

Digital Timeswitches

One and Two Channel

Contents	Page
A Introduction	2
B Specification and Technical Data	3
C Safety Instructions	4
D Installation Instructions	6
E How to Operate the Timeswitch	11
E1 Quick Programming Guide	
E2 Full Programming Instructions	19
See reverse of sheet	
F Disposal	15
G Guarantee	16

Please leave this leaflet with the end user for future reference

42608PL Ed.1



MK Digital Timeswitches are available in both one and two channel versions. They are suitable for mounting on standard DIN rail, in Sentry Enclosures and Consumer Units.

The units are supplied pre-programmed to UK time, and will automatically change from winter to summer time. To activate the display press any button once. The integral battery maintains the settings until the mains supply is connected. This feature will allow programming of switching commands prior to installation, if required.

2

B. SPECIFICATION AND TECHNICAL DATA

Description/List number	5731s	5732s
Product type	1 Channel	2 Channel
Memory locations	20	30
Supply voltage	220-240V a.c.50/60 Hz	
Maximum power consumption	1VA	
Switch	resistive	16 A / 250 V AC
	inductive	2.5 A (Cos. \varnothing 0.6) / 250 V AC
	fluorescent	1000 W
Switching arrangement	Changeover switch	
Minimum programming time	1 min	
Operation temp range	-25°C to +55°C	
Operational accuracy	Typically 2.5 sec/day at 20°C	
Running reserve	3 years from factory	
Protection Class	Class II (Double insulated)	
Width of unit	36mm (2 Sentry modules)	
Terminal capacity	2 x 2.5mm Sq.	

Note: Inductive loads, particularly compact fluorescent lamps or energy saving lamps, place a heavy stress on the switching contacts. If in doubt about the ability of the Timeswitch to directly switch a particular load it is advisable to install the Timeswitch in conjunction with a suitable relay or contactor. If in doubt please consult the Technical Sales and Service Department for assistance.

3

C. SAFETY INSTRUCTIONS

- It is essential that prior to installation or maintenance, the user/installer disconnects the electrical supply before commencing work.
- The Sentry Timeswitch must be installed by a competent person (i.e. a qualified electrician) in accordance with the instructions contained within this instruction leaflet and in accordance with the appropriate clauses of the current edition of the Wiring Regulations.
- The Timeswitch should always be mounted in a suitable consumer unit or enclosure.
- Only remove the mounting bracket to suit specific enclosures. It is possible to change the mounting height of the Timeswitch, by removing the mounting bracket. Should this bracket be removed always ensure the IP rating of the installation is not affected.
- It is essential that all connections are made as instructed, that cables are not stressed, and terminals are fully tightened.
- The electrical load to be switched by the Timeswitch must not exceed the appropriate rating stated for particular types of load.
- The Timeswitch is double insulated and no earth connection is required to the product.
- Product and packaging should be disposed of via civic amenity facilities at the end of its useful life. Where facilities exist the product should be recycled. The units contain a lithium battery.

4

5

D. INSTALLATION INSTRUCTIONS

D1. General notes on installation.

Please read this leaflet before installing the Timeswitch and leave the leaflet with the installed unit for the benefit of future users.

The Sentry Timeswitch must be installed by a competent person (i.e. a qualified electrician) in accordance with the instructions contained within this instruction leaflet and in accordance with the appropriate clauses of the current edition of the Wiring Regulations.

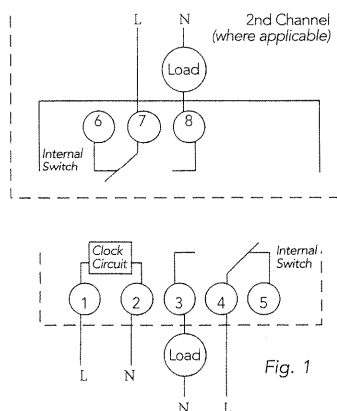
D2. Mounting in a Sentry Enclosure or Consumer Unit. (for exceptions i.e. 5604s, see section D3).

- Clip Timeswitch to DIN rail (space required two modules). If required the Timeswitch can be removed from the DIN rail by releasing the lower clip with a screwdriver and lifting the unit forward and upward.
- Make the wiring connections according to the wiring diagrams (see Fig.1 and 2). It is important that the terminals are fully tightened (recommended torque 0.5 – 0.8 Nm) and that the cables are secured.

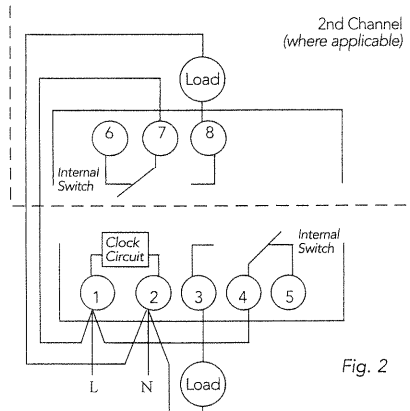
Note: Protect the circuits connected to the timeswitch with an MCB of appropriate rating.

6

D. INSTALLATION INSTRUCTIONS (cont)



7



8

D3. Mounting in a Sentry Enclosure 5604s or other Enclosures with restricted height between DIN rail and Front Cover.

If mounting the Timeswitch in these types of enclosures it is necessary to follow the instructions (see Fig. 3) below before completing the installation.

- First remove the mounting bracket from the base of the Timeswitch. This is completed by inserting a small screwdriver into the slot above the DIN rail clip, to access the two tabs. Whilst pressing the two tabs inwards, the mounting bracket can be pulled away from the base of the Timeswitch.
- Remove the DIN rail clip from the mounting bracket, by sliding inwards, and replace into the base of the Timeswitch.

Complete the installation as detailed in section D2.

9

D. INSTALLATION INSTRUCTIONS (cont)

Fig 3. Removal of Mounting Bracket

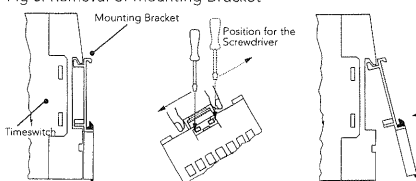
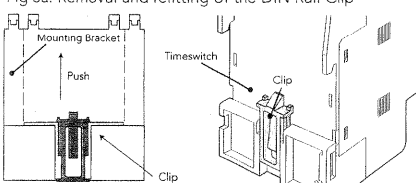


Fig 3a. Removal and refitting of the DIN Rail Clip

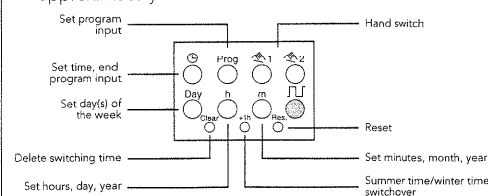


10

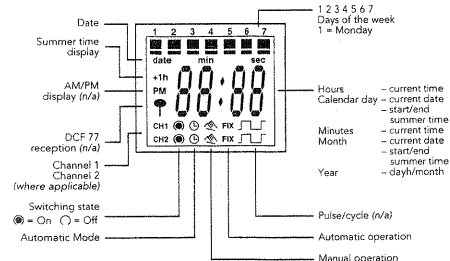
E1. QUICK PROGRAMMING GUIDE

a) STARTING OPERATION

The Timeswitch can be programmed before or after installation due to the internal battery. To activate the display press any button once, the time and date is displayed. If the unit has been fixed into position and the electricity supply connected, the Timeswitch is operational. The display will automatically activate after approximately 1-2 minutes.



11



b) SETTING THE TIME OF DAY

The time of day has been pre-set in the Factory (for the UK only). There is no need to make any adjustments. If installing elsewhere, or if reset is accidentally pressed, please refer to the Full Operating Instructions in section E2.

12

c) SETTING THE ON/OFF PERIODS

Open the transparent cover.

Press 'Prog.' and 'hand' for command ● 'On'

Press 'Day' to program blocks or individual days switching required.

Press 'h' and 'm' to program time required

Press 'Prog.' and 'hand' for command ○ 'Off'

Press 'Day' to program blocks or individual days switching required.

Press 'h' and 'm' to program time required

Repeat for other programs, Press '⏮' to return to display.

Note: ○ = Off, ● = On.

d) OVERRIDE FACILITY

It is possible to manually override the Timeswitch settings regardless of the programs set.

Override current settings – Simply press the 'hand' until the display shows 'hand' and ○ or ●

as appropriate. The programmed settings will automatically be reactivated after the override is completed.

Permanently 'ON' – simply press the 'hand' until the display shows 'FIX' and ●. To return to programmed setting press the 'hand' twice until the '⏮' symbol appears.

Permanently 'OFF' – simply press the 'hand' until the display shows 'FIX' and ○. To return to programmed setting press the 'hand' twice until the '⏮' symbol appears.

13

14

At the end of its useful life, product and packaging should be disposed of via standard refuse facilities. The Timeswitch contains a lithium battery.

15

G. GUARANTEE

The Company undertakes to replace or repair, at its discretion, this product should it become defective within a period of 10 years after delivery, solely as a result of faulty materials and/or workmanship. Understandably, if the product has not been installed or maintained in accordance with the Company's instructions, has not been used appropriately, or if any attempt has been made to rectify, dismantle or alter the product in any way, the guarantee will be invalidated.

This Guarantee states the Company's entire liability. It does not extend to cover consequential loss or damage or installation costs arising from the defective product. This Guarantee does not restrict or infringe the normal statutory or other rights of the consumer.

16

Caradon MK Electric Limited wishes to make it clear that it owns all the original designs of the products which it manufactures (whether or not listed in this leaflet) and that it will take all necessary legal action in any part of the world against any party found to be manufacturing, distributing, selling or otherwise dealing with any article which infringes the company's copyrights or patents in its products, or any other rights of the company therein.

Design Right Caradon MK Electric Ltd.

Technical queries should be made to:

Caradon MK Electric Limited,
Technical Sales Services Department,
The Arnold Centre, Paycocke Road,
Basildon, Essex SS14 3EA.
Tel: +44 (0) 1268 563720
Fax: +44 (0) 1268 563064

MK and Sentry are Trade Marks of Caradon MK Electric Limited

17

More  For Your Money

Caradon MK Electric Limited

The Arnold Centre, Paycocke Road,
Basildon, Essex SS14 3EA

Tel: 01268 563000 (National)

Fax: 01268 563563 (UK Sales)
+44 (0) 1268 563360 (International)

E-mail: mkelectric@caradon.com

Website: <http://www.mkelectric.co.uk>

18

CONTENTS

- 1. FACTORY SETTINGS
- 2. CHANGING SETTINGS
 - 2.1 Time and day of the week
 - 2.2 Calendar month and day
 - 2.2.1 AU = Automatic changeover
 - 2.2.2 cHA = Weekday-related time change
 - 2.2.3 no = No changeover
- 3. STANDARD SWITCH COMMANDS
- 4. WEEKDAY BLOCK FORMATION
- 5. READ – CHANGE – DELETE – RESET
- 6. HAND SWITCH

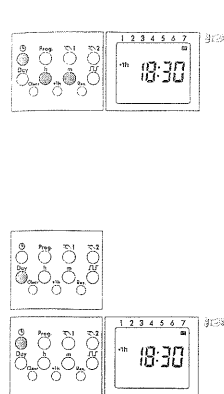
1. FACTORY SETTINGS

The selections correspond to U.K. Time. The time switch offers 3 Operating modes. The date and time, and also the Operating mode AU are set.

Operating modes:

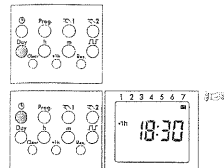
- **AU Automatic summer time controller switchover** (see 2.2.1)
The switchover occurs on the dates defined by the legislator.
- **cHA Weekday-related summer time controller switchover,** (see 2.2.2)
You enter the start and end dates of summer time which applies to your location/country, e. g. The first Sunday in April of the current year (start of summer time)
The last Sunday in October of the year (end of summer time) In the following years, changeover always occurs on the right day of the week in the correct calendar week.
- **no No changeover, see 2.2.3**

2. CHANGING SETTINGS



2.1 Time and day of the week
Press the key once

Set the time:
With the h key – hours
With the m key – minutes
If the operating mode 'no' was selected, the day of the week must **now** be set.
With the day key select:
Day 1 = Monday
2 = Tuesday
3 = Wednesday
7 = Sunday



Press the key once.
The input is ended.

2.2 Calendar month and day

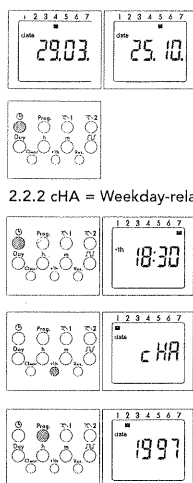
2.2.1 AU or 2.2.2 cHA or 2.2.3 no

2.2.1 AU = Automatic changeover
Press the key once

Press the + 1h key 1 once, AU appears

Press the Prog key once
Set the current year:
With the m key or the h key

Confirm with the Prog key
Set the current month and day:
With the m key – calendar month
With the h key – calendar day



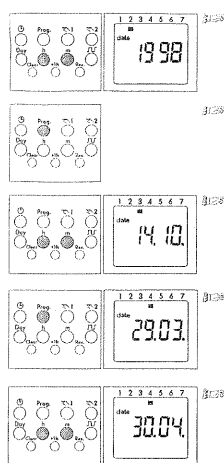
Note: With the Prog key (press once or twice), read the date for the start e.g. 29.03. and end e.g. 25.10. of summer time.
Press the key once.
The input is ended.

2.2.2 cHA = Weekday-related time change

Press the key once

Press the +1h key as often as necessary until cHA appears

Press the Prog key once



Set the current year:
With the m key or the h key

Confirm with the Prog key

Set the current month and day:
With the m key – calendar month
With the h key – calendar day

Confirm with the Prog key
The start of summer time is displayed.

Set the individual summer time start:
With the m key – month
With the h key – day

Confirm with the Prog key

Set individual summer time end:
With the m key – month
With the h key – day

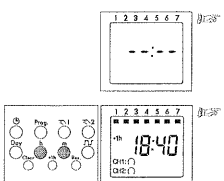
Press the key once.
The input is ended.

Press the key once.
The input is ended.
Note:
Select day of the week see 2.1

3. STANDARD SWITCH COMMANDS

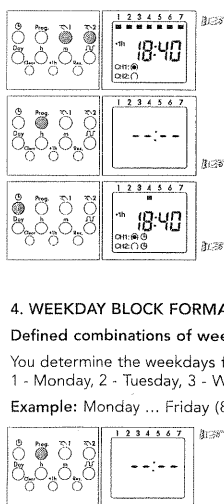
You determine the switching times and the switching state for the relevant switching output (channel).
Symbol: CH1: (ON) = Channel 1; CH2: (OFF) = Channel 2
These assignments are possible:

- Switching commands only for channel 1
- Switching commands only for channel 2
- The same switching commands for channel 1 and channel 2 (the switching time and switching state are identical)
- The same switching time for channel 1 and channel 2 but with a different switching state.



Select free memory location:
Press the Prog key as often as necessary until —:— appears.

Set the switching times:
With the m key – minutes
With the h key – hours
For weekday adjustment, see Block formation of weekdays, Point 4



Set the switching state:
With the key (ON) or (OFF)
Note:
The switching state for CH1 or CH2 can be deactivated. No symbol – no switching.
Press the Prog key once. The input has ended. A free memory location is displayed – for other settings or
Press the key once.
The input is ended.
The display shows the current time.

2.2.3 no = no changeover

Press the key once

Press the + 1h key as often as necessary until no appears
The Timeswitch operates without a date!

Press the Day key once. All 7 days of the week are activated

Activating/deactivating days of the week:
Jog the Day key stepwise

	1	2	3	4	5	6	7
↓	—	—	—	—	—	—	—
↓	—	—	—	—	—	—	—
↓	—	—	—	—	—	—	—
↓	—	—	—	—	—	—	—
↓	—	—	—	—	—	—	—
↓	—	—	—	—	—	—	—
↓	—	—	—	—	—	—	—

Note: Enter the switching times and the switching state
 = ON; = OFF for the relevant switching state (channel).
For standard switching commands, see 3.

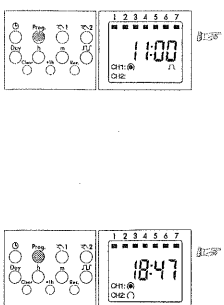
Press the Prog key once.
The input is ended.
A free memory location is displayed - for further settings or
press the key 1once.
The input is ended. The display shows the current time.

Note: After the procedures

- read, modify or delete the time, date, switching program
- restoration of mains power the switching state of the time switch is updated automatically.

5. READ – CHANGE – DELETE – RESET

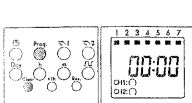
- You can read the program contents stepwise
- You can change or overwrite the program contents
- You can delete the program contents
- You can delete the date and time



Read
Press the Prog key step by step
Each individual content is displayed until the end of the program.
Then:

- One free memory location —:—
- One digit (free memory locations) (ex. Fr 10)

Change
Press the Prog key step by step as far as the switching command /contents which you want to change/overwrite.
Change the switching command/contents:
As described in 4. Weekday block formation

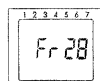


Delete - Individual switching commands

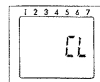
Press the Prog key step by step as far as the switching command/contents which you want to delete.

Press the Clear key once. This switching command is deleted.

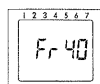
Delete - All switching commands
Press the Prog key as often as necessary until FRxx appears



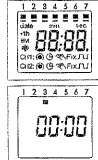
Press the Clear key once. CL is in the display



Press the Clear key and hold it down.



All memory locations are deleted!
The display shows the number of the max. memory locations.



Reset

Press the Reset key once

The set date and time are reset.

The factory setting AU = automatic s/w- time changeover is active(31.12.1997, 00:00)

All segments are visible for approx. 2 seconds, then 00:00 appears.

AU = automatic s/w time changeover

See point 1 and 2 for setting the current date.

a. HAND SWITCH

You change - manually - the current switching state.

However, the individually set switching program is preserved.

1 for channel 1

2 for channel 2

= automatic

= Manual mode

FIX = continuous operation

= OFF

= ON

FIX = Continuous ON

= ON

= OFF

FIX = Continuous OFF

The switching state corresponds to the entered program.

You change - manually - the current switching state.

The next switching command in the program is executed automatically again.

You change - manually - the current switching state.

Only with the key do you switch from continuous operation back to Automatic mode.