Slave Clocks - Lon

Westerstrand slave clocks for Lon Works provide the solution for a cost effective and high performance time distribution system. Every clock within the system has a unique address and receives correct time via a time code distributed in the Lon-net. When connected to the Lon-net the clock is automatically set to correct time and reports the status back to the master. The time code is normally sent each minute. If the time code, for some reason, not is sent or received by the clock it starts to operate on its internal movement. If an erroneous time is displayed on the clock it will send a fault code to the master, step forward to 12.00 o'clock and stop.

Round

- *For indoor use*
- *Sizes Ø 230, 300 and 400 mm.*
- *Housing in white, light grey or brown ABS-plastic.*
  White = 2189, light grey = 1313, brown = 7009 Polylacquer
- *Mat white dial face with black hour- and minute hand, black numerals or marks and convex protection glass.*
- *Single sided, depth of housing 37 mm, for surface wall mounting or bracket wall- or ceiling mounting.*
- *For a double sided clock, two single sided clocks and one bracket are used.*
- *The clocks are connected to the LonWorks-net via 2-polar screw terminal.*
- *The clocks either with hour- and minute hand only, or hour-, minute- and sweeping seconds hand.*

Square

- *For indoor use*
- *Sizes 230x230, 300x300 and 400x400 mm.*
- *Housing of steel sheet painted in white, grey or brown colour.*
- *Mat white dial face with black hour- and minute hand, black numerals or marks and flat protection glass.*
- *Single sided, depth of housing 51 mm, for surface wall mounting or bracket wall- or ceiling mounting.*
- *For a double sided clock, two single sided clocks and one bracket are used.*
- *The clocks are connected to the LonWorks-net via 2-polar screw terminal.*
- *The clocks either with hour- and minute hand only, or hour-, minute and sweeping seconds hand.*

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WESTERSTRAND URFABRIK AB
Box 133, SE-545 23 Töreboda Tel +46 506-48 000 Fax +46 506-48 051
Email: info@westerstrand.se Internet: http://www.westerstrand.se

Execution

The movement is mounted in a plastic box containing the mechanical parts and a PCB for the electronics. The plastic box is mounted behind the dial face. On the gable of the box is a maintenance button and a maintenance-LED located. There is also a LED lighting up when the clock is computer controlled.

The LonWorks-net is connected to a 2-polar screw terminal. The LonWorks-net is of type Free Form Topology LPT-10 which combines datas with 48 V DC. The PCB includes a LPT-10 tranceiver generating 5V to the electronics and handleing the adjustment of datas against the Lon-net. The movement and communication is managed by a 3120E2 Neuron chip with a crystal frequency of 5 MHz. At restart (switching on the voltage) the clock sets to 12:00 using magnets and Hall-sensors. The internal time in the Neuron is also set to 12:00. The clock is rapidly set by 2 minutes per second. The power consumption of the movement is 9 mA.

The clock can be configured using a four-digit individual address in a config SNVT_str_asc variable. In order for the master clock, generating the time data, to be able to know if the clock is working a SNVT_str_asc variable is transmitted from the clock every minute. The variable contains the address string plus a digit indicating status. Should the variable, for some reason not be sent or if it contains a status digit separated from zero, the clock will not work properly.

Should the time of the clock not correspond to the time code of the LonWorks-net the Neuron will calculate the number of minutes the clock has to be adjusted in order to indicate correct time. When the clock has terminated its corrective stepping, will also the internal time be updated, under condition that the clock has received correct time at least once. Via a config SNVT_str_asc it is possible to configurate how many minutes the clock should operate without any datas. When the configurated time has gone out, the clock will go to 12:00 and stop.