LAN Movements for NTP synchronization

SAN 40 / SEN 40

Multifunctional and easy-to-use LAN movements for indoor and outdoor clocks up to ⌀ 40 cm.

The SAN 40 movement is available with hour and minute hands whereas the SEN 40 has an additional second hand.

Both movements are self-setting and powered via PoE.

Different running modes of second and minute hand available (stepwise or continuous).

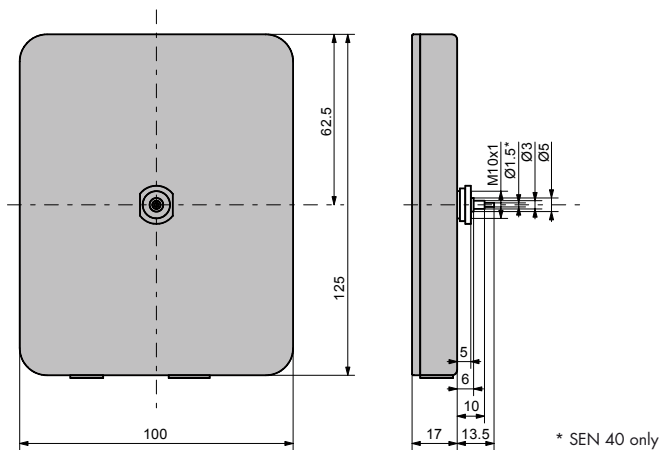Synchronization by multicast or unicast mode from a NTP server. IPv4 and IPv6 networks are supported.

Full-fledged configuration, administration and monitoring through MOBA Network Management System (MOBA-NMS) or SNMP.

Alternative configuration by means of DIP switches (multicast) or DHCP server (unicast).

Automatic daylight saving time change.

Features of SAN40/SEN40

- Synchronization by an NTP server in an IPv4 and IPv6 network.

- Automatic acceptance of network configuration (IP 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 minimal configuration effort).

- Automatic daylight saving time change according to a predefined daylight saving time rule (1 out of 7 rules selectable by means of DIP switches). The rules can be programmed by means of the PC tool MOBA-NMS with any time zone.

- Alternatively automatic daylight saving time rule can be provided by a MOBATIME time zone server in the network (1 out of 7 rules selectable by

means of DIP switches).

- Operation mode selectable by means of DIP switches.

- Signalization of missing NTP synchronization after 24 hours by setting the hands to the 12 o'clock position.

- Different running modes of the second and minute hand selectable by means of DIP switches: stepwise or continuous.

- Power supply via PoE (Power over Ethernet).

- Cascade of a slave movement (I^2C bus). Synchronization, power supply and supervision by the master movement. For double sided clocks, only one LAN connection is required.

* SEN 40 only

Technical data	SAN 40 (Art. no. 204018)	SEN 40 (Art. no. 204017)
Synchronization	Network Time Protocol (NTP), UTC	
Ethernet connection	10/100 MBit/s Ethernet controller, RJ45 connector, IPv4 / IPv6	
Supervision and configuration	- PC tool MOBA-NMS - SNMP V2 (without GetBulk), alarm and alive notifications (traps) for inclusion in a network management system	
Setting time after restart Daylight saving time changes	< 3 minutes 20 seconds < 15 seconds	
Power supply	PoE, phantom (Tx/Rx) or pins 4, 5, 7, 8 (class 1)	
Calculation of local time and daylight saving time change	Automatic daylight saving time change according to 1 out of 7 rules Rules pre-defined (programmable) or provided by a MOBATIME time zone server	
Accuracy	Deviation typically < +/-50 ms (synchronized)	
Synchronization loss	Signalization after 24 h by setting the hands to 12 o'clock position Deviation typically < +/-2 s after 24 h	
Number of motors	1 (h / min.)	2 (h / min. + sec.)
Temperature range	-30 to +70°C	
Weight	170 g	185 g
Dial diameter	max. 400 mm	
Maximum dial thickness	3 mm	

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