

# Instructions

## AUREA II

Art. no. 119405-00, 119405-01, 119415-00, 119415-01



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## Important Safeguards

Read all these instructions and save them for later use

- Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product and/or person.
- Slots and openings in the cabinet and the back are provided for ventilation to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. This product should never be placed near or over a heat source. This product should not be placed in a built-in installation unless proper ventilation is provided.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
- If installation is required, it must only be done by appropriately skilled personnel.
- Except as explained elsewhere in the operating manual, do not attempt to service this product yourself. Removing covers may expose you to dangerous voltage points or other risks. Refer all servicing in those compartments to a service technician.
- Product that intends to be connected to mains as a permanent installation shall be connected by a readily accessible safety switch.
- Is the product equipped with a plug (grounding type) shall this be connected to an outlet that is intended for the product. The plug must be easy to disconnect without moving or dismantle the product.

**CAUTION:** this equipment must be serviced by an approved technician.  
The guarantee shall be cancelled if any modifications are made to this product.



General warning (refer to accompanying documents)

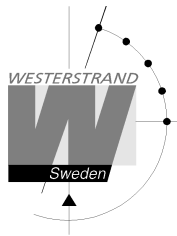


Consult instruction for use



This symbol means that according to local laws and regulations your product shall be disposed of separately from household waste. When this product reaches its end of life, take it to a recycling center designated by local authorities.





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GENERAL .....	2
Options .....	2
INSTALLATION .....	3
SETTINGS OF DIP-SWITCHES .....	5
.....	6
MOUNTING .....	6
MANUAL PROGRAMMING .....	7
Time.....	7
Date.....	8
Spec .....	8
DCF (Radio synchronising DCF/RDS/MSF) .....	9
WHAT HAPPENS IF POWER IS DOWN? .....	9
TECHNICAL SPECIFICATION.....	10

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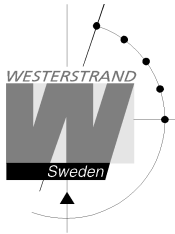
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## General

Aurea II is a digital clock for indoor use. The clock can be operated as a stand-alone unit, via impulse from a master clock or radio signal (option). The clock has a built in calendar and the ability to perform automatic daylight saving correction. The light intensity of the display can be changed. There is also an automatic “night dimmer” which adjust the light intensity of the display when the light that surrounds the clock decreases below a certain level. This function can be turned off if wanted.

### Important !

The clock has a lithium backup battery used as backup power when the main power is off. This battery has a limitation of 1000 active working hours. The backup battery can be turned off by disconnecting the jumper “BAT”. (See fig. *Clock backside*). At delivery the “BAT” jumper is left open (not connected). To enable the backup battery the “BAT” jumper must be connected (closed). If the clock is not to be used for some time disconnect the “BAT” jumper before storage.

### Options

For connections of options see separate instructions. Following options are available;

- Radio receiver DCF, MSF, RDS
- IRIG-B –input
- LTC (SMPTE/EBU) –input (factory mounted option)
- LON-input (factory mounted option)
- Time code via RS485-input (factory mounted option)

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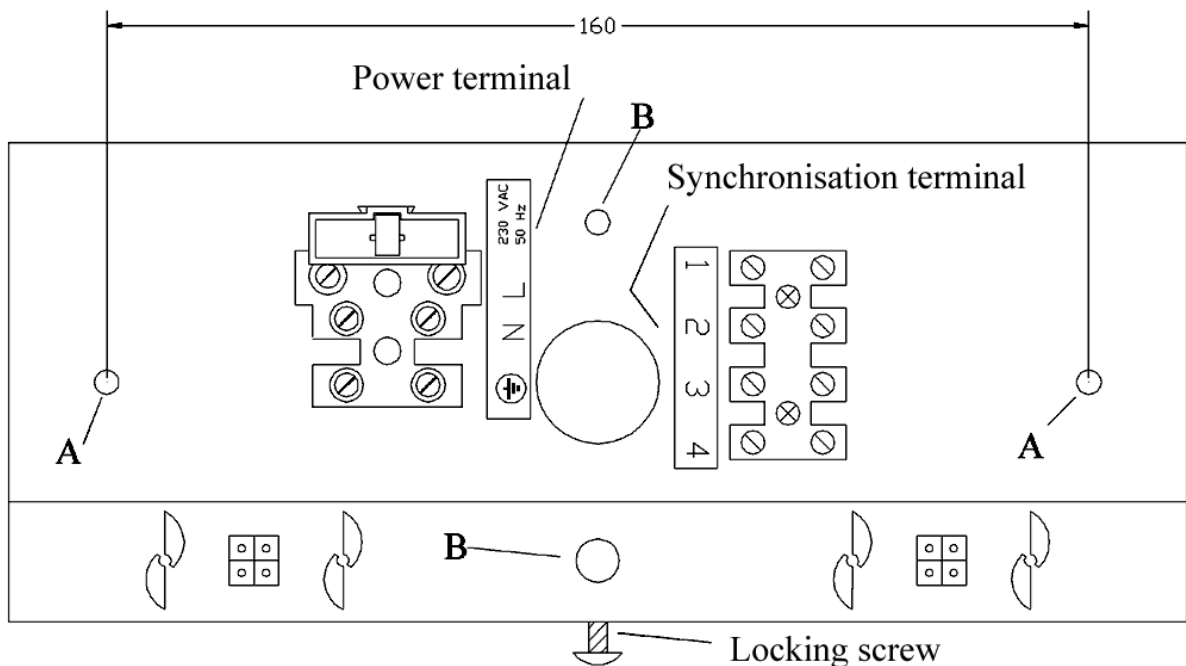
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## Installation

The clock consists of two parts, a back plate and the actual clock. The back plate is a connection plate to which all connection shall be made.



**Fig. Back plate**

The two holes “A” (*Fig. Back plate*) with a relative distance of 160 mm are used for mounting the back plate to a wall. The back plate can also be mounted to a wall by the two holes “B” (*Fig. Back plate*), with 60 mm distance and can be fitted directly to a coupling-box, given it has the same dimensions.

The Locking screw (*Fig. Back plate*) is for locking of the clock to the back plate (see mounting description below for further details).

The power (230 AC 50Hz) shall be connected to the power terminal at the back plate (*Fig. Back plate*). A switch or a circuit breaker, disconnecting all current carrying conductors, shall be included in the wiring installation.

Installation fuse: 10A max  
 Supply cable: 1,5 mm<sup>2</sup>

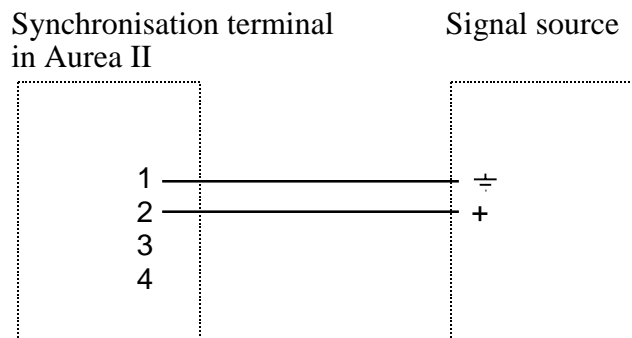
The different types of external time synchronisation sources shall be connected to the Sync terminal (Fig. *Back plate*) according to:

**1/2 minute and 1/1 minute impulse (sync or slave)**

Signal source	Sync terminal ( <i>Fig. back plate</i> )
IMP+	4
IMP-	3

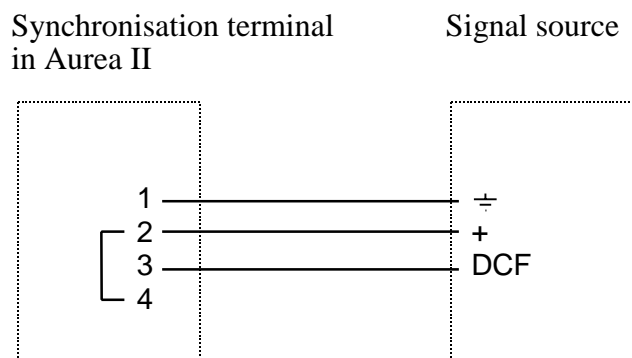
In this configuration the 3-wire jumper (Fig. *Clock backside*) must be left open (not connected).

**Radio signal, 2-wire connection**



In this configuration the 3-wire jumper (Fig. *Clock backside*) must be open (not installed).

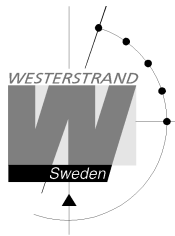
**Radio signal, 3-wire connection**



Connect 2 and 4.

In this configuration the 3-wire jumper (Fig. *Clock backside*) must be closed (connected).





## Settings of dip-switches

Before mounting the clock to the back plate, operating mode must be selected via 5 dip-switches at the backside of the clock (Fig. *Clock backside*). Dip 3, 4 and 5 selects which clock synchronisation to use. Dip 1 and 2 selects which daylight saving rules to use (if any).

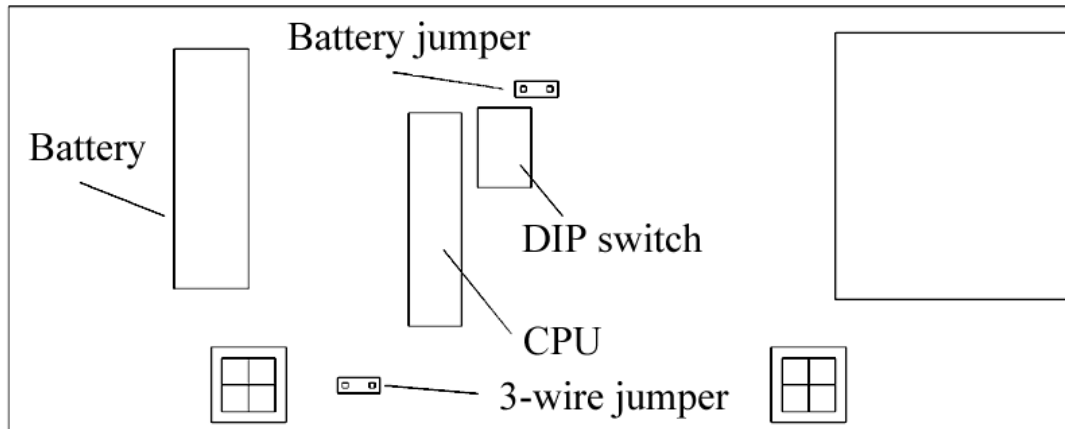
At the backside of the clock there are 5 dip-switches to configure the clock:

Dip	3	4	5	
	Off	Off	Off	Stand-alone clock.
	Off	On	Off	Radio synchronisation (DCF, MSF, RDS)/ IRIG-B, LON, LTC.
	Off	Off	On	Impulse clock 1/2 minute (sync).
	Off	On	On	Impulse clock 1/1 minute (sync).
	On	Off	On	Impulse clock 1/2 minute (slave).
	On	On	On	Impulse clock 1/1 minute (slave).

Dip	1	2	
	Off	Off	No automatic daylight saving correction.
	Off	On	Finnish daylight saving rules (First Sunday between 25-31 march at 3:00 and first Sunday between 25-31 October at 4:00).
	On	Off	Middle Europe daylight saving rules (First Sunday between 25-31 march at 2:00 and first Sunday between 25-31 October at 3:00).
	On	On	England daylight saving rules (First Sunday between 25-31 march at 1:00 and first Sunday between 25-31 October at 2:00).

**Note:** When the clock is configured as a 1/1 minute impulse slave or a 1/2 minute impulse slave, dip 1 and 2 must be Off (No automatic daylight saving correction).



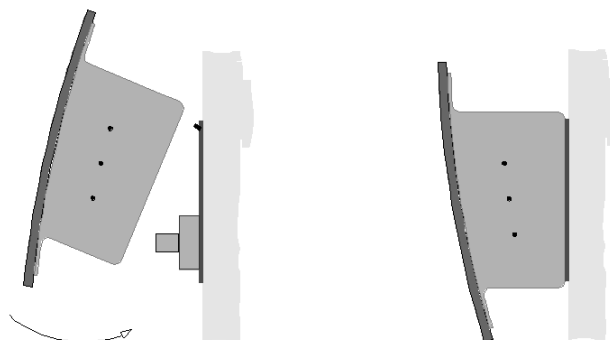
*Fig. Clock backside*

## Mounting

After all connections has been made and the back plate has been mounted to a wall, mount the clock to the back plate according to:

- First unlock the locking screw (Fig. *Back plate*)
- Mount the clock to the back plate according to Fig. *Mounting*
- Lock the locking screw (Fig. *Back plate*)

Don't forget to connect the "BAT" jumper (Fig. *Clock backside*) before mounting the clock to the backplate.



## Manual programming

The clock has three buttons (R, F, P) located at the right side of the clock. When pressing the 'R' button the clock returns to base mode (the time is displayed). The buttons 'F' and 'P' are used for programming.



*Fig. Programming buttons*

1. Go to base mode: Press 'R'
2. Select function by pressing the 'F' button until desired function is displayed.  
One of the following texts:

Time (TinE),  
Date (dAtE),  
Spec (SPEC),  
DCF (dCF),

Programming of time  
Programming of date  
Programming of display light intensity.  
This menu is only available if the clock is  
configured as a DCF clock.

3. To enter a displayed function, press the 'P' button.
4. Press the 'P' button until desired value is displayed.
5. Accept with 'F'.

### Time

The display shows:

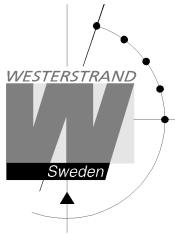
Press 'P' until desired hour is displayed. Accept with 'F'

The display shows:

Press [P] until next minute is displayed. Press [F] at the new minute.

The display shows:

The Programming of the time is done.



**Note!** Correct date must also be set, because if the clock is configured to automatically do daylight saving correction this may happen on the wrong day.

### Date

The display shows:

Press 'P' until desired year is displayed. Accept with 'F'

The display shows:

Press 'P' until desired month is displayed. Accept with 'F'

The display shows:

Press 'P' until desired day is displayed. Accept with 'F'

The display shows:

The programming of date is done.

### Spec

The display shows:

Press 'P' until desired light intensity is displayed. Press 'F'

The display shows:  or

Press 'P' to toggle the automatic night dimmer On/Off. Press 'F'

The display shows:  or if the clock is radio operated

To return to base mode (time display) press 'R'

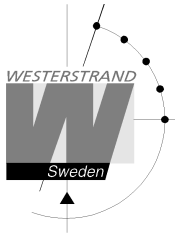
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## DCF (Radio synchronising DCF/RDS/MSF)

This menu is only available if the clock is configured as a dcf clock. This menu shows the last received dcf message this month, if no allowed dcf messages has been received this month the text 'no' will appear when selecting the dcf menu.

If an allowed dcf message has been received this month the display shows which is the day number when the last allowed dcf was received.

dd:03

Press 'F'  
The display shows:

HH:23

which is the hour when the last allowed dcf was received.  
Press 'F'

The display shows:

nn:59

which is the minute when the last allowed dcf was received.  
Press 'F'

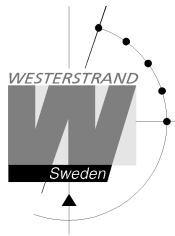
The display shows:

tinE

Press 'R' button for return to base mode

## What happens if power is down?

The clock has a lithium backup battery used as backup power when the main power is down. If the power is down the display is turned off. The internal clock continues too keep correct time for at least 1000 hours. After the power failure, the display is turned on and correct time is shown.



## Technical specification

Data	119405-00	119 405-01	119415-00	119 415-01
Main power	230 VAC 50/60Hz -10% +5%			
Power consumption	10 VA			
Size of digits	58 mm		58 + 45 mm	
Diode colour	green	red	green	red
Diode light intensity	300mcd	300 mcd	300mcd	300 mcd
Power consumption (impulse)	5 mA (at 24V)			
Synchronisation	Polarised 24V impulse 1/1, 1/2 min Radio signal DCF*, RDS*, MSF* Time code via IRIG-B** Time code via LON**, LTC(SMPTE/EBU)** Time code via RS485 input **			
Running reserve	1000 hours			
Accuracy	0,1 sec/24 h quartz operation			
Protection class	IP43			
Standards compliance	EN50081-01 and EN50082-02			
Weight	1,0 kg		1,1 kg	
Dimensions	275x130x60 mm		363x130x60mm	

\* option

\*\* factory mounted option

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