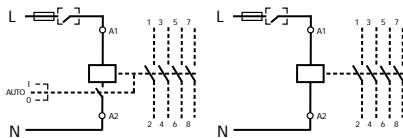
- e) Contactors and Suppression Module are mounted into Sentry Consumer Units and enclosures, by clipping onto the DIN rail mounted in the base by means of the spring clip. If the contactor is required to be removed for any reason, unclip the contactor from the DIN rail by means of the spring clip on the contactor.
- f) When using a single Auxiliary Contact, the half module blank supplied must be fitted to the DIN rail, to provide protection against access to the internal parts.
- g) The suppression module can be used in conjunction with one or two contactors and should be fitted, in parallel with the contactor controls, when they are not bounce free. The module is suitable for 220/240A operation.

Terminal layout

i) Contactor

- a) The coil connections to control energisation should be made between terminals A1 and A2.
- b) One normally open main contact is between terminals 1 and 2.
- c) A second normally open main contact is between terminals 3 and 4.
- d) In the case of four pole contactors, the other main contacts are between terminals 5 and 6, and 7 and 8 respectively.

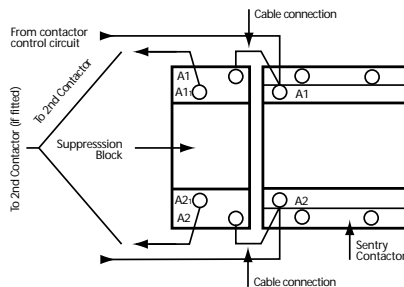
Typical schematic layouts of modular contactors.



With Manual Override Without Manual Override

ii) Suppression module

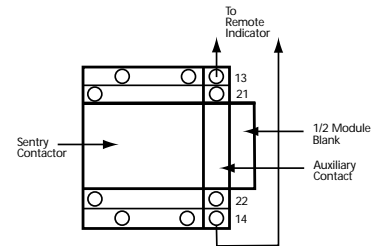
The suppression module should be connected with suitable cable (1.5mm²) across the coil terminals A1 and A2 or A1' and A2'.



iii) Auxiliary contact

Connection of cables should be made between terminals of auxiliary contact.

- a) Normally closed contact between terminals 21 and 22.
- b) Normally open contact between terminals 13 and 14.



TECHNICAL SPECIFICATION

All Contactor List Nos. are designed to operate at either 20, 40 or 63 amps continuous current (AC1-AC7b) 50Hz and have a mechanical life of 1,000,000 operations. The coil voltages are 220/240V 50Hz.

List No.	6220s	6420s	6720s	7240s	7263s	7440s	7463s	7301s	7302s
Description	Contactor				Contactor			Auxiliary Contact	Suppression Module
Contactor rating (Ith)	20A	20A	20A	40A	63A	40A	63A	5A	n/a
Includes manual override?	No	No	Yes	No	No	No	No	n/a	n/a
No. of poles (normally open only)	2	4	2	2	2	4	4		n/a
Width in 18mm modules	1	2	1	2	2	3	3	1 (inc ½ mod blank)	1
Rated Voltage (V)									
(i) Insulation (Ui)	500	500	500	500	500	500	500	500	
(ii) Max. operating (Ue)	250	415	250	250	250	415	415	250	
Average consumption of control circuit coil (VA)	– inrush		15	34	15	53	53	53	53
	– closed		3.8	4.6	3.8	6.5	6.5	6.5	6.5
Terminal cable capacity (max.)	Controls		2 x 2.5mm ² flexible 2 x 1.5mm ² rigid				2.5mm ² flexible rigid		
	Power		2 x 2.5mm ² flexible 2 x 6mm ² rigid		2 x 4mm ² flexible 2 x 25mm ² rigid			n/a n/a	
Torque for terminals	1.4Nm			3.5Nm			1.4nM		

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Applications and Maximum Ratings

LIGHTING – Maximum number of lamps

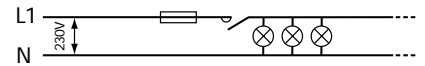
Presentation of installations according to type of supply.

a) *Single-phase circuit, 230V*

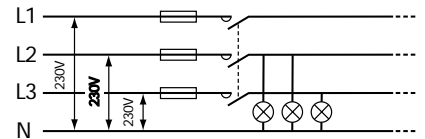
b) *3-phase circuit, 400V (with neutral)*

The maximum number of lamps which can be operated per phase is equal to the total number of lamps in the “Single-Phase 230V” adjacent table.

Single-phase circuit, 230V



3-phase circuit, 400V (with neutral)



Single-Phase 230V table

Type of lighting application (AC5a and AC5b categories)	6220s/6420s/6720s Maximum No. of lamps	7240s/7440s Maximum No. of lamps	7263s/7463s Maximum No. of lamps
<i>Incandescent and halogen lamps</i>			
40 W	57	115	172
60 W	45	85	125
100W	28	70	100
<i>Halogen lamps used with transformer</i>			
60 W	14	27	40
80 W	12	23	35
<i>Fluorescent lamp with starter (single fitting with parallel correction)</i>			
15 W	20	40	60
20 W	20	40	60
40 W	20	40	60
<i>Fluorescent lamp with starter (single fitting non-corrected)</i>			
15 W	30	70	100
20 W	30	70	100
40 W	28	70	100
<i>Electronic ballast (fluorescent lamp single setting)</i>			
18 W	111	222	333
36 W	58	117	176
<i>Electronic compact lamp (low consumption)</i>			
7 W	200	400	600
11 W	120	240	360
15 W	88	176	264
20 W	66	132	200

MOTORS – Maximum Power

Type of small motor application (AC1 – AC7a categories)

220/240V single phase with capacitor	1.1kW	2.2kW	4kW
400V three phase motor	4kW	7.5kW	11kW

HEATING – Maximum Power

Type of small heating application (AC7b category)

Number of operating cycles	230V		400V		230V		400V	
	Single Ph	3 Ph	Single Ph	3 Ph	Single Ph	3 Ph	Single Ph	3 Ph
100,000	5.4kW	16kW	8.6kW	26kW	13.6kW	41kW		
150,000	4.6kW	14kW	7.4kW	22kW	11.6kW	35kW		
200,000	3.5kW	10kW	5.6kW	17kW	8.8kW	26.5kW		
500,000	1.6kW	5kW	2.6kW	7.5kW	4kW	12kW		
1,000,000	1.2kW	3.5kW	1.9kW	6kW	3kW	9kW		

ELECTRICAL ENDURANCE

AC1 and AC7a categories	250,000 operations
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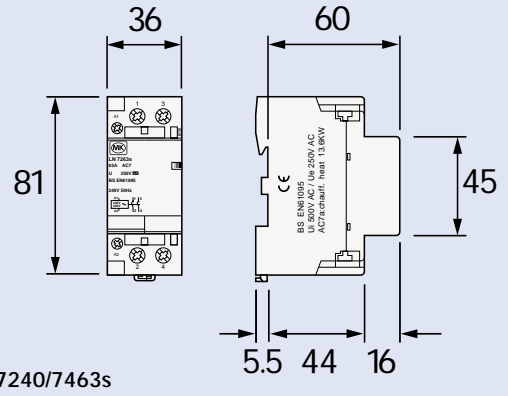
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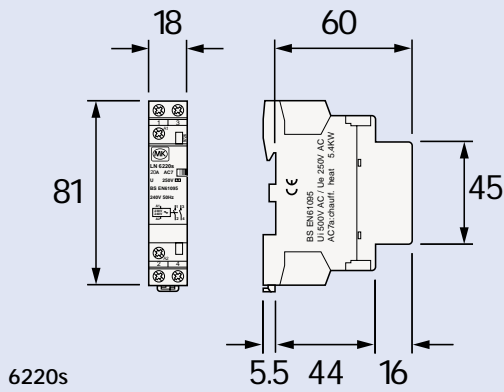
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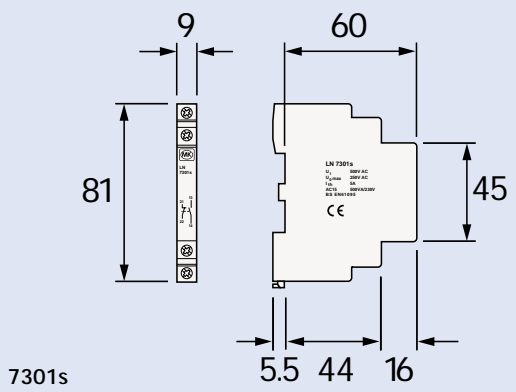
Dimensions (mm)



7240/7463s

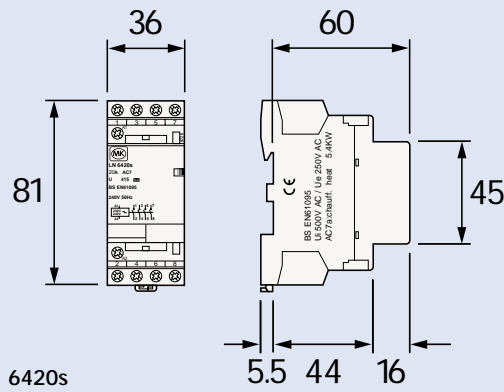


6220s

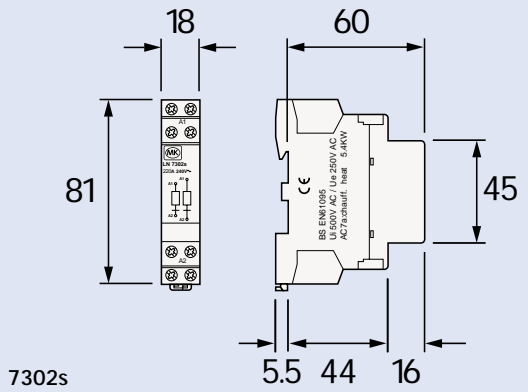


7301s

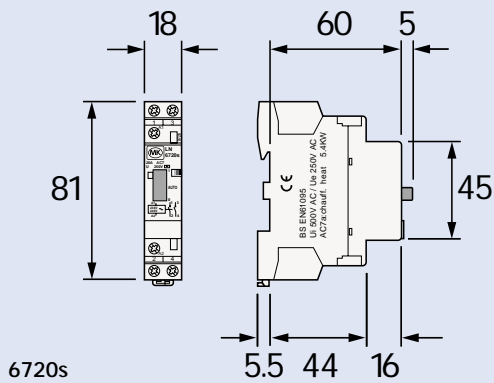
(a half module blank is included with this product to complete installation)



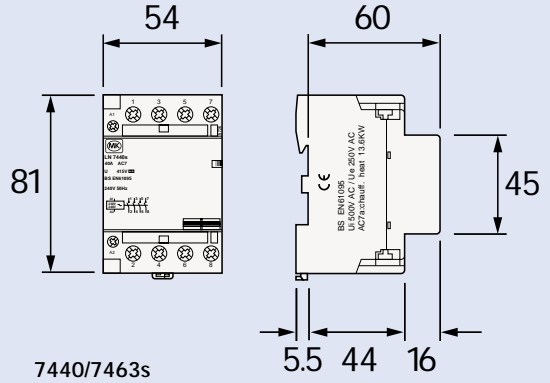
6420s



7302s



6720s



7440/7463s