

# OPERATING INSTRUCTIONS FOR C-BUS CLOCK 5031H2TC7 AND 51031V2TC7

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## DESCRIPTION OF BUTTONS

The following describes the purpose and functions of buttons of the C-Bus Clock unit.

<u>Button</u>	<u>Function</u>
RESET	Clears clock's current settings and all programmes in memory.
CLOCKsymbol	In <b>Normal mode</b> , used for time setting. In <b>Programming mode</b> , used to return to normal mode.
Prog	Used to enter <b>Programming mode</b> from <b>Normal mode</b> . In <b>Programming mode</b> , used to save programmed settings.
+1h	Used, in <b>Normal mode</b> only, to adjust the current time 1 hour forward or backward for daylight saving.
RND	Used to initiate <i>random switching</i> programme. Takes effect only in <b>Programming mode</b> .
HOUSEsymbol	Used to initiate <b>Holiday programme</b> . Takes effect only in <b>Programming mode</b> .
HANDsymbol 1	In <b>Normal mode</b> , manual switch for channel #1. In <b>Programming mode</b> , used for selection of switching status of channel #1.
HANDsymbol 2	In <b>Normal mode</b> , manual switch for channel #2. In <b>Programming mode</b> , used for selection of switching status of channel #2.
Sel	In <b>Programming mode</b> , used to select/deselect day for switching programme(s) or set duration (in days) for holiday programme.
Day, h+, m+	These buttons are used for: 1. In <b>Normal mode</b> , setting clock. 2. In <b>Programming mode</b> , setting switching times (day and time).
LED	Status indicator for either channel #1 or #2 (but not both). This <b>LED</b> can only be programmed via <b>C-Bus installation software</b> .

## OPERATION MODES

There are two modes of operation:

### Normal Mode

The clock displays current time settings (day and time) and the following information:

- Whether daylight saving mode is in effect in which case the [+/-h] is shown on the left side of the display.
- Whether Holiday schedule is active in which case the **HOUSE**symbol icon appears at the top right corner of the display.

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- Channel (#1 and #2) status. Icons are displayed next to each of the channels.

<b>Filled Circle</b>	The channel is currently <b>ON</b> .
<b>Hollowed Circle</b>	The channel is currently <b>OFF</b> .
<b>[Filled circle]</b>	The channel is permanently <b>ON</b> .
<b>[Hollow circle]</b>	The channel is permanently <b>OFF</b> .
<b>CLOCK</b> symbol	The channel <b>was</b> switched automatically, ie. by the switching schedule.
<b>RND</b>	The channel <b>was</b> switched by the randomly generated schedule.
<b>HAND</b> symbol	The channel <b>was</b> manually switched.

## Programming Mode

In this mode, schedules for switching of either or both channels can be set. Details of how to programme are outlined in the sections below.

### Setting the Time/Day

The **CLOCK**symbol button must be kept depressed together with:

- **Day** button to set day of week (value 1 to 7 for Sunday to Saturday).
- **h+** button to set hour (24 hour format only).\*
- **m+** button to set minute.\*

\* If the button is pressed for more than 2 seconds, fast forward (roll) mode will be initiated.

### Programming of Switching Schedules

Up to 42 schedules, each switching either or both channels at a preset time and day, can be programmed. The chart below describes the sequence of presses of **Prog** button:

- <Prog> 1<sup>st</sup> switching schedule is displayed.
- <Prog> 2<sup>nd</sup> switching schedule is displayed.
- <Prog>\*\* 1<sup>st</sup> free memory location for new switching schedule. A schedule template with no time/day entry is displayed.
- <Prog> Information of number of free memory locations for new schedules. For example, if there are 38 free locations 'Fr38' is displayed. If no memory location is available '8888' will appear.

- a) To programme a new switching schedule, press **Prog** button as often as necessary until a schedule template is displayed (ie. similar to step marked \*\* above).

- Using **h+** and **m+** buttons to set switching time(s)
- Select/deselect day of switching as follows:

To deselect, press **Day** button as often as required to move the flashing cursor to the day to be deselected then press **sel** button once. Both the day and cursor will flash, press **Day** button again, the day will deselect, ie. disappear.

To select a day, press **Day** button as often as required to move the flashing cursor to the day. Both the day and cursor will flash, press **sel** button once then **Day** button once.

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- Select the desired channel(s) with the **HAND**symbol buttons. As these buttons are pressed, the switching status icon of the corresponding channel will change on the display as follows:

<b>Filled circle</b>	for switch <b>ON</b> or
<b>Hollowed circle</b>	for switch <b>OFF</b> or
<b>None</b>	not selected

All settings (day, time and channel) must be entered for the schedule to be valid. On completion of programming of the schedule, press **Prog** button once to save the schedule. A template will appear and a new schedule can now be programmed. If no further switching schedules to be programmed, press **Prog** button twice or **CLOCK**symbol button once to return to **Normal mode**.

If **Prog** button is pressed prior to completing the schedule settings, the unentered data will flash. If this condition continues for more than 30 seconds, the unit will return to **Normal mode**. To continue programming just enter settings as normal.

- b) To change a switching schedule, press **Prog** button as often as necessary until the schedule to be changed is displayed. Simply enter the new settings for the schedule using **Day**, **Sel**, **h+**, **m+** and **HAND**symbol buttons, previous settings will be overwritten.
- c) To delete a switching schedule, press **Prog** button as often as necessary until the schedule to be deleted is displayed. Set either hour or minute position to '-' then press the **Prog** button or **CLOCK**symbol button until the '-' flashes. The schedule is deleted after approx 30 seconds.

**Important:** For the active switching schedule to work the channel(s) must be manually switched once to opposite state.

For example, if the clock's current time/day is 10.00am Tuesday then any schedules having switching time after 10.00am Tuesday are active switching schedules. If the first active switching schedule is to switch channel #1 ON then this channel should be manually switched OFF prior to the schedule activation.

## Programming for Holiday Schedules

Holiday schedule can be programmed up to 6 days in advance before it takes effect and allows a holiday duration of up to 99 days to be set. Once in effect the holiday duration decrements day by day until reaching 0 after which time the schedule becomes inactive but stays retained in memory. Current time of the clock is not displayed while Holiday schedule is in effect, only current holiday duration, channel switching status and the **HOUSE**symbol icon appear on the display.

To programme the Holiday schedules proceed in the same way as with normal switching schedules until a schedule template is displayed.

Press the **HOUSE**symbol button to start holiday schedules. The **HOUSE**symbol at the top right corner of the template is displayed. Using **h+**, **m+** and **HAND**symbol buttons to switching times and select channel(s).

At any time, if **Prog** button is pressed prior to completing the schedule settings, unentered data will flash. If this condition continues for more than 30 seconds the unit will return to **Normal mode**. To continue programming just enter settings as normal.

**Note:** Days cannot be set in *Holiday schedules* at this stage. If day(s) is entered before the **HOUSE**symbol button is pressed *Holiday schedules* will not start.

Press **CLOCK**symbol button once to return to **Normal mode** then activate the *holiday schedule* by pressing the **HOUSE**symbol button once. Using **Day** button to set the starting day of the holiday and **sel** button to set the holiday duration. If unentered holiday duration will be set for an unspecified period.

On completion, save the schedule settings and return to **Normal mode** by pressing **CLOCK**symbol button once.

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## Abort and Interrupt Holiday Schedule Prematurely

If holiday schedule has already started press the **HOUSE** symbol button once.

If holiday schedule has not yet started, press the **HOUSE** symbol button twice. The preset holiday duration data is displayed after the first press and following the second press the clock reverts to **Normal mode** display.

## Random Function (RND)

The random function allows the generation of **switching schedules** with or without preassigned switching times. When selected the random process will be applied to both channels, ie. it is not possible to set channel #1 under random switching and channel #2 to be programmed switched in the same schedule.

The random switching schedules can be interrupted by manual switching at any time using **HAND** symbol buttons.

Without preassigned switching times, random switching schedules are set to the following values:

<b>ON</b> switching	60 minute maximum 5 minute minimum
<b>OFF</b> switching	30 minute maximum 5 minute minimum

With preassigned switching times random switching schedules start and end at these specified times. At the end of the schedules, being randomly switched, status of the channel(s) can either be **ON** or **OFF**. If certain status of the channel(s) is desired, random switching schedules should be immediately followed by a *programmed switching schedule*.

To obtain random switching while programming of normal schedule or holiday schedule after selecting a channel or channels, press the **RND** button once.

To cancel random switching in a schedule or a holiday schedule, press **Prog** button as often as necessary until the random switching schedule or holiday schedule to be cancelled is displayed, press the **RND** button once.

## Manual Switching of Channels

By pressing the corresponding **HAND** symbol buttons, channels can be manually switched at any time when the clock unit is in **Normal mode** regardless of what switching schedule is in effect. The status of channels is cycled through 4 possible states in the order:

**Filled circle** → **Hollowed circle** → **[Filled circle]** → **[Hollow circle]** or  
(initial state)

**Hollowed circle** → **Filled circle** → **[Filled circle]** → **[Hollowed circle]**  
(initial state)

# INSTALLATION INSTRUCTIONS FOR C-BUS CLOCK 5031H2TC7 AND 51031V2TC7

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## **DESCRIPTION**

The C-Bus Clock 5031H2TC7 (and 51031V2TC7) is an input unit that allows loads connected to the C-Bus system to be switched at preset times.

In Normal mode, the clock displays day of the week, the time in 24 hour format and the state of the controlled channels.

The unit offers 2 switching channels and allows storage of up to 42 different switching programmes. All setup configurations are retained when a power failure occurs. The clock can generate random programmes that switch lights ON and OFF when the property is unoccupied. It also includes a holiday programme, programmable to 6 days in advance and up to 99 days in duration.

## **CONNECTION TO THE C-BUS NETWORK**

The connection of the CLOCK 5031H2TC7 (or 51031V2TC7) to the C-Bus network requires connection to the twisted pair C-Bus network cable. This connection is polarity sensitive and is clearly marked on the terminal of the unit.

## **PRODUCT SPECIFICATIONS**

<b>Catalogue Number</b>	5031H2TC7 - Horizontal Configuration 51031V2TC7 - Vertical Configuration
<b>Description</b>	2 channel, 7 day clock module
<b>Electrical Specifications</b>	Supply Voltage 15 – 36 Vdc @ 18 mA
<b>Ambient Conditions</b>	Operating 0 to 50°C
<b>Terminal Cross Section</b>	Terminals Accommodate 6 x 0.2mm <sup>2</sup>