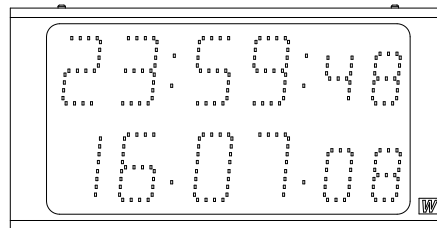


# Instructions

## Digital clock

### 2 lines

LUMEX 5



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## General

Digital clock for indoor application with second has 6 digits with 7 segments and colon displaying time.

The hour and minute digits have 4 LED:s each segment. The height digits of hour and minutes are 50 mm.

The second digits have 3 LED:s each segment. The height of digits of second are 37 mm.

Example: 

23:59:48
18.02.09

 /time  
/date

The Digital clock can be programmed for alternating time/date/temperature display in 0-25 sec intervals.

Temperature sensor is not included. It is an option.

The programming of time, Synchronisation and light intensity are made by push buttons, situated at one side of the cover.

The digital clock can operate stand alone with a built in quartz crystal as time reference, as a slave clock to a master clock transmitting 24 V polarised 1/1 minute impulses or synchronised by TC, DCF. If the DLS-function is set, the clock is changing, summer and winter time, the last Sunday in March and the last Sunday in October automatically.

The clock has adjustable light intensity.

If power failure occurs the display is turned off. The internal clock continues to keep the correct time for 48 hours. After power failure the display is turned on and correct time is shown.

If not specified in order the clocks are preset from factory in impulse Synchronisation mode.

## Installation wall mounted

- Unscrew 4 screws, 2 above and 2 under, remove the back plate from the casing and mount it on the wall.
- If operated by synchronisation, check the strapping according to the drawing page 6. Connect the cables according the schema page 4.
- Connect the power 230VAC, 50Hz. according the schema page 4. When the clock is permanently installed a readily accessible disconnect device shall be incorporated in the fixed wires.
- Assemble the front.
- Set the digital clock. See Programming.

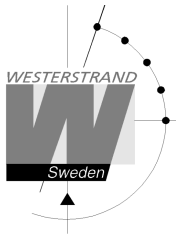
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## Synchronisation

### Stand alone

If the clock does not have an external synchronisation, it operates Stand alone.  
No strapping is needed.  
Set the clock for no synchronisation, mode noSy See programming page 8.

### Minute impulse

Make the strapping according to the drawing for strapping page 6.  
Connect the minute impulse wire according to the schema page 4.  
The clock can be set in synchronisation or slave mode.

#### Synchronisation mode:

Set the clock for synchronisation, mode InSy See programming page 8.  
Set time and wait for next minute impulse. The clock will be synchronised

#### Slave mode:

Set the clock for slave, mode InSL See programming page 8.  
Set time and wait for next minute impulse. The clock operates as a slave clock.

### TC (time code wired DCF-format)

Check the strapping according to the drawing for strapping page 6.  
Connect the TC wire according to the schema page 4.  
Set the clock for synchronisation, function DCF See programming page 8.  
When a correct time message appears the clock sets the time.  
The clock will blink colon when it is in sync and accepts transmitted code.

### DCF (Radio receiver DCF-format)

Check the strapping according to the drawing for strapping page 6.  
Connect the DCF wire according to the schema page 4.  
Set the clock for synchronisation, function DCF See programming page 8.  
When a correct time message appears, the clock sets the time.  
The clock will blink colon when it is in sync and accepts transmitted code.

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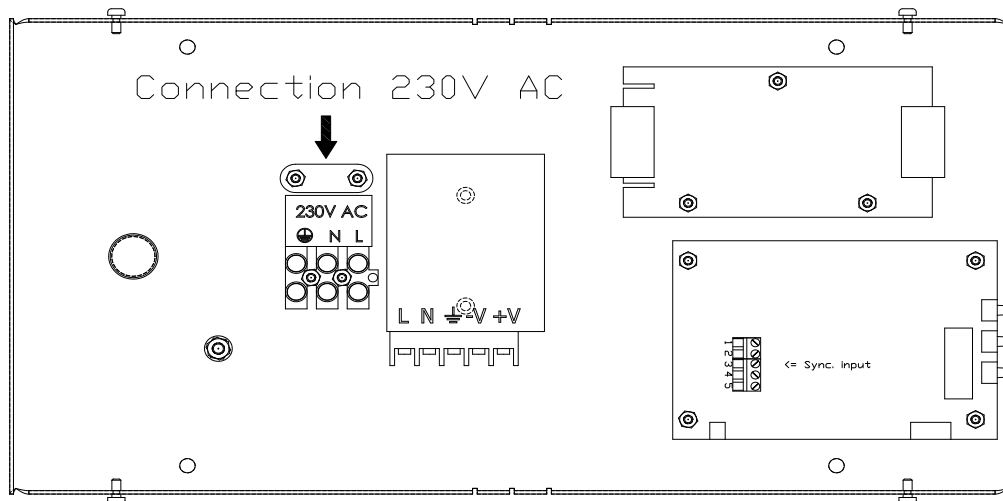
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## Connection

The connections are made at the back plate (see below.)



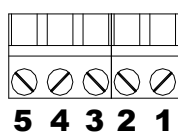
### Connection Synchronisation wire

TC/MIN-imp 3,4

DCF 2-line 3 ó V+, 5 ó GND

DCF 3-line 3 ó V+,4- DCF, 5 ó GND

### Sync. input

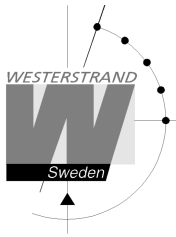


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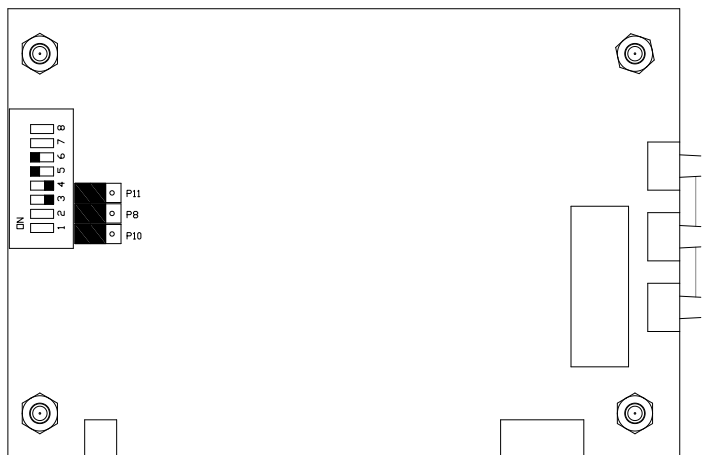
## Connection temperature sensor (this is an option).

Temperature sensor art.no 114999-16 is an option and it is delivered with cable (6 m).

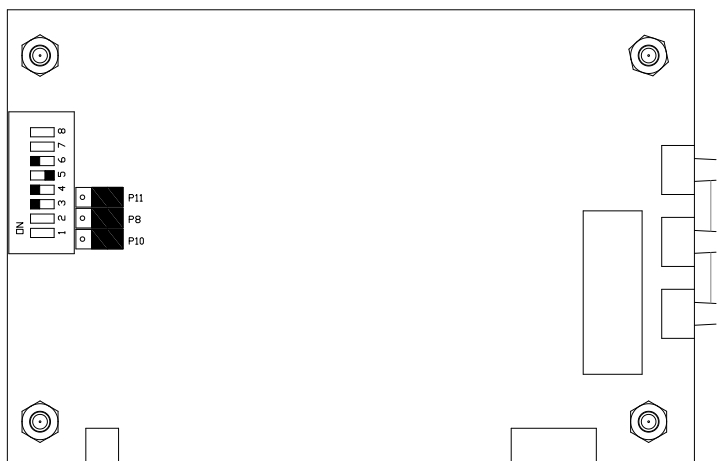
1	2	3
TEMP.SENSOR		

1. Brown
2. Black
3. Screen

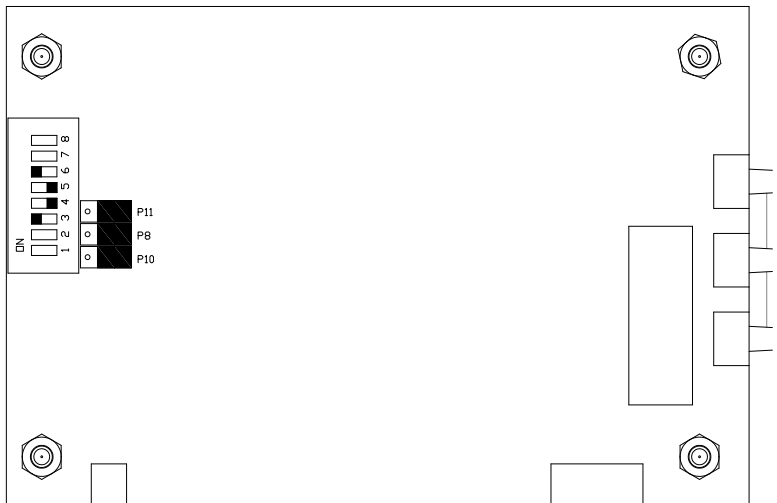
### Strapping/DIP switch setting for TC / MIN-impulse (default)



### Strapping/DIP switch setting for DCF-radio (2 Ęwire) computer board

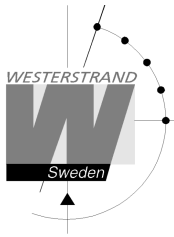


## Strapping/DIP switch setting for DCF-radio (3 Ęwire) computer board



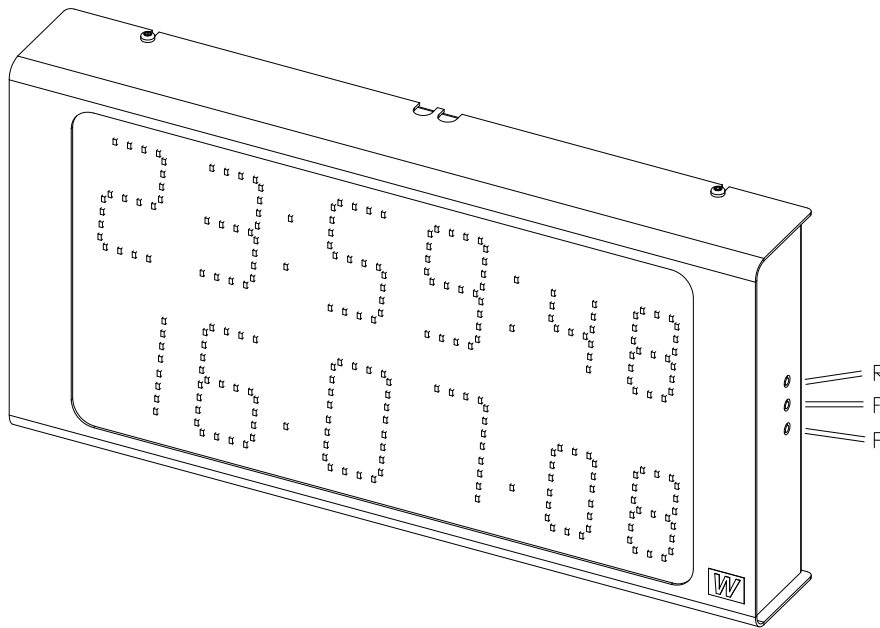
The DIP-switch on the computer board should be set as follows:

Dip 1:	OFF	Display format is HH:MM.
	ON	Display format is HH:MM:SS.
Dip 2:	OFF	always OFF
Dip 3:	OFF	TC/Min impulse-synchronisation. (default)
	ON	DCF synchronisation.
Dip 4:	OFF	TC/Min impulse or 3-wire DCF synchronisation. (default)
	ON	2-wire DCF synchronisation.
Dip 5:	OFF	DCF synchronisation.
	ON	TC/Min impulse synchronisation.(default)
Dip 6:	OFF	½ Min impulse synchronisation.
	ON	TC/Min impulse synchronisation or DCF synchronisation. (default)
Dip 7:	OFF	always OFF
Dip 8:	OFF	always OFF



## Programming

The programming is made by push buttons (see below).



**R (Return)** Enter the base mode (display time)

**F (Function)** Next function / Accept displayed value

**P (Program)** Enter the displayed function / Increase displayed value.

### programming time

Push [F] until display shows:

ti ne

Push [P] display shows:

yy 95

year.

Push [P] until desired year (00-99)  
Accept with [F].

Display shows:

nn 1

month.

---

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Push [P] until desired month (1-12).  
Accept with [F].

Display shows:  day.

Push [P] until desired date (1-31).  
Accept with [F].

Display shows:  weekday.

Push [P] until desired weekday (1-7). 1 = Monday.  
Accept with [F].

Display shows:  hour.

Push [P] until desired hour (0-23). Accept with [F].

Display shows:  minutes.

Push [P] until desired minute (00-59). Push [F] for synchronisation and the clock starts

Display shows:

Push [R]. The Programming is finished.

Display shows:



## Setting light intensity

The light intensity for the digits can be adjusted in 8 levels.  
An automatic dimmer function regulates the light intensity.

Push [F] until display shows:

di sp

Push [P]

Display shows:

di 1

. Light intensity 1 (weakest), 8 (strongest).

Push [P] for desired light intensity. Accept with [F].

Display shows:

Sy nc

Push [R] for entering base mode or push [F] for next function.

## Setting synchronisation

Synchronisation for this model are minute impulse, TC, DCF or stand alone.

Push [F] until display shows:

Sy nc

Push [P] until desired synchronisation.

no sy

No synchronisation, stand alone.

dcf

TC or DCF.

InSy

Impulse synchronisation.

InSL

Impulse slave.

Push [R] for entering base mode or push [F] for next function.

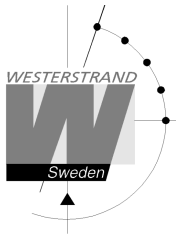
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## Setting alternating time, Loop time

Push [F] until display shows:

Loop

Push [P].

Display shows:

L1 4

Alternating time for display time/date is 4 seconds.

Push [P] for desired alternating time (0-25). Accept with [F].

Display shows:

L2 4

Alternating time for display time/temperature is 4 seconds.

Push [P] for desired alternating temperature (0-25). Accept with [F].

Display shows:

L3 0

Alternating time for display date/temperature is 0 seconds.

Push [P] for desired alternating time (0-25). Accept with [F].

Display shows:

L4 0

Alternating time for display date/time is 0 seconds.

Push [P] for desired alternating time (0-25). Accept with [F].

Display shows:

L5 0

Alternating time for display temp/date is 0 seconds.

Push [P] for desired alternating time (0-25). Accept with [F].

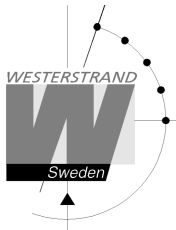
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Display shows:

L6 0

Alternating time for display temp/time is 0 seconds.

Push [P] for desired alternating time (0-25). Accept with [F]

Push [R] for entering base mode or push [F] for next function.

## LOOP MODES

L1 (default):  
23:59:48  
18.02.09

L2:  
23:59:48  
20 C

L3:  
18.02.09  
20 C

L4:  
18.02.09  
23:59:48

L5:  
20 C  
18.02.09

L6:  
20 C  
23:48:09

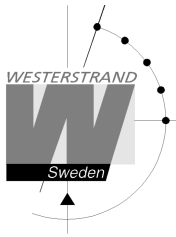
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Example for loop mode:

If setting L1 for 4 seconds and L2 for 1 second the upper display will always show time and the lower display will alternate date and temperature. The lower display will show date for 4 seconds and temperature for 1 second.

### Setting Correction value for the temperature sensors.

With this function the temperature sensors can be adjusted  $\pm 9 \text{ }^\circ\text{C}$ .

Push [F] until display shows:

Push [P].

Display shows:

Push [P] for desired correction value ( $\pm 9 \text{ }^\circ\text{C}$ ). Accept with [F].

Push [R] for entering base mode or push [F] for next function.

### Setting DLS-function.

With this function the DLS can be activated.

Push [F] until display shows:

Push [P].

Display shows:

Or:

Push [P] for DLS or not.

Push [R] for entering base mode or push [F] for next function.

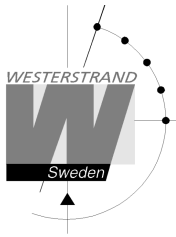
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## Setting 12/24 h format.

With this function the format 12/24 hours display can be set.

Push [F] until display shows:

Push [P].

Display shows:  12 hour format.

Or:  24 hour format.

Push [P] for desired format.

Push [R] for entering base mode or push [F] for next function.



## Technical specification

Mains	100-240VAC 50/60Hz
Connection power max.	0.35A
Temperature range	0• - +40• C
Size of digits HH:MM	50 mm, red, green, yellow SMD LED:s
Size of digits :SS	37 mm, red, green, yellow SMD LED:s
Synchronisation	Polarised 24V impulse 1/1, TC, DCF
Accuracy	± 0.1 seconds/24 hour
Dimension	335x170x50 mm
Running reserve	48 hour
Changing Summer/ Winter	Last Sunday in march, last Sunday in October.
Measure range temperature sensor	ó30• - +60•
Accuracy temperature sensor	± 1• C
Temperature measurement	Once per minute

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