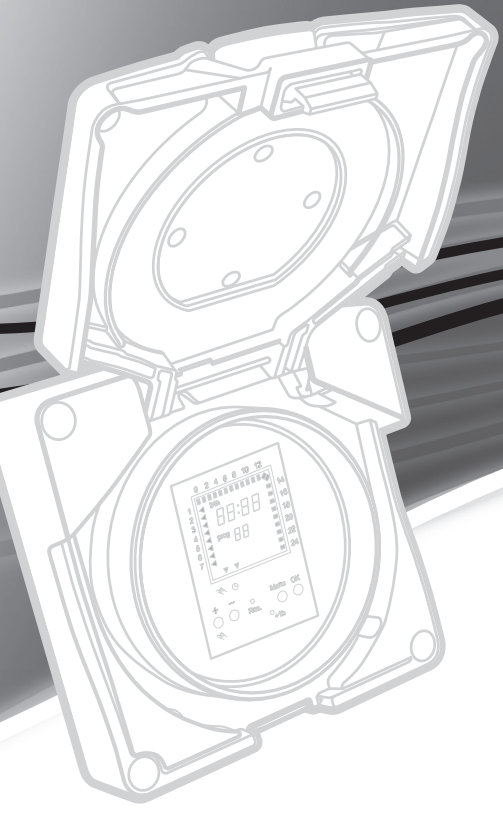
CLIPSAL

by Schneider Electric



56 Series Programmable Digital Timer

56TCDB

Series

Installation Instructions

Contents

1.0 Introduction **3**
2.0 Features **3**
3.0 Safety **4**
4.0 Specifications **5**
5.0 Timer Display and Keys **5**
5.1 Display 5
5.2 Battery Backup 6
5.3 Keys 7
6.0 First Use or After a Reset **8**
7.0 Setting the Time and Day of the Week **8-9**
8.0 Programming the Memory Locations **10**
8.1 Program Editing Steps 11-12
9.0 Deleting Switching Programs **13**
10.0 Adjusting for Daylight Savings **13**
11.0 Switching Between Automatic and Manual Mode **14**
12.0 Technical and Sales Support **15**

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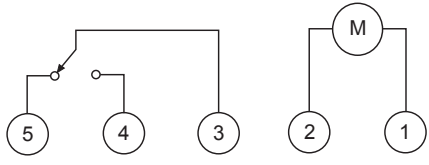
1.0 Introduction

The digital timer has 20 memory locations (10 'ON' spaces and 10 'OFF' spaces). There are three pre-set programs (P01, P02 and P03) that can be changed by the user. The digital timer has a built-in battery backup that maintains information in memory and avoids the loss of program data. The reset key returns the pre-set programs (P01, P02 and P03) to their original settings.

The timer switch (terminals 3, 4 and 5) can handle a wide range of loads. The switch can be wired as normally-open or normally-closed. The display shows the current switch state of the timer output. The switch state can be changed at any time by switching back and forth between automatic mode and manual mode. Switch OFF actions supercede Switch ON actions.

Programming of the digital timer is done via the keys on the front of the unit. There are four push button keys and two recessed keys. You can program the digital timer using battery power, but the switch will not operate until power is connected to timer terminals 1 and 2.



2.0 Features

- You can set the programmed events to occur on (1) a specific day of the week, (2) weekdays, (3) weekends or (4) all days of the week.
- Timer settings can be for a period ranging from 1 min to 24 hrs.
- Daylight Savings clock change +1 h with a single key press.

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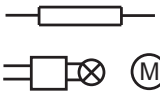
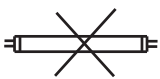
3.0 Safety

Only qualified persons may install the digital timer and the connected load.

⚠ WARNING: Avoid Electric Shock

Lock out and tag the circuit breaker connected to the timer and load before making any wiring connections or changes. Failure to follow this warning could result in death or serious injury.

- Loads connected to the timer switch may turn on or off at any time. Disconnect power before performing maintenance on the controlled devices.
- Do not attempt to disassemble the digital timer. There are no user serviceable parts inside the IP66-rated casing.
- You can connect the load to be normally open or normally closed. The current state of the switch can be changed at any time with the manual key.

Compatible Loads		Rating
	Resistive loads	Max. 16A
	Inductive loads (0.6pf)	Max. 4A
Non-Compatible Loads		
	Do not connect switching loads below 100mA or 20V a.c. or d.c. Not for fluorescent loads.	

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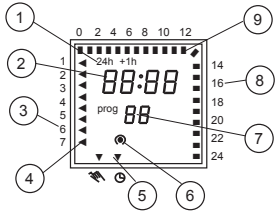
4.0 Specifications

Rating	230V a.c. 50Hz
Operating temperature	-10 °C to 55 °C
Accuracy	± 1sec per day at 20°C
Battery backup	10 years from factory at 20°C
Shortest switching time	1 minute
Memory spaces	20 (10 ON / 10 OFF)

5.0 Timer Display and Keys

5.1 Display



Item	Description
1	24 h or am/pm and +1 hr for Daylight Savings
2	Hour: 2 digits; Minutes: 2 digits (for time of day and timer setting)
3	Days of the week (see page 6)
4	Days when program is ON
5	Auto/Manual Mode / Timer Set Indicators
6	Switch Mode: Dot = ON Empty = OFF
7	Program Number
8	Hours of the day
9	Hours when timer program is ON

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5.2 Battery Backup

The digital timer has a battery backup. The program memory will be saved in the event of a power failure. The battery is normally good for 10 years at 20 °C.

Important!

For every SWITCH ON program setting, there must be a corresponding SWITCH OFF program setting. For example, Prog 01 (ON) is paired with Prog 02 (OFF). See the example on page 13.

Possible Week Blocks and Individual Days						
1	Monday	◀	◀	◀		◀
2	Tuesday	◀	◀	◀		◀
3	Wednesday	◀	◀	◀		◀
4	Thursday	◀	◀	◀		◀
5	Friday	◀	◀	◀		◀
6	Saturday	◀	◀		◀	◀
7	Sunday	◀			◀	◀

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5.3 Keys

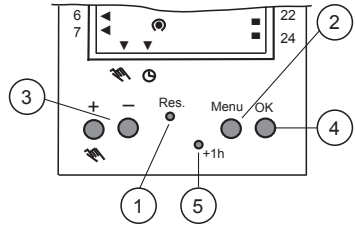

Fig.	Key	Description
1	Reset	Erases user programmed timing cycles and returns to the basic setting with 3 pre-set programs
2	Menu	Used during programming and to switch between automatic and manual modes
3	+ and –	Adjust values up and down
4	OK	Confirm
5	+1 h	Add one hour to the currently set time or return to standard time

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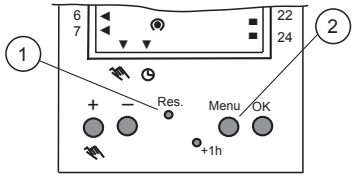
6.0 First Use or After a Reset

Out of the box, the timer has three preset programs. You can use these as provided, or you can modify them to suit your specific needs. If you reset the timer using the Res. (reset) key, you will erase any user programming and restore the three preset programs.

For the first use and after a reset, you will perform the following operations to set up the timer:

- Set the clock display to 24 hour or a.m./p.m.
- Set the current hour, minute and day of the week.
- Program the time on and time off for the programs (memory locations) as needed.

Use the Menu (2) key to begin programming mode.

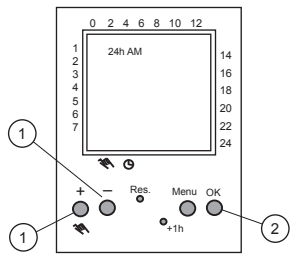


7.0 Setting the Time and Day of the Week

You can set the time display mode, time and day of the week any time you enter programming mode.

If a setting is already correct, simply press the OK button to move on to the next programming step.

Begin by setting the time display mode (24hr or am/pm). Use the +/- keys to select the mode. Confirm your selection with the OK key.



Hint: Set the time of day to the Standard time in your time zone. If Daylight Savings is in effect, you can use the +1 hr key later. When your location returns to standard time, you can adjust the setting back with a press of the +1hr key.

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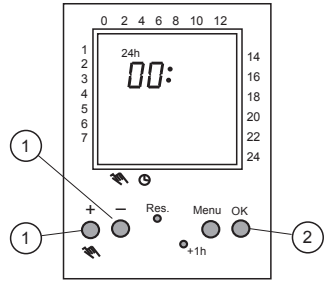
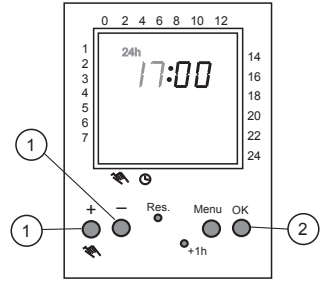
Set the **hour of the day** using the +/- keys to increase or decrease the hours digits. Confirm you selection using the OK key.

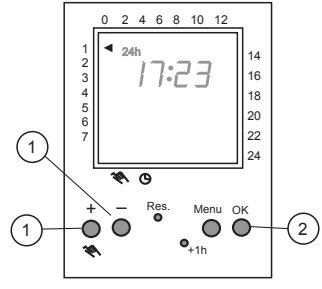


Set the **minutes** using the +/- keys and confirm your setting with the OK key.



Set the **day of the week** using the +/- keys and confirm the day with the OK key.

1. Monday
2. Tuesday
3. Wednesday
4. Thursday
5. Friday
6. Saturday
7. Sunday



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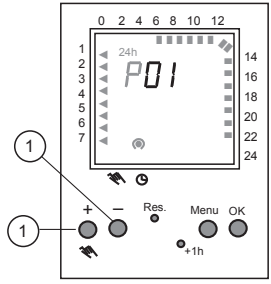
8.0 Programming the Memory Locations

To start a programming session:

1. Press the Menu key once. If the time and day settings are correct, press the OK key 4 times to go to the first memory location.
2. The first memory location (P01) is ready to program. You can use the preset values, or you can modify it.
3. Change the days of the week for P01 (On time) using the +/- keys or confirm using the OK key.
4. The display shows the next location (P02). You can use the preset value, or change the OFF time.
5. When you have set the timing blocks you need, you can exit the programming session by pressing the Menu key. An example is provided on the next page.

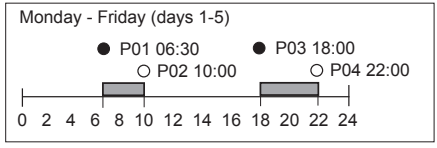


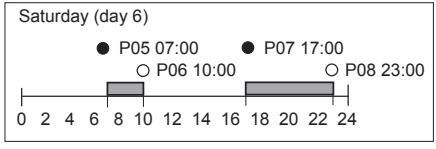
Example:

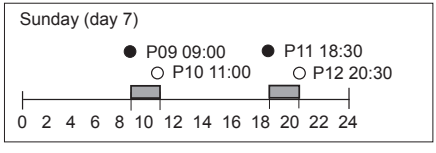
in this example, Monday through Friday have common settings.

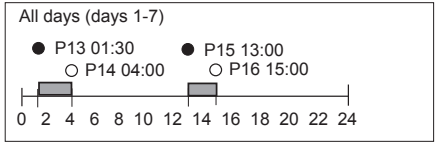
Saturday and Sunday each have their own settings.

The settings that are common to all days are at the bottom.









Notes:
In this example:

A solid circle (•) represents a SWITCH ON action

An empty circle (o) represents a SWITCH OFF action.

Memory locations are used in pairs to turn the switch ON and then OFF for specific times on specific days.

When there is a programming conflict, an OFF setting will override an ON setting.

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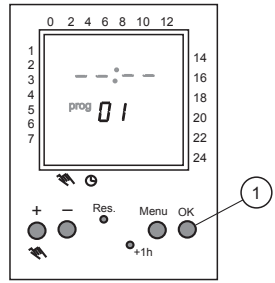
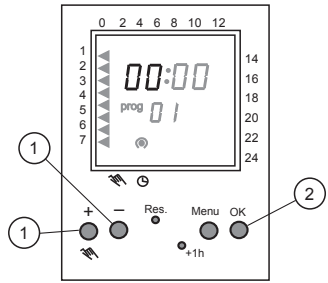
8.1 Program Editing Steps

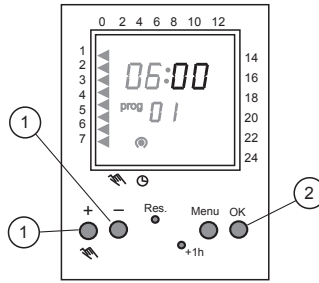
Program 01 is selected for editing, and there is no time or day of the week set. Press OK to continue.



Use the +\- keys to set the hour and press OK to confirm.



Use the +\- keys to set the minutes and press OK to confirm.



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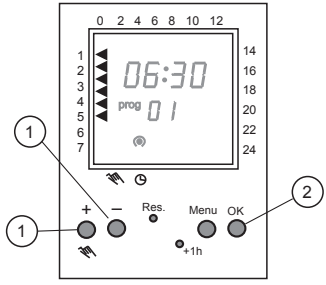
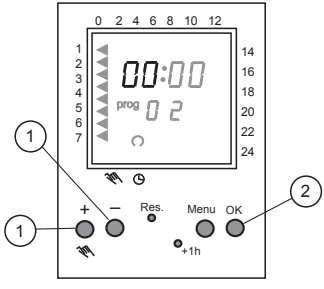
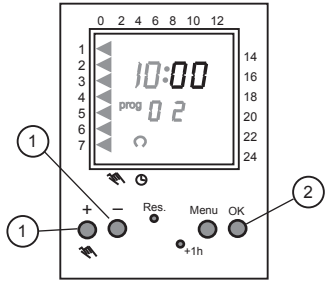
Use the +\- keys to set the active days and press OK to confirm.



The display is now showing Prog 2. Note that the switch setting indicator is empty (OFF). Use the +\- keys to set the hour and press OK to confirm.



Use the +\- keys to set the minutes and press OK to confirm.



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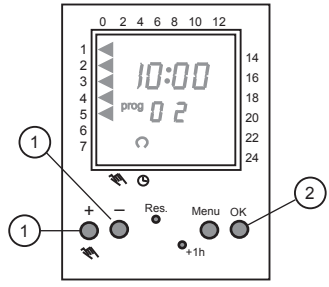
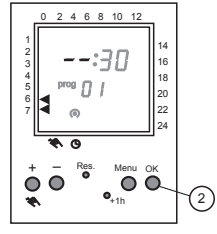
Now set the active days the same as the setting made for Prog 1.



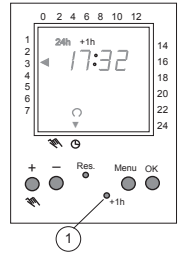
9.0 Deleting Switching Programs

Switching programs are deleted in ON-OFF pairs. Press Menu and then press OK until you see the ON program you wish to delete. Set to blank values and press OK to confirm.



10.0 Adjusting for Daylight Savings

The +1hr key toggles the Summer/Winter setting.



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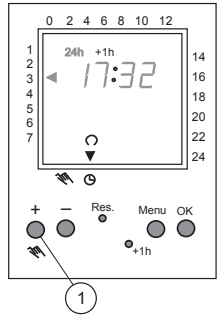
11.0 Switching Between Automatic and Manual Mode

Normally the digital timer operates in Automatic mode. The switch follows the programmed timing sequences.

You can change the current setting of the switch by pressing the '+' key. This places the switch in MANUAL mode. Pressing the "+' switch again returns the timer to AUTOMATIC mode.



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