H - 7-Day Time Switch for EASY500/700 Controllers

Can be used for	
Device	From version no.:
EASY500	01
EASY700	01

General

EASY500 and EASY700 with the type reference “easy...-..-.C.” (Clock) are equipped with a device clock (real-time clock) and allow the use of a 7-day time switch and a year time switch.

For this purpose, EASY500/700 devices offer eight time switches H1...H8 for a total of 32 switch times.

Compatibility with EASY400 and EASY600

If you wish to load an existing EASY400 or EASY600 circuit diagram, the existing 7-day time switch functions are retained. The 7-day time switch in EASY500/700 devices operates in the same way as in an EASY400/600 device.

Function

You must use a 7-day time switch in your circuit diagram exclusively as a contact. This contact will switch according to the switch times you have set.

Note: If the off time is earlier than the on time, the control relay will not switch off until the following day.

Each 7-day time switch is provided with four channels, A, B, C and D. These channels of the 7-day time switch all act jointly on the contact Hx that you include in the circuit diagram.

The following settings are possible for each channel:
Either day 1 to day 2, e.g. Monday to Friday, or only day 1.

The following abbreviations are used for the individual days of the week:
Monday = Mon, Tuesday = Tue, Wednesday = Wed, Thursday = Thur, Fri = Fri, Saturday = Sat, Sunday = Sun The time to be entered must be between 00:00 and 23:59.

If you select the Call enabled option in the Parameter display area, you can set the channels on the device.

Behaviour in the event of a power failure

The time and date are backed up in the event of a power supply failure and continue to run. However, the time switch relays will no longer switch. The contacts are kept open when de-energized.

Switching time ranges

The following examples illustrate the function of the 7-day time switch:

Example 1 : Single-channel, on successive days, on and off switching.

Example 2 : Two-channel, on successive days, on and off switching.

Example 3 : Two-channel, on switching on a weekday and off switching on another weekday.

Example 4 : Two-channel, on and off switching on several overlapping weekdays.

Example 5 : Two-channel, switch on at 0:00 on a weekday and switch off at 0:00 on another weekday.

Linking and Parameter Assignment of a 7-Day Time Switch

Requirements:You have included a control relay in the project and have switched to Circuit Diagram View.

Activating a 7-day time switch according to example 1

- Position an H 7-day time switch operand in the circuit diagram on a contact field so that you can use the switch function.
- In the Properties field window select the required function block number between 1 and 8 on the Circuit Diagram Element tab. The operand H0x will now be shown in the circuit diagram.
- If required, change the switch function of the contact from break to make contact.
- In the Parameters tab, Channel A set the weekday DY1 and at ON the hour and minute when the associated contact is to switch on.
- In the Parameters tab, Channel A set the weekday DY2 and at OFF the hour and minute when the associated contact is to switch off.
- If required, change the enable of the parameter display and/or write a comment for the selected operand.
- Connect this H0x contact in the circuit diagram.

Circuit diagram elements and parameters

	Description	Note
Contact		
Hx	Status 1 if the on condition is fulfilled.	
Coil function		
-	-	
Parameter display		
Call enabled	Function block parameters can be viewed on the device.	
Simulation		
-		

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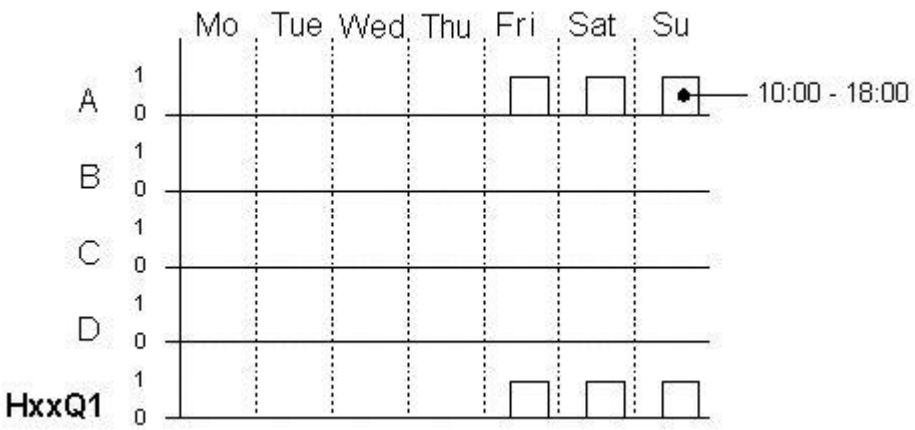
Parameter examples

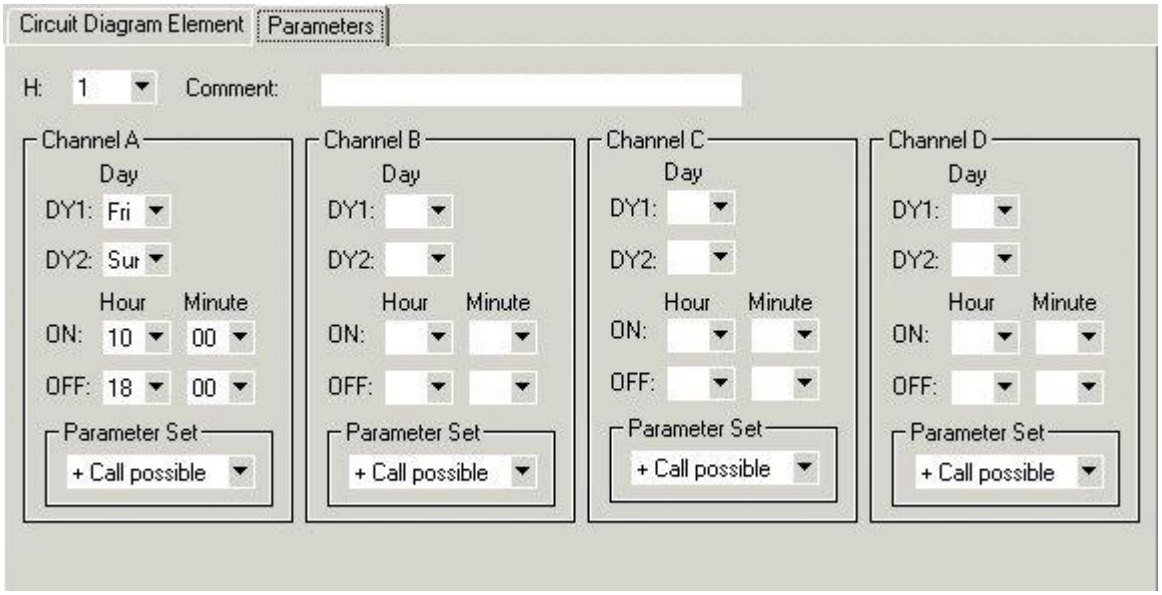
Example 1: Single-channel, on successive days, on and off switching.

The 7-day time switch is required to switch from 10:00 to 18:00 from Fridays to Sundays.



Signal diagram

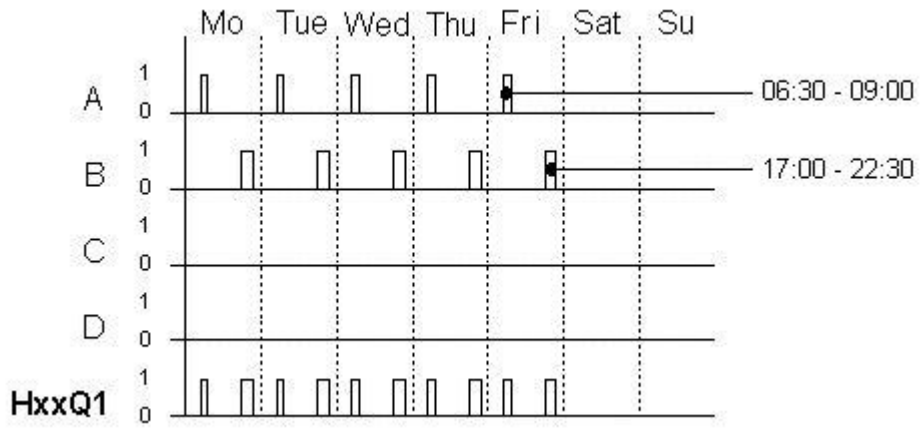
The H 7-day time switch must be assigned the following parameters:



Entry screen in the programming software

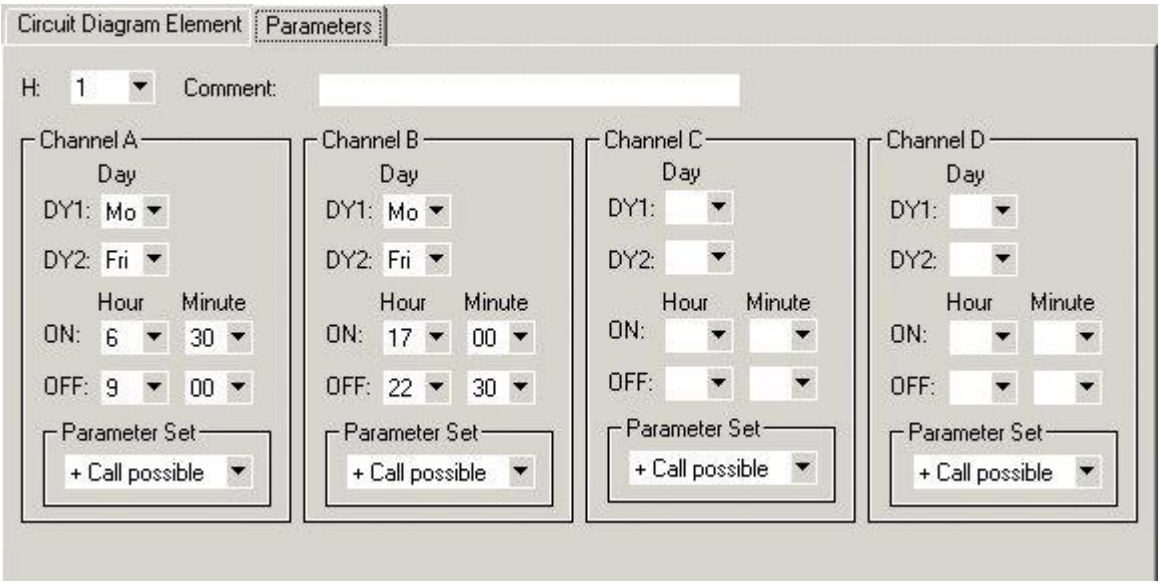
Example 2: Two-channel, on successive days, on and off switching.

The 7-day time switch is required to switch from Mondays to Fridays between 6:30 and 9:00 and between 17:00 and 22:30.



Signal diagram

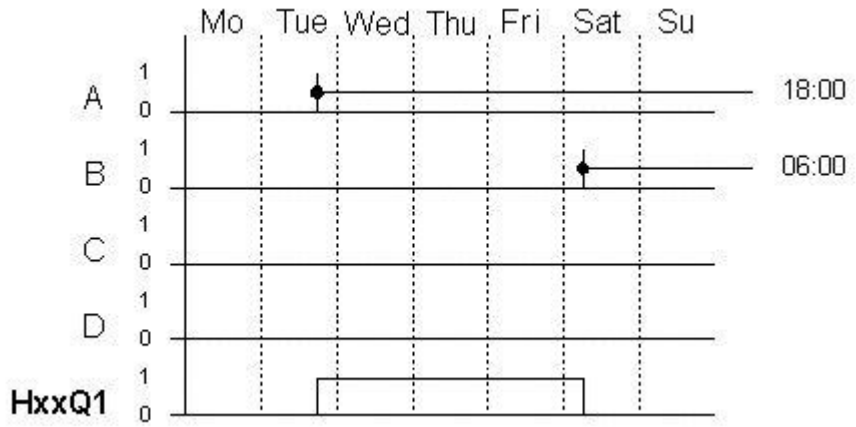
The H 7-day time switch must be assigned the following parameters:



Entry screen in the programming software

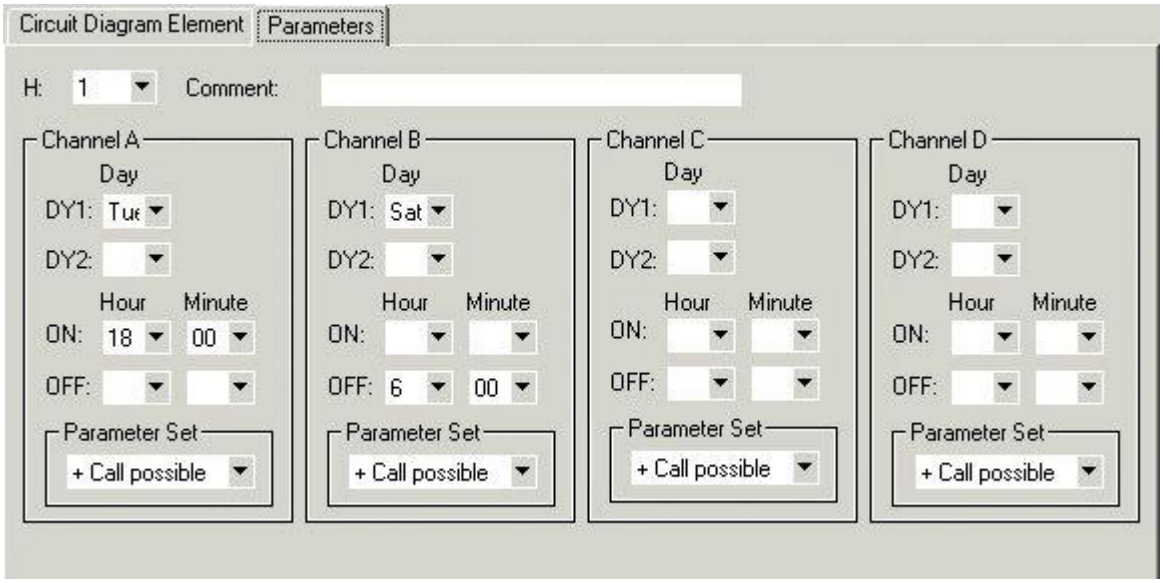
Example 3: Two-channel, on switching on a weekday and off switching on another weekday.

The 7-day time switch is required to switch on at 18:00 on Tuesdays and switch off at 6:00 on Saturdays.



Signal diagram

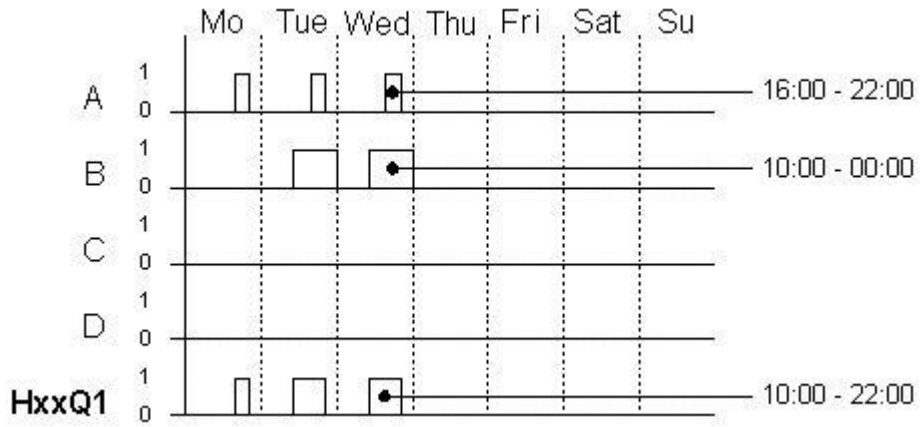
The H 7-day time switch must be assigned the following parameters:



Entry screen in the programming software

Example 4: Two-channel, on and off switching on several overlapping weekdays.

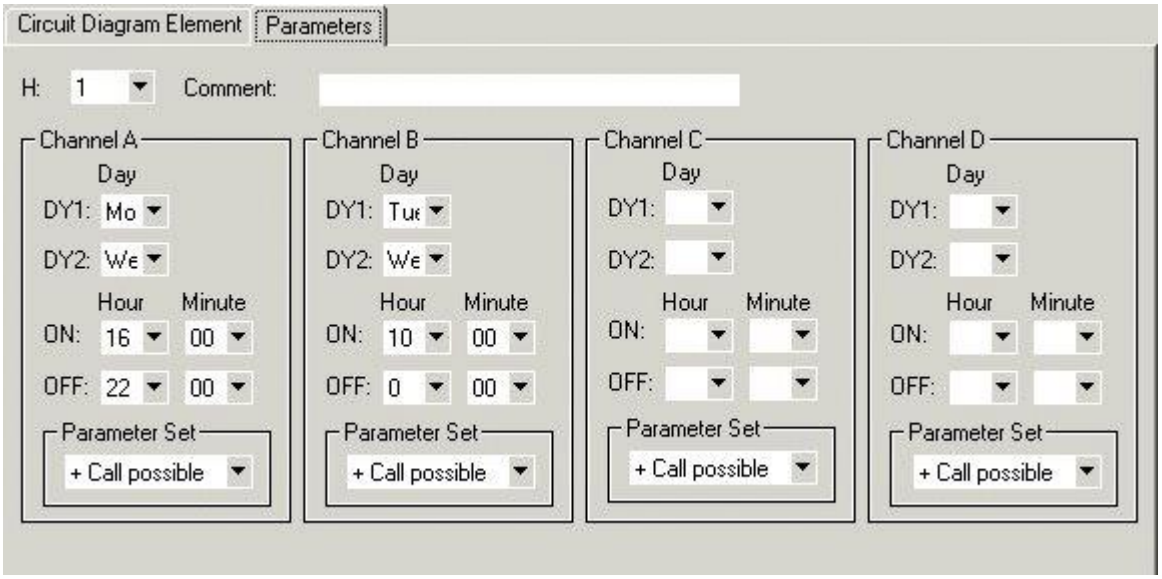
The 7-day time switch settings of a time switch overlap. The time switch is required to switch on at 16:00 on Mondays, and at 10:00 on Tuesdays and Wednesdays. The off time for Mondays to Wednesdays is 22:00.



Signal diagram

Note: On and off times always depend on the channel that switches first.

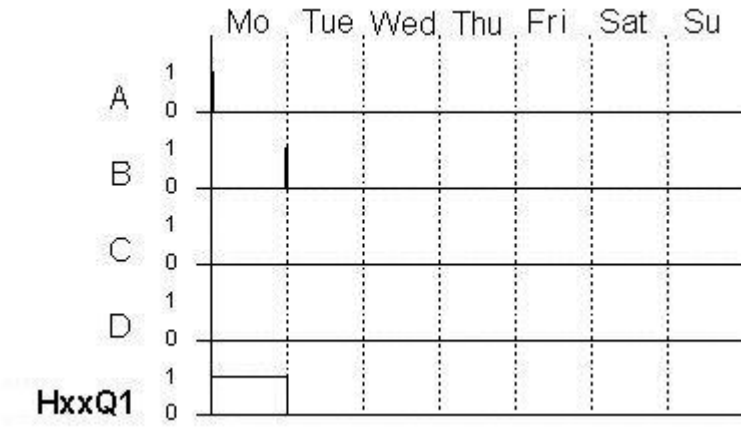
The H 7-day time switch must be assigned the following parameters:



Entry screen in the programming software

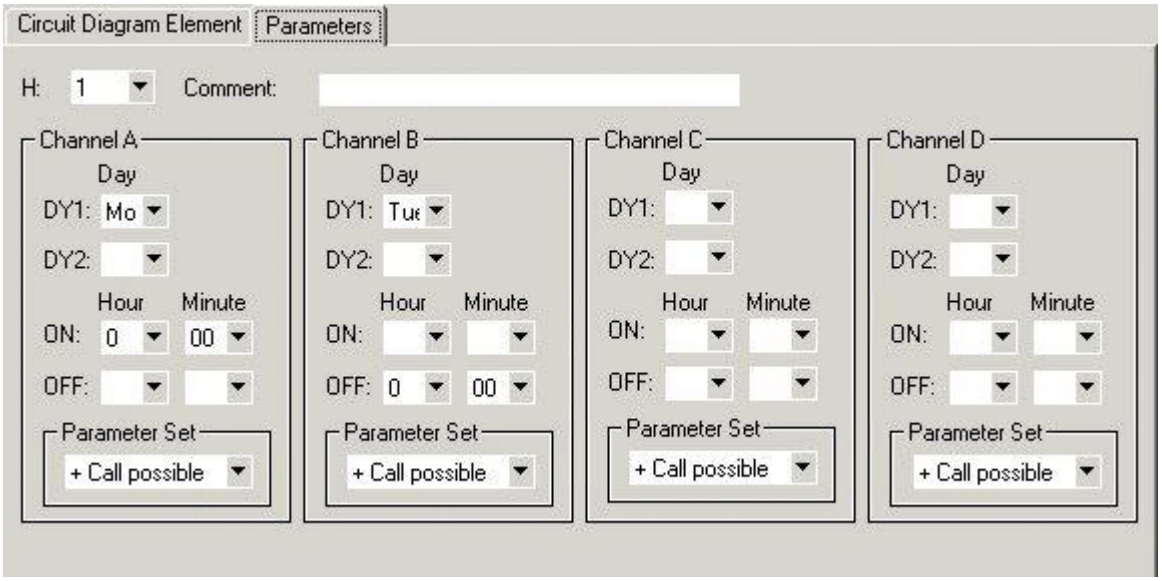
Example 5: Two-channel, switch on at 0:00 on a weekday and switch off on another weekday at 0:00.

The time switch should switch for 24 hours. Switch on at 0:00 on Mondays and switch off at 0:00 on Tuesdays.



Signal diagram

The H 7-day time switch must be assigned the following parameters:



Entry screen in the programming software

Note: After power on, the control relay always updates the switch state of contact H0xx from all defined switch time entries.

DST setting

If you have activated the DST the device clock will automatically switch between summer and winter time.

Tip: Refer to the EASY500/700 manual (AWB 2528-1508x) for more information on the function block (e.g. signal diagram).