



LAN Movement for NTP synchronization

NBU 190+ S 24/PoE

Self-setting movement for indoor and outdoor slave clocks used in LAN based Time Systems.

It is available in different variants: For clocks with or without illumination, to display hours and minutes or hours, minutes and seconds.

This high technology LAN device can be synchronized from a Timeserver or a Net Master Clock via NTP Multicast or Unicast (IP based).

The NBU 190 can be powered via PoE (Power over Ethernet) and/or 24 VDC.

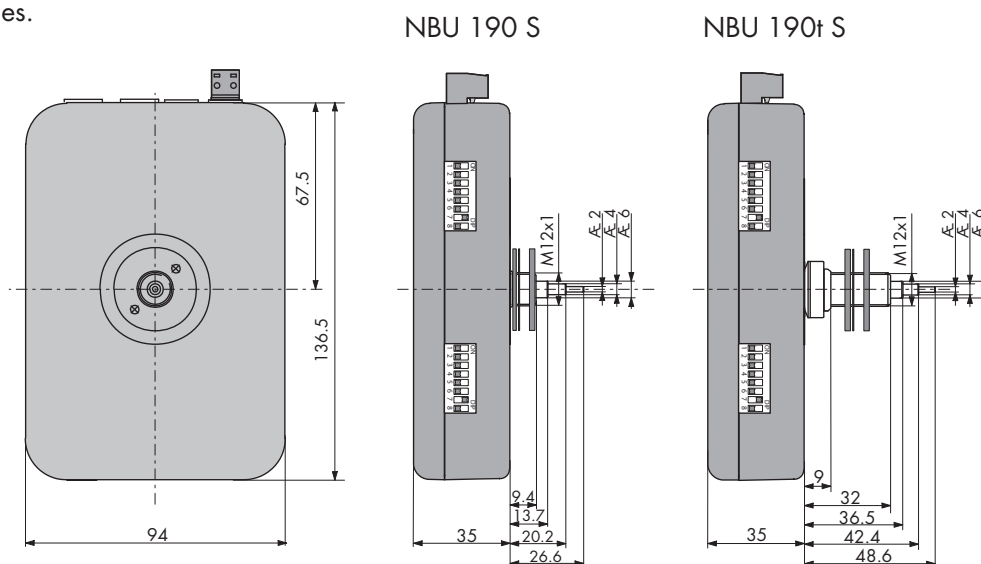
In Unicast mode, DHCP can be used to simplify IP configuration during installation.

Additionally the NBU 190 can be configured by using the Net Device Manager software.

Cascading of up to three slave movement is possible. The slave movements are synchronized, supervised and supplied by the master movement.

Features of NBU 190(t) (S) 24/PoE

- Synchronization by a NTP server in the network.
- Automatic acceptance of network configuration (IP address, gateway address, subnet mask, NTP server address) using DHCP.
- Alternatively use of a multicast IP address for synchronization / communication (selectable by means of DIP switches for minimum configuration effort).
- Automatic daylight saving time change according to 1 out of 60 predefined daylight saving time rules.
- Alternatively automatic daylight saving time change according to 1 out of 15 daylight saving time rules provided by a MOBATIME Timezone Server in the network.
- All necessary configuration settings selectable by means of 2 x 8 DIP-switches.
- Signalization of missing NTP synchronization after 24 hours by setting the hands to the 12:00 position.
- Different running modes of the second hand selectable by means of DIP-switches: stepwise (wobbling) or continuous. Revolution within 58 s with stop at 12-o'clock position or revolution within 60 s without stop. (S type only).
- Power supply PoE (Power over Ethernet) and/or DC input. Allows supply redundancy.
- Cascade of up to three slave movements possible. Synchronization, supply and supervision by the master movement.



Technical Specification	NBU 190(t) S 24/PoE	NBU 190(t) 24/PoE
Art. No.	204003 t: 203433	204005 t: 204004
Ethernet connection	10/100 MBit/s Ethernet controller, RJ45 connector	
Time signal input	Network Time Protocol (NTP)	
Accuracy	+/- 50 ms	
Synchronization time	< 10 seconds	
Setting time (to reference position 12:00)	< 6 minutes	
Power supply	PoE, phantom or pins 4, 5 and 7, 8 and/or +24 VDC +/- 20 %	
Power consumption	max. 60 mA @ 24 VDC	
Stand-by reserve during power failure	none	
Time keeping	Autonomous quartz based operation over 24 hours	
Number of motors	2 (h / min. + sec.)	1 (h / min.)
Dial diameter	250 – 800 mm	
Max. dial thickness	4 mm	t: 14.5 mm
Operating Temperature	-20 ... +60 °C, 10-90% relative humidity, non-condensing	
Weight	400 g	380 g