User Manual

Digital clock

Lumex 5, Lumex 7, Lumex 12

Lumex 5S, Lumex 7S, Lumex 12S

Index

General

Digital clock for indoor application has 4 digits and colon displaying time. The digits consist of 7 segments.

Exempel   23:59

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

Exempel   23:59:48

The Digital clock can be programmed for alternating time/temperature/date 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, located 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.

Safety

Installation and maintenance of this device must be performed by accredited personnel. This product must not be installed by unauthorized users/operators. Electrical installation of the equipment must comply with applicable electrical standards.

Installation

Installation/Montering Vägg-modell 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 7. Connect the cables according the schema page 6.
- Connect the power 230VAC, 50Hz. according the schema page 5. When the clock is permanently installed a readily accessible disconnect device shall be incorporated in the fixed wires (2-polar, 3mm contact gap). When using a plug connection, the wall socket must be close to the clock and be easily accessible.
- Assemble the front.
- Set the digital clock. See Programming.

Installation ceiling mounted
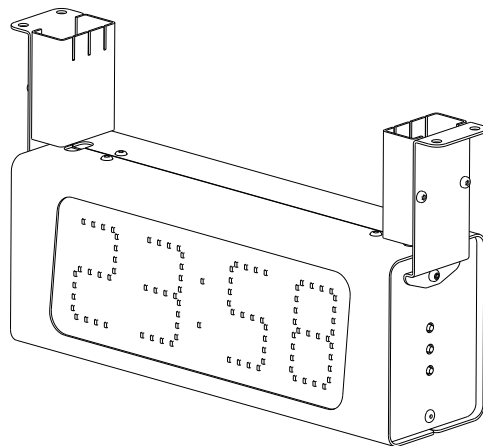
- Unscrew 2 screws under the service front.(The front when you have R,F,P buttons to the right.) Remove the front.
- Mount the 2 holder at the digital clock and mount it.
- If operated by synchronisation, check the strapping according to the drawing page 7. Connect the cables according the schema page 6.
- Connect the power 230VAC, 50Hz. according the schema page 5. When the clock is permanently installed a readily accessible disconnect device shall be incorporated in the fixed wires (2-polar, 3mm contact gap). When using a plug connection, the wall socket must be close to the clock and be easily accessible.
- Assemble the front and the cover for the holder.
- Set the digital clock. See Programming.

Installation wall mounted
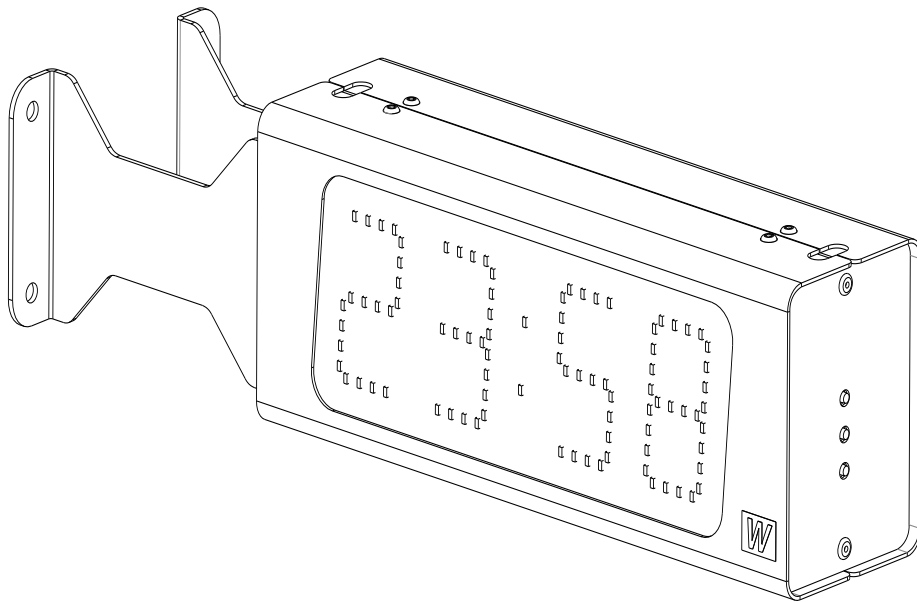
- Unscrew 2 screws under the service front. (The front when you have R,F,P buttons to the right.) Remove the front.
- Mount the digital clock.
- If operated by synchronisation, check the strapping according to the drawing page 7. Connect the cables according the schema page 6.
- Connect the power 230VAC, 50Hz. according the schema page5. When the clock is permanently installed a readily accessible disconnect device shall be incorporated in the fixed wires (2-polar, 3mm contact gap). When using a plug connection, the wall socket must be close to the clock and be easily accessible.
- Assemble the front and the cover for the holder.
- Set the digital clock. See Programming.

Connection

The connections are made on the inside of the back plate (see below.)
Disconnect power before hard installation. The cable must be double-insulated and stripped to a maximum of 3 cm. It must also be secured with the cable relief.
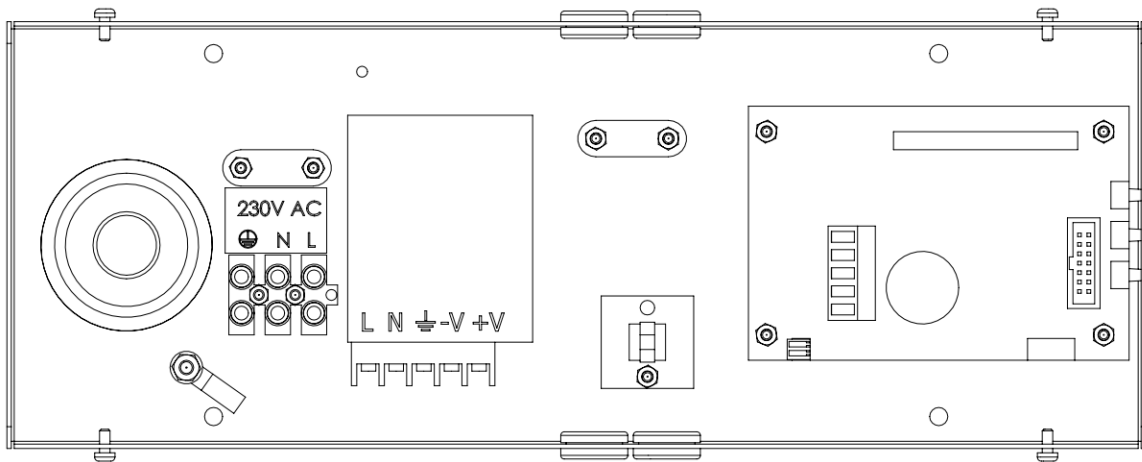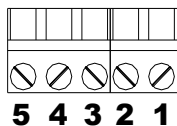

Connection Synchronisation wire

TC/MIN-imp 3,4
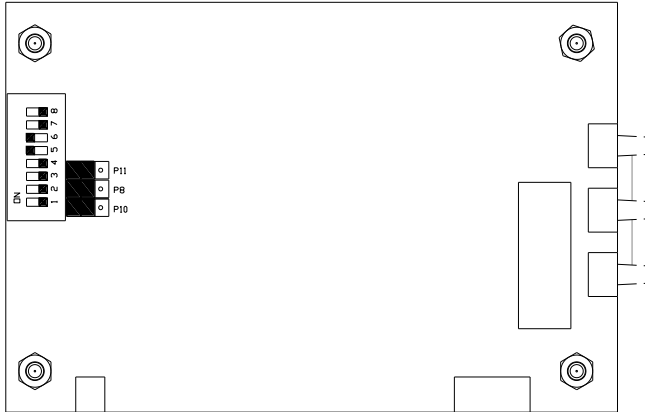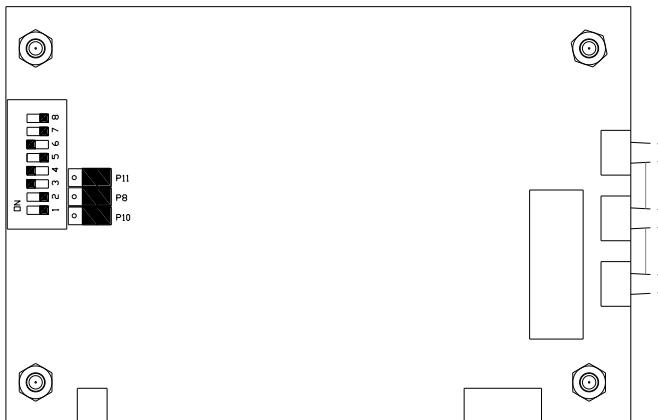DCF 2-line   3 – V+, 5 – GND
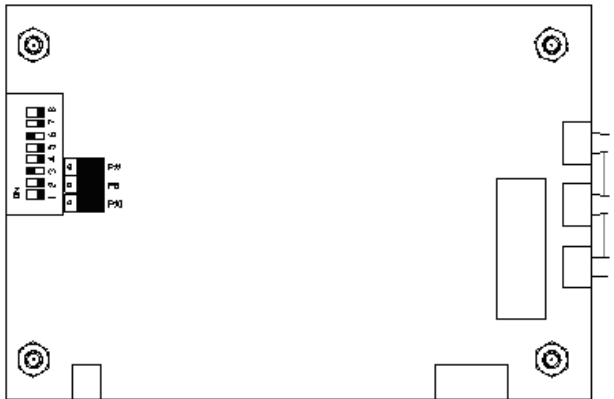DCF 3-line   3 – V+,4- DCF, 5 – GND

Sync. input

5 4 3 2 1

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

Strapping/DIP switch setting for DCF-radio (2 –wire) computer board

Strapping/DIP switch setting for DCF-radio (3 –wire) 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

Synchronisation

Stand-alone

If the clock does not have an external synchronisation, it operates Stand-alone.

Minute impulse

Make the strapping according to the drawing for strapping page 7.

Connect the minute impulse wire according to the schema page 6.

The clock can be set in synchronisation or slave mode.

Synchronisation mode:

Set the clock for synchronisation, mode InSy See programming page 11.

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 11.

Set time and wait for next minute impulse. The clock operates as a slave clock.

TC

Check the strapping according to the drawing for strapping page 7.

Connect the TC wire according to the schema page 6.

Set the clock for synchronisation, function DCF See programming page 11.

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

Check the strapping according to the drawing for strapping page 7.

Connect the DCF wire according to the schema page 6.

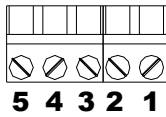Set the clock for synchronisation, function DCF See programming page 11.

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.

Connection temperature sensor (option).

Temperature sensor connection:

1. Brown

2. Black

5. Screen

5 4 3 2 1

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 show:

nn 1	month

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

Display show:

d d 1

day

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

Accept with [F].

hh 12

Display show:

hour

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

nn 07

Display show:

minute

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

Display show:

ti ne

Push [R]. The Programming is finished.

Display show:

12 : 07

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 show: | di 1 | Light intensity 1 (weakest) - 8 (strongest)

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

| Sy nc |

Display show:

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

Setting synchronisation

Synchronisation for this model is minute impulse, TC, DCF (or stand alone).

Push [F] until display show: | Sy nc |

Push [P] until desired synchronisation.

| no sy | No synchronisation, stand alone

| dcf | TC or DCF

| InSy | Impulse synchronisation

| InSL | Impulse slav

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

Setting alternating time, Loop time

Push [F] until display show:

> LooP

Push [P].

Display show:

> L1 4

Alternating time for display time is 4 seconds.

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

Display show:

> L2 0

Alternating time for display temp. is 0 seconds.

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

Display show:

> L3 4

Alternating time for display date is 4 seconds.

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

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

Setting Correction value for the temperature sensors.

With this function the temperature sensors can be adjusted $\pm$ 9 ˚C.

Push [F] until display show:

> Corr

Push [P].

Display show:

> C1 0

Push [P] for desired correction value ($\pm$ 9 ˚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.

dLS

Push [F] until display show:

Push [P].

YES

Display show:

no

Or:

Push [P] for DLS or not.

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

Setting12/24 h format

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

Push [F] until display show:

Fo rn

Push [P].

Display show:

12

12 hour format

24

Or:

24 hour format

Push [P] for desired format.

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

Technical Specification

General

Art.no.:	Lumex 5, LUMEX 5S, LUMEX 7, LUMEX 7S, LUMEX 12, LUMEX 12S
Mounting/Installation:	Single-, double sided. Wall or ceiling mounted.
Digits HH:MM:	120/70/50mm, red, green, yellow, white SMD LED:s
Digits SS:	70/50/37 mm, red, green, yellow, white SMD LED:s
Synchronisation:	Polarized 24V impulse 1/1 minute sync, TC polarized, DCF, RDS (radio)
Accurancy:	0,1 sec/24 h at 22° C (free-running)
Internal time keeping during power failure:	48 hours (display is turned off)
Time format:	12- or 24-hour format selectable. Alternatively showing date: day and month. Option temperature.
Summer and winter time:	Last Sunday in March and the last Sunday in October

Measure range temperature sensor:	-30°C to +60°C
Accuracy Temperature sensor:	+/- 1°C
Temperature measurement:	Once per minute

Power supply

Supply voltage:	100-240VAC 50/60Hz
Power consumption:	0,35A (Lumex 5, LUMEX 5S, LUMEX 7, LUMEX 7S)
	0,7A (LUMEX 12, LUMEX 12S)

Environmental

Temperature range:	0°C to +40°C

Housing

Housing:	Aluminum
Measurement (WxHxD):	
LUMEX 5	285x96x50mm
LUMEX 5S	335x96x50mm
LUMEX 7	325x120x50mm
LUMEX 7S	425x120x50mm
LUMEX 12	450x200x50mm
LUMEX 12S	640x200x50mm