

## World Clock

Display the time in any time zone shifted relative to local time. The clocks can be positioned horizontally or vertically. The time shift is adjustable by using the remote control from 00:00 to 23:59 in minutes.

Typ (examples)	Front view	Rear view
<b>WH56_5</b> Black matte		
<b>WH100_4</b> RAL 7035 gray		
<b>WV100_4</b> Black matte		

manufactured	Character	Clocks		Vyhotovenie	Colour of box
W*56	56 mm	4 ÷ 8	Red, Green	Interior	any
W*100	100 mm	4 ÷ 8	Red, Green, ♦RGB	Interior, Exterior	any
W*200	200 mm	4 ÷ 8	Red, Green	Interior, Exterior	any
W*400	400 mm	4 ÷ 8	RED	Interior, Exterior	any

\*: V – vertical, H – horizontal

♦RGB: Red, Green, Blue – can be set on the each clock, only for 100 mm characters

**Example: WV100\_4** W-World Clock, V-vertical, 100 – height of character, 4 – clocks

**Optionally:**

1. Controlled via RS485 with Modbus RTU protocol
2. Controlled through radio
3. Setting luminosity without blinking. Using in film studios
4. Connect serially. May be with 32 clocks
5. Magnetic sticker
6. Controlled via binary inputs



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## 1. Hardware

1.1 Parametre hardware	
Character	Sevensegment LED, 56mm, 100 mm, 200mm, 400 mm
Working temperature	-10°C +50°C
Working humidity	10 ÷ 90% Rh
Weight	5 ÷ 30 kg, ()
Napájanie / príkon	24V DC / 10W - 200 W (by type)
Communication interface	Isolated RS485 – Modbus RTU, or other
Communication speed	9600 or 115200 Bd
Dimensions	WH100 _5 2500 x 250 x 35, WH56 _5 1440 x 160 x 35 mm
Design	Interiér - IP44, Exteriér - IP 55
Setting	Application software







**1.2 Adjusting the brightness.** The brightness (7 levels) can be set on the clock with the UP and DOWN buttons on the paired remote control, when we are not setting the shift. The set brightness is stored in memory and is used automatically when the device turns on. The outdoor clock has an automatic brightness adjustment according to the ambient brightness. The remote controls are paired to each clock, we ship two remotes with the individual devices.



1.3 Setting the local time	
Local time: 04:00, setting to 05:32 Offset: 1. 07:30 2. 08:00 3. 09:00 4. 10:00 5. 11:00 Showed times: 11:30 12:00 13:00 14:00 15:00 Blinking: marked with yellow	
11:30 12:00 13:00 14:00 15:00	Start 11:30,... → <b>Escape</b>
TIME -- -- -- -- --	TIME
04:00 -- -- -- -- --	Blinking with hour → <b>UP</b>
05:00 -- -- -- -- --	→ <b>ENTER</b>
05:00 -- -- -- -- --	→ <b>UP</b>
05:32 -- -- -- -- --	→ <b>ENTER</b>
En d -- -- -- -- --	→ <b>ENTER</b>
13:02 13:32 14:32 15:32 16:32	finished 13:02,...

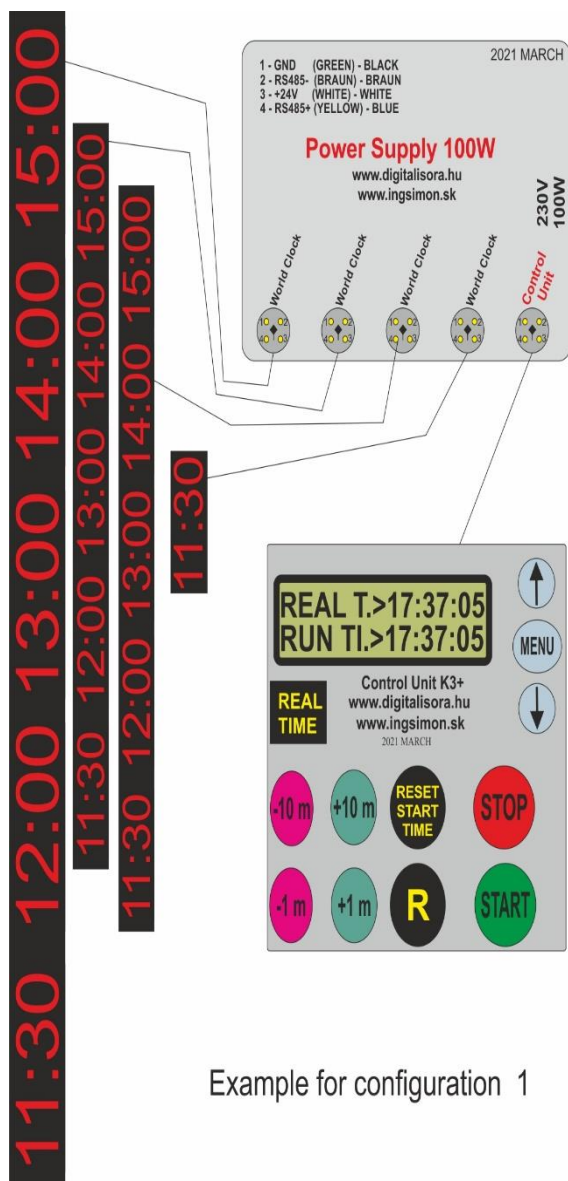
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## 1.4 Setting the offset

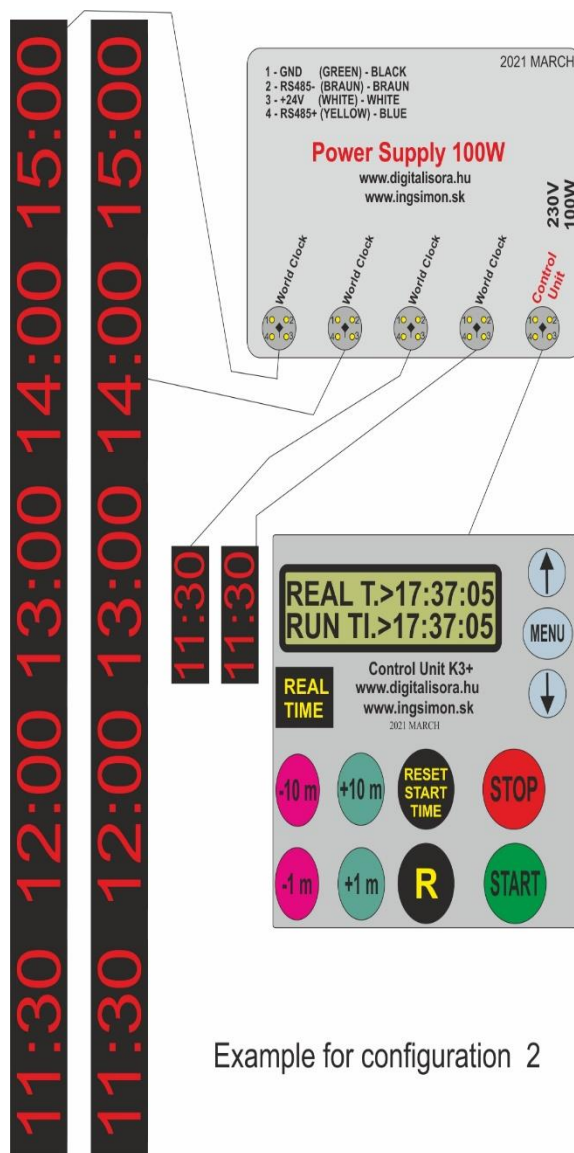
World clock WH100_5	
Local time: 04:00 Offset: 1. 07:30 2. 08:00 3. 09:00 4. 10:00 5. 11:00 Setting 1. Offset from 07:30 to 02:00 Showed times: 11:30 12:00 13:00 14:00 15:00 Blinking: marked with yellow	
	Times 11:30,... →ENTER
	SET
	Blinking hours on 1. Clock UP or DOWN
	→DOWN, → UP
	Repeat ...
	→ ENTER
	
	Waits several seconds
	Times 06:00,...

## 2. Serial connected world clocks

### 2.1 Possible configurations



Example for configuration 1



Example for configuration 2



**2.2** The function of the five data connectors on the power supply is the same, the order of the connected equipment can be freely changed. The Control Unit K3+ can be connected to any of them, we marked the Control Unit K3+ in the right connector for the sake of clarity. The red LED indicates the on / off status. The on / off switch of the power supply is located on the right side. Leave the power supply free, do not cover it, do not to expose it to water. The 230V / 24V-100W convertor has CE standard.



### 3. Control unit for world clocks used in movie studios

#### 3.1 System description: World time clocks for filming.

Every scene is recorded multiple times during filming, it is recommended that the scenes start at the same time. This time is set in advance by the user. Press START to start the display. After each recording, press STOP and then RESET START TIME to reset the pre-set Start Time. The Control Unit K3+ (or K3) sends the current time or the Start Time on its communication line to the clocks. In STOPPED mode, it does not update the time on the clocks, the clocks will show the last set time. On each clock the user can set separately what to display compared to the time sent by the Control Unit K3+. Minutes can also be set according to time zones where the difference is not a whole hour. The clocks can be set from 00:00 to 23:59. Two types of time are sent to the clocks: Real Time or Start Time. Real Time is the current time that can be set in the Menu – by default it is set to Central European time. Start Time (or Film Time) is used for filming. Start Time can also be set in the Menu or with the -10m, +10m, +1m and -1m buttons in STOPPED mode. Real Time and Start Time can operate in two modes: STOPPED or RUN. In STOPPED mode, the time is not updated on the clocks, the last set time is displayed. In RUN mode, the dots are flashing on the clocks and the time is displayed according to the time offset. You can exit STOPPED mode and start the clocks with the START button.





**3.2 Real Time/Start Time.** Real Time / Start Time. You can switch between the two modes in STOPPED mode with the REAL TIME button. You can switch from Real Time mode to START TIME mode with the REAL TIME button. After switching the START TIME mode automatically switches to STOP mode. In STOP mode, you can set the START TIME in the Menu or with the -10m, + 10m, + 1m and -1m buttons. Words STOP and RUN will flash on the display. After setting the Start Time, you can overwrite the set time with the RESET START TIME button. K3 is in standby mode, after pressing the START button the K3 sends the time to the clocks. With the STOP button you can stop the clocks. After this you have two options: either you can continue to display the time with the START button or you can set Start Time with the RESET START TIME button.

#### 4. Magnetic stickers

These easily replaceable stickers are similar to 1 mm thick fridge magnets. Examples:

<b>WASHINGTON</b>	<b>WASHINGTON</b>	<b>BEIJING</b>	<b>BEIJING</b>
<b>WASHINGTON</b>	<b>WASHINGTON</b>	<b>TEHRAN</b>	<b>TEHRAN</b>
<b>ROME</b>	<b>ROME</b>	<b>PYONGYANG</b>	<b>PYONGYANG</b>
<b>DCIA</b>	<b>DCIA</b>	<b>TOKYO</b>	<b>TOKYO</b>
<b>LANGLEY, VA</b>	<b>LANGLEY, VA</b>	<b>МОСКВА</b>	<b>МОСКВА</b>
<b>ATHENS</b>	<b>ATHENS</b>	<b>ЛОНДОН</b>	<b>ЛОНДОН</b>
<b>PRAGUE</b>	<b>PRAGUE</b>	<b>ПЕКИН</b>	<b>ПЕКИН</b>
<b>MOSCOW</b>	<b>MOSCOW</b>	<b>ВАШИГТОН</b>	<b>ВАШИГТОН</b>
<b>TRIPOLI</b>	<b>TRIPOLI</b>	<b>ТОКИО</b>	<b>ТОКИО</b>
<b>TUNIS</b>	<b>TUNIS</b>	<b>ТЕГЕРАН</b>	<b>ТЕГЕРАН</b>
<b>ISTANBUL</b>	<b>ISTANBUL</b>	<b>ПХЕИБЯН</b>	<b>ПХЕИБЯН</b>
<b>LONDON</b>	<b>LONDON</b>	<b>ПРАГА</b>	<b>ПРАГА</b>
<b>NAYPYIDAW</b>	<b>NAYPYIDAW</b>	<b>РИМ</b>	<b>РИМ</b>