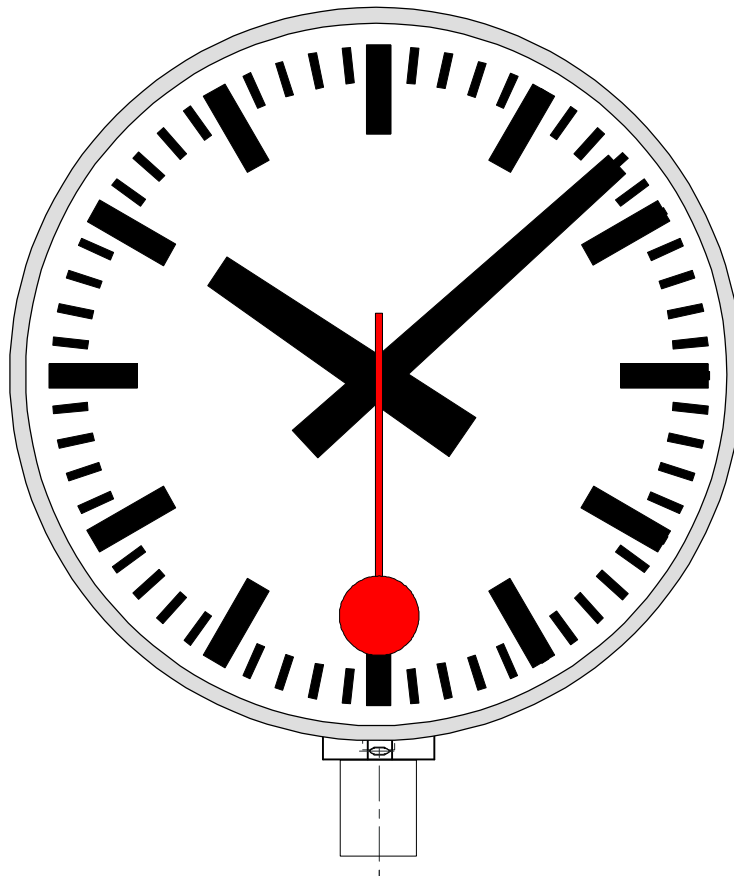


Mounting instructions

METRO Outdoor clocks, round, single- and double-sided

Before installation of the clock please read the manual carefully.



References to the Instruction Manual

1. The information in this Instruction Manual can be changed at any time without previous notice.
2. This Instruction 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.
3. We do not answer for direct or indirect damages, which could occur, when using this Manual
4. Please read the instructions carefully and start the setting-up of the product, only once you have correctly understood all information for the installation and of the operation.
- 5. The installation must only be carried out by skilled staff.**
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1 Mounting instructions

1.1 Building department / authority permit

If necessary a building department / authority permit should be requested before mounting.

1.2 General rules



The mains supply for the clock must be installed only by a licensed electrician. While the national installation regulations must be adhered.

Please provide a cable with a wire cross section of maximum 1.5 mm².

The clock is not equipped with a mains plug. An all-pole disconnecting device and a fuse for movement and lighting power supply must be provided in the on-site supply.

The fuses should be chosen according to the power consumption of the device.



For all maintenance and cabling work, the clock has to be separated from mains.



For safety reasons avoid to look directly into the LEDs.

1.3 Handling reference

1. The clock should be transported upright in its original packaging and must be stored dry.
2. Clean the cover glass with wet (leather-) cloth.
3. Never use solvents, aerosol or organic cleaning products.
4. The housing is to treat with standard cleaning agents.

1.4 Internal Connections

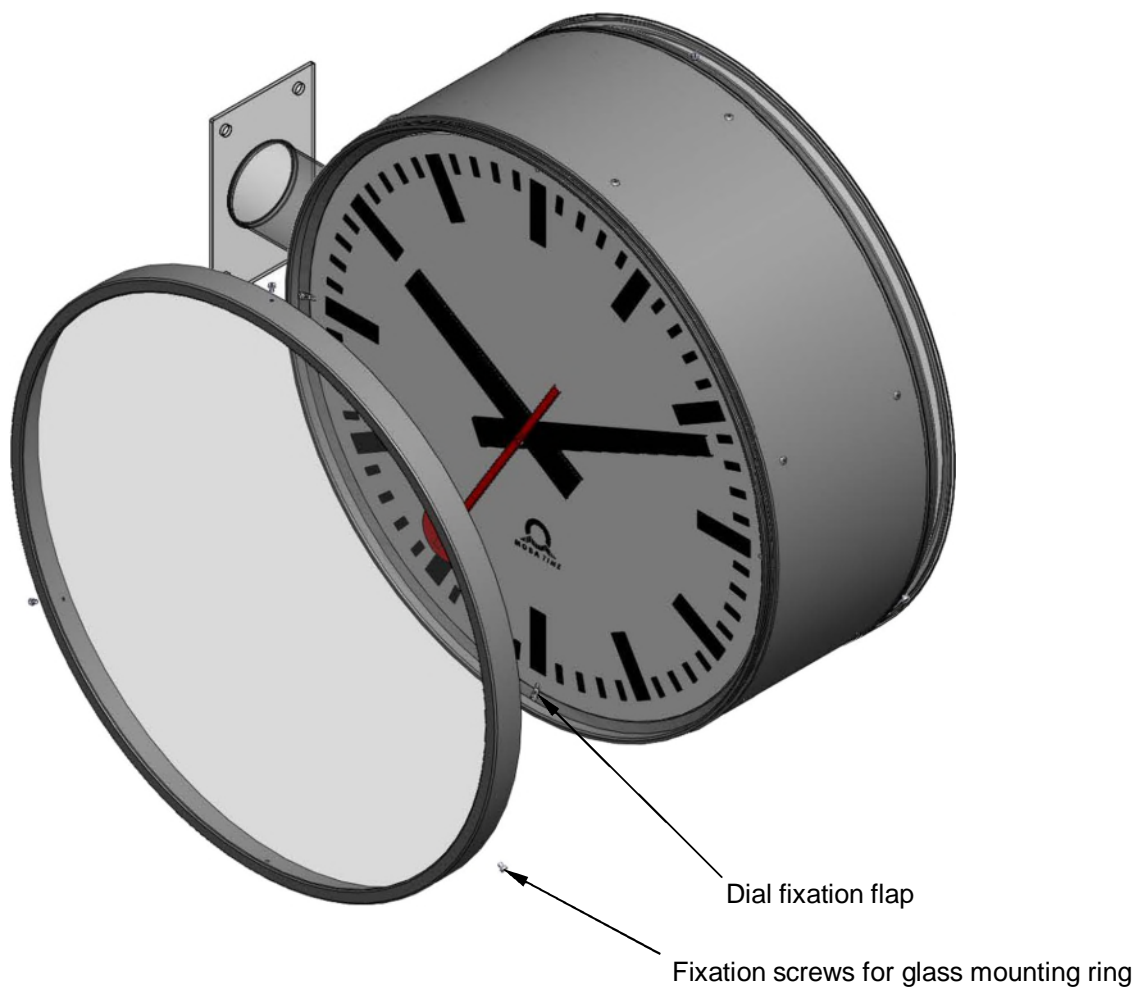
The internal wiring is made in the factory. It's important not to modify the internal wiring.

1.5 External Connections

Dismantle the insulation of the connecting wires on a length of 8 – 9 mm and insert the wires up to the isolation in the terminal. The spring terminal can be opened with a screw driver size 0.

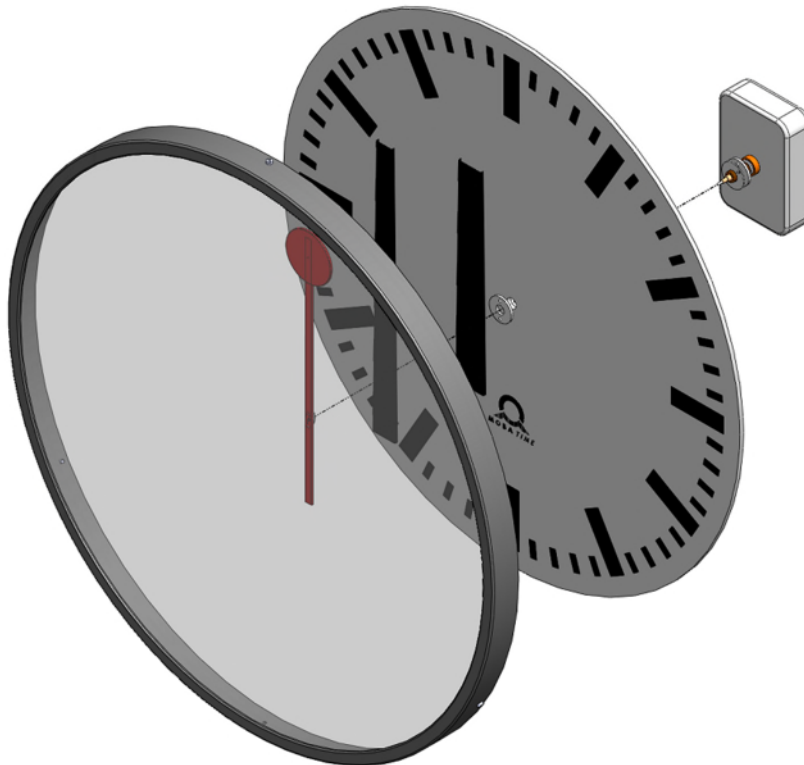
Phase and neutral wire must be kept together close to the terminal using a cable tie.

1.6 Open the clock



1. Unscrew the 3 screws of the glass ring, pull of the glass ring with the glass and deposit it carefully.
2. Untighten and turn the dial fixation flaps. Carefully pull the dial together with the movement out from clock housing und disconnect the electrical terminals from the clock movement.
3. Deposit the dial with the movement and hands carefully.

1.7 Exchange of movement and dial



1. Open the clock according to chapter 1.6
2. Before you exchange the dial, be sure that the hands show 12:00 position.
Check movement manual to set the hands to 12:00 position (DIP switch 1 = ON for 190 series movements).
3. Loosen the Allen screw for the second- and minute hand and remove the hands from the axis.
4. Carefully remove the hour hand from the axis (clench bushing).
5. Use the special wrench to loosen the central nut of the movement and remove it from the shaft.
6. Fix the movement into the new dial (or the new movement into the existing dial) – connectors of the movement must be at 6:00 position (bottom side) – and tighten the central nut with a torque of 4.5 Nm.
7. Connect the timesignal with the movement and check the correct time. Don't forget to switch off the 12:00 position command at the movement (e.g. 190 series movements: DIP switch 1 = OFF).
8. Close the clock according to chapter 1.8.

1.8 Close the clock

1. Connect the electrical terminal(s) to the movement (time signal, power).
2. Put the dial to the correct position.
3. Turn the dial fixation flaps and tighten all four screws.
4. Pull the glass ring with the glass carefully over the housing frame and fix the ring with the 3 screws.

Check, that the cables do not affect the clock illumination with shadows on the dials.

2 Mounting types

Nominal-Ø	Single-sided (E) Type	Double-sided (WA, DA, KRL, KVL, ZM) Type
50cm	MTv.50.R1.www.xxx.y.zz	MTv.50.R2.www.xxx.y.zz
60cm	MTv.60.R1.www.xxx.y.zz	MTv.60.R2.www.xxx.y.zz
80cm	MTv.80.R1.www.xxx.y.zz	MTv.80.R2.www.xxx.y.zz

Legend:

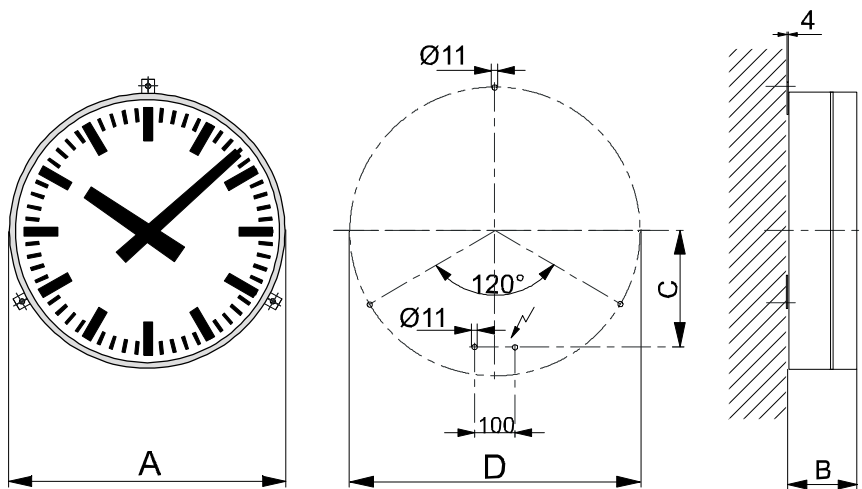
- v = Illumination (0 = no illumination, 2 = LED illumination)
- www = Movement code, see document TE-800800 und TE-801006
- xxx = Dial: 100: with MOBATIME logo, 101: without logo
- y = Cover glass (1 = Mineral glass, 2 = Security glass, 3 = Polycarbonate glass)
- zz = Mounting types:
 - 00 = Wall mounting (single-sided, E)
 - 10 = Wall mounting bracket (WA)
 - 20 = Ceiling mounting bracket (DA)
 - 30 = Side pole mounting, round Ø 133 (KRL)
 - 31 = Side pole mounting, square 150 x 150 (KVL)
 - 40 = Cantral post

2.1 Wall mounting E (Mounting type zz = 00)

The electrical cables can be inserted through the two grommets in the back wall of the clock.

Before the mounting, all connection cables has to be separated from mains!

After inserting the cables, fix the clock with the 3 screws (M10) to the wall, using the lugs outside of the case.



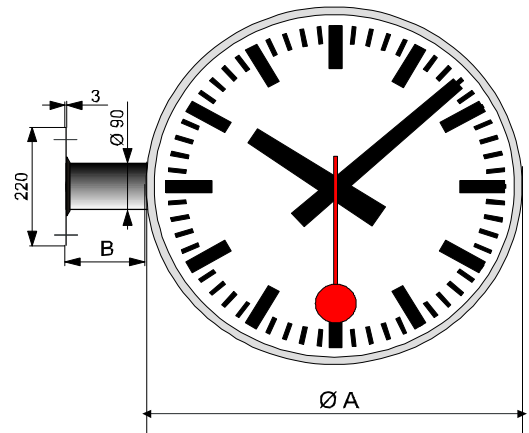
Nominal-Ø	A	B	C	D
50cm	566	176	160	594
60cm	666	176	180	694
80cm	866	176	180	894

2.2 Wall bracket WA (Mounting type zz = 10)

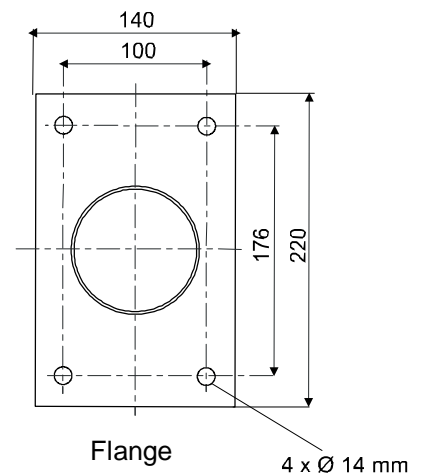
The electrical cables can be inserted through the mounting bracket (cable entry in the middle with $\varnothing 85$ mm).

Before the mounting, all connection cables has to be separated from mains!

Drill the holes according to the dimension drawing of the flange and prepare them with dowels. Set four "set screws" into the dowels. Insert the cables through the bracket into the clock and fix the clock with 4 washers and 4 nuts.



Nominal - \varnothing	A	B
50	566	150
60	666	150
80	866	150

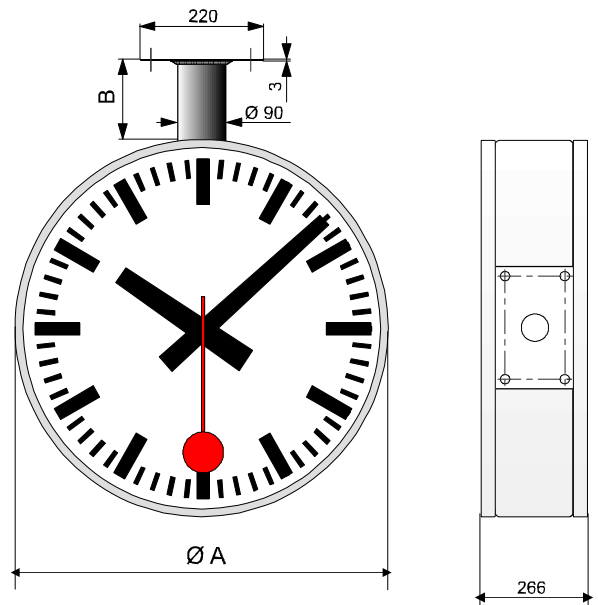


2.3 Ceiling bracket DA (Mounting type zz = 20)

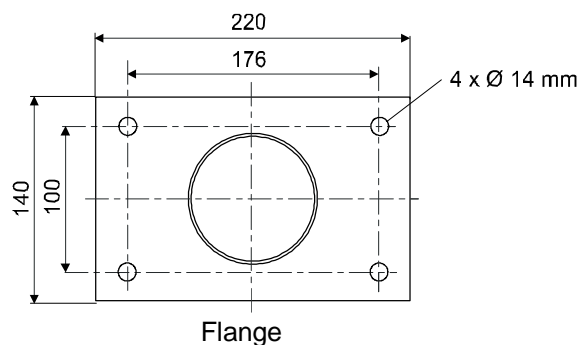
The electrical cables can be inserted through the mounting bracket (cable entry in the middle with $\varnothing 85$ mm).

Before the mounting, all connection cables has to be separated from mains!

Drill the holes according to the dimension drawing of the flange and prepare them with dowels. Set four "set screws" into the dowels. Insert the cables through the bracket into the clock and fix the clock with 4 washers and 4 nuts.



Nominal - \varnothing	A	B
50	566	150
60	666	150
80	866	150

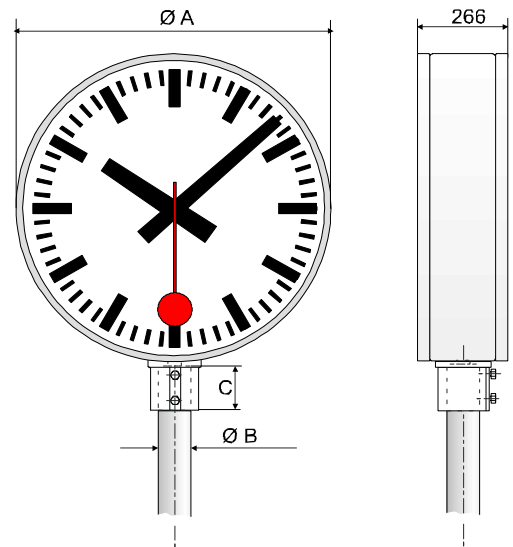


2.4 Central post ZM (Mounting type zz = 40)

Prepare the mast with a suitable fundament. For the dimension of the fundament and the pole, the wind force has to be taken into consideration. The electrical cables has to be inserted through the pole.

Before the mounting, all connection cables has to be separated from mains!

Nominal - \varnothing	A	\varnothing Bmin.	\varnothing Bmax.	C
50cm	566	40	76	90
60cm	666	40	76	90
80cm	866	60	102	130



2.5 Lateral mounting to round post KRL (Mounting type zz = 30)

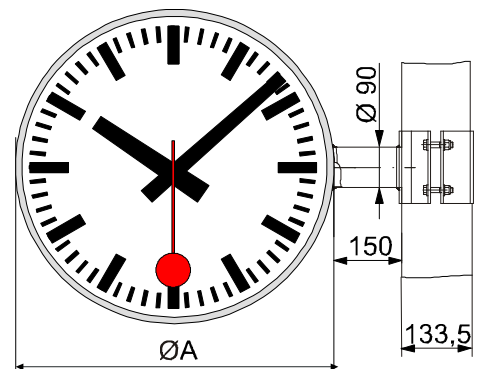
The electrical cables has to be inserted through the pole.

Before the mounting, all connection cables has to be separated from mains!

The fixation to the round pole can be done with the clamping fixture and the 4 screws with nuts.

For standard pole dimension: \varnothing 133.5 mm
Other dimensions on request.

○ KRL



□ KVL

2.6 Lateral mounting to square post KVL (Mounting type zz = 31)

The electrical cables has to be inserted through the pole.

Before the mounting, all connection cables has to be separated from mains!

The fixation to the square pole can be done with the clamping fixture and the 4 screws with nuts.

For standard pole dimension: \sphericalangle 150 mm
Other dimensions on request.

Nominal - \varnothing	A	B
50	566	150
60	666	150
80	866	150

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