

Installation Manual

Outdoor Clock, single- or double-sided, with LED – illumination



For safety reasons avoid looking directly into the LEDs.

Before the installation of the clock please read this manual carefully.

1. Notes to this Installation manual

- The information in this installation manual can be changed at any time without previous notice.
- This installation manual has been composed with utmost care, in order to explain all details in respect of the operation of the product. Should you, nevertheless, have questions or discover errors in this Manual, please contact us.
- We do not answer for direct or indirect damages, which could occur through incorrect use of this manual.
- Please read the instructions carefully before setting-up of the product. Use the product only once you have correctly understood all information for the installation and of the operation.
- **The installation must only be carried out by a skilled person.**
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2. Handling instructions

- The clock must be transported upright in its original packaging and has to be stored dry.
- Clean the cover glass with wet (leather-) cloth.
- Never use solvents, aerosol or organic cleaning products.
- The housing can be cleaned with standard cleaning agents.

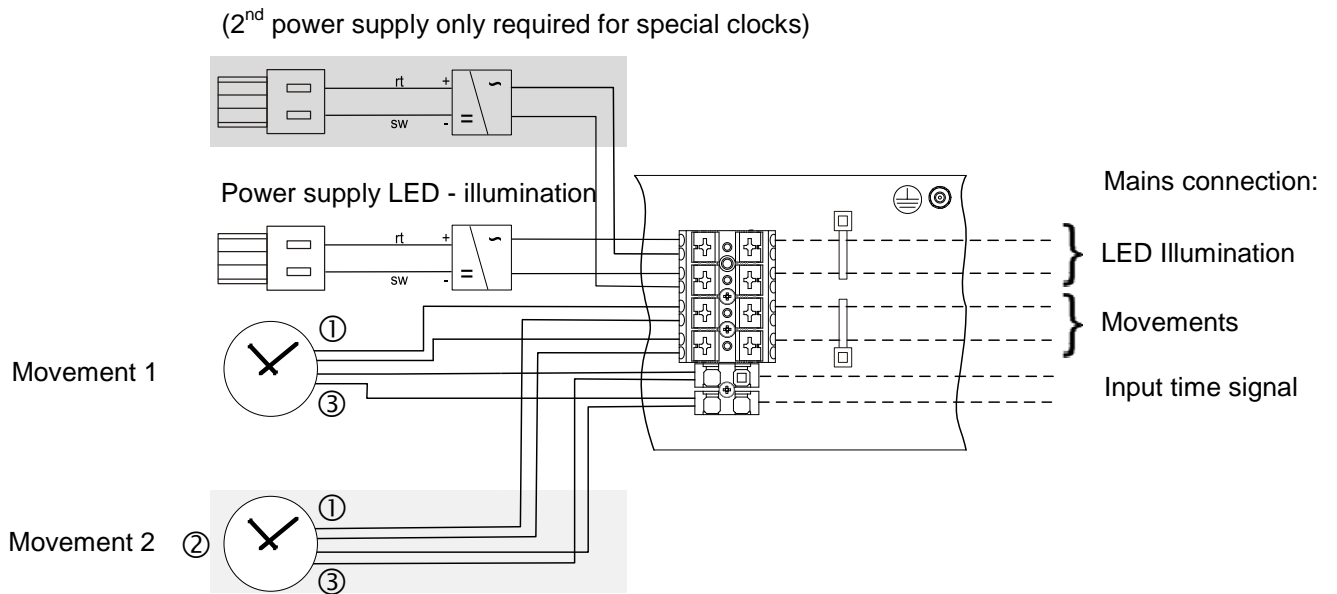
3. Electrical connections



**The mains supply line may only be installed by a licenced electrician.
The nationally valid installation regulations must be complied with.**

- The clock does not contain a power plug. In the on-site supply line for movement and illumination, an all wires disconnecting device and a fuse according to the consumption is to provide. Use the same phase (nom. 230 VAC).
Maximum wire cross section of 2.5 mm² shall be used.
- For all maintenance and cabling work, the clock has to be separated from the mains power supply.

4. Clock wiring overview



① 230VAC (only for movements with mains power-supply)

② Movement 2 (only in double-sided clocks)

③ Time signal (not used for NTP clocks)



The internal wiring must not be modified.

5. Customer connections

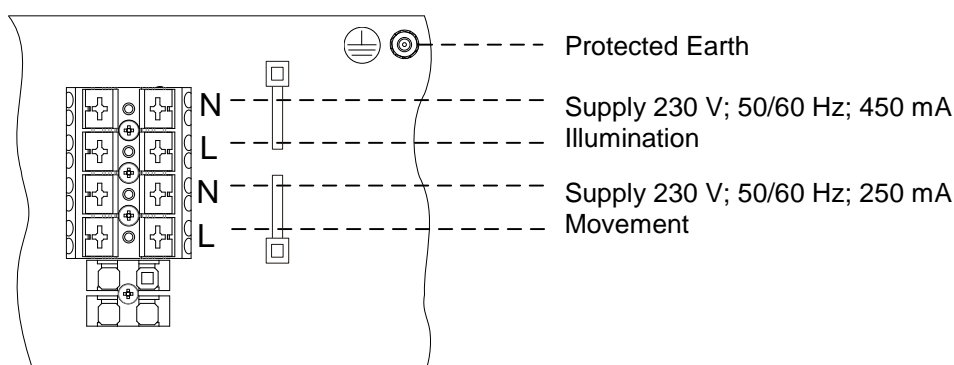
• Mains connection

A cable attachment for power supply is provided inside the clock. Protected earth has to be connected to the labelled grounding bolt (PE).

For phase and neutral wires a four-pin terminal is available. Dismantle the insulation of the connecting wires to a length of 10 to 11 mm. Insert the wires up to the isolation in to the spring terminal and clamp them by using the contact pusher.

Phase and neutral wires must be kept together close to the terminal, using cable ties.

Detail of mains connection on mounting plate:

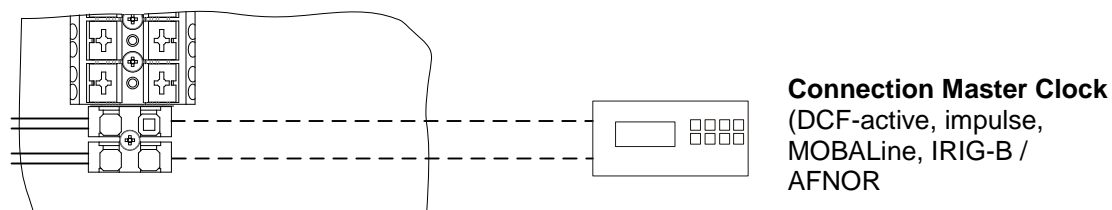


• Time signal connections

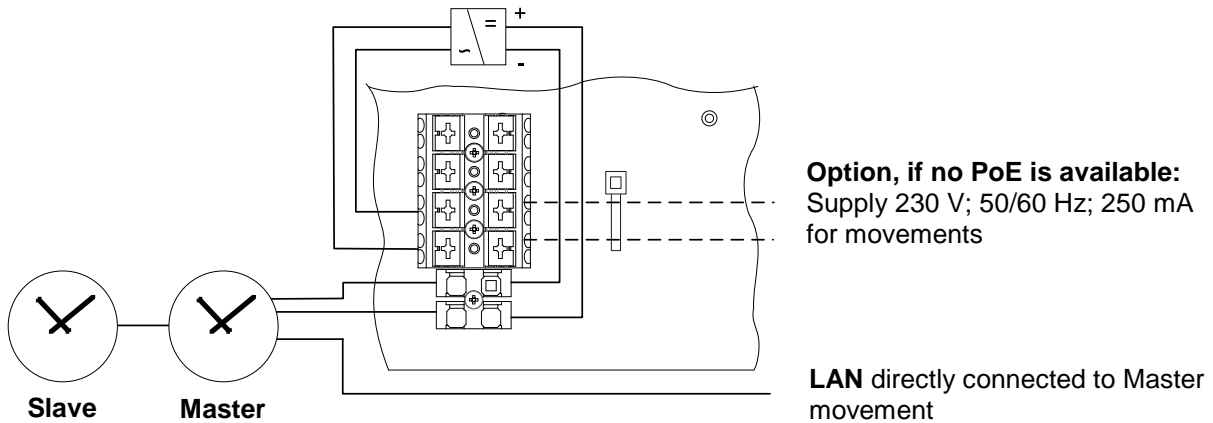
A cable attachment for time signal is provided inside the clock. Dismantle the insulation of the connecting wires to a length of 8 to 9 mm. Insert the wires up to the isolation in to the spring terminal and clamp them by using the contact pusher.

Signal	Movement code	Type of movement
Pulse	I00...I11	NU 90...
MOBALine	M09 / M12	MLU 190...
MOBALine / DCF-active	M15...M18	SAM/SEM 100...
IRIG/AFNOR	I20...I21	IBU 190...
Active DCF	R45...R46	ADU 190...

Time signal (from Master-clock)

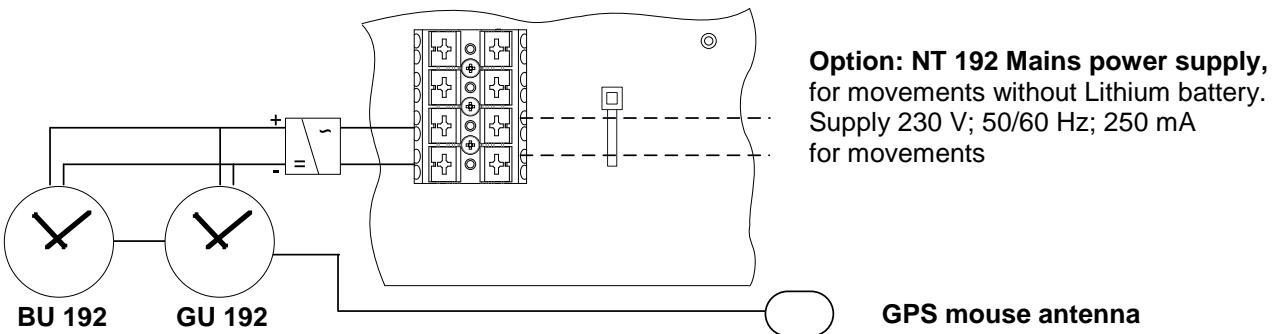


Signal	Movement code	Type of movement	Power supply
LAN/NTP	N01, N03	NBU190t (S) 24	230VAC
LAN/NTP	N11, N13	NBU190t (S) PoE	PoE



Slave movement only in double-sided clocks

Signal	Movement code	Type of movement
GPS	R50...R55	GU190...



BU 192 movement only in double-sided clocks

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